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Performance appraisal: Implication on Employees' performance in Architectural Organizations of Bangladesh

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-: Abstract : Performance appraisal is a major tool to measure the frameworks and standard set by any organization for the employees. It is used to track the progress of individual contribution and performance to fulfill the organizational goals and to identify the strengths and opportunities of the individuals for future development and to identify whether the set organizational goals are achieved or served as the root for the company's future planning, improvement and development. The present study highlights the status of the Performance appraisal system of Architectural Organizations of Bangladesh and its implication to the employees performance. The respondents of this study were the architects who were employed minimum for 1 year. The purposive sampling technique was used in the selection of respondents. Quantitative and qualitative method of research was utilized in the gathering of data. Interviews, focus group discussion and survey questionnaires were the main instrument used in this study. The result of the study showed that the performance appraisal system of the architectural organizations are taking shape, developing and trying to put it's remark in the new business field of architecture. On the other hand, the results reflected that the performance appraisal system of the organizations has both positive and negative impact on the architect employee's performance. Further, the respondents identified some major gaps in the Implementation of the company's appraisal system: no appropriate rewards are given to best employees, appraisal system was not fully explained to employees, no feedback of results and employees do not participate in the formulation of evaluation tools. It is recommended that the company should revisit and redesign its appraisal system so that it can match to its vision and mission towards the achievement of its organizational goals.

:· Keywords : Company Performance, Employee Efficiency, Employee Motivation, Employee Reward System, Evaluation

•• Introduction : This present study is on Performance appraisal, one of the vital factors of "Human Resource Management Practices" in Architectural Organizations of the Bangladesh. The study refers to the architects' perceptions of Human Resource Management (HRM) practices in the architectural industry, where the employee architects are the "assets" considered by the firm, and somehow these influences the job satisfaction of them performance appraisal is an important issue for any company. It gives the proper idea of the employees' strength, weakness, area of development, scopes of improvement and also to decide the reward, benefits and compensation required for the employees. Apparently, it seems to be a less important factor in the Architectural organizations, but like other

companies, the human resource has a great impact even for the architectural firms. In Bangladesh, the human resource management practice is newly introduced and many companies do not have the idea of employee evaluation... Also, some companies don't treat the human resource as a valuable resource for the enterprise. In spite of that, some companies take the human resource very seriously and positively and try to manage this department with great care. Architecture is one of the developing businesses in Bangladesh, and there are still scope and possibilities for improvement in this area. Architects are known as the visual artists, and their creative works are considered as the art merged with the science of building construction for the humans' basic need living hood. With fulfilling these criteria of HRM architecture can be a successful business, and the architects can be the most valuable asset of this business. In the present globalization trend, the best possible practices have logical foundation. Global dimension and the recent human Resource Management changes in organizations also have changed their direction to a current trend. The new trend of Performance-based HRM system must have unique aspects that reflect from both the characteristics of traditional and performance-based on best practice in HRM. This process allows reconciliation the interests of the company with the benefit of each. While comparing the knowledge and skills required by the organization to those who reside in people. Knowledge management skills involve identifying people who can provide the benefit of the organization willingly. For this the required Skills are:

- -: Identification of the necessary skills which is helpful for achieving the objectives of the organization (strategic, tactical and operational)
- -: Assessment of the skill of the members of the organization
- . A plan to bring existing powers with the necessary
- •• Setting and monitoring targets both individual and collective performance. These goals should be possible to verify the use of these skills

Performance Appraisal refers to a well maintained, systematic process of evaluating the of employees' performance and to find out the possibilities and abilities of an employees which will be helpful for his further growth and developing his skills. The following ways are used to make performance evaluation:

- The senior architects analysis the juniors' payment and income and then compare it with the settled plans and targets
- . The senior architect determines the junior architect's performance appraisal factors.
- . The seniors employees are given the option and privilege to guide the junior employees.

Literature Review : "Performance management is the process so that employees' activities and outputs can be ensured by the managers which contribute to the organization's goals. This process need to identify what activities and outputs are desired, monitoring whether they occur, and providing feedback to help employees meet prospects" (Noe et al., 2004). Employee can enhance their productivity and commitment through Performance appraisal systems (Brown and Benson, 2003). If

performance evaluation system can be practiced by an organization appropriately, that will raise productivity and efficiency, get better customer satisfaction and market share and increase employee commitment which is one of the vital tools for an organization (Duchon, 2007). Dailey and Kirk (1992) stated in their research paper, performance appraisal and planning systems did not accepted successfully which effected their sensitivities of unfairness and they were assumed to leave the organization.

Shahzad et al. (2008) researched 'Impact of HR Practices on Perceived Performance of University Teachers in Pakistan' and found the association between performance evaluation practices and teachers' performance is quite weak (0.15, p< 0.01). Corresponding HRM practices like formal training and incentive pay can improve opportunity of performance appraisal and it guides to superior influence of productivity (Brown and Heywood, 2005). Paul and Anantharaman (2004) revealed in a study that development oriented appraisal which has included in human resources practices showed a remarkable positive association with organizational commitment. An empirical study by Marwat et al. (2006) indicated positive correlation (0.47) between employees' performance and Performance appraisal. One study by Khan (2010) titled 'Effects of Human Resource Management Practices on Organizational Performance – An Empirical Study of Oil and Gas Industry in Pakistan' found a positive coordination between performance appraisal and organizational performance.

One research study conducted by Hossain (1992) on Non- Profit Organizations in Bangladesh and found Job evaluation method for compensation purpose was available 67% organizations surveyed. Hossain and Ahmed (2002) surveyed on American Tobacco Company Limited (BATB) and found BATB used the mechanism of 'Performance Appraisal and Career Enhancement (PACE)' in TNA. Through this systematic mechanism the company rates the (a) overall performance, (b) competence profile, (c) development plan, and (d) future career of the employees. Mahmud (2007) investigated on HRM practices of SQUARE in Bangladesh and found the company evaluates the employee's past performance; mainly for reward, promotion and development purpose. One study carried out by Ehsan (2008) on WPSA in Bangladesh and found the performance management system is out of date and subjective. Absar et al. (2010) on fifty manufacturing firms in Bangladesh and showed that performance appraisal have significant influence on organizational performance.

•:• Hypothesis : After reviewing the literatures basing on it and setting the objectives for of this present study, the specific hypotheses were formulated for verification through empirical investigation.

H1: Performance Appraisal practices are not positively associated with architectural organizational performance. (Ho) This null hypothesis predicted that performance appraisal practices will be negatively associated with organizational performance. A number of studies support that strong performance appraisal policy has assertive connection with organizational performance. Lee and Lee (2007) found that effective and good performance appraisal system enhances productivity and quality. Rahman (2006) found that comprehensive performance appraisal enhance employees' commitment.

Researchers found assertive and remarkable relation between performance appraisal and organizational performance (Khan, 2010; Ahmed & Schroeders, 2003; Chang & Chen, 2002; Kuo, 2004; Sang, 2005). Khan (2010) found value. Absar et al. (2010) established positive and significant value. Chi-square test was used to investigate if the two variables are analytically related with each other significantly. It was used to analyse the impact of one factor over the other factor. From the Table-28, it is confirm that with the mark able value of 0.00 at 1% level of significance, also it can be confirmed that there is a significant association between the Employee Performance appraisals and organizational performance. The hypothesis 4 is not accepted. Williams (1996) found weak correlations with several measures of performance management and that were .11 (F value =8.99) for participation, .14 (F value =15.41) for feedback, and .16 (F value =16.47) for difficulty of goals set. The reason for the results is that in huge numbers of the Architectural organizations there is no proper well designed system of employees' performance evaluation. In government organizations it is done on the basis of typical year ending confidential reporting of performance after every year end and in private sector if there is any system, it has no serious impact on employees' or organizational performance. The employees do not measure its importance when it has no link with promotion and benefits and service **Result and Analysis:**

Table 1 Reliability of Sub scale of Subjects of Performance appraisal: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.992	.993	10

Cronbach's alpha coefficient shows a high stability of the questions of performance appraisal where the sub-scale is has high consistency (Cronbach's alpha > 0.99). Finally all the sub-scales had a high repeatability of the designed questionnaire was measured through intra-class correlation coefficient for performance apprisal.

Table 2 Chi-Square Test for Factors of Performance appraisal:

Factors	Pearson Chi-square value	df	Asymp. Sig		
employees' performance mu	st be measured				
and evaluated on a base of r	neasureable results				
which can be quantified and	the basic goal or aim	68.000a	5	0.00	
Appraisal measurement in o	Appraisal measurement in organization is				
oriented towards developme	nt	104.833b	6	0.00	
Feedback on performance and required counselling					
is provided to employees		241.333b	6	0.00	
Appraisal system is not biase	ed and transparent	260.000b	6	0.00	

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Bonuses, promotions and selected	I training are				-
given upon the appraisal evaluatio	n	341.667b	6	0.00	
All employees of the organization h	nas clear				
concept of performance appraisal		170.000a	5	0.00	
Modern and the latest techniques and technology					
is used for appraisal evaluation		146.833b	6	0.00	
Team and individual behaviour has influence of					
appraisal		164.333b	6	0.00	
Performance appraisal is conducte	ed on a regular basis	179.500b	6	0.00	
Performance appraisal is not used for penalization					
in the organization		176.000b	6	0.00	

Source: Primary Data

Chi-square test was used to identify if the two variables are analytically related with each other meaningfully. It was used to analysis the impact of one factor over the other factor. From the Table-24, it is clear that with the remarkable value of 0.00 at 1% level of significance, and it can be said that there is a significant association between the factors of performance appraisal and organizational performance

Table 3: Sampling Adequacy Test for Factors of Performance appraisal :

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sam	.947	
Bartlett's Test of	Approx. Chi-Square	6.982E3
Sphericity	df	45
	.000	

KMO and Bartlett's Test measures the sampling competence using correlations and partial correlations to know if the variables in the sample were competence to correlate. It is indicated that the KMO value is 0.947 which is a obviously satisfactory for proceeding factor analysis. The Bartlett's test of sphericity test was done to know if there is a relationship between the variables. The P value < 0.05 indicates that it can be continue with the factor analysis of performance appraisal

Table 4: Total variance explained by components of factors and Graph for scree plots ofeigen values for factors

Component Matrix^a

	Component
	1
employees' performance must be measured and evaluated on a base of measureable	
results which can be quantified and the basic goal or aim	.965
Appraisal measurement in organization is oriented towards development	.974
Feedback on performance and required counselling is provided to employees	.970
Appraisal system is not biased and transparent	.970
Bonuses, promotions and selected training are given upon the appraisal evaluation	.952
All employees of the organization has clear concept of performance appraisal	.961
Modern and the latest techniques and technology is used for appraisal evaluation	.977
Team and individual behaviour has influence of appraisal	.977
Performance appraisal is conducted on a regular basis	.978
Performance appraisal is not used for penalization in the organization	.972

Total Variance Explained

	Initial Eigenvalues		xtraction Sums of Squared Loadings			
		% of				
Component	Total	Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.398	93.982	93.982	9.398	93.982	93.982
2	.208	2.077	96.059			
3	.106	1.057	97.116			
4	.084	.836	97.953			
5	.059	.594	98.547			
6	.043	.432	98.979			
7	.038	.382	99.360			
8	.025	.253	99.613			
9	.023	.228	99.842			
	.016	.158	100.000			



The table-4 and Scree plot displays the 93.98% variance explained by a single factor (Performance appraisal is conducted on a regular basis). Strongly Disagreed Disagreed Somewhat Disagreed Indifferent/Natural Somewhat Agreed Agreed Strongly Agreed employees' performance must be measured and evaluated on a base of measureable results which can be quantified and the basic goal or aim Appraisal measurement in organization is oriented towards development Feedback on performance and required counsellingis provided to employees Appraisal system is not biased and transparent Bonuses, promotions and selected training are given upon the appraisal evaluation All employees of the organization has clear concept of performance appraisal Modern and the latest techniques and technology is used for appraisal evaluation Team and individual behaviour has influence of appraisal Performance appraisal is conducted on a regular basis Performance appraisal is not used for penalization in the organization Most of respondents are agree to this point that Bonuses, promotions and selected training are given

upon the appraisal evaluation. Respondents are having clear concept of performance appraisal. An architectural firm is a performance base industries and employee of the firm are well known about the issues and Feedback on performance and required counselling is provided to employees time to

time for their work from the senior architect or management. 120 respondents are agreed to employees' performance must be measured and evaluated on a base of measureable results which can be quantified and the basic goal or aim, 80 respondents are neutral to employees' performance must be measured and evaluated on a base of measureable results which can be quantified and the basic goal or aim, rest of the respondent are disagree about employees' performance must be measured and evaluated on a base of measureable results which can be quantified and the basic goal or aim, rest of the respondent are disagree about employees' performance must be measured and evaluated on a base of measureable results which can be quantified and the basic goal or aim 115 respondents are agreed to Appraisal measurement in organization is oriented towards development, 80 respondents are neutral to Appraisal measurement in organization is oriented towards development, rest of the respondent are disagree about Appraisal measurement in organization is oriented towards development. 135 respondents are agree to the option Feedback on performance and required counselling is provided to employees, 60 respondents are neutral to the option Feedback on performance and required counselling is provided to employees, rest of the respondent are disagree about the option Feedback on performance and required counselling is provided to employees.







•:• In Bangladesh the general followed technique of employee evaluation is of following type : The company has its own process and parameters for performance evaluation of employees. Once in a year at the end and the fiscal year shall be January-December. No performance evaluation shall be evaluated before completion of probationary period said hereinafter. Increment totally depends on employee's performance. Increments can and will vary from employee to employee.

Initial evaluation : During the initial half year of employment the employee will be evaluated twice. Both evaluations will result in salary increment according to the settled grades and levels.. First evaluation will be held after three month, with is considered a probation period. First evaluation will bring the employee to level J. Second evaluation will be held after another three month (a total of six month of employment). Second evaluation will bring the employee to level I.

Each employee is requested to take comments and indications from evaluation seriously and to improve in the areas suggest. It is expected that points of "needs improvement" are kept at an absolute minimum as they may result in discontinuation of the employee. Templates being used for evaluations can be found through the company Intranet.

•:• Yearly evaluation – Employee Development Conversation (EDC) : For employees who at the time of the year end have passed probation period and period for continues training (after six month) will be participating in employee development conversations. Besides the employee; department group leader and HOD will participate. Group leaders are overall responsible for the initiation and progress of EDC. The evaluation will contain the following elements :

The talk which we call EDC Employee Development Conversation (EDC) will be held at the end of December. Both production and non production employees will be evaluated. EDC it self will not include discussions regarding salary, but will be focusing upon the development of the employee within the company.

- •:• Employees comments Each employee will be given a sheet to fill up with his or her own comments towards his or her own performance, development and future wishes. The template is available through the company Intranet.
- •:• Group leader's comments The Group leader will fill up a standard sheet for each employee which will be the basis for his evaluation of the employee.
- Salary review The management will prior to the EDC's settle next year salary according to their impression of the employees. Group Leaders will hereafter be invited to add their comments towards the settlement. When EDC's are finalized the management will initiate individual talks with employees which salary has been changed. Though it is expected, it might occur that salary isn't changed due to lack of improvements performed by the employee.

Administrative employees : Previous grades and level schedule for administrative employees has been removed. Administrative employees will be evaluated through the same process as productive employees. The employee evaluation is the perfect process to judge the employee's ability for working, communicating with others and remain discipline in the office. This gives a clear view about the employee's quality and potentiality.

+ Findings :

- ↔ 11. 50% of the firm has no Performance Appraisal System, 30% has moderate Performance Appraisal System and only 20% firms have Performance Appraisal System.
- •:• Performance appraisal is important for Architects, as they are creative field workers, appreciation works as their motivation and energy
- Proper rewards should be given for the good performance. In Bangladesh, only appreciation of good work is considered as reward. Along with that different benefits can be provided.
- Evaluation process should be more precise and more organized.
- -: Involvement of all the team members for the evaluation is important for inter personal relationships among the team members.

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Child Psychology: Life Stages of Psychological Development

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•: Child Pre-natal development : Pre natal development is of interest to psychologists investigating the context of early psychological development. The whole prenatal development involves three main stages: germinal stage, embryonic stage and fetal stage. Germinal stage begins at conception until 2 weeks; fetal stage represents 9 weeks until birth of the baby. The senses develop in the womb itself: a fetus can both see and hear by the second trimester (13 to 24 week of the age). Sense of touch develops in the embryonic stage (5 to 8 weeks). Most of the brain's billions of neurons also are developed by the second trimester. Babies are hence born with some odor, taste and sound preferences, largely related to the mother's environment. Some primitive reflexes to arise before birth and are still present in newborns. One hypothesis is that these reflexes are vestigial and have limited use in early human life. Piaget's theory of cognitive development suggested that some early reflexes are building blocks for infant sensor motor development.

•:• Infancy: From birth until the first year, the child is referred to as an infant. Developmental psychologists vary widely in their assessment of infant psychology, and the influence the outside world has upon it, but certain aspects are relatively clear. The majority of a newborn infant's time is spent in sleep. At first this sleep is evenly spread throughout the day and night, but after a couple of months, infants generally become diurnal.

Infants can be seen to have six states, grouped into pairs:

- · Quit sleep and active sleep (dreaming, when REM sleep occurs)
- · Quit waking, and active waking
- Fussing and crying¹

•:• Smell and taste: Smell and taste are present, with infants showing different expressions of disgust or pleasure when presented with pleasant odors (honey, milk, etc.) or unpleasant odors (rotten egg) and tastes (e.g. sour taste). Newborns are born with odor ² and taste preferences acquired in the womb from the smell and taste of amniotic fluid, in turn influenced by what the mother eats. Both breast- and bottle-fed babies around 3 days old prefer the smell of human milk to that of formula, indicating an innate preference.

•:• Touch and feel: Touch and feel is one of the better-developed senses at birth considering it's one of the first senses to develop inside the womb. This is evidenced by the primitive reflexes described above, and the relatively advanced development of the somatosensory cortex.

Pain: Infants feel pain similarly, if not more strongly than older children but pain-relief in infants has not received so much attention as an area of research.

Language: Babies are born with the ability of discriminate virtually all sounds of all human languages. Infants of around six months can differentiate between phonemes in their own language, but not between similar phonemes in another language. At this stage infants also start to babble, producing phonemes.

Infant Cognition: The Piagetian Era An early theory of infant development was the Sensorimotor stage of Piaget's Theory of the cognitive development. Piaget suggested that an infant's perception and understanding of the world depended on their motor development, which was required for the infant to link visual, tactile and motor representations of the objects. According to this view, it is through touching and handling objects that infants develop object permanence, the understanding that objects are solid, permanent and continue to the exist when out of sight.

Recent Finding in Infant Cognition: In the 1980s and 1990s, researchers have developed many new methods of assessing infants understanding of the world with far more precision and subtlety than Piaget was able to do in his time. Since then, many studies based on these methods suggest that young infants understand far more about the world than first thought. Other research has suggested that young infants in their first six months of life may possess an understanding of numerous aspects of the world around them, including : -an early numerical cognition, that is, an ability to represent number and even compute the outcomes of addition and subtraction operations; an ability to infer the goals of people in their environment; an ability to engage in simple causal reasoning.

Toddlerhood: Infants shift between ages of one and two to a developmental stage known as toddlerhood. In this stage, an infant's transition into toddlerhood is highlighted through self-awareness, developing maturity in language use, and presence of memory and imagination.

During toddlerhood, babies begin learning how to walk, talk, and make decisions for themselves. An important characteristic of this age period is the development of language, where children are learning how to communicate and express their emotions and desires through the use of vocal sounds, babbling, and eventually words. Self-control also begins to develop. At this age, children take initiative to explore, experiment, and learn from making mistakes. Caretakers, who encourage toddlers to try new things and test their limits, help the child to become autonomous, self-reliant and confident. If the caretaker is over protective or disapproving of independent actions, the toddler may begin to doubt their abilities and feel ashamed of the desire for independence. Socially, the period of toddlerhood is commonly called the "terrible twos". Toddlers often use their new found language abilities to voice their desires, but are often misunderstood by parents due to their language skills just beginning to develop. A person at this stage testing their independence is another reason behind the stage's infamous label. Tantrums in a fit of frustration are also common.

Early Childhood: When children attend preschool, they broaden their social horizons and become more engaged with those around them. Impulses are channeled into fantasies, which leaves the task

Rexjounal

of the caretaker to balance eagerness for pursuing adventure, creativity and self-expression with the development of responsibilities. If caretakers are properly encouraging and consistently disciplinary, children are more likely to develop positive self-esteem while becoming more responsible, and will follow through on assigned activities.

As children grow their past experiences will shape who they are, allow them to perceive the world in their on way. It helps a person go through everyday life. During a child's preschool and beginning school years, intelligence is demonstrated through logical and systematic manipulation of symbols related to concrete objects. Operational thinking develops, which means actions are reversible, and egocentric thought diminishes.

Children go through the transition from the world at home to that of school and peers. Children learn to make things, use tools, and acquire the skills to be a worker and a potential provider. Children can now receive feedback from outsiders about their accomplishment.

If children can discover pleasure in their activities, including their intellectual stimulation, most importantly in learning reading, writing, and basic math, they will develop a sense of competence. If they are not successful or cannot discover pleasure in the process, they may develop a sense of inferiority and feelings of inadequacy that may haunt them throughout life. This is when children think of themselves as industrious or as inferior.

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Ecological Aspects towards Sustainable Environment

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•:• Abstract : Sustainable Environment means to maintain the valuable qualities in physical environment e.g. sustainability of human life, living conditions for people and other species like water, air, climate etc. Because of deteriorating environmental conditions, threats to above aspects of the environment is because of the risk that these things will not be maintained. It means extraction of non-renewable resources i.e. mineral, coal & oil at large scale can create threats of serious deterioration of quality or destruction or extinction of resources. For environmental managers it is not always easy to find out exactly when and where threats will have their effects, so sustainability programs must comprise actions to prevent threats and impacts from arising damage. Thus program include actions to reduce the use of physical resources, adoption of recycling approach, use of renewable resources, redesignof production processes to eliminate toxic materials and the protection of natural habitats.

In a sustainable system, resources are to be exploited to meet the needs without compromising the future generations, current needs must be analyised and projections of future need may be drawn keeping the way of resources, how they have been used in past and being used in present.

•:• Keywords : Sustainable Environment, Environmental Impact Assessment, pollution, Energy, Green house gases, Ecological economics, ecological services, Eco-Efficient Economy, Green business, Green design

•:• Energy – A key factor towards sustainable development : So far development of human life and its maintenance is concerned, energy is found a key factor to achieve sustainable development, and hence the power sector faces the challenge of sustainability because of constantly growing need. As far as possible the sources should be renewable and generation should not affect the environment and other living things. During World Summit held on Sustainable Development in Johansburgin 2002, UN emphasized on actionstaken in pursuit of economically viability and socially acceptable that too from sustainable sources.

So, as long as the threats continue, the sustainable programs need to be operated. Major issues, which pose major problems related to environmental sustainability are:-

- Discharge of pollution through chemicals and other materials into the environment.
- Destruction of the living environments i.e. habitats of native species.
- Depletion of fossil fuels & low cast oil.
- Emission of greenhouses gases into atmosphere causing climate change.

Can development be sustainable?

Rexjounal

Sustainable development means improvement in living standard without damaging the ecological processes, which support us in life. Therefore, it can be defined as meeting need of present without compromising the future generation to meet the requirements. Now the question arises, whether it is possible usually it is said that population and economic level are exhausting the available resources. Ecological Economics is based upon principles of ecology, which applies ecological ideas of system and recycling of resources. Maintenance of ecosystem function is to keep continue the human economics and cultures. In actual practice nothing is wasted as innature one species' waste is consumed by another. Material should be recycled economically and energy must be used efficiently. To make natural capital a key consideration in economic calculations, natural environment is treated as a part of our economy by Ecological Economists. A continually regulated global energy balance & climate, atmospheric & ocean's chemical composition, recycling of water, organic & inorganic materials are continually sought from environment. Ecological services include several ecological

functions comprising absorbing of photosynthesis, cleaning soil etc. free i.e. do not involve direct indirect expenditure in their that's why many times they are not conventional economic accounting



purifying waste water, process of Most of these services are almost expenses, whereas some costs absence from environment and taken into account while is done and attempt is made to

rectify the situation by ecological economists as shown in following fig 1.1

Figure 1.1 An ecological economics view considers natural capital and recycling integral to the economy. Human –made capital is created using limited supplies of natural capital.

Source : Data from Herman Daly in A.M Jansson et al, Investing in Natural Capital, ISEE further William P. Cunningham in "principal of Environmental Science", IV Edition printed by The McGraw Hill companies. Goals for an Eco-Efficient Economy (EEE) Table 1.1

Source: "Principal of Environmental Science", IV Edition printed by The McGraw Hill companies Table 14.7; Page 350 **TABLE 14.7**

Green Business & Sustainable Development : Awareness is increasing about the unsustainability of producing goods every day and hence business innovators are trying green business i.e. producing environmentally & socially sound products. From table 14.7 it is evident that as per law of sustainable development operating can be good for public relations and employee morale. • Live on renewable solar income rather than fossil fuels.

Goals for an Eco-Efficient Economy Introduce no hazardous materials into the air, water, or soil. Measure prosperity by how much natural capital we can accrue in productive ways Measure productivity by how many people are gainfully and meaningfully employed Measure progress by how many buildings have no smokestacks or dangerous effluents. Make the thousands of complex governmental rules that now regulate toxic or hazardous materials unnecessary. Produce nothing that will require constant vigilance from future generations. Celebrate the abundance of biological and cultural diversity.

Green Design & Environment : Heating, cooling, lighting etc are the major sources of consuming energy & resources. Architects are designing green office using combination of energy-efficient

designed technology comprising efficient water system & natural lighting buildings have high ceilings, windows, abundant skylights, fitness Centre pool, landscape, covered roof with native grass atrium etc.

Key Message & Conclusion: We all depend on ecosystem & nature so as to live healthy & secure life but human being has made significant changes to ecosystem to meet his demand of food, water, energy etc, which of course weakened the nature to deliver required major services. This loss is a noticeable barrier to achieve the goal of sustainable development. Pressure on ecosystem is increasing globally to change human attitude & actions.

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 GIL

PROMOTION OF EVIDENCE INTO NURSING PRACTICE AMONG NURSING STUDENTS

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•:• Introduction: Evidence-based nursing practice is essential to the delivery of high-quality care that optimizes patients' outcomes. Studies continue to show improved outcomes when best evidence is used in the delivery of patient care. Despite awareness of the importance of practicing by using best evidence, achieving and sustaining evidence based practice within practice environments can be challenging, and research suggests that integration of evidence-based practice into daily clinical practice remains inconsistent.

•:• **Definition:** Evidence based practice (EBP) is the conscientious use of current best evidence in making decisions about patient care (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). It is a problem solving approach to clinical practice and administrative issues that integrates:

- A systematic search for and critical appraisal of the most relevant evidence to answer a burning clinical question
- · One's own clinical expertise
- · Patient preferences and values

Elements of evidence into practice : To move evidence into practice, several essential elements are needed: (1) selection of a framework or model for EBP (2) identification of the clinical question, (3) critiquing of current evidence, (4) evaluation of current practice and development of a strategy to implement EBP change, and (5) evaluation of the translation of evidence into practice and outcomes.

Importance of evidence based nursing practice

- · It results in better patient outcomes
- · It contributes to the science of nursing
- · It keeps practice current and relevant
- · It increases confidence in decision-making
- · Policies and procedures are current and include the latest research.
- · Integration of EBP into nursing practice is essential for high-quality patient care.

Five steps of the evidence-based process

- 1. Ask a clinical question
- 2. Obtain the best research literature
- 3. Critically appraise the evidence
- 4. Integrate the evidence with clinical expertise, patient preferences
- 5. Evaluate the outcomes of the decision.

Barriers to implementing evidence-based practice : The barriers that prevent nurses from using

research in everyday practice have been cited in numerous studies. Nurses often report the following:

- : Lack of value for research in practice : Difficulty in changing practice
- -: Lack of administrative support -: Lack of knowledgeable mentors
- -: Insufficient time to conduct research -: Lack of education about the research process
- : Lack of awareness about research or evidence-based practice
- . Research reports/articles not readily available
- .: Difficulty accessing research reports and articles
- ↔ No time on the job to read research
- . Complexity of research reports
- -:- Lack of knowledge about EBP and critique of articles
- ☆ Core competencies for health professions :
- •:• Provide patient-centered care : identify, respect, and care about patients' differences, values, preferences, and expressed needs; relieve pain and suffering; coordinate continuous care; listen to, clearly inform, communicate with, and educate patients; share decision making and management; and continuously advocate disease prevention, wellness, and promotion of healthy lifestyles, including a focus on population health.
- Work in interdisciplinary teams : cooperate, collaborate, communicate, and integrate care in teams to ensure that care is continuous and reliable.
- . Employ evidence-based practice : integrate best research with clinical expertise and patient values for optimum care, and participate in learning and research activities to the extent feasible.
- Apply quality improvement : identify errors and hazards in care; understand and implement basic safety design principles, such as standardization and simplification.
- Utilize informatics : communicate, manage knowledge, mitigate error, and support decision making using information technology.

•:• Conclusion : The effectiveness of clinical care and treatment is central to the quality of health care and providing a high quality care based on best practice is the responsibility of nurses. Student nurses should be introduced to the principles of this as part of pre-registration education. Therefore, nurses must actively engage in reading, critiquing and grading the evidence to continually challenge the practice. **Reference:**

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FORMULATION AND EVALUATION OF IMMEDIATE RELEASE TABLET CONTAINING ATORVASTATIN SOLID DISPERSION

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•• ABSTRACT : Atorvastatin calcium is a poorly water soluble oral Cardivascular agent. The Atorastatin belongs to BCS class II drug having low solubility and high permeability. In the present study attempt was made to improve solubility and dissolution rate of poorly soluble drug by solid dispersion technique using hydrophilic carriers such as Soluplus and Ghatti gum. according to carrier in which one of the synthetic/artificial polymer (soluplus) and other is natural polymer (Ghatti gum). The FTIR study indicates that there is no interaction between drug and polymers. The solid dispersions were prepared by solvent Evaporation method in three different ratios viz.1:1, 1:2, and 1:4. The prepared solid dispersions were evaluated for physical appearance, solubility study, drug content, and *in-vitro* dissolution study. The optimized batches is AS2 and AG1 which shows 98.64%, 94.67% drug release within 60 min and solubility was 23.09ig/ml,21.64ig/ml respectively hence observed that synthetic polymer shows higher solubility and dissolution rate than natural polymer hence optimized batches of solid dispersion formulation of Immediate release tablet.

: Keyword : Atorvastatin calcium, solid dispersion, solvent evaporation method.

•: INTRODUCTION : More than 90% of drugs are approved since 1995 have poor solubility. it is estimated that 40% of active new chemical entities (NCEs) identified in combinatorial screening programs employed by many pharmaceutical companies are poorly water soluble. Drug absorption, sufficient and reproducible bioavailability and/or pharmacokinetic profile in humans are recognized today as one of the major challenges in oral delivery of new drug substances. Poor aqueous solubility is caused by two main factors

1. High lipophillicity.

2. Strong intermolecular interactions which make the solubilisation of solid energetically costly¹.

Solubility of active pharmaceutical ingredients has always been a concern for formulators, since inadequate aqueous solubility may hamper development of product and limit bioavailability of oral products. Solubility plays an essential role in drug disposition, since the maximum rate of passive drug transport across the biological membrane; the main pathway for drug absorption is a product of permeability and solubility. Thus solubilization technologies that overcome increase the solubility of such drug molecule are more important to prepare effective drug. Various method have been reported for solubility and dissolution rate enhancement of BCS class II drug includes micronization, chemical

modification, pH adjustment, solid dispersion, complexation, cosolvency, micellar solubilization and hydrotropy^{2,3}.

When formulating such solid amorphous dispersions into immediate release solid dosage forms for oral administration to a use environment such as the GI tract of an animal such as a human, it is often desirable to maximize the amount of dispersion present in the dosage form. This minimizes the size of the solid dosage form required to achieve the desired dose. depending on the drug dose, it is often desired that the solid amorphous dispersion comprise at least 30 wt %, preferably at least wt %, and more preferably at least 50 wt % or more of the solid dosage form. Such high drug loadings of dispersion in a solid dosage form minimize the dosage form's size, making it easier for the patient to swallow it and tending to improve patient compliance.

Atorvastatin a hypolipidemic agent given in the strength ranging from 10-80 mg by oral route. After oral administration alone, atorvastatin is rapidly absorbed; maximum plasma concentrations occur within 1 to 2 hours. Extent of absorption increases in proportion to atorvastatin dose. The absolute bioavailability of atorvastatin (parent drug) is approximately 14%nd the systemic availability of HMG-CoA reductase inhibitory activity is approximately 30%. The low systemic availability is attributed to presystemic clearance in gastrointestinal mucosa and/or hepatic first-pass metabolism. Although food decreases the rate and extent of drug absorption by approximately 25% and 9%, respectively^{4,5,6}.

Improvement of solubility and dissolution rate of Atorvastatin calcium by using a soluplus and ghatti gum. in which soluplus is polymeric solublizer with amphiphilic chemical structure which was particularly developed for solid solution. its capable of solubilizing poorly soluble drugs in aqeous media. and Ghatti gum is used to prepare stable, powdered, oil soluble vitamins as well as stabilizer in oil in water emulsion. it is also widely used as emulsifying agent in food and beverages industry. it is used as flavour fixative agent. now days it is also used for coating application as tablet binder. They were used for hydrophilic polymers7,8.

MATERIAL AND METHOD

Chemicals

Atorvastatin calcium was a given sample from Unichem Ltd, Goa. Soluplus and Ghatti gum was procured from BASF Chemical pvt.ltd, Mumbai and Himedia laboratory Pvt. Ltd and other exicipient microcrystline cellulose, sodium starch glyconate ,magnesium stearate, talc all provided by Loba Chemie Pvt. Ltd. Mumbai respectively. All other chemicals used in the present study were of AR Grade.

•:• Determination of absorption maxima : 10 ig/ml solutions were taken to determine absorption maxima. Initially blank buffer solution was kept and scanned in the region of 200- 400 nm. Then sample was kept for analysis and scanned in the same region. Absorption maxima were found to be 246nm. Hence all further analysis was carried out at 246 nm in phosphate buffer pH6.8

•:• Procedure for Calibration curve : Stock solution was prepared by dissolving 100 mg of accurately weighed Atorvastatin 100 ml of methanol to get 1 mg/ml solution. Further 10 ml of this solution was pipette into 100 ml volumetric flask and made up to 100 ml with phosphate buffer pH 6.8 to get 100 ìg/ ml solutions. Further 10 ml of this solution was pipette into 100 ml volumetric flask and made up to 100 ml with phosphate buffer pH 6.8 to get 10 ìg/ml solutions. From this, 0.5,1.0, 1.5.......3.0 ml solutions were pipette into a series of 10 ml volumetric flask and were made up to 10ml with phosphate buffer pH 6.8 to get 5, 10, 15, 20, 25 and 30 ìg/ml solutions of Atorvastatin respectively. The absorbance of resulting solutions was measured at 246 nm against the blank. A graph was plotted by taking concentration on X-axis and absorbance on Y-axis.

•:• Drug-excipients compatibility study : To study the interaction between drug and polymers used in the preparation of solid dispersion. FTIR spectrum of pure Atorvastatin, polymer and physical mixtures were recorded. The drug and polymers separately and in combination with each other were mixed with KBr for determination of spectrum. The range selected was from 600cm-1 to 3800cm-1

•:• Preparation of solid dispersion of Atorvastatin calcium Solvent evaporation method : The Drug and polymers were given accurate quantity in the ratio 1:1,1:2& 1:4 in this ratio solvent methanol is use for continuous stirring. the solvent was removed at 450 c with continuous stirring to obtain dry mass. The dried mass was powdered and sieved through mesh No. 44.9

- Evaluation of solid dispersion

-: Physical appearance : It includes the visual inspection of solid dispersion.

•: Solubility studies of Atorvastatin calcium solid dispersion : Solubility measurements of Atorvastatin calcium were performed according to a published method. The amount of S.D Powder containing 2.5 mg equivalent ATV was weighed accurately in screw cap vials was dissolved 5ml Distilled water or phosphate buffer pH 6.8 By sonication for 15 minute Subsequently, the solutions were filtered through a whatman filter paper no 1. Filtered solution was diluted properly with distilled water or phosphate buffer pH 6.8. The diluted solution was analyzed for the Atorvastatin calcium in UV at 246 nm9.

•:• Drug content Analysis : Solid dispersions equivalent to 10 mg of Atorvastatin calcium were weighed accurately and dissolved in the 10 ml of methanol. and volume was made upto 50 ml. From this 1ml of solution was taken and further diluted 10 times with methanol. The solution was filtered, diluted suitably and drug content was analyzed at 246 nm by UV spectrophotometer. The actual drug content was calculated using the following equation as follows10:

%Drug content = (Mact/Mt) X 100

Mact = Actual amount of drug in Solid dispersion

Mt = Theoretical amount of drug in solid dispersion

•: In vitro Dissolution study of solid dispersion : The dissolution rate of Atorvastatin calcium as such and from solid dispersions prepared was studied respectively in 900 ml of phosphate buffer pH 6.8 using USP type II (paddle type) dissolution test apparatus with a paddle stirrer at 75 rpm. A temperature 37±50C was maintained throughout the study. drug or solid dispersion equivalent to 40 mg of Atorvastatin calcium was used in each test. Samples of dissolution media (5ml) were withdrawn through a filter (0.45i) at different intervals of time, suitably diluted and assayed at 246 nm. The samples of dissolution fluid withdrawn at each time were replaced with fresh fluid.

•: Preparation of immediate release tablet from solid dispersion Direct compression :The best batch of solid dispersion of Atorvastatin calcium was chosen and formulated into immediate release tablet. Formulations can be prepared by using superdisintegrants and other excipients such as magnesium stearate, talc, and microcrystalline cellulose for solid dispersed Atorvastatin calcium. Immediate release tablets can be prepared by direct compression method. Required quantities of solid dispersion (equivalent to 40 mg of Atorvastatin calcium) filler, and other excipients were blended together for some time (10 min) after passing all the materials through 60 mesh screen and mixed with magnesium stearate and talc. Then the ingredients were weighed and mixed in geometrical order and compressed into tablets of 200 mg using concave punch of size 7mm.

✤ Evaluation of Tablet

a) Hardness: Hardness is defined as the "force required to break a tablet in diametric compression test." Hardness is hence, also termed as the tablet crushing strength. The resistance of tablets to breakage, under conditions of storage, transportation or handling before usage depends on its hardness. Tablet hardness was measured with Monsanto hardness tester. A tablet was placed in the hardness tester and load required to crush the tablet was measured. The hardness was kept lower as increased hardness delays the disintegration of the tablet.

b) Thickness : Thickness of tablet is important for uniformity of tablet size. Thickness was measured using Vernier calliper. It was determined by checking three tablets from each formulation.

c) Friability Test : This test is performed to evaluate the ability of tablets to withstand abrasion in packing, handling and transporting. Initial weight of 10 tablets is taken and these are placed in the Friabilator, rotating at 25 rpm for 4min. The difference in the weight is noted and expressed as percentage. It should be preferably below 1.0%.

%Friability = [(W1-W2)/W1] X 100

Where, W1= weight of tablets before test, W2 = weight of tablets after test

d) Weight variation : 20 tablets were taken and weighed individually on a digital weighing balance. Average weight was calculated and the individual tablet weight was compared to the average. The tablet pass the test if no more that 2 tablets are outside the percentage limit and if no tablet differs by more than 2 times the percentage limit. Average weight=weight of 20 tablet20 •: *In-vitro* disintegration time : The process of breakdown of a tablet into smaller particles is called as disintegration. The *in-vitro* disintegration time of a tablet was determined using disintegration test apparatus as per I.P. specifications. The test was carried out on 6 tablets using the apparatus specified in Indian pharmacopoeia 2007. Distilled water at $37 \pm 0.5^{\circ}$ C was used as a disintegration media and the time in second taken for complete disintegration of the tablet with no palpable mass remaining on the screen was measured in seconds.

•:• *In-vitro* dissolution studies : The *in-vitro* drug release studies for all formulations were studied using USP type - II (paddle) dissolution test apparatus. 900ml of phosphate buffer pH 6.8 solution was used as dissolution medium. The speed of the paddle was set at 50 rpm and the temperature of the medium was maintained at 37 ± 0.5°c. 5ml samples were withdrawn at predetermined intervals up to 60 min and replacements were done with fresh dissolution medium. The samples were suitably diluted and analysed for drug content by UV spectroscopy at 246 nm.

RESULT AND DISCUSSION

1.0 UV Method Development for Estimation of Drug

1.1 UV Spectra (ë max) of Atorvastatin calcium



Figure 1: ë max Atorvastatin calcium phosphate in buffer 6.8

Absorption maxima were found to be 243 nm. Hence all further analysis was carried out at 243 nm in phosphate buffer pH 6.8

1.2 Standard Calibration Curve Of Atorvastatin Calcium

Table No 1: Standard calibration curve of Atorvastatin calcium

Concentration (µg/ml)	Absorbance at 243 nm
0	0
5	0.283
10	0.412
15	0.621
20	0.820
25	0.988
30	1.17

Standard curve of Atorvastatin calcium was prepared in Phosphate Buffer pH 6.8, Atorvastatin calcium followed beer Lambert's law in the concentration range of 2-30 \g/ml. The equation of line was found to be Y=0.038x+ 0.042 (R2=0.995).Correlation coefficient values indicated the linear correlation between concentration and absorbance. The calculations of drug content and in vitro drug release are based on respective standard curve.



Figure 2: Standard graph of calibration curve

- 2.0 Drug excipients compatibility studies
- 2.1 Fourier transforms infra red spectroscopy



Figure 3: IR Spectra of Atorvastatin calcium



Figure 4: IR spectra of physical mixture of Atorvastatin calcium and soluplus



Figure 5: IR spectra of physical mixture of Atorvastatin and Ghatti Gum 3.0 Formulation of Atorvastatin Calcium Solid Dispersion

Sr. No	Formulation Code	Composition	Drug:Polymer ratio
1	AS1	Atorvastatin +Soluplus	1:1
2	AS2	Atorvastatin +Soluplus	1:2
3	AS4	Atorvastatin +Soluplus	1:4
4	AG1	Atorvastatin +Ghatti Gum	1:1
5	AG2	Atorvastatin +Ghatti Gum	1:2
6	AG4	Atorvastatin +Ghatti Gum	1:4

Table No 3: Composition of solid dispersion

Atorvastatin calcium solid dispersion can be formed by using the drug and polymer at different ratio. in the present study solid dispersion of atorvastatin calcium can be formed by using soluplus and ghatti gum by different ratio such as 1:1, 1:2 and 1:4 respectively.

- Evaluation of Solid Dispersion

a) Physical appearance

Prepared solid dispersion is white in color.

Table No 4: Solubility study of solid dispersion

Sr.No	FormulationCode	Drug:Carrier Ratio	Solubilityìg/ml
1	А	Pure Drug	2.05
2	AS1	Atorvastatin +Soluplus(1:1)	9.16
3	AS2	Atorvastatin +Soluplus(1:2)	23.09
4	AS4	Atorvastatin +Soluplus(1:4)	19.22
5	AG1	Atorvastatin +Ghatti Gum(1:1)	21.64
6	AG2	Atorvastatin +Ghatti Gum(1:2)	12.19
7	AG4	Atorvastatin +Ghatti Gum(1:4)	11.81

Solubility of all-solid dispersion can be increased as compared to pure drug by solid dispersion. increasing the concentration of polymer is 1:2 and 1:1 for AS2 are respectively more soluble than pure drug.

Rexjounal

c) Drug content of solid dispersion

Sr. No	FormulationCode	Drug:CarrierRatio	% DrugContent
1	AS1	1:1	92.24
2	AS2	1:2	98.22
3	AS4	1:4	91.57
4	AG1	1:1	95.67
5	AG2	1:2	91.23
6	AG4	1:4	90.34

Table No 5: Drug content of solid dispersion

Drug content of all solid dispersion is acceptable range. The formed solid dispersion of Soluplus and Ghatti gum at 1:1, 1:2, and 1:4 ratio gives 92.24%,98.22%,91.57% and 95.67%,91.23%,90.34% drug content respectively.

d) in vitro dissolution study of solid dispersion

Sr. no	Time(min)	AS1	AS2	AS4	AG1	AG2	AG4
1	5	18.55	32.76	21.71	39.07	18.55	19.34
2	10	22.15	34.32	26.43	43.6	22.62	22.15
3	15	24.28	49.38	32.88	49.05	29.26	30.21
4	20	32.84	59.18	36.79	58.35	33.85	34.10
5	25	39.36	64.31	42.88	62.78	40.37	39.20
6	30	52.1	70.21	54	69.85	54.07	54.07
7	45	62.13	85.41	72.11	80.78	69.78	73.37
8	60	73.22	98.64	84.22	94.67	87.15	78.42

 Table No 6: % Cummulative Drug release from solid dispersion

The drug release profile for all formulations was shown in table. The drug release of Soluplus and Ghatti gum at 1:1, 1:2, and 1:4 ratio gives 73.22, 98.64, 84.22, and 94.67, 87.15, 78.42% respectively. The optimized batch is AS2 which contain Soluplus and Atorvastatin Calcium at 1:2 ratios which give 98.64% drug release in 60 min. The dissolution rate of Atorvastatin calcium from various solid dispersions was studied in Phosphate Buffer pH 6.8. The dissolution of Atorvastatin calcium from all the solid dispersion was rapid. The drug release of Soluplus and Ghatti gum at 1:1, 1:2, and 1:4 ratio gives 73.22, 98.64, 84.22, 94.67, 87.15, and 78.42% respectively. The optimized batch is AS2 which contain Soluplus and Atorvastatin Calcium at 1:2 ratios which give 98.64% drug release in 60 min respectively. As we increase the concentration of polymer increases the dissolution rate of the drug. **5.0 Formulation of Tablet from Solid Dispersion**

Sr. No	Ingredients	F1	F2	F3	F4	F5	F6
1	Solid dispersion (equivalentto 40mg of Atorvastatin calcium)	120	120	120	80	80	80
2	Microcrystalline Cellulose	55	60	65	95	100	105
3	Sodium starch Glycolate	13	8	3	13	8	3
4	Talc	10	10	10	10	10	10
5	Magnesium stearate	02	02	02	02	02	02
6	Total	200mg	200mg	200mg	200mg	200mg	200mg

Table No.7: Formulation	of immediate	release	tablet batches
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6.0 Evaluation of Tablet

6.1 Precompression Studies

Table No.8: Precompression studies of tablet

For mulation Code	Hardness Kg/ cm ²	Thickness (mm)	Friability (%)	Weight Variation	Disintegration Time(min)
F1	3.40±0.50	4.33±0.02	0.40±0.06	199±4.091	4 Min 5 sec
F2	4.50±0.30	4.53±0.03	0.22±0.03	199.5.±1.318	3 Min 56 sec
F3	5.00±0.60	4.00±0.16	0.52±0.06	200.5±3.56	6 Min 30 sec
F4	4.80±0.40	4.20±0.50	0.41±0.04	197.5±8.416	5 Min 46 sec
F5	3.70±0.40	4.60±0.50	0.44±0.05	200±2.50	5 Min 10 sec
F6	5.50±0.20	4.80±0.50	0.57±0.05	194±3.50	6 Min 37 sec

a) Hardness: The hardness of the tablets prepared by direct compression methods was determined by Pfizer tester and found to be within the range of 3.40 ± 0.02 kg/cm2 to 5.50 ± 0.03 kg/cm2.

b) Thickness: The mean thickness was (n=3) almost uniform in all the formulations and values ranged from 4.33 ± 0.2 mm to 4.80 ± 0.03 mm. The standard deviation values indicated that all the formulations were within the range.

c) Friability: The % friability of tablet was determined by using Roche friabilator. % friability is in the range of 0.34 to 0.60 % i.e. less than 1 %.

d) Weight variation: The weight variation was found in all designed formulations in the range 194 ± 8.091 to 200.5 ± 6.318 mg. The weight variation test results are tabulated in Table. All the tablets passed the weight variation test as the average percentage weight variation in the pharmacopoeia limits.

e) Disintegration: The *in-vitro* disintegration time was measured by the time taken to undergo complete disintegration. Rapid disintegration within 2 to 4 minute was observed in all the formulations. The *in-vitro* disintegration data is tabulated in the Table. The *in-vitro* disintegration time of immediate release tablets prepared by direct compression method were found to be in the range of 10 min to 15 min fulfilling the official requirements

Sr, NO	Time(min)	F1	F2	F3	F4	F5	F6
1	5	33.15	37.89	32.76	24.47	22.1	35
2	10	33.85	38.85	37.4	36.63	34.25	37.89
3	15	37.54	48.52	41.36	41.77	40.07	48.73
4	20	54.29	62.69	54.37	60.47	53.54	61.34
5	25	59.62	84.08	63.25	64.21	65.49	67.22
6	30	64.53	88.78	71.51	72.01	78.52	85
7	45	76.59	94.23	90.9	88.18	86.23	90.86
8	60	88.78	98.79	93.39	91.96	90.47	96.5

6.2 % Drug Release of drug from tablet

Table No 10: % Drug release from tablet

Tablets which can be prepared from optimized batch of solid dispersion (AS2 and AG1) by direct compression were studied for percentage cumulative drug release of drug. All six batches of the tablet can be prepared such as by using superdisintegrants and Binder such as sodium starch glycolate in various concentration. Batch F2 is 98.79% drug release in drug release in 60 min.

•:• **CONCLUSION** : Present study of concluded that Atorvastatin calcium could be prepared by Solvent evaporation method effective other than solid dispersion techniques. in this method two polymer which soluplus is more effective than Ghatti gum soluplus is artificially prepared by three graft copolymer is

above in which solubility, Drug content analysis and in vitro dissolution study soluplus is most preferably used for solubility and dissolution enhancement than Ghatti gum polymer. Hence improvement of solubility and dissolution rate of solid dispersion for oral dosage form of immediate release tablet.

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Comparative Study of Emotional Intelligence Among Football and Judo Players of Maharashtra

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• Abstract : Purpose of the present study is to find out the comparison of emotional intelligence of football and judo players of Maharashtra. There is a growing interest in emotional intelligence in sport. Recent research found emotional intelligence related to emotions experienced before successful and unsuccessful performance. It was found that emotions correlating with successful performance vigor, happiness ,and calmness, whereas emotions associating with poor performance include confusion, depression and fatigue. Emotional intelligence correlated positively with pleasant emotions and negatively with unpleasant emotions. The present study was undertaken to investigate differences between emotional intelligence among judo and football Players. The Sample for the study are 100 Judo and 100 football players of Maharashtra. The purpose of the study was to examine the emotional intelligence among football and Judo Players. Pedhe and Hyde emotional intelligence test was used the study. The results of this study is judo Players are have significantly high emotional intelligence than the football Players.

:• Key Words: emotional intelligence, football, judo, intelligence etc.

-:- Introduction : There is a continually growing interest in emotional intelligence in sport (Meyer and Zizzi, 2007). Recent research found that emotional intelligence related to emotions experienced before successful and unsuccessful performance found that emotions correlating with successful performance happiness, vigor, and calmness, whereas emotions associating with poor performance include confusion, depression and fatigue. Educational psychology influences principles of education. There are some principles which have played a role of bringing education to the higher level of specific and scientific process. In it the principles of educational psychology have played an important role. Education can be defined as a change, a modification, or an adjustment on the part of an individual as a result of experience. It is associated with learning and is characteristically followed by some change in behavior. If that change is positive and in the right direction, it seems to help those individuals being educated to adjust more effectively to their experiences in that environment, or adjustment is manifested through growth, development and achievement. Education is the process by which the individual is shaped to fit into the society and which maintains and advances the social order. Emotional intelligence also help explain why some people appear to initiate strategies to reduce the discrepancy between current emotions and ideal emotions. Recent research has argued that people learn from their emotional experiences (Baumeister et al., 2007).

•:• Intelligence : Intelligence is the aggregate energy and mental capacity of an individual to act purpose fully to think rationally and to deal effectively with person behavior . Intelligence involves awareness, is goal directed and has value. It is an ability to undertake the activities that are difficult, complex and which lead to the creation of something new and different. Intelligence of an individual plays an important role in effecting the physical performance. The more complex and more interpretative the movement, greater the amount of intelligence, necessary to be comprehend. Sports activities involve complex skilled actions.

-: Emotional Intelligence : Emotional intelligence like general intelligence is the product of one's heredity and its interaction with his environmental forces. Historically speaking them emotional intelligence was introduced in 1990 by American University Professors Dr. Peter Solevey and Dr. John Mayer in their attempt to develop a scientific measure for knowing the differences in people's ability in the areas of emotion. Emotional intelligence refers to an ability to recognize the meanings of emotions and their relationship and to reason and problem solve on the basic of them emotional perceive emotions, assimilate emotion related feelings understand the information of those emotions and manage them. According to Aristotle, to exhibit emotion is very easy but doing it at the right time at the right place with the right person and to the right degree is difficult. The management of emotion has given rise to the most talked about term emotion intelligence.

-: Concept of Emotional Intelligence : The concept of Emotional intelligence is multifaceted in nature including individual skills and insights, regarding inter and intra personal factors which influence the competency profile of a person. Emotional intelligence is defined as "ability to monitor one's own and other's feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions"

-:- Component Emotional Intelligence : According to Mayer and Salovey (1990) Emotional intelligence is categorized into five domains: Self-Awareness, Managing Emotions, Motivating Oneself, Empathy, Handling Relationships

Football - Football is worlds favorite and popular sport. Football has a long history. Football in its current form arose in England in the middle of the 19th Century. In China under the 3rd and 2nd century BC a game named *Cuju* was played. Football was known from the Ancient Greece.

At this stage the ball was made by shreds of leather filled with hair. The first documents of balls filed with air are from the 7th century. The first World Cup was played in Uruguay and since then the tournament has been held every fourth year .Since the first official World Cup in 1930 FIFA had remain the organize

-:- Judo - Judo is a martial art game. That was born in Japan, and it is now known around the world .judo is Olympic sport. Judo was established in 1882 by combining jujitsu, a form of wrestling, with mental discipline. In 1882, Dr. Jigoro Kano who is The Father of Judo made a comprehensive study of

the ancient self-defence forms and integrated the best of these forms into a sport which is known as Kodokan Judo. The term Thus it means "a place to study the way". Similarly judo breaks down into ju (gentle) and do (way or path) or "the gentle way". The categorization of Kodokan Judo was completed about 1887. The Kodokan had three broad aims: physical education, contest proficiency and mental training.

Objective of the Study : To find out the emotional intelligence among football and judo players **Aim of the Study :** To Examine the emotional intelligence among football and judo players **Hypothesis :** Judo players have significantly high emotional intelligence than the football players.

•:• Methodology : Sample : For the present study 200 Sample were selected from Maharashtra. The effective sample consisted of 200 subjects players , 100 subjects were judo playes and 100 subjects were football players.

Tools :

Emotional Intelligence test : Pedhe and Hyde test was used for measuring Emotional intelligence. This test is developed and standardized by Pedhe and Hyde, its has 34 items are rated on a five point scale. The subjects were required to respond to each item in terms of Strongly Disagree, disagree, Neutral, Agree, strongly agree. This test use with football and judo players This is well known test having high reliability and validity coefficients.

Procedures of data collection : One test could be administered individuals as well as a small group. While collecting the data for the study the later approaches was adopted. The subjects were called in a group of 50 subjects and there seating arrangements was made in a field event. Prior to administration of test, through informal talk appropriate rapport form. Following the instructions and procedure suggested by the author of the test. The test was administered and a field copy of test was collected. Following the same procedure, the whole data were collected.

Variable :

Independent variable- Players a) Judo players b) Football players

Dependent Variable 1. Emotional Intelligence

Results: The results of this study is judo Players are have significantly high emotional intelligence than the football Players.

: Discussion: Emotional intelligence might also help explain why some people appear to initiate strategies to reduce the discrepancy between current emotions and ideal emotions. In sport psychology, the notion that emotions provide feedback and those individuals learn to associate certain emotions with success judo and football the emotional intelligence plays a vital role for achieving the performance.

Statistical analysis and discussion : Emotional Intelligence among judo players and football players Mean S.D. and "t" Value.

Group	Mean	S.D	N	df	Т
Judo	83.23	11.29	100	198	7.65
Football	71.44	10.48	100		



The results related to the hypothesis have been recorded. Mean of Emotional Intelligence score of the judo players is 83.23 and that of the football players is 71.44. The difference between the two means highly significant ('t'= 7.65, df = 198) It is clear that judo players and football players Differ Significantly From each other from the mean scores and graph it was found that the judo players have Significantly high Emotional Intelligence than the football players. This Result is support the Hypothesis.

•:• Conclusion : It is concluded that judo players have significantly high emotional intelligence than the football players .In judo and football the emotional intelligence plays a vital role for achieving the performance.

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NEED OF EFFICIENT PURCHASE MANAGEMENT SYSTEM : A STUDY OF RETAIL SME SPECTACLE UNIT IN DELHI, INDIA

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•• ABSTRACT : The purchasing managementsystem under supply chain management is relatively a new field in comparison to other management fields. It has been approximately 20 years that this field is being researched and enhanced to make businesses more effective & efficient. The Retail SME units are undoubtedly India's growing and developing units and are a critical part of Indian economy. The paper endeavors to analyze the purchase management systemfollowedintheRetail SMEunitunderstudyandidentificationofthefinancial effectiveness of purchasing system. Further an attempt is made to identify the financialhindrance caused due to non existence of a proper purchasing system. The proposed suggestions can lead to practically significant revenueenhancement.

: Keywords: Purchasing system, Inventory system, Retail SME

• INTRODUCTION : For an organization purchasing is awindow to the outside world (Chary,2009). The purchasing activity is an integral & incessant activity of every business. The objective of purchasing is to maintain continuity in supply, maintain quality in standards, and avoid duplication, wastage & obsolescence, sustain organization competitive position & to develop alternate sources of supply.

A purchasing system looks after the process of procuring the necessary products for the organization. Starting from therequisition of materials to purchase order, receipt of goods and payment for the same. Purchasing systems are a key player of effective inventory management as they look after the existing stock and forecast what to purchase, from whichsource to purchase and at what time to purchase. A better purchasing system helps generating 15-20% of organization profit by doing savings in the inventory, better lead time to name few.

An effective purchasing system gives the organization an edge over the competition as the market gets big, the transaction get larger and inventory gets multiple. The purchase system may be classified into Pre-Purchase systems, Ordering system and Post Purchase system (Panneerselvam,2001). In a SME as the organization is not to large, the purchasing system has to be centralized and to be managed with other departments by a single or group of people.

The Standardize Purchasing process in Spectacle retail SME is as follows :



- To analyze the purchasing management system followed in the Retail unit and to identify the financial hindrances unit face due to non effective purchase system.
- ... Todiscoverthemeansformakingthesystem more cost effective and time saving.

•:• REVIEW OF LITERATURE : Gelderman et al,(2003) talks aboutashow the role of purchasing has evolvedfromclerical, administrative function into astrategicfunction that can provide a competitive edgetothe company. In the past 30 years there hasbeena revolution in purchasing system whichleadsto the changed role, impact andresponsibilitiesofpurchasing management. This studydealswith the gap between the lack ofacademicresearch into purchasing portfolio modelsandtheir increasing implementation bypractitioners. A general shift has been observed in theorganizational buying behaviorfroman antagonisticmodetothemostco-operativemode. Purchasing new responsibility is to contribute to development of supplier and relationship management, identification, development and management of new and existing suppliers. Purchasers can concentrate on managing suppliers as

against placing orders and expediting.

•:• Kraljic (1983) has dealt in detail show the old methods of purchasing still persists in spite of the rapid changes in the environment wherein companies continue to negotiate annually with the established networks of suppliers or sources. Skills and outlooks which were formed 20 years ago in an era of relative stability haven't changed. The author offers pragmatic advice on how top management can recognize the extent of its own supply weakness and treat it with a comprehensive strategy to managesupply.

•: Tahariri et al,(2014) aims to provide a systematic model stimulating correct supplier selection using the Fuzzy Analytic Hierarchy Process (FAHP). According to him, to select the best supplier, it is essential to make an analytical decision based upon tangible and intangible criteria. The proposed model in this study was applied in a steel manufacturing company in Malaysia with the goal of reducing time in choosing the correct supplier for the company.

•:• Tachizawa,(2005) has tried to explore the reasons why firms need supply flexibility and stressed upon two main strategies- increase supplier' responsiveness capability and flexible sourcing. He also suggested that the supply flexibility strategy selected depends on two factors: the supplier searching and switching costs and the type of uncertainty (mix, volumeor delivery).

--- METHODOLOGY : The aim of the study is to determine the importanceof purchasing system from financial perspective. Financial effectiveness relies on the value of capital blocked up in the inventory due to purchasing negligence or not a having a proper purchase system. A retail firm "ZE Spectacles" that exist in one of the biggest Spectaclesmarket, situated in old Delhi, which is not only Delhi's but India's one of the biggest SME retail Market hub, has been selected as the primary data source for the research. The selected unit deals in variousSpectacles & Sunglasses product and is in business for almost 15 years now. The firm uses old conventional methods of purchasing thus becomes a perfect select for research. A sample size of 10itemused in the process of retailing is considered for the period of six months. The research design adopted by the study is purely quantitative and exploratory.

DATA ANALYSIS:

• **Financial Effectiveness :** The financial Effectiveness will be analyzed after calculating the value of the excessstock. The excess stock will be the difference between the average stock required for the 10 items under study and the current stock lying in the stores. The amount of capital blocked due the maintenance of excessive stock is computed in order to assess the amount of interest foregone. The interest is calculated @10%.

Table 1: Calculation of Excess Amount

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S. No	Month	Item	Unit	Rate (Rs)	Average Stock	Current Stock	Excess Stock	Value (Rs)
1	January	Rayban Shades	Pcs	4500	70	130	60	270000
2	January	Opium	Pcs	1800	50	60	10	18000
3	Feb	IDEE Shades	Pcs	1700	100	150	50	85000
4	Feb	RaybanSpecticals	Pcs	4000	50	60	10	40000
5	March	Image Shades	Pcs	2500	100	120	20	50000
6	March	IDEE Speticals	Pcs	1900	100	150	50	95000
7	April	Image Specticals	Pcs	2500	120	150	30	75000
8	May	Contact Lens	Box	800	200	500	300	240000
9	June	Vouge Shades	Pcs	4200	25	40	15	63000
10	June	VougeSpecticals	Pcs	3800	100	125	25	95000
						Total		1031000

Table 2: Calculation of Interest @ 10%p.a

Month	AvgAmt (Rs)	Calculation	IntAmt (Rs)
January	144000	6*112500*10/6*100	14400
February	62500	5*52500*10/6*100	5208.333333
March	72500	4*60000*10/6*100	4833.333333
April	75000	3*60000*10/6*100	3750
May	240000	2*180000*10/6*100	8000
June	79000	1*70000*10/6*100	1316.666667
		Total	37508.33333

Source: Calculation derived from table I

•:• Findings : The analysis of 10 selected retail items revealsand gives us the findings that due to noneffective purchasing system, the retail unit is not able to control the purchase of excess stock. As per objective of the study, if we consider the amount of the excess stock which exist due to non effective purchase system, the total capital blocked in the excess inventory isamountingtoRs10,31,000foraperiod of six months. The amount blocked is significantly very huge in aspect of the SME retail units and thus create financial hindrance in terms of money stuck & invested in excess stock. The same if invested in the market will fetch the company an interest equivalent to Rs37,509. The importance of this interest amount could be understood that this amount is approximately equal to the salary of 2 staff members of the retail unit. The reasons behind overstocking of materials can be attributed to the lack of proper purchase system & inventory management.

•:• SUGGESTIONS : The following suggestion is on the basis of study done in this paper regarding the financial value of excess stock in retail unit due to non effective purchasing system. The suggestion are given in respect of the retails units, such as the one which is selected for the study, to improve its purchasing function which will result in better financial position for the unit allowing them to use fund which are currently stuck in excess stock.

· A proper inventory managementsystem should be followed, where Cycle counting weekly or

monthlystock evaluation should be conducted to get the exact value of the stock available in the store, which then should be given to the authority that is responsible for purchasing.

- A proper purchasing system should be developed where a sound o-ordination between inventory and purchasing activityshouldexists
- The excess stockcan be minimized by keeping the updated inventory stock list while purchasing new stock.
- As in a SME or small retail units the decisionmaker inmost of the cases is a single person or the entrepreneur, who takespurchasingdecision, he/she should have knowledge regarding the stock of the store/outlet. As in retail new stocks has to be purchased to full fill the season demands, one should practice the forecasting technique and other purchasingtechniqueswhich will help in controlling the excess stock.

-**: CONCLUSION** : Over the past 15-20 years purchasing function has gained more importance in the organization and there has been a shift in the responsibilitiesofpurchasingmanagerfrommere placing a purchase order with the supplier to the requirementofsignificant expertise in the field of finance, engineering, manufacturing and quality. The study was an attempt to understand the purchasing effectiveness from financial perspective. The analysis reveals that the purchasing system in the concerned organization is not effective. The total amount of capital blocked for the period of six months amounts to Rs10, 31,000 which if invested in market will earn an interest of approximately Rs 37,509 per month for the company. This calls for the review of purchasing as well as inventory system in the organization like implementation of regular stockreview, revision of purchasing techniques, strengthening of the relationship inventory & purchasing activities.

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A Review on Security Issue in Cloud Application

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Abstract: What exactly is cloud application security or else simply says cloud security. This domain is a part of information system security the branches of secure computing and secures networking. It can be related to the technology which can be provided security to all the architecture of cloud application which includes infrastructure, Platform and software.

In this paper we discus about the major security concern which deal with cloud application and also latest technologies which are going to support or provide strong security to the cloud application.

* Keywords— Cloud Computing; Web application security; and Network Security.

•**!**• Introduction : " The purpose of Web enable application is either for business or social services. Some web applications are very crucial like Health care, Govt. services, Online Banking etc., this type of service are moving toward to cloud application where the resource are going to be rented and provide full fledged service without having any resource at application service provider. In figure 1 show the difference between tradition and cloud application architecture.



Figure 1. The comparison between traditional web application multi-tiered architecture and cloud application architecture

Management of IT upgrade projects may soon have a new pull thrown into the works. According to recent research from Gartner, 60 percent of virtual servers are less secure than the ones they replace. The situation is line up to continue through the end of 2015, when the number of lacking security virtual servers is expected to drop to 30 percent. "Virtualization is not inherently insecure," said Neil MacDonald, Gartner fellow and vice president. "However, most virtualized workloads are being deployed insecurely. The latter is a result of the immaturity of tools and processes and the limited training of staff, resellers and consultants."[2].

Abundant states, local and centralized agencies have moved or are moving to virtual servers, including the state of California and the Energy Department while Gartner estimated that only 18 percent of enterprise data center workloads had been virtualized at the end of 2009, that number is expected to grow to more than 50 percent by the close of 2012. Another risk is that the virtualization layer could compromise all hosted workloads, with hackers already targeting this layer, Gartner said. Gartner recommends keeping the layer as "thin as possible, while hardening the configuration to unauthorized changes."

Organizations should not rely on host-based security controls, the report states. Other risks include a lack of visibility and controls on internal virtual networks, which are not visible to network-based security protection devices, such as network-based intrusion prevention systems, and consolidations of workloads of different trust levels on the same physical server without adequate separation. There is also the potential for inadequate administrative access controls and administrative tools for the hypervisor/virtual machine manager layer. Finally, a potential loss of separation duties for network and security controls could lead to inadvertently allowing users to gain access to data that exceeds their normal privilege levels.

To address these risks, Gartner recommended treating the virtual network as similar to a physical one, with the same kind of monitoring and separation of workloads and the same team handling both. Additionally, organizations should isolate virtual desktop workloads from the rest of the physical data center and restrict access to the virtualization layer. One of the major causes of this issue is a lack of involvement of the IT security team in the architecture and planning stages of development, Gartner said. About 40 percent of the surveyed organizations had not brought security professionals into the projects.

•• Cloud application : Defining Cloud Computing : Cloud computing refers to both the applications delivered as services over the Internet and the hardware and systems software in the data centers that provide those services. The services themselves have long been referred to as Software as a Service (SaaS). Some vendors use terms such as laaS (Infrastructure as a Service) and PaaS

(Platform as a Service) to describe their products, but we eschew these because accepted definitions for them still vary widely. The line between "low-level" infrastructure and a higher-level "platform" is not crisp. We believe the two are more alike than different, and we consider them together. Similarly, related term "grid computing," from the high-performance computing community, suggests protocols to offer shared computation and storage over long distances, but those protocols did not lead to a software environment that grew beyond its community.

The data center hardware and software is what we will call a cloud. When a cloud is made available in a pay-as you-go manner to the general public, we call it a public cloud; the service being sold is utility computing. We use the term private cloud to refer to internal data centers of a business or other organization, not made available to the general public, when they are large enough to benefit from the advantages of cloud computing that we discuss here. Thus, cloud computing is the sum of SaaS and utility computing but does not include small or medium sized data centers, even if these rely on virtualization for management. People can be users or providers of SaaS, or users or providers of utility computing.



Figure 2. Cloud application

We focus on SaaS providers (cloud users) and cloud providers, which have received less attention than SaaS users. In some cases, the same actor can play multiple roles. For instance, a cloud provider might also host its own customer-facing services on cloud infrastructure. From a hardware provisioning and pricing point of view, three aspects are new in cloud computing. The appearance of infinite computing resources available on demand, quickly enough to follow load surges, thereby eliminating the need for cloud computing users to plan far ahead for provisioning. [3]

•: SECURITY ISSUE IN CLOUD APPLICATION : Cloud computing utilizes three delivery models by which different types of services are delivered to the end user. The three delivery models are the SaaS, PaaS and IaaS which provide infrastructure resources, application platform and software as services to the consumer. These service models also place a different level of security requirement in

the cloud environment. A recent survey by Cloud Security Alliance(CSA)&IEEE indicates that enterprises across sectors are eager to adopt cloud computing but that security are needed both to accelerate cloud adoption on a wide scale and to respond to regulatory drivers. It also details that cloud computing is shaping the future of IT but the absence of a fulfillment environment is having remarkable impact on cloud computing growth. Organizations using cloud computing as a service infrastructure, gravely like to examine the security and privacy issues for their business significant insensitive applications. Yet, assurance the security of corporate data in the cloud is tricky, if not impossible , as they provide different services like SaaS, PaaS, and IaaS. Each service has its own security issues(Kandukuri etal.,2009).

There are strong concerns about data breaches, application vulnerabilities and availability that can lead to financial and legal accountabilities. The following key security elements should be carefully considered as an integral part of the SaaS application development and deployment process: a) Security in Data b) Network security c) locality of Data e) Integrity of Data f) Data segregation g) Data access h) Authentication and authorization.

• Security in Data: In a established on-premise application deployment model, the responsive data of each enterprise continues to reside within the enterprise frontier and is subject to its physical, logical and personnel security and access control policies. However, in the SaaS model, the enterprise data is stored outside the enterprise boundary, at the SaaS merchant end. Consequently, the SaaS merchant must accept additional security ensures to make sure data security and avoid violations due to security vulnerabilities in the application or through nasty employees. This involves the use of strong encryption techniques for data security and fine grained authorization to control access to data. In cloud merchant such as Google, the Amazon administrators do not have access to customer instances and cannot log into the Guest OS. Amazon Administrators with a business need are required to use their entity cryptographically strong Secure Shell (SSH) keys to gain entrance to a host. All such accesses are logged and regularly inspection. While the data at rest in Simple Storage Service is not encrypted by default, users can encrypt their data before it is uploaded to Amazon S3, so that it is not accessed or interfered with by any unauthorized party.

•:• Network security : In a SaaS operation model, sensitive data is obtained from the enterprises, processed by the SaaS application and stored at the SaaS merchant end. All data flow over the network needs to be secured in order to avoid leakage of sensitive information. This engages the use of strong network traffic encryption procedures such as Secure Socket Layer (SSL) and the Transport Layer Security (TLS) for security.

•:• Integrity of Data : is one of the most significant elements in any system. Data integrity is easily accomplished in a individual system with a single database. Data integrity in such a system is sustained via database constraints and transactions. Transactions should follow ACID (atomicity, consistency,

isolation and durability) properties to make sure data integrity. Most databases maintain ACID transactions and can protect data integrity. Next in the difficulty chain are distributed systems. In a distributed system, there are various databases and numerous applications. In order to maintain data integrity in a distributed system, transactions across multiple data sources need to be handled properly in a fail safe manner.

-:- Authentication And Authorization : Most companies, if not all, are storing their employee information in some type of Lightweight Directory Access Protocol (LDAP) servers. In the case of SMB companies, a segment that has the highest SaaS adoption rate, Active Directory (AD) seems to be the most popular tool for managing users (Microsoft White Paper, 2010). With SaaS, the software is hosted outside of the corporate firewall. Many a times user credentials are stored in the SaaS providers' databases and not as part of the corporate IT infrastructure. This means SaaS customers must remember to remove/disable accounts as employees leave the company and create/enable accounts as come onboard. In essence, having multiple SaaS products will increase IT management overhead. For example, SaaS providers can provide delegate the authentication process to the customer's internal LDAP/AD server, so that companies can retain control over the management of users The other factor is the reliability of the data that is stored within the provider's hardware. Due to the growing virtualization of 'everything' in information society, retaining the ultimate control over data to the owner of data regardless of its physical location will become a topic of utmost interest. To achieve maximum trust and security on a cloud resource, several techniques would have to be applied (Descher et al., 2009). The security responsibilities of both the provider and the consumer greatly differ between cloud service models. Amazon's Elastic Compute Cloud (EC2) (Amazon, 2010) infrastructure as a service offering, as an example, includes vendor responsibility for security up to the hypervisor, meaning they can only address security controls such as physical security, environmental security, and virtualization security. The consumer, in turn, is responsible for the security controls that relate to the IT system including the OS, applications and data (Seccombe et al., 2009).

security and infrastructural specifications and information for grid computing developers and researchers ("Open Grid Forum", 2010). The best security solution for web applications is to develop a development framework that has tough security architecture. Tsai W, Jin Z, and Bai X, put forth a four-tier framework for web-based development that though seems interesting, only implies a security facet in the process (Tsai et al., 2009). "Towards best practices in designing for the cloud" by Berre, Roman, Landre, Heuval, Skar, Udnaes, Lennon, and Zeid is a road map toward cloud-centric development (Berre et al., 2009), and the X10 language is one way to achieve better use of cloud capabilities of massive parallel processing and concurrency (Saraswat Vijay, 2010). Krugel et al. (2002) point out the value of filtering a packet- sniffer output to specific services as an effective way to address security issues shown by anomalous packets directed to specific ports or services (Krugel et al., 2002). An often-ignored solution to accessibility vulnerabilities is to shut down unused services, keep patches updated, and reduce permissions and access rights of applications and users (Krugel et al., 2002). Raj et al. (2009) suggest resource isolation to ensure security of data during processing, by isolating the processor caches in virtual machines, and isolating those virtual caches from the hypervisor cache (Raj et al., 2009). Hayes points out that there is no way to know if the cloud providers properly deleted a client's purged data, or whether they saved it for some unknown reason (Hayes, 2008). Basta and Halton (2007) suggest one way to avoid IP spoofing by using encrypted protocols wherever possible. They also suggest avoiding ARP poisoning by requiring root access to change ARP tables; using static, rather than dynamic ARP tables; or at least make sure changes to the ARP tables are logged. Hayes (2008) points out an interesting wrinkle here, "Allowing a third-party service to take custody of personal documents raises awkward questions about control and ownership: If you move to a competing service provider, can you take a data with you? Could you lose access to documents if you fail to pay a bill?" The issues of privacy and control cannot be solved, but merely assured with tight service-level agreements (SLAs) or by keeping the cloud itself private.

.: CONCLUSION : We have clear in the paper, even if there are lot of tremendous advantages in using a cloud-based system, there are so many unsolved handy problems which have to be solved. Cloud computing is a disrupting technology with intense inference not only for Internet services but also for the information technology division overall. Still, several exceptional problems are present, principally associated to service-level accord, security and privacy, and power efficiency. As clear in the paper, presently security has lot of loose ends which alarms away a lot of probable users. Until a appropriate security module will not be introduced, possible users will not be able to influence the return of this technology. This security module should cater to the entire issues take place from all guidelines of the cloud. Each building block in the cloud should be examine at the macro and micro level and an incorporated solution must be considered and organize in the cloud to magnetize and captivate the possible customers. Until then, cloud atmosphere will stay cloudy. An incorporated security

model aiming unlike levels of security of data for a typical cloud communications is beneath research. This model is meant to be more dynamic and localized in nature. As we are all aware now there will be another layer should be the there to provide security to cloud application. As off now there are lot of security algorithm are introduced to protect web applications so, now we need to apply a security level to the cloud application environment. There should be secure layer which have all the information about the apart which focus on the purely on security as we know and mention on the start point of this paper a lot of government and confidential groups are going to plan to move toward cloud. This research is based on the suggestions of the cloud application security based as we are required security on every aspects whether a simple purchase over internet or on the transition over bank. Every human nature is that it wants to be secure in every steps of the life.

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Skill Development basis for Technology Up gradation & Industry Employment

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•:• Abstract : Population of India is at about 1.21 billion. It is fast growing at a rate of 17% and going into the global economy. Indians are among the 'young' countries in the world. The age group of 15-59 years' workforce is a challenge to maintain properly. This number is increasing very fast and need to address this issue. Government has taken a note of this situation very seriously. They formed a independent ministry to address. Vocational training programmes already in place but there is a gap between requirement & available skill workers.

Industry always would like to employ experienced and skilled worker who can understand the production process from the day one. The requirement of skilled manpower is vary not only industry to industry but rural and urban areas also. Training programmes and implant training is required to fulfil the gap. Technological development is also playing a major role in this area. Introduction of computers, computer controlled machines, industrial automation, and Information technology and advanced production process forced to develop good and skilled human resource for all type of industries. The need of the day is to design develop practical & sustainable industry oriented module to employ this skilled man power. Industry needs ready to use human resource. Education, experience & training means to support employment. Employment is the basic root of survival.

: Keywords: Population, Industry, skilled human resource, Technology, Employment

-: Introduction : The Government of India has recognized Skill Development as a major priority for India's socio-economic development, for sustaining its growth rate and the best means to convert India's demographics into an asset for development. It is also believed to help India respond to the global needs of skilled manpower and contribute to the reduction in inequality and poverty.

Technology deployment for skill development can lead to lower costs, higher quality, and greater reach, while reducing the burden on physical infrastructure. Social innovations are blooming in a world that has become a global village due to the collapse of geographical and temporal boundaries. Learning by doing is the new mantra for vocational education and skill development. Social innovations are blooming in a world that has become a global village due to the collapse of geographical and temporal boundaries. Learning by doing is the new mantra for vocational education and skill development. Social innovations are blooming in a world that has become a global village due to the collapse of geographical and temporal boundaries. Learning by doing is the new mantra for vocational education and skill development.

Technological development is also playing a major role in this area. Introduction of computers, computer controlled machines, industrial automation, and Information technology and advanced production process forced to develop good and skilled human resource for all type of industries. Population of

India is at about 1.21 billion. It is fast growing at a rate of 17% and going into the global economy. Indians are among the 'young' countries in the world. Government has taken a note of this situation very seriously. They formed a independent ministry to address. Vocational training programmes already in place but there is a gap between requirement & available skill workers. Industry always would like to employ experienced and skilled worker who can understand the production process from the day one. The requirement of skilled manpower is vary not only industry to industry but rural and urban areas also. Training programmes and implant training is required to fulfil the gap.

•:• Skill Development : Skill development is a complete cycle that begins with assessments, leading to training, and then on to certification, placement, and monitoring and tracking. Assessments refer to the process whereby the current skill sets of a student are captured and a counselling process brings out the skill development needs and an up-skilling plan for skill enhancement.

It would be a wonderful world if technology were to work like a robot on the Net and take over some of the monitoring and tracking components such as students' attendance, training hours, and progress, and capture these in the system. Today, biometrics devices with GPRS that can authenticate a student, RFID cards that track students, and logical actions built into an application platform can make such a dream a reality.

A fully-networked platform and a standardised framework could help all skills centres spread across country to effectively communicate with one another and help dynamically aggregate and help with cross-dimensional views of information, in real-time. With the workforce of today spread out across the country, and migration being all-time high in recent years, what is needed is a system that can help service students in any of the centres, and a service that is available to several industries. (Also, in terms of technology, given the subscriber and user base, the mobiles have a far-reaching impact. A simple wrapper to connect all of web to a mobile technology can help reach to a larger community today.) There are several best practices that India can draw from other advanced countries. For example, Australia has most of its workforce covered by competency standards. India has adopted this in its recent modular employability scheme framework.

•:• Technology Upgrade : All areas are required to upgrade their technology due to fast changing of technology environment. Speed communication and efficiency forced to upgrade the working environment. This ensures to stay competitive and eliminate downtime. Updating your innovation will cost a heap of cash and cause interruptions at work.- however in the event that you don't do it your business could endure real outcomes. Before you fall route behind, examine the accompanying tips and consider what should be changed - before it's past the point of no return. There was a time for communication we telephone and pcos now all are replaced by light weight mobile or minicomputer, There is a need for up gradation both ways equipment's and learning to manage and run the equipment also.

 → Technical Skill for Employment Depends on field : Information Technology, Mechanical,Electronics & electrical, CivilAviation Field Computer Field Fashion & other fields, Auto Service Technician (two and three wheeler) is also known as Mechanic, Technician, 2 Wheeler Technician, Repair & Maintenance Technician,Helper Electrician, Plumber (General) Helper is an important job role in assistance in installation and repair of plumbing fittings and fixtures in 'contractors' segment. Setting of Computer Numerically Controlled (CNC) lathe machine, in order to perform turning operations on metal components, as per specifications provided, Individuals in this position service internal and external customers in a retail environment with respect to product receiving, movement, storage and delivery, sales associates individuals in this position interact with customers to understand and service customer needs with specialization leading to maximization of business in a retail environment.

•:• Employment : Every business needs an efficient, reliable and skilled workforce.Value of a welltrained workforce is important for production and any work done. Skill denotes employment. People are trained with different skills for their livelihood. Government also encourage different type of skill development program along with NGO'sand PPP mode. The effective use of knowledge, skills and capital in firms is a key driver of employment. At the end employment is the end of any knowledge and skill.

•:• Conclusion : The current need along with the skill development is also to upgrade and enhance the existing social, educational and economic infrastructure as well as involve the corporates and MSMEs to become the training grounds under the skill development to overall lower the costs of the skill development of the country as well create the best of the skilled work force. "If you are not Skilling India" you are Killing India". Learning is a process and skill makes process perfect.

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Relative Image Classification method by Genetic Algorithm Using Effective Fuzzy System Based on Zernike Moments

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•:• Abstract: - Classification of image is creating challenge in image processing. As it is a quite tough task, various information of digital image and Zernike moments with different order are gathered and utilized as an input of fuzzy inference system to materialize a robust rotation condition and size invariant image classifier. For better performance, all the functions are effective by GA after empirical design stage. 90.62 & 96.25% classification rates for RGB and HSI color spaces confirm the reliability of optimized system in different image conditions given in this contribution.

•:• Keywords: - Image classification, Zernike moments, Fuzzy inference system, Genetic algorithm. •:• Introduction : Relative labels of digital images by its classification is applied to CBIR and image annotation [1]. It is a quite difficult task to group images into relative classes because of different colors and textures in various image classes [2]. Today vision and pattern recognition problems often have an arbitrarily large number of properties to consider. To solve this using only one feature descriptor is a difficult task, and feature fusion may become compulsory. Normal feature fusion is nearly effective for many problems. It may result in unexpected classification results when the different features are not properly combined. In addition, it has the drawback of increasing the dimensionality, which might require more training data.

To ease these problems, we introduce an optimized fuzzy system, based on color and texture information. This is quite flexible because of fuzzy concepts, and it is more adequate to some problems than a naive method. Our fuzzy inference system [3] uses color space and Zernike moment as inputs, where all these features are simply concatenated and fed to fuzzy classification algorithm, and the outputs show the probability of belonging to the different image classes. Besides that, the presented technique is responsive deal with much more digital image classes. Also, introducing new approach, this method is applied in two color spaces and obtained results are discussed. Generally, the objectives of this study are as follows:

(i) To evaluate fuzzy inference system and Zernike moments for image classification aim,

(ii) To introduce new method of fuzzy system optimization based on genetic algorithm, and

(iii) To compare two color spaces.

•:• Applied tools and techniques : 2.1 Fuzzy concepts - Confusion is always remain in any realistic process. This confusion may arise from the data inputs. Fuzzy logic provides a solution that enables the human's capabilities to be applied to these knowledge based systems.

Fuzzy logic provides strength to the efforts of certain attributes associated with human process to acquire knowledge. The theory of fuzzy logic provides an inference technique under acquired knowledge uncertainty; computational neural networks offer exciting advantages. This theory was used by Zadeh [3], in his words, "to provide a natural way of dealing with problems in which the source of imprecision is the absence of sharply defined criteria of class membership rather than the presence of random variables." In his classic paper, Prof. Zadeh stated that, "A fuzzy set A in X is characterized by a membership function (MF) f A(x) which associates with each point in X a real number in the interval [0,1], with the value of fA(x) at x representing the 'grade of membership' of x in A." A linguistic variable is a variable that takes words used in our natural language as its values, with each word interpreted as a fuzzy set. Zimmermann [4] defined a linguistic variable as a quintuple (y; T (y); X; G; M) in which y is the variable name; T(y) denotes the term set of y, that is, the set of names of linguistic values of y with each value being a fuzzy set Y defined over a universe of discourse X associated with the basic variable x; G is a syntactic rule (which usually has the form of a grammar) for generating the name, Y , of variables of x; and M is a semantic rule for associating with each Y its meaning MY(x), which is a fuzzy subset of X. As pointed out by Dubois and Prade [5], there is no uniformity in the interpretation of what a membership grade means. In decision-making problems, f A(x) represents the degree of preference in favor of object x. In Zadeh's theory of approximate reasoning, f A(x) is the degree of possibility that a parameter y has value x, given that all that is known about it is that "y is A."

The issue of function generation is vital to the application of fuzzy set theory because the success of an application depends on the function used. Earlier works focused mostly on the determination of functions that reflect subjective perceptions about imprecise concepts such as human height [6] and summarized by Turksen [7] under the framework of measurement theory. Medasani et al. in [8] provided a general overview of several methods for generating membership functions from domain data for fuzzy pattern recognition applications. They classified these methods into various categories including histogram-based methods, transformation of probability distributions to possibility distributions, fuzzy nearest neighbor techniques, neural-network-based methods, and clustering methods. Subsequent studies appeared in the open literature include Chen and Wang [9], Runkler and Bezdek [10]. Both of them can be classified as clustering methods. Fuzzy sets theory is the base of materializing a fuzzy rule based system that contains a rule base, a decision-making unit, and finally a defuzzification interface. The function of each block is as follows [11]:

•:• A rule base containing a number of fuzzy if-then rules.

-: A database that defines the membership functions of the fuzzy sets used in the fuzzy rules.

-: A decision-making unit that performs the inference operation on the rules.

-: A fuzzification interface transforms the crisp input to degrees of match with linguistic values.

-: A defuzzification interface that transforms the fuzzy results of the interface in to crisp output.

. Genetic algorithm (GA) - Genetic algorithms (GAs) are search algorithms modeled after the mechanics of natural genetics [12]. In a favorably designed application, GA's can be used to obtain an effective solution for single variable or multivariable problems. Before a GA is applied, the favorable problem should be converted to a suitable fitness function. It represents a performance of the problem. The higher the fitness value, the better the system's performance. The objective of a GA is to imitate the genetic operation process. The main operations of GA are initialization, fitness evaluation, selection, mutation, and crossover. Each population consists of a number of chromosomes. In initialization, all the chromosomes in the population will be initiated with random values. Crossover produces new chromosomes that have some parts of both parent's genetic material. In GA, mutation modifies elements in the chromosomes randomly with low probability. The main role of mutation is to provide a guarantee that the probability of searching any individual will never be zero and to recover good genetic material that may be lost through the action of selection and crossover. Figure 1 shows the procedure of GA. Obviously, the advantages of using a genetic algorithm for favorable condition over other methods are overwhelming. A simple genetic algorithm can be summed up in seven steps as follows:

- Start with a randomly generated population of *n* chromosomes.
- Calculate fitness of each chromosome.



Fig. 1 Procedure of GA

- Select a pair of parent chromosomes from the initial population.
- •:• With a probability *P*cross (the crossover probability of the crossover rate.), perform crossover to produce two offspring.
- Mutate the two offspring with a probability *P*mut (the mutation probability).
- Replace the offspring in the population.
- . Check for termination or go to step 2.

•:• Zernike moments - Zernike moments are used to extracting the features in grayscale images. The Zernike moments uniquely describe functions on the unit disk, and can be extended to images. There invariance properties make them attractive as descriptors for optical character recognition. Different feature extraction methods are designed for different representation of the characters such as solid binary character and gray level sub image of each individual character.

2.4 Color spaces - A color space is a method by which we can specify, create, and visualize color. Its space is a specification of a coordinate system and a subspace within that system where each color is represented by a single point.

As we are going to compare two different fuzzy systems and show the efficiency of optimized system with GA, we chose RGB and HSI color spaces. RGB is a color space originated from CRT (or similar) display applications, when it was convenient to describe color as a combination of three colored rays (red, green, and blue), and HSI is used as a hue saturation based color space, which was introduced when there was a need for the user to specify color properties numerically. They describe color with intuitive values, based on the artist's idea of tint, saturation, and tone.

2.4.1 RGB color space - In the RGB color space, each color appears in its primary spectral components of red, green, and blue. This color space often is found in systems that use a CRT to display images. RGB is easy to implement, but non-linear with visual perception. It is device dependent, and specification of colors is semi-intuitive. RGB is very common, being used in virtually every computer system as well as television, video, etc. An RGB color image is an $M \times N \times 3$ array of color pixels, where each color pixel is a triple corresponding to the red, green, and blue components of an RGB image at a specific spatial location. Figure 2 shows an RGB color space.



Fig. 2 a RGB combined colors, b RGB cube

2.5 HSI color space: - When a human views a color object, he tends to describe it by its hue, saturation, and lightening intensity value. Hue is an attribute that describes a pure color (e.g., pure yellow, orange, or blue), whereas saturation gives a measure of the degree to which a pure color is diluted by white light. Intensity value is a most useful descriptor of monochromatic images, and it is a key factor in describing color sensation.

In this color space, the supposed separation of the luminance component from chrominance (color) information is stated to have advantages in applications such as image processing. However, the exact conversion of RGB to hue, saturation, and lightness information depends entirely on the equipment characteristics. In Fig. 3, HSI color space besides saturation and hue color wheel is illustrated for better understanding of these concepts.



Fig. 3 a HSI color space, b saturation wheel, c hue wheel

•:• Proposed algorithm : Moment descriptors have been studied for image recognition and computer vision since the 1960s. Teague first introduced the use of Zernike moments to overcome the shortcomings of information redundancy present in the popular geometric moments [18]. Here, we use two orders of Zernike moments beside color information to materialize a robust semantic color image classification. By better evaluation and comparing, two empirical and optimized systems are designed for two, RGB and HSI, color spaces.

3.1 Empirically design classification system: - As grouping images into relative classes is complex and should be applicable for digital images in various lighting, resolution, size and environmental conditions, using fuzzy inference system is a proper offer to overcome this complexity and improve system flexibility.

3.2 Optimization by GA: - Fuzzy inference system is reliable method. Still, it is often difficult for a human expert to define the fuzzy sets and fuzzy rules. GAs have proven to be a useful method to optimize the functions of fuzzy sets. The GAs are employed to perform a comprehensive and complete search in finding an optimal set of solution for the fuzzy logic rules, own functions, and scaling gains for the specified fuzzy logic. Our empirical knowledge is utilized to reduce the searching space and expedite the process. The MFs' shapes are chosen according to previous designed system, and the parameters of MFs are utilized as the inputs of the GA, whose fitness function attempts to maximize the output probability for the class that input image belongs to it.

•:• **Results** : To evaluate designed systems' performance, we gathered a proper image database. This database contains 40 face images, 40 sea images, 40 mountains images, and 40 various images that do not lie in three previous groups. Our images are from 120×132 to 560×350 in size. Different lightening condition and rotated images are considered in this data set. Both empirically designed and optimized systems, called S1 and S2, respectively, are applied, and achieved results are presented. By investigating obtained results, image classes, color spaces, and designed system could be compared.

In all cases, sea class shows the best result. In the images of this group, both color and texture information are approximately constant. So, based on these properties, it is expectable that we have the most classification rate. Although mountains images have similar color, their texture differs from each other. As face images contain wide range of skin color and various textures, because of different face expression, decrease in classification rate is unavoidable. Considering face images condition, obtained results are acceptable. HSI color space shows higher classification rate. In the RGB color space, brightness and color information are coupled together, so it is not suitable under unknown lighting conditions. The transformation of RGB to HSI color space is invariant to high intensity at white lights, ambient light, and surface orientations relative to the light source. Hence, better performance is not surprising in this color space. As the intensity is the main difference of various skin colors, the improvement of classification rate is more eye-catching in the case of face images.

In the second experiment, optimized system is applied on described data set. The optimization is performed by GA, which is the most extended group of evolutionary technique known, and relies on the use of a selection, crossover, and mutation operators. Optimized system increases total rates in both color spaces (from 88.75 to 90.62 and from 93.75 to 96.25 for RGB and HSI color spaces, respectively). Obviously, optimized system reforms output performance and improves system flexibility. -: Conclusion : This paper has offered a new relative image classifier. Evaluating fuzzy inference system and Zernike moments for image classification purposes, applying fuzzy system optimization based on genetic algorithm, and comparing two different color spaces (RGB and HSI) are the remarks of this paper. Besides color information, the image texture properties were applied by computing Zernike moments to more accurate classification. All information was used as inputs of fuzzy inference system for making decision and classification.

In addition, after empirical system design, all the functions are more effective by genetic algorithm, and best shape of them was achieved. Obtained results proved much better performance for this system. Suggested method to make effective fuzzy system is a robust way, which could be applied to design membership functions in any arbitrary fuzzy system. Moreover, algorithms are designed in both RGB and HSI color spaces. HSI demonstrated superior to classify aim, because of the advantage of separating brightness component.

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Remote Monitoring System for Intelligent Greenhouse Environment

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★ Abstract : A Greenhouse management system using wireless control is proposed by using RF module. This system has controlling software and remote monitoring excess for the greenhouse from a PC. It basically monitors atmospheric humidity, moisture present in soil, temperature of environment, amount light exposure and CO₂ content in the greenhouse. Serial Port of the PC is used to receive and send data, and simultaneously viewing, analyzing, and option to save the measured environmental parameters on the PC. This provides a real time control on parameters of Greenhouse by controlling various fans, pumps, sprinklers, light etc. The major issue that affects the greenhouse systems developments are high performance, Level of automation, easy to use interface between user and system and profitability. Proposed system has Irrigation Management system using similar sensors. The proposed Greenhouse system has three modes of operation, namely, remote wireless control mode, autonomous control mode and manual control mode. This system mainly focuses on the increase in efficiency for real time monitoring, low system development cost, and reduce the workload of the person to maintain the entire greenhouse system.

+ Keywords : Irrigation Management systems, greenhouse, IoT technology, Sensor.

• Introduction : Growing plants is a science hard work and an artwork. Close to 90% of plants, either cash crops or food crops are raised in open farm. Since beginning of civilization, mankind has cultivated plants under the natural environment of the sun [1]. In some of the regions, crops cannot be produced because of the extremely unfavorable climatic conditions and no one has produced methods of getting some high value crop continuously, which is called as Greenhouse Technology.



Fig. 1. Greenhouse system.

Greenhouse Technology is the modern way to provide favorable environmental condition of the plants [2]. Or rather can be applied to protect the field crops from the unwanted climatic conditions, namely cold, excessive radiation, extreme temperature, wind, insects, precipitation and infection. The nursery has helped in the growth of agriculture in recent times. Referable to the increased requirement for food,

people are seeking to put extra efforts and special techniques to reproduce the food production. Role of different technologies towards greenhouse is one of such attempts. It is also of vital importance to make an ideal micro climate around the plants [3]. Making a greenhouse makes it possible, where we can modify the environmental conditions in accordance with the any plant in any place being grown at that time and providing a suitable environment with minimum labor cost as shown in Fig.1.

With recent improvements in communication techniques, it can be said that wireless communication is a unique way for remote management in the agriculture field. A This research uses remotely placed sensor network with SMS (short message service) and GSM (Global System for Mobile Communication) Network to carry in and out data from the sensors to a PC or to mobile phones of the controller [4]. Many of the present day technology in use, still require a great amount of human interfacing to perform the operation, so this is where new system comes into effect.

• Proposed Methodology : A Remote monitoring and control system of greenhouse atmosphere comprises of wireless sensors used in the greenhouse & host mobile and computer. Entire greenhouse is unbinded into 3 parts. First sub module consists of various sensors with the signal conditioning circuit, second is atmega328 based Arduino microcontroller board to interpret the sensor values and controlling the output circuits [5]. The third sub module consists of circuit for transmission and reception of data to and fro from system to host and vice versa. At receiving end any mobile can be used or host computer for the continuous monitoring and controlling. Design of remote control system consists of software and hardware. In software process Arduino software is used to design the connection & all interfacing process. After that entire program has been designed to connect with the atmega328 Arduino based microcontroller. LabVIEW software can be used to create the GUI to display the parameters at the user end or and SMS can be received on the host cell phone [6]. The entire system is shown in the fig. 2. and it also consists of an LCD display to show some important parameters outside the greenhouse for manual control.



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For wireless communication, there are various modules available in hardware development, like ZigBee transceiver module, Bluetooth module, Wi-Fi module or GSM network. Characteristic of the different modules discussed above with the specification in tab 1. All of which can send data serially to either PC or host cell phone [7]. The sensor values are transmitted in digital form from the microcontroller to the controlling user.

Table 1. Compression of various wireless modules

Parameters ZigBee Bluetooth Wi-Fi 802.15.4 802.15.1 802.1.b Standard 4-32 KB 250 KB 1MB Memory Requirements **Battery life** Years Days Hours Data rate 250 Kbps 1-3 Mbps 11 Mbps Range 300m 10-100m 100m

Here GSM module is chosen as it provides a wide coverage range and support from and mobile phone, operating on any system. Also, it does not require any extra hardware at the receiving end for the host or controller. For analysis and storing the data

I. Hardware and Software : In the entire system we have considered four basic parameters, namely temperature, wind humidity in the atmosphere, solid moisture and the amount of light in the greenhouse. One by one we will discuss circuit for each of these parameters on the input side and also their controlling system to maintain the environment of the greenhouse to the optimum level for the growth of the vegetation inside it.

1. Maintaining the Temperature : The temperature sensor LM35 is connected to the Arduino with an analog input pin (the temperature is an analog signal), while the fan is connected on the pin which provides PWM (Pulse Width Modulation) to control the speed of the fan in proportion of the temperature reading of the sensor and the code written in an Arduino IDE software [8]. The range for temperature is from -55° C to +150° C. It gives an output voltage of 10mV per ° Celsius. The atmospheric temperature is used to control the speed of the fan to maintain the heat level required by the vegetation.



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Fig. 1. Temperature control system for greenhouse.

☆ Maintaining the atmospheric water amount. : Humidity sensor used in the system is DTH11. It measures humidity as well as the temperature of the atmosphere. Specification of the DTH11 sensors, Humidity Range is from 20% to 90% RH, Temperature is measured from 0 to 50 °C, it operates from 3V-5V. The DTH11 sensor uses salt or conductive plastic polymer substrate which are moisture capturing substance coated on the electrodes. The resistance between this two electrode is used to measure the relative humidity [9]. Ions are released when the electrodes absorb the water content in the atmosphere which in turn increase the conduction between it, this change in conduction gives relative humidity value in the system. Depending on the reading from the sensor the motor and mist generator are used to maintain the RH of the area. To interface motor and mist generator relay circuit is used to boost the current of the controller required to control water maintaining circuit in the system.



Fig. 1. Atmospheric water amount control of greenhouse.

1. Maintaining the amount of light in the greenhouse : The amount of the light is sensed by using of a potential divider circuit consisting of a resistor and an LDR (light dependent resistor). The output of this circuit is given to an opamp circuit to generate the digital output to switch on the light inside the greenhouse as per requirement. Lights are again interfaced with controller board with the use of relay board [10]. Output of first circuit can be directly given to the analog input pin to get smooth variation in the light intensity by fading it gradually with the help of a PWM output pin. Analog system will use less hardware and will give better results.



1. Maintaining the amount of water in the soil. : Soil moisture is basically two wires acting similar to pre-set that is a variable resistor. The value of the resistor will depend on the water content in the soil, more the water better is the conductivity so it would give lower resistance and vice versa. This analog output can be directly given to ADC input pin on the Arduino board [11]. This signal value is used to control the operation of the various sprinkler inside the greenhouse to maintain the optimum water level in the soil, which is best suited for the vegetation being grown inside the house. We can connect multiple sprinklers depending on the area of the house. Again sprinklers are connected to the microcontroller using the relay board to avoid any damage to the main system board.



1. Maintaining the system by the host : This is the main control unit, used to interface with the world. SIM900 is the GSM module used to control the entire system. It can send and receive SMS from the host to carry out various adjustments to the system parameter as per the requirement of the user who is growing the vegetation in the house. Even the controller board can be connected to a PC through an RF module to transfer the data on PC for further analysis and display in graphical form in the software LabVIEW. An alphanumeric LCD screen is provided at the greenhouse to manually check on the parameter of the system for the best possible result. Further a mobile app can also be developed and in addition of Wi-Fi sensor it can be controlled by any smart phone with the GUI of the app developed in the phone.





I. Results and Conclusion: The system developed here can monitor heat and moisture in atmosphere, water content in soil and the indoor amount of light in the greenhouse. The data can be programmed and modified according to the vegetable planting in the greenhouse. The system is dependable and runs smoothly.



Fig. 1. Prosed Smart Green house system.

The man-machine interface of the software system is friendly. It helps the researchers understand the best growth conditions, and grasp it for various different vegetation planted in the greenhouse. Furthermore, we can use solar panels and LEDs to establish a smart lighting system. So even if raining, the smart lighting system will supply enough light for the greenhouse environment.

The result shows the proposed system is effective and feasible. This system saves human power, resources and water consumption a lot. This system can be applied to the other farm produces, then we need to add more environmental factors.

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A NOVEL GEOMETRIC FRAMEWORK FOR ANALYZING 3D FACES UNDER EXPRESSIONS, OCCLUSIONS AND POSE VARIATIONS

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• ABSTRACT : A novel geometric framework is proposed for analyzing 3D faces, with the specific goals of comparing, matching, and averaging their shapes. Here we represent facial surfaces by radial curves emanating from the nose tips and use elastic shape analysis of these curves to develop a Riemannian framework for analyzing shapes of full facial surfaces. This representation, along with the elastic Riemannian metric, seems natural for measuring facial deformations and is robust to challenges such as large facial expressions (especially those with open mouths), large pose variations, missing parts, and partial occlusions due to glasses, hair, etc. This framework is shown to be promising from both – empirical and theoretical – perspectives. In terms of the empirical evaluation, our results match or improve the state-of-the-art methods on three prominent databases: FRGCv2, GavabDB, and Bosphorus, each posing a different type of challenge. From a theoretical perspective, this framework allows for formal statistical inferences, such as the estimation of missing facial parts using PCA on tangent spaces and computing average shapes.

•• INTRODUCTION : Due to the natural, non-intrusive, and high throughput nature of face data acquisition, automatic face recognition has many benefits when compared to other biometrics. The difficulties in face recognition are very real-time and natural. The face image can have head pose problem, illumination problem, facial expression can also be a big problem. Hair style and aging problem can also reduce the accuracy of the system. There can be many other problems such as occlusion, i.e., glass, scarf, etc., that can decrease the performance. Hence, there is a need for a new approach to overcome all these problems.

The Reimannian Framework for detecting the face in an image and recognizing the face with decreased number of attributes using PCA algorithmsuccessfully overcomes the above mentioned problems. The algorithm involves training the face recognition system with images from the known individuals and classifying the newly coming test images into one of the classes.

The difficulties in face recognition are very real-time and natural. The face image can have head pose problem, illumination problem, facial expression can also be a big problem. Hair style and aging problem can also reduce the accuracy of the system. There can be many other problems such as occlusion, i.e., glass, scarf, etc., that can decrease the performance.

Hence, there is a need for a new approach to overcome all these problems. A novel perception inspired non-metric partial similarity measure is introduced, which is potentially useful in deal with the

concerned problems because it can help capturing the prominent partial similarities that are dominant in human perception. The effectiveness of the proposed method in handling large expressions, partial occlusions and other distortions is demonstrated on several well-known face databases.

•: LITERATURE REVIEW : Occlusion refers to facade of the face image which can be due to sunglasses, hair or wrapping of facial image by scarf or other accessories. Systems that rely on Face Recognition (FR) biometric have gained great importance ever since terrorist threats imposed weakness among the implemented security systems. Other biometrics i.e., fingerprints or iris recognition is not trustworthy in such situations whereas FR is considered as a fine compromise [1].

•: FACE RECOGNITION TECHNOLOGY [3]: Conventional method of authentication based on possession of ID cards or exclusive knowledge like a social security number or a password are not all together reliable. ID cards can be lost forged or misplaced; passwords can be forgotten or compromised. But a face is undeniably connected to its owner. It cannot be borrowed stolen or easily forged. Face recognition technology may solve this problem since a face is undeniably connected to its owner expect in the case of identical twins and it is nontransferable. The system can then compare scans to records stored in a central or local database or even on a smartcard.

•:• SVM+LOCAL GAUSSIAN SUMMATION [1]: SVM in combination with Gaussian summation kernel to deal with local distortion like occlusion on face images. Since holistic methods were greatly affected by such distortion, local features were specifically used for this purpose. For this local kernel was appropriate in identifying the features in occluded images. The main advantage of using the summation kernel method was that it's robust to occlusions and it also satisfies Mercer's theorem while simple kernels do not satisfy the theorem. Experiments were performed on AR dataset which contained real occlusions and test with artificial occlusion was also conducted.

of similarity we used Pearson correlation coefficient, and with the P=0.996657, we can conclude that there is a significant correlation between our method and the gold truth. In this paper we proposed lung segmentation technique to accurately segment the lung parenchyma of lung CT images, which can help radiologist in early diagnosing lung diseases, but the algorithm can also be used to early diagnose other benign or malignant pathologies in other organs, such as liver, brain or spine.

•• EXISTING SYSTEM ANALYSIS : Effort has been spent on handling occlusions and missing parts. Although a few approaches and corresponding results dealing with missing parts, none has been applied systematically to a full real database containing scans with missing parts.

Amongst different modalities available for face imaging, 3D scanning has a major advantage over 2D colour imaging in that nuisance variables, such as illumination and small pose changes, have a relatively smaller influence on the observations. However, 3D scans often suffer from the problem of missing parts due to self-occlusions or external occlusions, or some imperfections in the scanning technology. Additionally, variations in face scans due to changes in facial expressions can also degrade face recognition performance.

The difficulties in face recognition are very real-time and natural. The face image can have head pose problem, illumination problem, facial expression can also be a big problem. Hair style and aging problem can also reduce the accuracy of the system. There can be many other problems such as occlusion, i.e., glass, scarf, etc., that can decrease the performance.

•:• **PROPOSED SYSTEM** : A comprehensive Riemannian framework for analyzing facial shapes, in the process dealing with large expressions, occlusions and missing parts works well with some basic tools for statistical shape analysis of facial surfaces. These tools help to compute a typical or average shape and measure the intra-class variability of shapes. This method has several properties that make it appropriate for 3D face recognition in non-cooperative scenarios.

- Firstly, a local representation of the 3D face and a quality filter handle pose variation and missing data, for selecting curves.
- Secondly, an elastic shape analysis of 3D faces handles variations in facial expressions.
- -: Lastly, the statistical shape model handles the presence of occlusion and removes the occluded parts.

•: **DIFFERENT PHASES** : There are five general phases in face detection and recognition system and these form the functional requirements of this system. The system must execute all the phase before we finally get into the expected result. The phases are as follows:

- •:• Capturing of the image
- -: Detects face in the image
- + Feature Extraction
·: Template comparison

Declaration of matching template

: Capturing of the image: This is one of the main phases and the function of this module is to determine where in an image a face is located. The acquisition of face images can be done by capturing the image by using an electro-optical camera (Web-camera).

•:• Face Detection: The face detection module works by scanning up an image at different scales and looking for some simple patterns that denote the presence of a face. After the system detects a face, it will then produce a sub-image (image chip) that is scaled such that the face appears in the center and presented at a uniform size. Haar-based Cascade Classifier or simply known as Haar Classifier, this algorithm scans an image and create a bounding box as a returns for each detected face.

•:• Feature Extraction: When the face is detected, following phase in the system is feature extraction. Facial features are extracted and implemented through algorithms which are efficient and some modifications are done to improve the existing algorithm models. This is a phase where the system does the localizing of the characteristics of face components (i.e. eyes, mouth, nose, etc) in an image. In other words, feature extraction is a step in face recognition where the system locates certain points on the face such as the corner and centre of the eyes, tip of the nose, mouth, etc. It analyze spatial geometry of differentiate feature of a face. The result of this analyzing is a set of template generated for each face. The template consists of a reduced set of data that represent the uniqueness of the enrolled face features.

•:• **Template Comparison:** The fourth phase of face recognition is to compare the templates generated in previous phase with the template in the database (enrolled templates). There are two ways of comparing the templates based on the purpose of the application itself. In **identification** application the template match all templates in the database and get the closest match (1 : N). While in **verification** application, the generated template will only be compared to one data entry in the database that is the claimed identity (1 : 1).

•:• Declare Matches: The final phase of face recognition is to declare the highest matching score resulted in the previous step. Features extracted from a face are processed and compared with similarly processed faces present in the database. If a face is recognized it is known else it is unknown. Hence the system will declare the matching face.

•:• DESCRIPTION : Automated Extraction of Radial Curves : Each facial surface is represented by an indexed collection of radial curves that are defined and extracted as follows. Let S be a facial surface obtained as an output of the preprocessing step. The reference curve on S is chosen to be the vertical curve after the face has been rotated to the upright position. Then, a radial curve âá is obtained by slicing the facial surface by a plane Pá that has the nose tip as its origin and makes an angle á with the plane containing the reference curve. That is, the intersection of Pá with S gives the radial curve âá. We repeat this step to extract radial curves from S at equally-separated angles, resulting in a set of curves that are indexed by the angle á. In the experiments, the probe face is first rigidly aligned to the gallery face using the ICP algorithm. In this step, it is useful but not critical to accurately find the nose tip on the probe face.

•: Curve Quality Filter : In situations involving non-frontal 3D scans, some curves may be partially hidden due to self-occlusion. The use of these curves in face recognition canseverely degrade the recognition performance and, therefore, they should be identified and discarded. We Discarded curves Retained curves introduce a quality filter that uses the continuity and the length of a curve to detect such curves. To pass the quality filter, a curve should be one continuous piece and have a certain minimum length, say of, 70mm. The discontinuity or the shortness of a curve results either from missing data or large noise.

-: CONCLUSION : We have presented a framework for a statistical shape analysis of facial surfaces. We have also presented results on 3D face recognition designed to handle variations of facial expression, pose variations and occlusions between gallery and probe scans. This method has several properties that make it appropriate for 3D face recognition in non-cooperative scenarios.

Firstly, to handle pose variation and missing data, we have proposed a local representation of a 3D face and a quality filter for selecting curves. Secondly, to handle variations in facial expressions, we have proposed an elasticshape analysis of 3D faces. Lastly, in the presence of occlusion, we have proposed to remove the occluded parts then to recover only the missing data on the 3D scan using statistical shape models. That is, we have constructed a low dimensional shape subspace for each element of the indexed collection of curves, and then represent a curve (with missing data) as alinear combination of its basis elements.

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Cloud Computing Security Small Business Companies

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•• Abstract : Is the cloud safe? So what are the dangers of cloud-based computing systems? It's important to remember from the outset that cloud computing in the small business environment may well be a less risky choice for firms than keeping all their IT operations in-house. Many people feel inherently ill-at-ease with having customer and staff data, financial records and their IP leaving the premises and stored off-site in their cloud provider's data centers. But this knee-jerk reaction shouldn't mask the truth that in many cases you would be outsourcing to a more secure environment. Imagine, for example, that you can't afford a to run a central server in your business, meaning all customer, financial, IP and other data is stored on your or your employees' laptops or USB drives.

.: Key words: environment, Outsourcing, Small business, Data

-: Introduction : Think about a cloud-based secure back-up and online synchronization service for all your data which currently resides on-premise. Lost devices can be a major headache but are ultimately replaceable – your customers' data isn't. Invest in security software which leverages a cloud-based threat protection network, preventing most email and web-borne malware threats before they even reach your desktop, laptop, mobile or network and allowing you to enjoy the benefits of cloud computing while minimizing the risks. For mobile devices this combination of local client software with cloud protection means most of the workload can be dealt with in the cloud, freeing up the phone's processing power for other tasks. Encrypt data wherever possible to minimize the risks associated with data loss. On social networking sites, ensure your account is safe with strong password and different passwords for each account.

: E-commerce and cloud computing : It's easy for business leaders to focus on the benefits of cloud computing without considering the time and effort involved in implementing a viable solution. However, whatever cloud computing solution they select, the application will need access to customer data, product data, fulfillment systems and other operational systems in order to support e-commerce. Cue the IT team. For companies looking to expand into new geographical regions or test an e-commerce business model with a new brand or product line, or as a proof of concept (POC), cloud-based e-commerce applications provide them with flexibility and scalability at a reasonable investment. However, it's important for IT to evaluate the total costs involved in implementing a cloud solution including: integration, customization requirements, migration costs, e-commerce seasonality and peak loads and scalability.

Creating personalized offers : Use customer data to create a more personalized, pleasurable shopping experience. By leveraging customer and consumer data, retailers can "make personalized recommendations, inform shoppers of special offers and promotions that are most relevant to them and fully maximize cross-sell and up-sell opportunities to realize increased revenues." For example, using customer location data and heat maps, companies can better understand and improve traffic flows and recognize where there may be opportunity to optimize a store's layout or adjust merchandizing displays. This technique can even be used at other types of locations, such as stadiums, airports, museums and more.

••• Use customer data to customize promotions and special offers : Successfully analyzing and acting on customer, market and competitive data can help companies provide their customers with customized offers, appropriate marketing and ad campaigns, the right deals, or even when to back off. The most loyal customers are also the most profitable, and by analyzing and acting effectively, organizations can ensure long-term customer loyalty and significantly enhance their profitability."

Use customer data to get helpful product feedback – and improve your products or services By applying analytics to customer data, companies can identify the specific products that each customer is likely to want, and the price they are willing to pay. One online travel site with more than 2 million members wanted to reward frequent travelers while making it easy and intuitive to cash in on rewards. Using survey feedback data and online reviews, the team was able to improve both the digital experience and the rewards program, propelling them to be named the No. 1 travel site.

•:• Use customer data to improve your marketing : Big data enables marketers to understand the cross-channel behavior of prospects that become customers, meaning you can see the prospect-to-customer journey and the campaigns that influenced them the most.

It's not only a less efficient way of working but it increases the chances of data loss, and the regulatory financial penalties, loss of business and more importantly reputational damage that will ensue. Compare this with a reputable cloud provider which is fully regulated and certified by independent standards bodies to a high degree, and as a result would be protected by state-of-the-art security systems preventing data theft. Back-up is continuous and if you lose your machine there's no need to worry because all the data is stored in the service providers' data centers. If they go down for some reason there should be another back-up plan to ensure business continuity

Security pros and cons of cloud computing Pros Data security standards are likely to be higher in your provider's environment than in your business, especially if the cloud provider is accredited with ISO and other key industry standards. Your cloud provider is likely to be better resourced physically and financially, to cope with data security threats to its infrastructure than you. Your data will still be available, even if you lose a laptop. Cons Your data will be stored outside the business network, and possibly even abroad, which may contravene local data protection laws and regulations. If your internet

connection is unstable there may be problems accessing your services. Sites like Facebook and Twitter are highly prone to attack. A hacked corporate account could do more damage than good from a reputational standpoint, while careless use of the sites by an employee could give criminals a foothold inside the network and an opportunity to mine customer data. Automatic data back-up and high levels of security are not guaranteed – due diligence must be undertaken. How to be more secure in the cloud Ensure you check into where your data is stored and what security measures are in place from your provider. Make sure staff is trained in safe browsing. IT Security can be a difficult for a non-expert to keep on top of. One option would be to outsource management of this to a Value Added Reseller (VAR) or managed service provider who can be the de facto IT department for your business.

•:• **Conclusion** : Cloud services can then be used by this partner to manage all of your security. Cloud computing, as we have seen, can be a wonderful business enabler. However it is for you as a small business owner to calculate if it's the right fit for your current environment. If the limited risks can be properly managed, though, it promises cheaper, faster and more efficient ways of working which could help your business achieve stellar performance.

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Impact of Paperless Academic Institutions for Sustainable Development

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: Abstract : Today planet Earth is driven towards technology. One tweets, one posts and one clicks to project an emotion. The digital world is taking a step ahead and even marketing has another stream of studies known as Digital Marketing. In a blink of an eye, business schools have designed and introduced a full-fledged program on Digital Marketing; workshops and seminars are conducted for spreading awareness. In this digital world, one also knows that human beings have been responsible for global warming. The human race is now able to track the deterioration in the ecology. In an attempt to correct these mistakes in a big way, one can focus on the planting more trees. While the consumption of paper is increasing, there is relatively less investment in planting more trees. There is still a divide in this nation today, not of the poor and rich, not even of the rural and urban but the divide where most of human beings are still not digital in routine activities. Paying bills, mobile recharges, online money transfer are some of the issues that are not yet concentrated on. For most of us, Face book and Whatsapp are the best foot forward in the digital world. Given this scenario, the author proposes digital world where no colleges ask for documents in hard copy, printers do not become an essential part of student life. Academic life is entirely dependent on papers from admission formalities to graduation ceremony.

-: Keywords : Paperless, Digital world, Academic Institutions, Technology

-: Introduction : Papers and documents are an integral part of academic life. However, paperless academic institutions are not a myth. They are a reality even if rare. They can be known as academic institutions in which papers at any stage are not to be used. Academic institutions refer to all private and public primary and secondary, aided or unaided (by Govt.), professional schools, including all such institutions which can grant a degree. A paperless academic institution means to have a technically sound system with updated technology, software for data storage and retrieval, internet connection and the LAN connections in place. Paperless academic institutions are capital intensive only once and maintenance is minimal. A huge amount of cost will be saved if institutions become paperless.

The various areas in which a paperless academic institution needs to function smoothly are:

- Admission process
- -: Assignments and Exams
- Evaluation and Result Declaration.

The academicians and management both are equally responsible for a universal change to be brought in. Gradually, there are changes in terms of merit lists being uploaded on college sites for XIth admissions,

online applications in a few colleges, e- classrooms in a few international schools and so on. Such attempts are innovative and encouraging. This is yet to be a trend though. E- Classrooms are a new way of interactive learning at all levels. Using multimedia is interactive and helps students of different intelligence ^[5] to understand.

This can be included as a part of education training provided to school teachers and college teachers. Nursery and Play groups involve paper at a very small scale and more for creative aspects than the academic aspects. Software for managing the documents in digital form are very essential and management must look at it as an investment rather than purchasing paper for printing and cartridges and refills of inks for printing the documents. The students can be provided computer education from a younger age as they will already be aware of how to operate a smart phone if not a computer. Younger generation is quickest to adapt to the changes. There is a way that academic institutions function. Let us understand the admission process after XIth standard across India.

Applications forms (colorful - based on streams) are purchased by students in a Queue:

Duly filled application forms with attached and attested photocopies of mark-sheet and passing certificates are to be submitted by students in a Queue.

First merit list is displayed by the institution for the purpose of admission and queue for admission is formed.

Those students whose names have appeared in the first merit list will take admissions with photographs and original documents by standing in Queues.

This is a generally observed process and is not exhaustible. This process involves Stationary cost, labor cost of Manning the queues and collection and verification of forms, the paper cost for print out and the ink cost of the printer. In the view of the above mentioned process, there are several reasons why the author believes in paperless institutions and a few are listed below ^[4]:

- . The admission procedure would be simplified and easy.
- The student and parent community will go through less stress with regards to documentation in academic journey of a student.
- : It will drastically reduce in cutting down of trees for paper.
- •:• It will allow easy storage and retrieval of data.
- •: It saves crucial time especially during admission process and examinations.
- H gives a huge Return on Investment.

•:• It saves all the records on clouds and the records can be stored in different storage forms as per the year or as per the streams depending from institution to institution.

H reduces or eliminates human error in most instances.

All these advantages will be reaped only after recovering the cost of application of these processes.

-:- Results : The author has come across three such institutions which could successfully run paperless institutions for past 4 years. Carnegie Mellon University in Pittsburgh used different software for document management. They use a front end system known as eCopy which enables them to continue to work hassle free. Arizona State University installed another such system and software in 2010 which would help them get rid of maximum paper work. They use software solutions which also reduce the backlog of documentation without any obstacles. South Plains College in Texas has also successfully adopted Filebound, a system which has enabled digitization of millions of paper across the institution ^[7]. In Black burn and Illinois, institutions are making an attempt and achieving success in being paperless. In India there were and are attempts being made by institutions on pilot basis for going paperless. Recently Indian Express mentioned that Maharani Lakshmi Ammanni College for Women located in Bengaluru conducted its pilot paperless examination for two subjects in the undergraduate courses. These were in fact multiple choice questions and therefore the challenge was not greater than expected ^[9]. Earlier last year, Five Government colleges of Chandigarh city were reported to go paperless and adopt the online form submission, recording of lectures, promotion and increment alert and online fees payment as well. This is a huge step ahead as they are already using the smart classrooms for conducting lectures. An e-campus is what they aspire to be! Such attempts must be made all over the world where there are more number of institutions whether public or private who undertake to go paperless. [10]

-: **Discussions** : The author wishes to suggest online admission process which is known and very reputed way of short listing candidates. The students who are admitted can be provided with login credentials to use for submitting assignments and exams online. Students can apply for leaves, register complaints and or pay fees through this interactive student portal. Evaluation of exams or assignments can also be done by teachers online so that the burden of hundreds of answer sheets is not carried by them on their shoulders. If a multiple choice paper is designed then even assessments can be made digitally through OMR sheets.

The institutions can design online evaluations (For ex: using Turn it in as a tool), digital assignments and assessments. As far as the attendance is considered, a biometric system for all the students can be designed and used for maintaining a record which is synchronized with the computer systems. The reports generated for month on month can be saved on the hard drive. An automatic message system can be devised to send a message to the parents of students in case the attendance

of that student is not registered for that day. Following are a few activities as suggested by the author can assist in going paperless:

- Admission process
- ✤ Attendance records
- -: Assignments and Exams Conducting and Evaluation
- ✤ Results and Graduation

Academic institutions need to plan end to end activities for all academic formalities and estimate the cost of working without paper. This is in itself a Project to be undertaken giving rise to Project Management, yet another independent field to undertake such projects of colleges and assist them in planning, infrastructure, software that can be used by them, management and retrieval system of data. If all these activities can be well planned across the nation and implemented, then Academics can also be aligned to the 2020 vision that APJ Abdul Kalam had set for Indians (as a whole and not for a political party, group or individual) to achieve [¹¹].

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Secure Railway Reservation Ticket Based On Biometrics- An Application

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-: Abstract : When dealing with biometrics, we generally refer to security biometrics which is a set of techniques used to identify an individual using his biological or behavioural features. A system of secure railway ticketing based on Biometrics was proposed in this paper. A common biometric concept and binding idea are used in design of this system, which improves the security development efficiency and makes it easy to expand and upgrade various Indian railways ticketing system. The proposed system has highly secure, and reliable. It could meet the secure online railway reservation and offline ticketing to prevent terrorist attack and fraud ticketing. This system can also used for the smooth functioning of railway requirements.

: Keyword : Biometrics, Security, Reliable, Railway, Terrorist Attacks.

•**Introduction** : Any human physiological or behavioral characteristic could be a biometrics provided it has the following desirable properties [1]: (*i*) *universality*, which means that every person should have the characteristic, (*ii*) *uniqueness*, which indicates that no two persons should be the same in terms of the characteristic, (*iii*) *permanence*, which means that the characteristic should be invariant with time, and (*iv*) *collectability*, which indicates that the characteristic can be measured quantitatively. In practice, there are some other important requirements [1,2]: (*i*) *performance*, which refers to the achievable identification accuracy, the resource requirements to achieve an acceptable identification accuracy, (*ii*) *acceptability*, which indicates to what extent people are willing to accept the biometric system, and (*iii*) *circumvention*, which refers to how easy it is to fool the system by fraudulent techniques.

No single biometrics is expected to effectively satisfy the needs of all identification applications. A number of biometrics have been proposed, researched, and evaluated for identification (authentication) applications. Each biometrics has its strengths and limitations; and accordingly, each biometric appeal to a particular identification (authentication) application. Here we enlist the biometrics-

Fingerprint. Fingerprint scanners are probably the most commonly used biometric system; as and replace the pin code entry to unlock the card, especially in the area of smartcard readers. Similar systems include hand geometry or palm prints [3] [4].

- •: Iris. Another static property of individuals are eyes. One can either use pictures of the person's iris or use a retina scanner that scans blood vessels to create an individual data set.
- Face. The human face is also a feature that can be used by biometric systems. Human face recognition by analyzing the size and position of different facial features is being pushed for use at several airports to increase security. Another possible approach is to make infrared recordings and analyze the resulting facial thermo gram [5].
- Voice. A more behavioral individual aspect of humans are their voices. Everybody has a special mode and tone while speaking. Voice recognition tries to analyze these features and use them to identify a person [3].
- Signature. Another behavioral aspect of a person usable by biometrical analyses is the signature.
 Not only the form but also the dynamic aspects can be seen as a set of unique features of a person. Other possible movable biometric inpt could be the rhythm and pattern of a person's walk.

Modality	Example	Invasiveness	Accuracy	Typical Applications
Fingerprint		Moderate	***	Law enforcement, financial, POS
Palmprint	12 m	Moderate	***	Access control
Iris	And Constant	Moderate/ high	***	ATMs, access control
Hand Geometry	1. ML	Moderate	*	Access control, border control
Face		Low	**	Surveillance, Passports
Voice		Low/Moderat e	*	Access control, logon
Signature	Siling aber beafferrow	Moderate	**	Financial, PocketPC

•**PROJECT** : The main objective of this project is to provide fear free journey and make available identification of each person which is travelling with us. In this paper we are using fingerprint biometric for secure railway reservation ticket.

•: FINGUREPRINT STRUCTURE : Fingerprints are graphical flow-like ridges present on human fingers. Their formations depend on the initial conditions of the embryonic development and they are believed to be unique to each person (and each finger). Fingerprints are one of the most mature biometric technologies used in forensic divisions worldwide for criminal investigations and therefore, have a stigma of criminality associated with them. Typically, a fingerprint image is captured in one of two ways: (i) scanning an inked impression of a finger or (ii) using a live-scan fingerprint scanner (Figure 1).

Major representations of the finger are based on the entire image, finger ridges, or salient features derived from the ridges (minutiae). Four basic approaches to identification based on fingerprint are prevalent:

-:- The invariant properties of the gray scale profiles of the fingerprint image or a part thereof;

- Global ridge patterns, also known as fingerprint classes;
- •:• The ridge patterns of the fingerprints;
- -:- Fingerprint minutiae the features resulting mainly from ridge endings and bifurcations



Figure-1 A fingerprint image could be captured from the inked impression of a finger or directly imaging a finger using frustrated total internal reflection technology. The former is called an inked fingerprint (a) and the latter is called a live-scan fingerprint (b).

✤ PROPOSED SYSTEM DESIGN

In this paper we will propose three type of railway reservation system design -

A Off-Line Railway Reservation

In this system design, we will assume that passenger must be book one ticket from the reservation window to leave his/her fingerprint. On successfully completion railway will issue a finger print identity number for future use .

The fingerprint identity number will be distributed globally; this will helps user to reserve an on-line reservation. By entering the fingerprint identity number user can access the fingerprint database globally. Following flow- chart will illustrate the overall process for off-line reservation -



A On-Line Railway reservation : For on-line reservation system, user will login into his/her account and request for reservation. A user can reserve a ticket only when he /she have their fingerprint identity number present in database, which was generated on off-line reservation window. Fingerprint database with the FPIN will be available globally.

Figure -3 will illustrate the overall process of on-line reservation-



Figure-3 On-line reservation system

- Reservation Ticket Checking System

This is a system which will be with the railway ticket collector (TC) for ensuring about the passenger in running train. In this machine database will be stored when charting has been done for the scheduled train .When passenger board into train and occupy the seat. When ticket collector will ask for the ticket then passenger will scan her/his fingerprint on the machine with the ticket collector and match from the database. if the scanned fingerprint found in the database means the right passenger is travelling otherwise fraud passenger detected.



The flow chart for the ticket checking system is illustrate in figure-4-

•**: conclusion** : In this paper we discuss the use of biometric for the secure railway ticketing. We use the fingerprint biometric because of accuracy. This design can be provide the higher security and prevent fraud ticketing. This system also can play an important role to prevent terrorist activities in railway. This system might be help for secure automation of railway ticketing around India. By using this system passengers can be accessed anywhere.

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Concept of Social-Emotional Nurturing, and Promotion of Problem Solving and Creative Thinking in Ancient Indian Gurukula System of Learning : A Comparison with Modern Systems of Education

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"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid." Albert Einstein

•:• Introduction : The ancient Indian system of learning involved a holistic program for all round development of the student. It also helped the student progress in the areas in which they had specific or special talents. Modern systems of education have a structured set up with a fixed curriculum and standardized testing methods. This review study aims to compare the ancient systems of learning with modern systems if education and suggest a probable integrated model of learning.

Objectives : To provide a brief overview of ancient Indian systems of learning through available traditional knowledge in the scriptures and also through other available sources. This review study also aims to compare the ancient system with modern systems of education. To suggest a more effective integrated model of learning than what is available at present.

•:• **Design and Method:** Qualitative analysis and review study of different aspects of learning in the context of ancient and modern systems of education and learning

•:• **Results** : The qualitative analysis and review study shows that the ancient Indian system of learning helped promote not only intellectual and creative abilities but also helped improve physical prowess in the student but also helped provide a nurturing environment that promoted social-emotional and spiritual development. This system also encouraged value based learning and independent thinking that helped develop high moral values, honesty and integrity in the disciples. In contrast most modern education systems promote rote learning, conformist thinking and textbook based approaches. The student is not encouraged to question or argue against supposedly time tested beliefs and ideas. There are positive aspects of modern teaching as a structured environment is provided and there is a fixed curriculum and standardized testing methods that can be used universally.

•:• Conclusion : From the review and analysis of ancient Indian systems of learning and modern education systems it can be concluded that an integrated model that incorporates the ancient methods of ability based training, compassionate teaching and positive aspects of modern educational curriculums would be helpful in creating a generation of intelligent, well rounded and compassionate individual that can better serve society.

-: Introduction : Learning is a process of acquiring knowledge and skills through a process of study and experience. Education is a process of receiving instructions through a structured program. In ancient India the emphasis was on learning rather than education. The focus was all round development of the individual and empowerment for life. The ancient Indian system of learning also known as the Gurukula system comprised a comprehensive all round learning program. It incorporated all aspects of development such as cognitive, communicative, physical, social-emotional and even spiritual development. The disciple would be left in the care of a learned Guru in a residential set up or ashram at the age of eight and would stay there till the age of 18. The Guru was learned in all areas. He was capable of assessing each students' strengths and abilities and training them accordingly.

A conducive environment was created to provide for the physical needs along with being helpful in nurturing the pupil's social and emotional development. The qualities of compassion and empathy were also sought to be instilled in the pupil. The Guru and his wife the Guru Matha were considered as foster parents to the disciple and would provide not only for their physical needs and comforts but also provide emotional support. They would look after them with kindness and compassion. There would be a family and community kind of environment which would make the transfer of knowledge both from and to the Guru easier. The position of the Guru was one of providing the knowledge and the interpretation and analysis was left to the disciple.

The following review study will help understand some basic aspects of social-emotional development. This study also hopes to provide a brief comparative overview of systems of learning in ancient India as compared to the current model of education and how it helped promote social-emotional development. - Social-Emotional Development : To understand how social and emotional development was fostered in ancient Indian systems of learning, it is first imperative to understand what it is. Social and emotional development is the ability to understand and express emotions, to form secure attachments, to empathize and explore the environment. According to the Consortium for Social-Emotional Learning (CASEL) based in America there are five core aspects of social and emotional learning namely selfawareness, self-management, social awareness, relationship skills and responsible decision making. : Importance of Social-Emotional Development to Promote Holistic Child Development : Recent research studies show that social-emotional development plays a major role or is the key to the development of cognitive skills and communication skills. Activities to promote social-emotional learning are now considered to be an important part of the curriculum in public schools in America. CASEL works towards research and practical application strategies to foster social-emotional development in children of different age groups. The latest research studies on early childhood development have shown that brain development is not just influenced by genes but also by the environment. Socialemotional learning at a young age impacts a number of other areas including the connections that are formed in the brain. The way the child develops emotionally has a direct influence on forming neural

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networks that are responsible for memory, learning and organization. It is important to provide a nurturing and receptive social environment for the child to develop good social-emotional capabilities.

Research has shown that if social-emotional nurturing is not provided it hinders the cognitive and intellectual development of the child. If a stimulating and responsive environment is not provided then there is delayed development in all areas. In one study on orphaned children where there was no emotional connect or nurturing provided by the caregiver, development was delayed in almost all areas. When social and emotional nurturing was provided to these children they started to develop normally. Even children with developmental difficulties started to show positive changes.

. Different Life Stages and Ashramas : In ancient India the lifespan of the individual was divided into different Ashramas or phases of life. The first was the Brahmacharya, then Grahasta then the Vanaprasthaashrama and lastly the SanyasaAshrama. The BrahmacharyaAshrama was the stage of learning and the individual was considered a student or Brahmachari. The student life started with the Upanayanam or sacred-thread ceremony usually at the age of eight years after which the child would be sent to the Guru's place known as the Gurukula where he/she would stay till the age of eighteen years. From the age of eighteen to twenty four the student would go to higher education institutions to enhance knowledge in his area of expertise. This was followed by the GrahastaAshrama which started after marriage and the individual would live a householder's life. The next stage was the VanaprasthaAshrama or the age of retirement where the householder would retire from active earning and be in the role of an advisor to the next generation. The last stage was the Sanyasa Ashram where the individual would dedicate himself to a spiritual life and withdraw from all worldly entanglements. In this study we will be focusing on the Gurukula system and modern education system tillthe age of eighteen years. It is important to note that in the Vedic times women were also allowed to study in the Gurukulas and they were called Rishikas or Brahmavadinis. There were separate gurukulas for women known as KanyaGurukulas. But later, with the erosion of culture following invasions and oppression this became less prevalent.

•:• Rationale behind the Age of Entry into Gurukula : Recent research studies have shown that the period from birth to eight years is a vital period in the development of the brain. It includes both physical, social, intellectual and emotional development. The ancient Guru or Rishi Munis must have analyzed this and hence the age of entry was fixed at eight years. This was done so that the child would be in a comfortable and free environment till that age. The child could learn through observation and being with nature. Once the maturity both of the brain and emotional maturity is achieved, the child would be ready for a structured program and also to spend time away from the family. In Finland the age of entry to school is seven years and their model of teaching is considered to be a very successful one.

•:• Qualities of the Guru : The word Guru literally means dispeller of darkness where 'Gu' mean darkness or ignorance and 'ru' means radiance or the light which dispels darkness. The qualities of a

Guru and the Shishya are mentioned in the ShikshaValli of the Taittiriya Upanishads. A Guru is one who has a high level of honesty and integrity. He would be well versed in all the scriptures, arts and sciences. He would have full control over his emotions and his sense organs. He would be highly spiritual and act as a role model to his disciples. The meaning of a role model here is that the Guru himself embodies all the qualities that he expects the disciple to have. If this happens the disciple will automatically develop positive attributes by imitating the Guru's behaviour and activities. The examples of great Gurus can be seen in ancient epics such as the Mahabharatha and the Ramayana. In the Mahabharatha the Gurukul training of both the Kauravas and the Pandavas by Dronacharya is described. In the Ramayana Rama's training under Guru Vasishta and also the learning provided in his journey with Vishwamitra is well documented. When Rama goes through a difficult time, it is his Guru Vasishta who counsels him. The Yoga VasisthaMaha Ramayana contains these discussions. Thus the ideal Guru was one whom you could approach to find solace and proper guidance in times of distress. The Guru was also considered a mentor to his students and a friend, philosopher and guide.

•:• Qualities of the Student : The student or Shishya was also expected to have certain qualities. The main quality was humility, the thirst for knowledge, being truthful, following dharma and having a learning attitude. The student was expected to have the ability to take criticism, be dedicated and diligent in his work. The student was expected to work and live cooperatively with other students. They should be able to work independently.

. Environments in the Gurukula Compared with Modern Schools : The usual location for Gurukulas were the Ashramas that were situated in close proximity to nature. The Ashramas were usually located close to the riverbank or at the edge of a forest in the midst of plenty of greenery. The Gurukulas were also places where the mode of living would be in harmony with nature. The classes would usually be conducted under the shade of trees in good weather and thatched hut or Kutiras when it was not possible to go outdoors. The residential quarters would be constructed with locally available and eco-friendly materials. This helped create a therapeutic and calm environment that fostered both contemplation and assimilation of knowledge. The mode of living in the Gurukula helped the student understand the value and importance of sustainable living. This is the physical environment that was provided in the Gurukula.

The psychological environment was also a nurturing environment where the students would be considered part of a family. They would be expected to do all the duties and day to day activities of the ashram like a family member of the Guru. In return the students would be treated with the same respect and love as given to a son or daughter.

In ancient history it is hard to find anecdotes of Shishyas in Gurukulas being punished either through beatings or harsh words. There are anecdotes of how moral stories and other methods were used in the case of truant pupils to aid in their self-realization and enabling them to correct themselves.

Modern school environments in India are mostly based in concrete buildings. In some schools there is provision for a playground with limited amount of greenery. In most of the modern schools space is at a premium and many schools do not have play areas. The psychological environment is one of extreme discipline and structure. Free movement, discussion and a nurturing environment is not prioritized when schools are conceptualized. In some schools also called alternate education schools the ancient concept of vast spaces and locations close to nature are given priority. There is also emphasis in some modern schools on providing a nurturing environments but these are very few in number and not accessible to everyone.

In public schools in America now importance is given to school environments and a school environment assessment scale has also been devised. This is because it is now believed that social and emotional nurturing is an important factor in the normal development of the child. It is also believed that proper social-emotional nurturing can help prevent developmental delays. The school environment is therefore considered an important means to achieve this. Here again the focus area is on preschools. **: Curriculum in Gurukula Compared with Modern Indian Schools** :In ancient India the Gurukula system of teaching had the objective of not only imparting knowledge but also to develop the overall personality and character of the disciple. The teaching were based on the Vedas and Upanishads. The objective was also to preserve the rich cultural heritage of that time. The curriculum not only included the study of Sanskrit and other texts, art, science, astronomy etc., but also fine arts such as music and dance. Training was also given in the martial arts, archery and yoga. This incorporated elements that would help physical, psychological, social-emotional and spiritual growth. There was no fees charged and the Gurukula was open to students from all walks of life.

The modern educational curriculum focuses mostly on academic excellence. In the preschool years the main activities that children are taught involves reading, writing, math and other skills that will prepare them for school. In primary and secondary education establishments also academic achievement is considered the highest priority. The modern curriculum does have a component of sports and art and craft as extra-curricular activities but these are mostly optional. Parents in modern times also prefer academic focused schools where importance is given to scoring high in order to get admission into premier universities.

The three main syllabi used in India are the CBSE (Central Board of Secondary Education), ICSE (Indian Certificate of Secondary Education) and State Syllabus. The other curriculum being followed is the IGCSE (International General Certificate in Secondary Education, Cambridge University). The IGCSE system seems to incorporate some aspects of the ancient Indian system of learning where children are taught the basics in science, mathematics, English and other subjects. The child can then study advanced levels of the subject that they have interest or aptitude in while being in the same grade or class. There is also the National Open School system where subjects can be chosen based on the level of ability and students can study at home. They have to come to a specified center to take the exams.

. Promoting the Spirit of Inquiry, Problem Solving and Creative Abilities : In the Gurukulas of ancient India there was the concept of TadvidhSambhasana or discussion. This discussion could be between the disciples themselves or with the Guru. There would be visits to other Gurukulas or events organized where students from different Gurukulas would be invited for debates on various topics. This promoted inter disciplinary learning and also exchange of knowledge between different schools of thought. The student was allowed to question or disagree with what was taught by the Guru. The Guru would encourage the student to do his own studies or experiments to verify his teachings. The student would also be given certain tasks where he would have to learn the subject and find the solution to a particular problem. This helped promote the development of problem solving and also creative abilities. The student would be encouraged to do Swadhyaya or self-study. A fixed time period every day would be allocated for this purpose.

One example of this is the task set by a Guru to his disciple to find one plant that does not have any medicinal property. For this the Shishya would first have to make a list of all the available plants, then test each plant and then come to a conclusion. In essence this one question would constitute a whole research study equivalent to a PhD.

•:• Promoting Self-Awareness, Self-Discipline and Empathy : Every child is born with an inherent ability to self-regulate and also to show compassion. These qualities can only be nurtured and become part of the child's personality if the environment is conducive to such development. In other words the child will imitate and incorporate those behaviors and responses that they see on a day to day basis.

In the Gurukula system the student would be given the opportunity to introspect and become self-aware.this was done through stories, question and answer sessions or through specific tasks. In one story the Guru gives all the disciples a fruit. This had to eaten in secret where no one was watching. All the shishyas completed the task except for one shishya. When questioned he said that he could not find a single place where no one was watching him as there would be one person who was watching him. There were two versions of this story, where in the shishya says that God would be watching him as he is present everywhere and the other is his own self or conscience. Even though the other students did not have the same awareness, they could learn from this example.

Self-discipline and self-regulation was promoted as the Guru would try to correct indiscipline not through punishment but through stories or examples in such a way that the student would realize his mistake and rectify his behavior. Empathy was also promoted through role modeling. The Guru would show kindness and compassion to all living creatures. Since the student would like to emulate the Guru in all aspects to become learned and accomplished they would also learn to show empathy and compassion to all creatures big or small. Modern schools in general use externally enforced disciplinary measures. Threatening and corporal punishment are considered the most effective tool to accomplish this. It is generally believed that students are mischievous and will behave only if there are negative consequences to actions. It has been proven that harsh physical punishment or fear does not help improve behavior. This will make the child more rebellious and uncooperative. There are research studies that have shown that childhood neglect and abuse can lead to abnormalities in brain development.

•: Teaching Methodology: A Comparison of Modern and Ancient Systems: The teaching methods in the Gurukula was such that the students would by the example set by the Guru. They would follow the strict discipline and austere lifestyle of the Ashram. They were also given practical skills by helping in the daily chores and taking care of the cows and other animals in the Gurukula. Since the Gurukulas were located close to nature, many concepts explained by day to day observation of nature or field trips. The Guru would closely observe each student and based on their specific skills, talents or abilities they would receive further training in that particular field. The Guru would treat the student with compassion and answer their queries patiently. The other unique aspect was building character through the use of stories. The Panchatantra which was authored by Vishnu Sharma, was used by him first to build the character and develop moral values of the princes under his care is a very good example of this.

In modern schools teachers are usually given a fixed curriculum and text books for teaching different subjects. Here the teacher has to strictly adhere to the syllabus. The student also has is expected to only learn the subjects from the books prescribed. The teacher has the choice to be flexible and use innovative methods to teach the prescribed material. The student also has the option to increase his knowledge and learn from other sources. The questioning attitude is not encouraged in modern schools as time is a major constraint. If active inquiry is promoted it will take extra effort and time for the teacher to answer them. Also in some cases the teacher might have to spend time improving their knowledge. This becomes difficult as the focus is on finishing the prescribed portions and preparing the student for the final or other exams. The concept of patient listening and compassionate teaching is not part of current teacher training courses unlike in ancient times.

• Advantages and Disadvantages of Gurukula System of Learning : The advantages of the Gurukula system of learning was that the student had a choice of learning according to his interest and aptitude. He would spend the full time of his education with a single Guru and with the same group of students. Study would happen in a comfortable and peaceful environment. There was no pressure of monthly tests and exams. The training in Gurukula helped the student develop a well-rounded personality and become highly accomplished. They could progress to advanced levels of training irrespective of their age. Competition was there but it would not unhealthy competition. Student from all walks of life were treated equally.

The disadvantages are that there was no uniform standardized method of assessing the student's level of accomplishment. In some cases where the student was more knowledgeable or if the Guru felt insecure then he may not be allowed to progress to his full potential. Also if the student was sent out of Gurukula or wanted to leave and join another Gurukula it would be impossible to do so. • Advantages and Disadvantages of Modern Systems of Education : The advantages of the modern system of learning is that there a fixed curriculum and standardized testing and assessment methods that are universally accepted. Transfer from one syllabus to another or from one school to another can be easily done. The parents have the choice of admitting their children in regular schools or schools with alternate education models.

The disadvantage of modern systems of education is the lack of focus on imparting knowledge. The lack of compassion and not enough positive role models for students to follow. The curriculum is mostly focused on academic achievement and all round development is not promoted. The spirit of inquiry and independent thinking is not actively sought to be instilled in the students.

•:• Proposed Integrative Model of Education : There are some schools that have an integrated curriculum that imparts the Vedic system of teaching and the modern curriculum either CBSE or NOS curriculum. This may be a good model to follow but it has been seen that the student is burdened with the task of learning both the curriculums. This creates undue pressure on both the students and teachers. There is also the confusion created by the contradiction between the Vedic concepts and modern subjects where certain distortions have crept in.

A model of education that incorporates the positive aspects of modern curricula that can be universally applied and the ancient Gurukula system of knowledge enhancement through self-inquiry, independent thinking and free flow of knowledge both to and from the Guru would be beneficial. This model would also include the ancient system of ability based training and self-paced learning. The curriculum should be such that it promotes the spirit of inquiry, compassion, empathy, integrity and value-based education. The curriculum should include fine arts such as music and yoga as part of the standard subjects instead of it being optional. School environments and activities should be modified to be child-centric rather than adult-centric. Teachers' selection should be based not only on their qualifications but on other qualities such as compassion, the passion to teach and dedication to the profession.

-: Conclusion : The review and analysis of ancient systems of learning and modern system of education show that an integrated model of education would be ideal. This model would incorporate the positive aspects of both ancient systems of learning and the modern curriculum. Providing an environment that helps social-emotional development is also vital for overall development of the child. Value based education that promotes empathy, compassion and moral values will help build future citizens who can bring about positive and constructive change in society.

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Raaga Chikitsa for Neurodevelopment in Early Childhood : A Comparative Study of Indian Classical and Western Music

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•: Introduction: The period from birth to six years is a critical period for child development. This is the phase that is important for the development of social and emotional learning, communication skills and cognitive abilities. This period signifies the foundation of all the future aspects of the way the child progresses emotionally, physically and intellectually. In the west there is an increasing focus on using music especially western classical music for enhancing child development and for developmental disorders. Recent work has also focused on using music both passive and active to promote social and emotional learning, cognition and communication skills in early childhood.

•:• Objective: To review the use of classical music to enhance child development and in developmental disorders. To compare the differences between Indian and Western classical music. To find correlations between current research and ancient traditional use of Indian classical music.

•:• **Design and Method:** Qualitative study and systematic review of available research and information from various sources and synthesis of the information and postulation.

•:• **Results:** Qualitative study and analysis of recent research studies show that music can help to improve classroom behavior, cognitive abilities, social-emotional learning and empathy in young children. Music is also useful as a therapeutic modality in developmental disorders. There are a vast number of studies on western classical music for neurodevelopment in early childhood in Western countries. In contrast there are very few studies involving Indian classical music.

-:- Conclusion: The review of current research leads to the conclusion that both Indian classical music and Western classical music can be a very useful and effective tool in augmenting the process of social and emotional learning, cognitive development and communication skills development when exposure is provided for a period in early childhood.

•:• Introduction: Music therapy or RaagaChikitsa has been used since very ancient times. Listening to music has always been considered soothing and therapeutic, whether it is Indian music or classical Western music or folk music. Music therapy can further augment or complement other extra-curricular and academic activities. Music can help to release energy blocks in the system and pave the way for an effective teaching and learning environment.

Research on music therapy has found that it helps improve cognitive abilities, communication skills and social-emotional learning. It can help enhance learning and assimilation by children with developmental disorders and also improve learning in all children. Hence music therapy might prove to be an effective tool not only in treating children with developmental issues but can also help in the process of normal development.

Music can be divided broadly into Indian music and Western music. Indian music can be broadly classified into Carnatic (South Indian music) and Hindustani (North Indian music). Indian music can also be classified into different types such as Folk, Devotional, Ghazals, Qawali, Bhangra, Film, Indi-pop and Fusion music. Western music also has different styles. Western classical music can be divided into Classical, Pop, Jazz, Hip-hop, R and B, Blues etc.

-: Differences between Indian and Western Music:

Indian music is essentially melody based and is developed with notes in a particular sequence that is repetitive and improvised upon. Western music on the other hand is polyphonic and is based on a number of different notes occurring together. Western music is based on harmony and the notes need to be played in a given order. Indian music is based on the raga system where a group of tones form a melody.²

Indian music has been around for thousands of years and has evolved into a complete art form. Music is something that is pleasing to the ear. The kind of music that evokes feelings of pleasure sadness or happiness may vary depending on the exposure to different genres from childhood. The environment in which the child is brought up also makes a difference to the kind of music they respond to. The raga system is a concept that is unique to Indian classical music. The way the notes are structured and the variations in pitch, melody and rhythm have an effect on the way it affects the listener.

In yoga use of certain repetitive sounds like *omkara* or chanting of mantras in a particular tone are supposed to create vibrations that make the system healthy, help maintain equilibrium in the human body and help preserve a state of optimal health, help quicker recovery from illnesses and have numerous other such effects. Music in consequence can be any sounds or structured rhythm that is pleasing in addition to helping towards varying the mood or to relieve stress. The practice of music or listening to music takes the individual into a different world. It helps create a space for the individual that is entirely their own. A space that they can freely enter and enjoy anywhere or in any state of mind. Music is like a friend with whom you can share all your joys and sorrows and lighten yourself.

Music therapy can have a number of different applications. Research has found that music helps to change brainwave patterns. Music helps stimulate the alpha wave state in the brain which is the state when we are relaxed and calm. It also helps give a pleasant feeling based on the music that the person listens to. If the individual is sad or depressed, when he listens to sad or melancholic music that matches his mood, it helps to express suppressed feelings.

The method of teaching in Indian classical music is such that it helps to build a rapport with the guru. Learning music requires good concentration and focus. The mathematics involved in the talas and learning to improvise on the ragas helps develop the cognitive and creative abilities in a student of music. There are certain ragas that are specifically used to evoke different feelings such as fear, anger, sadness joy etc. In Hindustani music certain ragas are sung only at particular times of the day. There are many other interesting aspects of Ragas that will be helpful when looked at from a therapeutic point of view. Western classical music especially compositions of Bach, Beethoven and Mozart have also been shown to have therapeutic effects and help improve learning. A number of research studies have shown that just passive listening for a fixed period of time each day has helped improve classroom behavior, attention span, cognitive abilities and social-emotional learning in preschool, primary and high school children.

- Normal Development and Critical Stages in Cognition, Communication and Social and Emotional Learning : What follows is a brief overview of brain development and cognition, communication and social-emotional learning. The period from birth to six years of age is considered a critical period in brain development. According to recent research the new born baby is born with all the neurons it requires. Neural connections are formed when neurons are stimulated. The experiences that the child has on a regular basis helps to form neural networks. If neural connections are not reinforced then they fade off or die. Cognitive development is the term used to mean development of the child's ability to think, learn, process, analyze, assimilate and use information. Speech language and communication skills involves the ability to first understand what is being said. This is known as receptive language skill. This is followed by the ability to use words to communicate. This is known as expressive language ability. Research has shown that language development is based on the response the child receives. If when the child starts to communicate there is no reciprocity then language development slows down or even stops. Social and emotional learning is the ability to understand and manage emotions, empathize with others and build positive relationships with others. This is also as a major contributing factor in the overall development of the child. If social-emotional nurturing is not provided it hinders the cognitive, intellectual and language development of the child.

. Music for Enhancing Social-Emotional Development, Cognition and Communication in Neurotypical Children : The effects of music can be seen starting from infancy, in the womb and across all age ranges including in adolescents and adults. Music helps in fostering brain development, cognitive development, language development, social-emotional learning and academic performance in healthy children and adolescents. Apart from this there a number research studies on the therapeutic benefits of music in children with developmental problems, behavior and emotional issues and even in adolescents. Music also has shown to have benefits in improving overall health and well-being.

In a study by Krista L. Hyde et al (2009) it was found that musical training in early childhood for just 15 months helped brain development including structural changes in the brain that helped improve both motor and auditory skills. In a study by Schellenberg (2005 and 2007) it was found that music lessons and listening to music helped improve performance in cognitive tests in both 5 year olds and adolescents. In a study by Sylvain Morena et al (2009) it was found that music helped enhance communication abilities in eight year old children.

In a review study on social-emotional learning and music education by M. NevraKupana (2015) it was found that musical experiences help improve emotional intelligence because it aids the acquisition of skills related to proper understanding, assessment and expression of emotions. Music in addition also facilitates better understanding of emotions and better self-regulation which in turn supports intellectual development and the development of social intelligence.

There are a number of studies on the effect of Western Classical Music for neurodevelopment in early childhood but similar documented studies on enhancing cognitive development, speech language and communication skills and social emotional-learning in neurotypical children in India with Indian Classical music are hard to find. One research study by Uma Gupta et al (2005) on the effects of listening to Raaga*Todi* on the flute in postgraduate students found significant increase in the alpha brain wave frequency and reduction in scores on the depression, state and trait anxiety component of a standardized scale. This again is a study on adults and not in children.

•:• Developmental Disorders : Definition: Developmental disorders are disorders that impair a child's development. They may be physical or mental in nature. Sometimes it could be a combination of delays in both physical and mental development.

- Mental Retardation: Mental retardation can be defined as impairment in intellectual development.
 A child or person is considered mentally retarded if he/she has a score below 70 in an I.Q test.
 Mental retardation can be classified into mild, moderate and severe mental retardation.
- •:• Learning Disability: They are a group of disorders where the child has difficulties in learning certain skills. There can be problems with reading known as dyslexia, writing known as dysgraphia, speaking known as aphasia or dysphasia or in mathematical abilities known as dyscalculia.
- Pervasive Development Disorders: Autism is a developmental disorder that usually occurs or is seen in children in the age group of 2-4 years. Children with autism show deficits in three main areas namely speech language and communication skill, social skills and behavioural issues

•:• Current Interventions for Developmental Disorders : This is a general overview of some of the conventional treatments or therapies currently being used.

•:• Educational Interventions: This includes systematic therapy with the help of a special education. Here the child is given one to one training in specific skill areas that the child has deficits in.

- •:• Behaviour Therapy: It is the use of proven techniques to improve positive behaviour and also help to change or set right negative behaviour patterns with the help of reinforcements that could be positive or negative.
- •: **Speech Therapy**: This is used to improve speech language and communication skills in children with developmental disorders who have problem with language and communication skills.
- . Occupational Therapy: This is used to help reduce sensory issues in children with autism.
- Medical Treatment: There is currently no drug that addresses autism as a whole. There are certain drugs that are used to take reduce aggressive behaviour and hyperactivity
- •:• Dietary interventions: In some cases of autism that are believed to be caused due to deficiency of certain enzymes to digest milk(casein) and wheat(gluten) the child is put on a gluten (wheat) free, casein (milk) free (GFCF) diet. ¹⁰

•:• Stumbling blocks in the treatments for Developmental disorders: Educational Interventions maybe be helpful in slow learners, children with mental retardation and in children with specific learning difficulties. In the case of children who are hyperactive or have behvioural issues or with attention deficits, this has to be first addressed before learning can happen. That is not to say that educational interventions do not help but the process becomes tedious and long drawn out. In the case of speech therapy, the child has to have some level of speech before it can be improved upon with therapy.

The disadvantage in the case of behaviour therapy is that the focus is on changing or eliminating undesirable behaviour rather than in encouraging or increasing positive behaviour. This is helpful if the behaviour is due to a habit or it is indulged in by the child as an attention seeking tool. In most of the cases certain behaviours like rocking and hand flapping are indulged in to release internal tension. Temper tantrums could be due to pent up feelings and frustration in the child due to an inability to communicate or do certain tasks. Drugs may not a good choice because of side effects and the problems it could cause in the long run. Dietary interventions are very difficult to follow as the children are better only as long as they are on the diet and there is a regression once they are back on a normal diet.

••• Music Therapy for Developmental Disorders in the West : In the western world, music therapy was introduced as a formal discipline in the mid-1940s when the Michigan state university introduced an undergraduate course in music therapy. There have been a number of research studies on the effectiveness of music therapy for developmental disorders. Alfred A. Tomatis, an ENT Surgeon in the 1950s was known to have conducted a number of experiments into the therapeutic effects of music and had found good results in children with developmental disorders. He developed a method known as Audio-Psycho Phonology which is also known as the Tomatis method.

According to research studies Mozart's Symphony No. 9 is supposed to increase learning by five times and the Concerto No. 23 is capable of changing brainwave patterns that can be helpful in

epilepsy and even in patients who are in a coma. In a study by Kim J. et al (2008) on the effects of music therapy in improving attention in preschool children with autism, it was found that music therapy helped improve joint attention and non-verbal social communication in these children. Music therapy was also found to be more effective when compared with play sessions. In another review study by Wan C.Y. et al (2010), the neural pathways, aberrant connectivity in autism and the potential of music based interventions are explored

•• Music Therapy for Developmental Disorders in India : Although Indian music has been around for longer than western classical music it is only after research studies in the western world on music therapy for different disorders that use of Indian classical and other forms of music has become prominent. It is only recently that research studies have been published with scientific studies on the benefits of RaagaChikitsa. The use of music as a therapeutic and healing modality is very ancient. Indian classical music has been around for thousands of years.

It was always considered that listening to classical music and especially certain specific ragas during pregnancy would help in the growth and development of the baby, including brain development. This was proved to have a scientific basis through a number of recent research studies in the western world. Although our ancient rishis and ancestors were not able to give exact explanations as to the mechanism of action of music or how it could prove useful, they were intuitive enough to know and understand that music therapy has beneficial effects.

They were also able to come up with the raaga system that has proved to have specific effects on different disorders through recently conducted research studies.

Indian classical music therapy has been used in children with special needs especially autism in special schools in India with beneficial effects but they remain under reported.

There is also a school in Bangalore that provides exclusive music therapy in Indian classical music for children with autism. In a study by B.Mukherjee (2015) it was found that there was improvement communication and interaction skills of children with autism during the music therapy sessions with the therapist.

-: Effects of Listening to Music on the Brain : Music therapy has shown to be beneficial in improving brain connectivity and restoring normalcy in a number of areas in children with development disorders and also in adults with brain damage. In this scenario if music is introduced at an early age in normal children, it may help act as an early intervention tool by strengthening neural connections and also repairing any damage before it becomes irreversible.

Research studies have shown that listening to music or music therapy activates certain specific areas in the brain. Previously it was believed that the therapeutic effects of music were due to the enjoyment factor while listening to music and that it works by stimulating the pleasure centers in the brain leading to the release of the feel good hormone the endorphins. Although this is also true, it has

been possible through modern investigative methods such as PET (Positron Emission Tomography) scan and functional MRIs (Magnetic Resonance Imaging) of the brain to track what exactly happens when a person listens to music. It was found that apart from the transverse and superior temporal gyri which is the primary auditory processing, the prefrontal cortex and superior temporal gyrus and the precuneus of the parietal lobe, are also activated. The prefrontal gyrus, superior temporal gyrus and the precuneus of the parietal lobe are involved in some aspects of musical discrimination such as the pitch, melody, meter, timbre and rhythm. Rhythm and pitch discrimination are processed mainly in the left hemisphere whereas timbre and melody are found chiefly in the right. The above mentioned areas are also used by the brain for spatial reasoning and long term exposure to music has shown to improve reasoning ability in children. There was also an improvement in the EEG patterns that helped to reduce epileptic activity in the brain. It has been seen that most children show some kind of response and calmness when certain kinds of music are played to them. It has also been noticed that different children respond to different kinds of music.

. Discussion and Conclusion : Music therapy is supposed to be most effective when there is brain wave synchronization with the sound waves that are introduced in the form of music. Indian classical music seems to have features that help brain wave synchronization. Music activates specific regions of the brain that are related to spatial temporal reasoning, communication and many other such areas of the brain. Music both passive listening and active learning can help release the energy blocks in the system. Although music is a common factor of every aspect of life in India and has been used to relieve stress and for enjoyment, documented research studies on Indian classical music are difficult to find. It was also found that most of the research on developmental disorders both in Indian classical and western music were on autism. This may be so because autism has been on the increase in recent times when compared to other developmental disorders both in Western countries and India. Also there is no known cure for autism in conventional medicine. Research has been going on in homeopathy and complementary therapies for autism. Further research needs to be done in this area to definitely establish the usefulness of Indian Classical music in both enhancing brain development in neurotypical children and also in helping children with developmental disorders. From these discussions it can be concluded that music can be a very useful and effective tool in helping neurodevelopment in early childhood. It can also help in combating the epidemic of autism and other developmental disorders that we are deluged with in the present time.

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The Beginning of Wisdom is the Practice of MindfulAnalytic Reasoning: Hermeneutic Analysis of Sankhya Yoga in the Light of Psychotherapy

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"The beginning of wisdom is found in doubting; by doubting we come to the question, and by seeking we may come upon the truth." Pierre Abelard, medieval French scholastic philosopher, theologian and preeminent logician

•:• Introduction : Wisdom has recently been considered as a valid concept of scientific investigation. Wisdom is often associated with maturity and age. Wisdom is a multi-dimensional construct with cognitive, emotional, social and spiritual components. Wisdom is often associated with philosophy. Philosophy encompasses the use of logic and analyticreasoning. Wisdom leads to insight. In therapeutic terms this could be conceptualized as an extension of psychotherapy in its broadest definition. Mindfulness is a recent concept, derived from the philosophical and spiritual wisdom traditions of India, gaining grounds in modern psychotherapy.

Sankhya Yoga forms the second chapter of the Bhagavad Gita, the Sanskrit scripture which ispart of the great Indian epic, the Mahabharata. The Bhagavad Gita is considered as one of the classical texts of Yoga and its philosophy and practice. The Sankhya philosophical tradition forms one of the six such traditions of Indian philosophy calledSankhyaDarshana seen as leading to emancipation. Sankhya Yoga, has been interpreted variously as knowledge, logical analysis, analytical reasoning, wisdom, etc. For the present purpose it is translated as the practice of Mindful Analytic Reasoning. ••• Objectives : The objective of this study is to use the qualitative analytical technique of hermeneutics applied to the Sankhya Yoga part of the Bhagavad Gitausing the modern concept of psychotherapy as a preliminary groundworktowards wisdom and explore its potential utility as a therapeutic foundation

technique of wisdom as psychotherapy.

-: Design and Method : Hermeneutics is the study of interpretation and meaning. It is derived from philosophy of science. It is a qualitative research analytical method well suited for the study of ancient literature. This method is used to explore and interpret the Sankhya Yoga as a preliminary foundation towards wisdom in psychotherapy.

•:• **Results** : The exploration reveals modern conceptualization of wisdom and its multidimensional components were as relevant and present in the content of these ancient scriptural aphorisms. The pragmatic nature of the propositions become apparent: Mindful Awareness, Duty without Desire and

Achieving Equanimity. The potential therapeutic nature of the study of the text and experiential application for personal transformation can be demonstrated. Further it is proposed that Sankhya Yoga can form the basis for modelling a foundational wisdom method of psychotherapy.

-:- Conclusion : Wisdom can be a modern therapeutic construct and a valid therapeutic concept much valued in the ancient traditions. The Sankhya Yoga, conceptualized as Mindful Analytic Reasoning, described in the second chapter of the Bhagavad Gita, a classical manual of Yoga and a revered scripture, can be understood as a pragmatic application of a traditional wisdom practice and as a potential preliminary intervention technique in wisdom based psychotherapy.

•:• Key Words : Wisdom, Psychotherapy, Bhagavad Gita, Sankhya Yoga, Mindful Analytic Reasoning •:• Introduction : The concept of wisdom is very ancient. Throughout civilization we encounter in history the reverential place wisdom has occupied. It is seen as a most desirable precious quality or aspect of an individual to be endowed with. A person possessing wisdom or a 'wise man' has always been considered as one worthy of great respect and an asset to the community and society. Wisdom is seen as a sign of great maturity. Even today, in many cultures, people with difficulties or conflicts, that they have not been able to resolve, approach their wise elders. Wisdom is often associated with philosophy and spirituality. Philosophers are considered to be wise people and likewise a spiritual person is also seen as being wise.

In the Indian culture, we see the importance of wisdom in many everyday practices. Elders and teachers are assumed to be possessed of wisdom. Therefore the younger members are expected to treat them with great respect and show this through their actions and gestures. Prostrating, touching the feet and giving them priority and importance and serving them are customary and traditional practices. By doing so the younger generation are seen to be doing good karma and also benefitted through the elders' wisdom and blessings. In fact, in the ancient Vedic tradition, the wise, which included one's parents, teachers and guests, were considered equivalent to the Gods. We also see that the notion of wisdom is also prevalent in all the major religious traditions of the world as referred to in their scriptures and ancient traditional practices.

•: Science of Wisdom : The scientific study of wisdom is a recent concept. Wisdom is gaining increasing attention from neuroscientists and clinicians as a useful concept for understanding and its potential for therapeutic applications. Eric Erickson was a pioneer among modern psychologists to introduce wisdom as part of his personality development theory where wisdom is seen as a trait of successful matured personality in later life. Baltesand colleagues are among the modern scientists to study wisdom extensively. They conclude wisdom as the pinnacle of all achievements of a human being. Wisdom is conceived as "expertise in the pragmatics of life serving the good of oneself and others." In Sternberg's balance theory of wisdom, the basis of wisdom is a high level of common sense or practical intelligence. In the modern scientific theories of wisdom, the core paradigm of

wisdom is the acknowledgement of uncertainty and adaptability. As per the modern scientific theories, wisdom is a multidimensional complex of human traits with several components. Those components seen to be commonly occurring are: (1) rich life knowledge (2) good emotional regulation (3) being insightful (4) good social decision making ability (5) contributing to the common good (6) tolerance towards different values (7) openness to ideas (8) decisiveness (9) refined humour and (10) spirituality.A wise person is seen as one who not only thinks but also acts wisely.

•• Wisdom as Therapy : Health care and well-being are the areas of human endeavour where therapy is seen to have a role. Modern concept of health and well-being are multidimensional with not only physical but also psychological, social, environmental and spiritual wellness. There are several well established therapies with good evidence base for psychosomatic and mental health conditions. Cognitive Behaviour Therapy (CBT) is one such psychotherapy. More recently, Mindfulness, a concept taken from Eastern philosophical and spiritual traditions, has been integrated with modern psychotherapy, especially with CBT. There is now established and growing evidence of the effectiveness of such techniques in the management of several chronic physical and psychological conditions. Broadly, psychotherapy facilitates improved awareness, emotional regulation, insight and improved problem solving skills. Some of the components of wisdom can be seen as being in common with the therapeutic outcomes of psychotherapy. Therefore it would be reasonable to conceptualize wisdom as a framework for healing and help lay a foundation for understanding and creating models of recovery, preventive health and well-being.

• Wisdom of the Bhagavad Gita : The Bhagavad Gita forms part of the great Indian epic-the Mahabharata authored by the sage, Maharishi Veda Vyasa. Often referred to as 'the Gita', it is considered as a holy scripture in the Hindu religion. It is also considered as a synopsis of the extensive and rich cultural and philosophical tradition and spiritual Vedic heritage of India which is continuing from the ancient Vedic times. The backdrop of the Gita is a battlefield. Here Arjuna, a great and noble warrior is ready to fight, along with his brothers, againsthis greedy and cruel cousins who have taken over the kingdom by deception and ruling over ittyrannically. Krishna, who is considered an avatar of God, plays the role of Arjuna's charioteer and who is also his good friend, philosopher and guide throughout. Seeing his own family and friends in the battlefield ready to fight a bloody and harsh war, Arjuna becomes greatly distressed, overwhelmed, disillusioned, full of doubt and depressed. Then, with great compassion and benevolence, Krishna expounds the Gita, which empowers and restores self-confidence to Arjuna. Arjuna then fights bravely and valiantly and conquers his enemies winning the battle and thus restoring justice and peace in the kingdom. The dialogue between Krishna and Arjuna is presented as a narration by Sanjaya, a wise counsellor, to the blind king Dritharashtra, father of the aggressing cousins.

Several indigenous and Western Indic scholars have emphasized the secular nature and universal applicability of the tenets of the Bhagavad Gita. Further, several scholars have highlighted the meaningfulness of the concepts expounded in the Gita to modern living and their relevance in different cultural settings. Several ideas of the Gita have similarities with the modern concepts of wisdom. Similarities as observed through quantitative and qualitative analysis include the enriching of life knowledge, emotional self-regulation, decisiveness, insight, humility, compassion, sacrifice, action for social good and spirituality. The aspects that are different and possibly have a more cultural context are complete faith in and surrender to God, doing action as a duty and responsibility without expectation of results, self-effort and self-contentedness as desirable qualities. Further, the emphasis is on Yoga or integration for holistic living and achieving the ultimate liberation from the desire-ridden material world and communion with the universal or God consciousness.

-: Analytic Reasoning and Affective Mood States : The ability to reason is what distinguishes man from the rest of the animal kingdom. Reasoning is the highest level of thinking capacity. There are generally, two types of reasoning: One is the instantaneous, instinctive, associative and effortless type of reasoning. This is protective and essential for survival and is operational during crisis and threats. This is a fight-flight response and a function of lower neurophysiological processes. The second type is the slow, intuitive, deliberate, effortful and analytic type of reasoning. This takes into account knowledge and experience and a weighing of alternatives before a decision is made. This is called salience of decision making and is a function of higher cortical processing in terms of neurophysiology and psychology. Even this second type, though it may seem a better form of reasoning may still be coloured by one's feelings or emotional state. Hence the outcome can be determined by the prevailing mood. It is not essential that a positive mood state may produce a more positive decision and vice versa. There are times when a better decision is made in a negative mood state. This has been demonstrated through psychological experiments as well. We see this in the creative expression of artists and musicians who have excelled at times of adversity and dejection in their lives. In terms of therapy, when a subject is demonstrating errors under the first type of reasoning, he/she is less likely to be amenable to correction as they are under substantial emotional and cognitive load or pressure. Therapy is more likely to be effective and the subject more amenable to correction when they are accountable and take ownership and responsibility for their decisions. Even here the process can be prolonged and dependent on the pervading affective mood state as this can affect the cognitive analytic reasoning process.

•:• Mindfulness and Mindful Analytic Reasoning in Psychotherapy : In recent times, Mindfulness is a concept that is becoming more and more prevalent in psychotherapy as an effective tool. The concept of mindfulness has its origins in the ancient spiritual and philosophical traditions of India. It has especially gained recognition through Yoga and meditation especially through the Buddhist traditions
that have more appeal to the modern scientific community. Mindfulness-based therapies come out of several robust systematic and randomized controlled research studies from prestigious academic and clinical centres from across the globe. To be mindful is to be aware or attentive or present. It is the moment to moment awareness of the present with a non-judgemental and non-reactive attitude. This increased awareness of sensations, impulses, thoughts and urges gives increased control over them allowing one to choose one thing over another. This is a skill that can be learnt and practiced and developed. Neuroscientific studies on subjects practicing mindfulness based techniques have revealed how neuroplasticity of the brain and the nervous system physiology can be affected in positive ways and sustained over extended time periods. In terms of therapy, such an ability can allow a subject to become more aware of physical and psychological processes and at the same time enhance his/her stamina and resilience to feel more in control and make wise choices whatever their prevailing affective mood state. In this study the attempt is to show how adding the technique of mindfulness to the analytic reasoning process can be a stepping stone to wisdom as described in the Sankhya Yoga of the Bhagavad Gita, defined as Mindful Analytic Reasoning.

•: Sankhya Yoga: the Practice of Mindful Analytic Reasoning : The Gita has 18 chapters. The second chapter, which is also the longest, is called Sankhya Yoga. Sankhya in Sanskrit, literally means related to numbers or counting or logic and analysis. Sankhya Yoga, thus can be seen as an integrative practice of analysis through a logical and meaningfulor reasonedprocess. Sankhya Yoga appears to resonate with a more extensive classical Indian philosophical school called SankhyaDarshana. The best known work of this school is that of an ancient Sanskrit scholar named Ishwara Krishna who attributes the philosophy to a still ancient Sage named Maharishi Kapila. SankhyaDarshana forms part of the six classical Indian philosophical schools. The others are: Yoga Darshana, Nyaya Darshana, VaisheshikaDarshana, MimamsaDarshana and Vedanta Darshana.

The first chapter of the Gita is called ArjunaVishada Yoga wherein is described the faulty logic and distorted reasoning used by Arjuna culminating in a doubtful, dejected and despondent state. So, in the immediate succeeding chapter, we can see how Krishna begins the process of correcting this distorted cognition and negative feeling state through the exposition of the Sankhya Yoga. There is a gentle and compassionate process of correction that unfolds through imparting of knowledge and facilitation of self-awareness, self-understanding and self-management, a process that can be termed Mindful Analytic Reasoning thus laying the foundation for wisdom.

-: Design and Method :Hermeneutics : Hermeneutics is a qualitative research methodology. It is the systematic application of interpretation and deriving meaning. It has its origins in the German philosophical works most notably that of Heidegger and Gadameras applied to the natural sciences. The principles guiding hermeneuticsencompass six dynamic research activities: 1) commitment to an abiding concern; 2) oriented stand toward the research question; 3) investigating the experience

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as it is lived; 4) describing the phenomena (through writing) 5) reframing (rewriting) and 6) consideration of parts and the whole of phenomena (gestalt). The method used is referred to as a hermeneutic circle. This comprises of reading, reflection (or reflective writing)and interpretation. Paradigmis essential for research. When applied to the qualitative research tradition this includes metaphysics, methodology, quality and ethics. In the traditional Indian context, there is aVedic tradition of interpreting important scriptural works through editorial, explanatory and expositional commentary called Bhashya by Vedic teacher-philosophers called Paramacharyas. In this sense too it makes hermeneutics a suitable method for studying the present paradigm.The present study is an attempt using the modern concept of psychotherapy in its broadest sense as an instrument for hermeneutic analysis of the second chapter of the Gita called Sankhya Yoga.

The Bhagavad Gita is an ancient literary and philosophical scripture in the Sanskrit language. Although the author does not claim to have a formal expertise in neither ancient Indian philosophy nor the Sanskrit language, he has some knowledge of both, by way of being a hereditary student and practitioner of Yoga and the Vedic tradition. Reliable translations and Sanskrit dictionaries have been consulted.

-: Psychotherapeutic Hermeneutics of Sankhya Yoga and the Beginning of Wisdom : In Sankhya Yoga, Sanjaya, who is providing a running commentary of the happenings on the battlefield to Dhritarashtra, thus narrates:Krishna, also known as the destroyer of delusion, having listened fully to Arjuna and seeing that he was tearful with his eyes lowered and recognizing that he was overwhelmed with sorrow and self-pity, spoke to him with compassion.

He begins by encouraging Arjuna to pause and attend to the origins of his misery. He poseshim the question, from where upon had arisen this dejection, perilousness and crisis, when clearly it was against the nature of nobleness, goodness and honour that were his identity. He encourages him not to yield and become disempowered as it was against his nature. Addressing him as one capable of great effort he advices him to give up negative self-perception of worthlessness and self-assumption of faint-heartedness and to bring greaterself-awareness into his being. In other words, Krishna gently encourages Arjuna to become mindful of himself and his situation without judging and reacting.

Arjuna, continuing with his doubt, asks Krishna, how he could get himself to fire missiles against his own granduncle, Bhishma, and his revered teacher, Drona (who were fighting on the side of the cousins), who were in fact so great that they were worthy of worship. He considers that it would be far better to live by begging than to slay such great masters and think that he could live happily, as such a living would be tainted and guilt ridden. If in the battle he were to slay all his cousins, he doubts what would be better, conquering or being conquered as then he wold not care to live. But in the midst of this doubt, he admits that his nature was burdened by disempowerment which had confused his understanding. He now places his trust in Krishna to guide him as a teacher for he was unable to find

any remedy for his despair which was so overpowering that nothing would matter even if he were to be the unrivalled and the richest ruler of earth and beyond. Thus he surrenders completely to his plight with the resolve not to fight.

Krishna with a smile now gently encourages Arjuna to become mindful of how he was thinking.He begins by proposing that Arjuna had made conclusions about events that had not yet happened and he was grieving for those who perhaps did not deserve it but yet he appeared to speak as if out of wisdom.

Krishna continues that the truly wise should grieve neither for the living nor for the dead. With this, is introduced the bold concept of the indestructible nature of the spirit or vital force or vital energy within all sentient beings. It is neither created nor destroyed. In the cycle of continuity called samsara where the will and volition to exist and continue is that force or energy or spirit that is constant in the universe and so in this sense none was non-existent and none would cease to exist in the future. The spirit went through childhood, adulthood and old age and then passed on to another state. This appears to be similar to the law of conservation energy – energy can neither be created nor destroyed; rather, it transforms from one form to another. A deepmeditation on this and understanding would make one peaceful.

Perceptions are created when the senses come in contact with the objects in the universe. Further these create feelings and so aversions and pains, and desiresand pleasures. These are not permanent as they come and go. One can learn to not be affected by them by cultivating patience by observing them without coming under their sway in a reactive way - mindfully. These cease to torment a person who is balanced and steadfast through practice and is fit to attain wisdom. Perceptions can be misleading and not objectively real or existent. That is real which is indestructible – the spirit, as realized through wisdom.

Recognizing the indestructible nature of the spirit is emphasised in different ways as the beginning of wisdom. The next emphasis is on duty. Duty was to uphold goodness or righteousness or ethics and values of living. Hence engaging in actionswhich were ones duties i.e. responsible actions, would free one of legitimate guilt. Cultivation of this awareness or this self-knowledge would help one to overcome life's hurdles.

Krishna then motivates Arjuna by saying that the proof of this was in the practice. It would not be a wasteful exercise as there was no adverse effect and engaging even in a little practice would begin to show by reducing negativity. Becoming reactive to desires and aversions would be deceiving oneself and others by creating unreal goals and clinging to pleasures and power which only lead to misery in the end. The mind would then become unstable and one would be robbed of their discriminating ability.

By observation and self-awareness, by becoming more and more mindful, remaining balanced and being centred in the self (as opposed to being self-centred) the door to wisdomwould be opened. One's rights and claimsare on one's actions in the form of duties alone, and never on their results. Duty was to be performed therefore for duty's sake not in the expectation of a specific result. In doing so, one should be careful not to associate with inaction. Performing duties with an even mind being steadfast and balanced without anticipation of success or failure one gained equilibrium leading to equanimity. In equanimity one was able to perform actions that would be deemed to be wise. Inferior were actions which had specific motives as they were unstable pushing the performer into desperation. In equanimity one rose above not only bad deeds but also the so called good deeds, and actions became efficient and creative. Performing duty devoid of motives and the mind in equanimity would lead one to wisdom that could further lead to true freedom and towards a pure state of consciousness. When understanding transcendeddistortions of thinking one became unperturbed to perceptions of past, present and future. When the intellect attained equipoise in the wake of conflicting opinions one was in a ready state for wisdom.

At this juncture, Arjunabecame composed and attentive. He asked Krishna, how would one know that a person wsestablished in wisdom and how would one recognize such a person? Krishna then goes on to describe the characteristics of a wise person. A wise person was contented and self-sufficient. A personwhose mind had attained steady wisdom was not perturbed by adversity. The mind was not swayed by extremes of feelings, either negative like fear and anger or positive like happiness and fondness. The mind would be neither too excited at receiving so called good things nor too dejected at experiencing trauma. The wise person would be in control and not swayed by sensations aroused by objects or events outside. The senses were so powerful that they could easily lead astray even the mind of a wise person. When intuitively the wise had gained the full knowledge of the self then the senses remained in full control.

Man developed unhealthy attachments to sense objects by habituation. Through this unhealthy desires and cravings arose. When the cravings were not satisfied this led to dissatisfaction giving rise to anger. Misdirected anger deluded the mind and confused the memory which then led to ruin of reason. Ruin of reason was the harbinger of a self-destructive cycle.

By the practice of reasoned logical analysis as expounded, with disciplined practice one could manoeuvre the senses and regain tranquillity becoming free from aversions and attractions. The tranquillity so achieved destroyed suffering as the tranquil mind got anchored to equilibrium. When the mind became fickle and swayed by the senses, going after sense objects that mind was said to be not meditative and wisdom could not be established in such a mind. The roving senses carried away discrimination. Hence one had to practice restraint through reasoned logical analysis. The power of discrimination was high in a wise person. Such a person would be able to see through deceptions.

What would be light to the wise may be dark to others and what the wise perceived as dark the others may falsely mistake for light.

The one well established in wisdom attained peace as all sensations entered him/her just as rivers entered the ocean that ever remained full and stable. Attaining such a state of superconsciousness there was no scope for bewilderment. In such a peaceful state one would be in communion or in oneness with the universal consciousness or ultimate reality.

Thus, with this chapter the foundation is laid for Arjuna to become composed and become more discriminating – the beginning of wisdom. Through mindful analysis with logic and reason he is helped to think with increased clarity and he finds himself emboldened and able to ask further questions. The succeeding chapters of the Bhagavad Gita explores further questions and concepts that ultimately lead to the emancipation of Arjuna. He then emerges empowered and self-confident, resuming to face his enemies on the battlefield with renewed vigour and vitality.

This hermeneutic exercise itself had been personally therapeutic to the author as it appealed to both a scientific and objective mind of a professional and also at the feeling level by empathizing with the plight of Arjuna, a common encounter in clinical practice. The discourse from Krishna appealed directly to the conscience and was motivating and inspiring. It did not conflict with any of the modern tenets of psychology, neuroscience and medicine and for that matter any creed of theology.

-: Conclusion: There is a popular saying in therapy, "Pain is inevitable; suffering is optional". With the acceptance of the inevitable comes understanding. With increasing understanding we are in a better position to manage ourselves in spite of the adverse situation we may find ourselves in. Understanding is the beginning of wisdom. Understanding is a process that resonates with outcomes of psychotherapy. Mindfulness is a concept recently becoming more prevalent in psychotherapy that has its origins in the ancient traditions of India. The Bhagavad Gita is an ancient Sanskrit scripture of India revered as a practical manual for wise living. It has universal appeal and many of the concepts have parallels with modern scientific thinking. The scientific basis of wisdom as a concept in psychotherapy has potential practical relevance in clinical practice. The concept of wisdom is well established in the Gita. Sankhya Yoga, the second chapter of the Gita can be conceptualized as Mindful Analytic Reasoning, a practice that can lay the foundation for wisdom. Hermeneutic analysis of the Sankhya Yoga in the light of modern psychotherapeutic understanding especially Cognitive Behaviour Therapy and Mindfulnessbased Therapy has been attempted to demonstrate the potential for use in therapeutic interventions for a broad range of conditions where suffering is a common factor. Although certain concepts may be seen as culturally oriented to Eastern traditional thinking, it has a broad and universal appeal and hence would be applicable with appropriate modifications and qualifications in a wider multi-cultural clinical setting. Future research could focus on empirical study of the methods proposed in a larger clinical setting. Further exploration and research in wisdom as therapy and particularly the Bhagavad

Gita can be a worthwhile endeavour and enrich the understanding of human nature and also provide a therapeutic approach for preventive and transformative health, promotion of well-being and peace. ••• Declaration: I declare that this is my original work and I am the sole author. There is no conflict of

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कृषि विकास एवम् पर्यावरण : हरियाणा के सन्दर्भ में एक विशेष अध्ययन

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सार :-- वर्तमान समय में आर्थिक विकास के साथ बढ़ रही पर्यावरणीय समस्याओं ने अर्थशास्त्रियों का ध्यान अपनी ओर आकर्षित किया है। 1987 की ब्रुडलैण्ड रिपोर्ट के बाद से धारणीय विकास की धारणा प्रसिद्ध होती जा रही है। इस रिपोर्ट के बाद से हमारी आर्थिक गतिविधियों के पर्यावरण पर पड़ने वाले प्रभावों पर ध्यान देना शुरू कर दिया गया है।हरियाणा राज्य ने कृषि क्षेत्र के विकास में अद्भूत सफलता प्राप्त की है। वर्तमान अध्ययन में हम हरियाणा के कृषि विकास का पर्यावरण पर पड़ने वाले प्रभावों का अध्ययन करेगें और देखते है कि कृषि विकास एवम् पर्यावरण के बीच संबंध पर्यावरण कुजनेटस वक्र से मेल खाते हैं या नही। हरियाणा के कृषि विकास का अध्ययन करने पर हम इस निष्कर्ष पर पहुंचे है कि अभी तक राज्य के कृषि विकास के सन्दर्भ में पर्यावरण कुजनेटय वक्र के प्रारम्भिक चरण लागू होता प्रतीत होता है। अभी तक अनुवर्ती चरण में जाने के लिए काफी प्रत्यत्न करने होंगे।

मुख्य शब्दः—कृषि विकास, धारणीय विकास, पर्यावरण कुजेनटस वक्र, पर्यावरणीय सेवाएं, प्राकृतिक संसाधन। परिचयः पर्यावरण व अर्थव्यवस्था का दो तरफा संयोजन है। जहां एक तरफ पर्यावरण अर्थव्यवस्था का प्रभावित करता है वहीं दूसरी ओर पर्यावरण अर्थव्यवस्था से प्रभावित भी होता है। पर्यावरण व अर्थव्यवस्था के इस संयोजन को हम नीचे दिए गए प्रवाह चित्र द्वारा समझ सकते हैं।

पर्यावरण व अर्थ व्यवस्था सयोंजन



पर्यावरण अर्थव्यवस्था को तीन तरह की सेवाएं देता है। पर्यावरण प्राकष्तिक संसाधनों का स्टॉक, पर्यावरणीय सेवाएं जैसे ऑक्सीजन, ओजोन सतह आदि और व्यर्थ पदार्थ को स्वीकार करके उनकी पुनः चक्रण प्रक्रिया को करता है। प्राकृतिक संसाधनों के स्टॉक का प्रयोग उत्पादन क्षेत्र करता है और पर्यावरणीय सेवाओं का प्रयोग दोनों क्षेत्रों द्वारा किया जाता है। दोनों ही क्षेत्र अपने व्यर्थ पदार्थों को पर्यावरण में फेंकते है। अतः पर्यावरण अपने संरक्षण के लिए अर्थव्यवस्था पर निर्भर रहता है।

पर्यावरण व आर्थिक विकास में संबंध : पर्यावरण कुजनेटस वक्र पर्यावरण व आर्थिक विकास में संबंध दर्शाने के लिए प्रयोग किया जाता है। यह वक्र दर्शाता है कि प्रारम्भ में आर्थिक विकास के साथ—साथ पर्यावरण की गुणवता में गिरावट बढ़ती जाती है परन्तु एक सीमा के पश्चात आर्थिक विकास के साथ पर्यावरण की गुणवता में सुधार होना शुरू हो जाता है। आर्थिक विकास के एक स्तर पर पहुंचने के बाद पर्यावरण संरक्षण के लिए अधिक साधन उपलब्ध हो सकते है और लोगों में पर्यावरण संरक्षण के प्रति जागरूकता उत्पन्न हो जाती है। आर्थिक विकास व पर्यावरण गिरावट में उल्टे U आकार का संबंध दिखाया गया है जबकि आर्थिक विकास व पर्यावरण गुणवता में U आकार का संबंध है, जैसा कि चित्रों में दिखाया गया है।



चित्र 3

वर्तमान अध्ययन में हम इस तरह के संबंध का अवलोकन कृषि विकास व पर्यावरण के बीच करते है। क्रियाविधि : वर्तमान अध्ययन द्वितीयक आंकड़ों व सामान्य अवलोकनो पर आधारित है। इसमें साधारण गणितीय व सांख्यिकीय यन्त्रों जैसे तालिका, अनुपात, प्रतिशत, आदि का प्रयोग किया गया है।

कृषि विकास : कृषि राज्य अर्थव्यवस्था का प्राथमिक क्षेत्र है और अधिकतर जनसंख्या प्रत्यक्ष या परोक्ष रूप से कृषि एवं सहबद्ध क्षेत्रों पर निर्भर करती है। राज्य में कृषि क्षेत्र को अधिक तवज्जों दी जा रही है। राज्य में मजबूत आधारभूत सुविधाएं जैसे पक्की सड़के ग्रामीण विद्युतीकरण, नहरों का जाल, मण्डियों का विकास इत्यादि के साथ—साथ कृषि अनुसंधान के समर्थन और कृषि अभ्यास से संबंधित सूचनाओं को किसानों तक पहुंचाने वाले उच्च स्तरीय नेटवर्क के कारण अच्छे परिणाम मिले है। भोजन की कमी वाला राज्य खाद्य अधिशेष राज्य में परिवर्तित हो गया। अनाज

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खाद्यान्न के योगदान में राज्य ने केन्द्रीय पूल में दूसरा सर्वोत्तम स्थान प्राप्त किया है और कृषि क्षेत्र की 1.4 प्रतिशत वृद्धि दर के बावजूद केन्द्रीय पूल में अनाज खाद्यान्न में 15.6 प्रतिशत योगदान दिया।

तालिका :1

हरियाणा में कृषि व सहबद्ध क्षेत्रों की विकास दर

वर्ष	वर्षद्ध दर (%)
2008—09	7.3
2009—10	-1.3
2010—11	6.1
2011—12	5.1
2012—13	-2.0
2013—14	3.1
2014—15	-0.7
2015—16	1.4

स्त्रोतः हरियाणा आर्थिक सर्वेक्षण 2014–15, 2015–16

तालिका 1 से स्पष्ट होता है कि हरियाणा में कृषि व सहबद्ध क्षेत्रों की विकास दर 2009–10, 12–13 व 14–15 को छोड़कर धनात्मक रही है। वर्ष 2008–09, 2010–11 व 2011–12 में विकास दर काफी अधिक रही है। कृषि व सहबद्ध क्षेत्रों में विकास दर में उतार–चढ़ाव देखने को मिल रहे है जो अभी भी कृषि व सहबद्ध क्षेत्रों में विकास की अस्थिरता का प्रतीक है। तालिका :2

कृषि सूचकांक

(आधारः त्रैवर्षान्त 2007–08=100

वर्ष	फसल अधीन क्षेत्र	औसत उपज	कृषि उपज सूचकांक
	सूचकांक	सूचकांक	
2007—08	100.10	104.78	104.88
2008-09	100.70	107.42	108.18
2009—10	101.46	104.06	105.57
2010—11	101.45	107.55	109.10
2011-12	104.83	116.25	121.86
2012-13	104.81	108.09	113.29
2013-14	105.51	109.61	115.65

तालिका 2 से स्पष्ट होता है कि हरियाणा के फसल अधीन क्षेत्र सूचकांक में 5.51 प्रतिशत की वृद्धि दर्ज की गई है, औसत ऊपज सूचकांक में भी 9.61 प्रतिशत की वृद्धि दर्ज की गई है और कृषि उपज सूचकांक में भी आधार वर्ष की तुलना में 15.65 प्रतिशत की वर्षद्ध दर्ज की गई। कृषि उपज सूचकांक वृद्धि में फसल अधीन क्षेत्रों में वृद्धि व औसत उत्पादकता में वृद्धि का योगदान रहा है। तीनों सूचकांको का निरन्तर बढ़ना कृषि विकास का प्रतीक है।

तालिका 3

वर्ष	र्षे	चावल	कपास (००० गांठो)
2007—08	10232	3606	1882
2008-09	11360	3299	1862
2009—10	10488	3628	1918
2010—11	11630	3472	1744
2011-12	11861	3459	2621
2012—13	11117	3941	2378
2013-14	11800	4041	2025

मुख्य फसलों का उत्पादन हरियाणा में (000 टन में)

स्त्रोतः सांख्यिकीय सार हरियाणा 2012–13 से 2014–15

तालिका 3 दर्शाती है कि गेहूं के उत्पादन में 2007–08 की तुलना में 2013–14 में 15.32 प्रतिशत की वृद्धि हुई है। चावल के उत्पादन में 2007–08 की तुलना में 2013–14 में 12.06 प्रतिशत की वृद्धि दर्ज हुई है। कपास के उत्पान में भी 2007–08 की तुलना में 2013–14 में 7.60 प्रतिशत की वृद्धि हई है। मुख्य फसलों के उत्पादन में वृद्धि कृषि

तालिका 4 हरियाणा में फसल अधीन क्षेत्र

विकास का संकेत है।

(000 हैक्टेयर में)

वर्ष	चावल	्र व ्	दालें	बाजरा
2013-14	1244.6	2499.1	105.3	403.6
2014—15	1287	2601	86.6	383

स्त्रोतः सांख्यिकीय सार हरियाणा, 2014–15

तालिका ४ हरियाणा में विभिन्न फसलों के अन्तर्गत आने वाले क्षेत्र की संरचना में महत्वपूर्ण परिवर्तन दर्शा रही है। चावल के अन्तर्गत क्षेत्र में 2013–14 की तुलना में 2014–15 में 3.40 प्रतिशत की वर्षद्ध दर्ज की गई है। गेंहूँ के अन्तर्गत क्षेत्र में 4.07 प्रतिशत की वृद्धि दर्ज की गई है जबकि दालों के अन्तर्गत क्षेत्र में 17.75 प्रतिशत की कमी और बाजरे के अन्तर्गत क्षेत्र में 5.1 प्रतिशत की कमी दर्ज की गई है ये इस बात का संकेत है कि हरियाणा में किसान गैर पर्यावरण अनुकूल फसलों की तरफ आकर्षित हो रहे है।

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तालिका 5 हरियाणा में रसायनिक उर्वरकों, कीटनाशकों का प्रयोग, ट्रैक्टरों व टयूबैलों की संख्या।

वर्ष	उर्वरक	टयूबैल	की ट्रैक्टरों	की कीटनाशक (टन
	(टन में)	संख्या	संख्या	में)
2000—01	939295	589473	209613	5025
2003—06	1128677	618023	246914	4650
2010-11	1357622	752357	262236	4060
2012—13	1353061	752357	270230	4050
2013—14	1164671	772316	271729	4080
2014—15	1303903	877151	278098	4070

स्त्रोतः सांख्यिकीय सांराश हरियाणा 2014–15

तालिका 5 स्पष्ट करती है कि वर्ष 2000–01 की तुलना में वर्ष 2014–15 में उर्वरक के उपयोग में 40.16 प्रतिशत की वृद्धि, ट्यूबैलों की संख्या में भी 49.64 प्रतिशत की वृद्धि, ट्रैक्टरों की संख्या में 32.67 प्रतिशत की वृद्धि और कीटनाशकों के प्रयोग में 19 प्रतिशत की कमी दर्ज की गई है। उर्वरकों व ट्रैक्टरों के प्रयोग में वृद्धि पर्यावरण अबनति का कारण है। ट्यूबैलों में अत्यधिक वृद्धि भूमिगत जल के अत्यधिक दोहन का प्रतीक है। कीटनाशकों के प्रयोग में कमी शुभ संकेत है परन्तु अभी भी इनका प्रयोग बहुत अधिक है।

पर्यावरण पर दबाव : कृषि का पर्यावरण पर दबाव कृषि उत्पादन को बढ़ाने के लिए हुए पर्यत्नों से उत्पन्न हुआ है। हमने कृषि विकास की दौड़ में यह भुला दिया कि पर्यावरण आवश्यकता है न कि विलासिता। कृषि विकास के पर्यावरण पर पड़ने वाले प्रभावों की तरफ विकास प्रक्रिया में कोई ध्यान नहीं दिया गया।

- कृषि उत्पादन की बढ़ती हुई मांग को पुरा करने के लिए रसायनिक उर्वरकों, कीटनाशकों, उच्च उत्पादकता बीजों और कृषि आधुनिकीकरण के उपयोग को बढावा दिया गया। किसानों का झुकाव मुख्यतः नाइट्रोजन के प्रयोग की ओर रहा जो नाईट्रेट ऑक्साईड का मुख्य स्त्रोत है। इनके प्रयोग ने अनेक पर्यावरणीय समस्याओं को जन्म दिया है। वर्तमान कृषि विकास की प्रक्रिया ग्रीन हाऊस गैसों के उत्सर्जन का कारण बनी है। मिट्टी, कीटनाशकों व उर्वरकों के लिए सिंक बन रही है।
- कृषि विकास की आवश्यकता ने सिचांई सुविधाओं के लिए मांग को बढ़ा दिया। सिंचाई के लिए धरातल के जल के साथ—साथ भूमिगत जल काउपयोग भी बढ़ गया। राज्य में बढ़ते हुए ट्यूबैलों की संख्या इस बात की ओर संकेत करती है कि भूमिगत जल का अत्यधिक शोषण हो रहा है। भूमिगत जल स्त्रोतों के अत्यधिक शोषण से न केवल इसका स्तर नीचे जा रहा है परन्तु इसकी गुणवता में भी गिरावट आ रही है।
- राज्य में कृषि विकास की प्रक्रिया में भूमि उपयोग प्रणाली में महत्वपूर्ण परिवर्तन हुए है। राज्य में वर्ष में एक से अधिक बार बोये जाने वाले क्षेत्र में निरन्तर वृद्धि हो रही है। जिससे भूमि के ऊपजाऊपन में गिरावट आती है।

हरियाणा में राज्य में फसल पद्धति में भी महत्वपूर्ण परिवर्तन हुए है। इस परिवर्तन में फसल के क्षेत्र विशेष में उपयुक्ता सूचकांक को भी ध्यान में नही रखा गया। किसानों का मुख्य झुकाव चावल, गेंहू व नकदी फसलों जैसे कपास, गन्ना, सब्जियों, फलो आदि तरफ रहा है जबकि दालों, मोटे अनाज की तरफ झुकाव कम हो रहा है। यह परिवर्तन पर्यावरणीय मित्र फसलों से गैर पर्यावरण अनुकूल फसलों की तरफ गया है।

मुषि फसलों के अवशेषों के प्रबन्ध की समस्या भी कृषि विकास के साथ उदय हो रही है। विशेषकर यह समस्या धान के अवशेषों के प्रबन्धन में काफी गम्भीर बनी हुई है। हरियाणा में लगभग 60 लाख टन पराली का उत्पादन होता है। किसान धान की पराली को जलाते है। इनके जलाने से उठा धुआ मानवता के लिये खतरा बन रहा है। माननीय उच्चतम न्यायलय को भी इस मामले में हरियाणा, पंजाब, उत्तर प्रदेश आदि राज्यों को इस प्रदूषण को रोकने के लिए कदम उठाने को कहा गया। हरियाणा सरकार ने धान की पराली जलाने पर प्रतिबन्ध लगा दिया और जलाने पर जूर्माने का भी प्रावधान किया। परन्तु किसानों के पास इसका कोई सस्ता विकल्प न होने

के कारण जुर्माना भरने को भी तैयार हो गए। इस सन्दर्भ में किसानों का सहयोग सरकार को नही मिला। • कृषि के अन्तर्गत बढ़ने हुए क्षेत्र ने जीवों के प्राकृतिक आवासों को खत्म करके और कीटनाशकों के अत्यधिक

प्रयोग ने जैव विविधता को नुकसान पहुंचाया है। कई पक्षियों, जीव जन्तुओं प्रजातियां विलुप्त हो रही है। निष्कर्षः— हरियाणा के कृषि विकास का अध्ययन करने पर हम इस निष्कर्ष पर पहुंचे है कि अभी तक राज्य के कृषि विकास के सन्दर्भ में पर्यावरण कुजनेटस वक्र का प्रारम्भिक चरण लागू होता प्रतीत होता है। अभी तक अनुवर्ती चरण





रेखा चित्रों में बिन्दूकित भाग की ओर गति को बढाने के लिए और अधिक प्रयत्नों की आवश्यकता है।

सुझाव ः

- किसानों को वर्तमान कृषि विकास से उत्पन्न पर्यावरणीय समस्याओं की गम्भीरता को समझाकर उनका सहयोग प्राप्त करने की दिशा में प्रयास करने चाहिए।
- प्रदेश के सभी क्षेत्रों के फसल उपयुक्तता सूचकांक तैयार करके किसानों को उसी अनुसार फसल बोने के लिए आकर्षित करे।

- जैविक खेती को बढ़ावा दिया जाए और उसे लाभकारी बनाया जाए। उत्पादन की बिक्री में आने वाली असममित सूचना की समस्या को हल करने दिशा में कदम उठाए जाए।
- कृषि उत्पादों विशेषकर चावल के अवशेष पराली के प्रबन्धन की उपयुक्त व लाभदायक तकनीक तैयार करने की दिशा प्रयासा करने चाहिए। इससे बायोगैस, बायो कपोस्ट व इथेनोल तैयार करके इस समस्या का समाधान हो सकता है।
- किसानों को परम्परागत फसल चक्र को बदलने के लिए प्रेरित करे।
- जल संसाधन के किफायती उपयोग को सुनिश्चित करने के लिए वर्तमान सिंचाई पद्धतियों को सुक्ष्म सिंचाई पद्धतियों से प्रतिस्थापित किया जाए।

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दोपहर में मौत शोध छात्रा : विमल कुमारी श्री जे.जे.टी. विश्विद्यालय

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24 दिसम्बर के लिए : राघव अर्थात् रघु एवं जनार्दन दो घनिष्ट मित्र होते हैं एवं एक—दूसरे के प्रति सहानुभूति रखने वाले मित्र है। विदेशी मुल्क में रहकर विदेशी लडकी से शादी करने के बाद दो बच्चों के पिता होता है और सम्पूर्ण घर परिवार की जिम्मेदारी का बोझ राघव के ऊपर ही होता है। छोटा भाई माधव एवं अविवाहित बहिन की शादी एवं पिता सभी को सम्भालने का कार्य राघव स्वयं इस कार्य को सम्भालते है।

विदेशों में रहकर अत्यधिक घन कमाने की लालसा प्रत्येक व्यक्ति की हसरत होती है। वहीं राघव काम करता था। लम्बे अर्से से रहने पर विदेशी युवती जेनी से विवाह करने के पश्चात् पिता, छोटे भाई माघव, छोटी बहिन की शादी करने एवं परिवार की जिम्मेदारी तथा देखाभाल की जिम्मेदारी बनती है। विदेश में रहकर खूब रूपया पैसा कमाया एवं अपने एवं परिवार के लिए नया घर एवं अपने गाँव में रूतबा भी कायम किया। विदेश में जेनी से विवाह कर प्रवासी न रहकर स्थायी मूल निवासी होने का प्रमाण भी कायम कर लिया। जेनी भी काम काजी एंव रईस घर से सम्पर्क रखने वाली महिला मानी गई।

हम सभी जानते हैं, विदेशी मुल्क में आशियाना बनाना मजाक नहीं है। विदेशी नागरिकता पाना तभी संभव है, जब विदेशी युवती से विवाह करने के पष्चात् ही स्थानीय नागरिकता मिल पाती है और व्यक्ति तभी विदेशी मुल्क में रहने के पश्चात् ही स्थानीय नागरिकता मिल पाती है और व्यक्ति तभी विदेशी मुल्क में रह पायेगा। रघु ने भी कुछ ऐसा ही किया।

रघु गरीब मध्यम घर—परिवार से सम्बन्ध रखने वाला होता है। बडी मुश्किल से घर का खर्च चलता है। जीवन में गरीबी इंसान को तोड़—मरोड़कर रख देती है। गरीबी से उबरने के लिए व्यक्ति क्या से क्या नहीं करता। रघु के जीवन में ऐसा ही कार्य हुआ। गरीबी से मुक्ति दिलाने के लिए विदेशो में धन कमाने की लालसा लिये गया और कुछ समय पश्चात् जब जेनी का संसर्ग हुआ। तभी से रघु के जीवन में परिवर्तन आना शुरू हुआ। जेनी उच्च वर्ग से सम्बन्ध रखने वाली युवती थी। दोनों के सहयोग से रघु ने भारत देश में रह रहे परिवार की समस्याओं से उबारने का मार्ग ढूँढ लिया। इतना होने के बाद कुछ समय के लिए अपने देश (भारत) लौट आया और अपने परिवार के लिए घर, रूपया— पैसा देकर वापस जेनी के देश लौट गया।

रघु के वापस विदेश चले जाने पर उसके पिता द्वारा माघव और लडकी के प्रति चिन्तित से प्रतीत होते है। दोनों राघव और जेनी जीवन को बसर करते है। विदेशी होने का गौरव रघु को होता है। रघु भारतीय होने के साथ—साथ विदेशी मुल्क में स्थान बना चुका था। भारत देश में रह रहे पिता, छोटे भाई—बहिन की जिम्मेदारियों एवं कर्त्तव्यों से विमुख नहीं हुआ। सम्पूर्ण परिवार को गरीबी से मुक्ति दिलाने एवं पिता की आकांक्षाओ पर खरा उतरना चाहता था। रघु के पिता चाहते थे कि रघु ने जिस मकान को बनाया था। वह अपने नाम कर लिया था। कुछ समय पश्चात् राघव की मृत्यु हो जाती है और पिता पश्चाताप करते रह जाते है। न तो माघव की ही षादी होती है। और न ही बहिन की। यह धोखा पूरे परिवार के साथ होता है। और न ही बहिन की। यह इसका दुःख पूरे परिवार को होता है। वे सभी दुःख से उबर नहीं पाते है।

राघव जब जेनी एवं दो बच्चों के साथ विदेशी मुल्क में रहन बसेरा कर लेने से सम्पूर्ण परिवार अत्यन्त दुःखी होता है। पिता की आकांक्षा होती है कि मेरा बेटा रघु पूरे परिवार की नौका पार कर देगा, किन्तु ऐसा नहीं होता, अपितु दलदल में पूरा परिवार और भी अधिक धंसता चला जाता है। दोपहर के ग्यारह बजे लगभग पिता की साँसे थम सी जाती हैं। धीमे से स्वर में रूकावट आती है एवं साँस रूक जाती है। पूरा परिवार अभाव की जिन्दगी जीने के लिए विवष हो जाता है। इसी क्रम में –

''पिछली बार रघु आया था तो एक हाउसिंग सोसायटी में कुछ रूपये डाल गया था अपने नाम एक फ्लैट के लिए – हम सोच रहे थे कि जेनी से लिखवाले कि वह प्लाट अब माघव के साथ ट्रांसफर कर दे। उसे यहाँ के फ्लैट से क्या करना, रधु होता तो बात और थी – अब तो क्या ही आएगें वो लोग इधर वहाँ तो उनका घर है ही''।

जेनी के पास भारतीय नागरिकता भी नहीं अन्यथा वह भी इस देश में रहकर जीवन—बसर कर पाती। परंतु सभी विषय असम्भव थे। जनार्दन बीते दिनों को याद कर स्मृति शक्ति को आगे बढता है और पूरे परिवार को कुछ नहीं दे पाता है। किन्तु पिता कहते है कि जेनी का भारतीय मूल होने का मलाल होता है और भारतीय अधिकार भी नहीं मिल पाता है। कुछ एक ऐसी घटनाओं से कहानी की समाप्ति होती है।

कहानी की मूल संवेदना पात्रो के संवाद पर आधारित है। यह कहानी पारिवारिक विघटन एंव घुटन को व्यक्त करता है लेखिका का दर्द भी महसूस किया जा सकता है। कहानी का प्रमुख पात्र रधु, जेनी एवं रधु के पिता केन्द्रित हैं। माधव, छोटी बहिन का जिक्र घटना क्रम को आगे बढाने में ही हुआ है।

यह कहानी मध्यम परिवार के धुटन व त्रस्त जीवन जीने की परम्परा को व्यक्त करती है। सम्पूर्ण कहानी भारतीयता के मध्यम परिवार की संवेदना को अत्यंन्त सहजता से व्यक्त करता है। यह कहानी पारिवारिक विघटन एवं पारिवारिक समस्याओं को उजागर करने में सक्रिय रही है।

ग़रीबी में परिवार की जिम्मेदारी जिन लोगों पर होती है वह देश दुनियाँ को छोड कर चले जाते है और सम्पूर्ण परिवार पुनः उसी दलदल में धँसता चला जाता है। यह कहानी पात्रों की लाचारी एंव विवशता को अत्यन्त सहजता से प्रकट करती है। कहानीकार ने कहानी को सशक्त बनाने में सफल रही है।

जेनी को भी दुःख था कि भारतवंषी बनकर लम्बे समय तक बाकी बची जिन्दगी भारतीय परिवार मे गुजार सके। जेनी के पीछे पूरा परिवार आश लगाए बैठा है। पता नही कुछ अच्छा हो जाए।

'दोपहर में मौत' कहानी में परिवार के मुखिया की दर्दनाक मृत्यु का वर्णन किया है और अनन्त समस्याओ को व्यक्त करती है जहाँ तक कहानी की पृष्ठभूमि एंव भाषा का सवाल है, वह आधुनिक पन की चकाचौंध को प्रस्तुत करती है जिसे विदेशी कहलाने का हक मिले वह साधारण जीवन केसे व्यतीत कर सकता है। यह विचारणीय प्रश्न है।

साधारण परिवार महानगरीय सभ्यता में स्वंम को ढालने का प्रयास करता है वह भी परिवार के सबसे बड़े पुत्र के धन पर गरीबी, बेबसी, लाचारी, पीड़ा से मुक्ति पाने का मार्ग ढूँढते; फिर भी असफल से होते है। यह विवशता नही तो क्या है? कहानी जनार्दन जैसे व्यक्ति से आंरभ होती हुई राघव की विदेश में हुई मृत्यु एवं वार्तालाप से यह व्यक्त होता है कि कहानी जीवन से जुडी सभी समस्याओं से मुक्ति पाने का तरीका ढूँढना लाज़िम है। ऐसा भाव कहानी में मुखरित होता है।

एक विवश एवं अथाह पिता की आकांक्षाओं की मृत्यु यह कहानी दर्शाती है। साधारण मध्यम परिवार के घटनाक्रम को व्यक्त करना लेखिका की मजबूरी है और सामान्य शब्दों के मेल से कहानी को नया आकार दिया है।

यह कहानी प्रभावशाली कहानियों में से एक है। कहानी की समाप्ति पर संवाद भी ठहर से जाते है। पिता की बन्द मुठ्ठी भी खुलकर यह संकेत देती है कि जीवन की समस्त खुशियाँ लुप्त हो गयी है।

राघव द्वारा कमाये रूपये —पैसे केवल राघव एवं उसकी विदेशी मुल्क की पत्नी जेनी व उनके बच्चो का ही होगा पिता ने ऐसी कल्पना भी न की होगी सभी स्वप्न भी धराषायी हो गये और पूरा परिवार ध्वस्त हो गया। ऐसा भाव इस कहानी से ज्ञात होता है। कहानीकार ने कहानी के प्रत्येक जीवन की समस्या को उजागर करने का कार्य किया है। यह कहानी प्रभावशाली एवं सशक्त है।

भाषा की दृष्टि से यह कहानी सुदृढ है। इस कहानी में गौण पात्रो में माघव एवं राघव की बहिन है। सामान्य रूप से नाम सम्बोधन किया गया है। कहानी में अंग्रेजी ,उर्दू शब्दावली, हिन्दी शब्दावली का मिला जुला रूप देखने को मिलता है। रचनाकार की भाषा अत्यन्त प्रभावषाली एवं रोचक है। लेखिका ने कहानी को रोचक ढ़ंग से प्रस्तुत है। यह कहानी सराहनीय है।

संदर्भ :--

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Education Towards Consumer Protection

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•:• Abstract : We are all consumers in one form or other. To protect the interest of consumers the consumer protection act, 1986 was passed. Various services are covered under the act. In a welfare state, education plays a very important role. It is the duty of the state also to provide necessary education facilities to the common man. Right to education is drawn directly from right to life. Consumers are exposed to the risks and threats due to usage of unsafe or substandard products or services. However, they should empowered themselves with the consumerism knowledge through formal or informal education. It can help the society to understand what their role in being the conscious consumer.

Keywords : Consumer Law, Consumer Education, Consumer Rights.

•:• Introduction : According to *Encyclopaedia Americana*, Consumer Education means "teaching of a purchaser". Consumer Education is related to imparting knowledge to and develop skills in consumer regarding-

- Consumer Rights
- Consumer Law
- •:• Product and quality standard Consumer education is a form of education that focuses on instructing consumers, or the general public, in numerous financial matters.

-: Consumer Rights

- Right to safety.
- Hight to information.
- Right to choose.
- Hight to hear.
- Right to redress.
- . Right to consumer education.
- **:** Right to healthy environment.
- **:** Right to basic needs.

* Needs of consumerism

- Providing consumer education.
- Providing consumer protection.
- Here Building pressure on Government.
- -: Arranging consumer protection programs.
- Organizing public opinion.

- . Fight against marketing system
- Consumer awareness

Consumer Protection Act 1986

- An Act to provide for better protection of the interests of consumers and for that purpose to make provision for the establishment of consumer councils and other authorities for the settlement of consumers' disputes and for matters connected therewith.
- Came into force— 15th April 1986
- Hilestone in the history of socio-economic legislation in the country
- -: One of the most progressive and comprehensive piece of legislations enacted for the protection of consumers.
- -:- Main objective- provide better protection to consumers
- Compensatory in nature
- Intended to provide-
- Simple, speedy and inexpensive redressal to the consumer's grievances, and
- Relief of a specific nature and award of compensation wherever appropriate to the consumer.
- . Amended in 1993 and 2002
- •: To extend its coverage and scope
- . To enhance the powers of the redressal machinery
- District forum
- •: President -Qualified District Judge.
- •: Two other members— persons of ability, integrity and standing and have adequate knowledge or experience of or shown capacity in dealing with problems relating to economics, law commerce, accountancy, industry, public affairs or administration, one of whom shall be a woman.
- . The consumer to whom such service is provided or is agreed to be provided.
- -: Any recognized consumer association, whether the consumer to whom the service is provided or is agreed to be provided is member of such association or not
- •: One or more consumer, where there are numerous consumers having the same interest, with the permission of the district forum, on behalf of, or for the benefit of, all consumers, so interested.
- Complaints where the value of goods or services and the compensation, if any, claimed, does not exceed rupees 20 lakhs.
- State Commission :
- President Judge OF High Court, appointed by the State Govt.
- * Two other members— with qualifications and experience within the State
- ✤ Jurisdiction :

- . Between Rs.20 lakhs to 1 crore.
- National Commission :
- President Judge of Supreme Court, appointed by the Central Govt.
- Four other members— with qualifications as for district/state, one of whom shall be a woman.
- Jurisdiction-
- Hore than Rs.1 crore.
- Revision petitions against the State Commission

Appeal against orders of the National Commission:

- Supreme Court within 30 days from the date of order.
- ✤ Right to consumer education :
- The right of every Indian citizen to have education on matters regarding consumer protection as well as about her/his right is regarded as the last right provided by the consumer protection act 1986.
- -: Consumer education might refer to formal education through college and school curriculums as well as consumer awareness campaigns been run by known governmental and non-governmental both.
- •• Consumer NGOs, having little endorsement from the Government of India basically undertake the task of ensuring the consumer right throughout the country.
- -: Conclusion : India is found to be 20 years away from giving this right that gives power to the common consumer. Thus, the right should make sure that the consumers in the country have informational programs and materials which are easily accessible and would enable them to make purchasing decisions which are better than before.
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झुंझुनूं शहर में बढ़तें वाहनों के कारण वायु प्रदूषण : एक अध्ययन

शोधार्थी : धर्मेन्द्र सिंह

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प्रस्तावना : वर्तमान समय में भौतिक सुख—सुविधाओं व षहन में रहने वाले लोगों की आर्थिक स्थिति बेहतर होने के कारण तथा वस्तुओं व यात्रियों की संख्या अधिक होने के कारण इनका परिवहन अधिक होने लगा है जिस कारण लगातार यातायात के साधनों में तीव्र गति से वृद्धि होती जा रही हैं। जिस रफ्तार से यातायात के साधनों में वृद्धि हो रही है। उसी रफ्तार से इने इंजन में जलने वाले ईंधन से निकलती गैसे पर्यावरण में घुल रही है। जो पर्यावरण को क्षति पहुंचा रही है। यातायात के साधन अपने आकार व वजन दोनो की क्षमता के अनुसार पर्यावरण को क्षति

पहुंचाते है। इस प्रकार यातायात साधनों को प्रमुख रूप से तीव्र भागों में वर्गीकृत किया जाता है। **वाहनों का वर्गीकरण प्रदूषण के स्तर के अनुसार** :— वर्तमान समय में तकनीकी विकास सुदृढ़ आर्थिक स्थिति के कारण मानव अधिकांशतः परिवहन के साधनों का उपयोग करने लगा है। मनुष्य की प्रत्येक आवश्यकता को पूर्ण करने में यातायात के साधनों का महत्त्वपूर्ण योगदान है। अतः वर्तमान समय में परिवहन के साधन जैसे ट्रेन, बस, ट्रक, ट्रोला, ट्रेक्टर, कार, जीप, ऑटोरिक्शा, टेम्पो, स्कूटर, मोटर साईकिल, मोपैड आदि का महत्त्वपूर्ण स्थान है। इन यातायात के साधनों को इनकी सामान वहन करने या यात्री वहन करने की क्षमता के आधार पर तीन भागों में वर्गीकष्त किया जाता है — प्रथम श्रेणी में भारी वाहन जिनके चार पहिए या अधिक पहिये वाले वाहन, द्वितीय श्रेणी में तिपहिया वाहन तथा तृतीय श्रेणी के अन्तर्गत दुपहिया वाहनों को सम्मिलित किया जाता है। ड्रांड्रानूं शहर में सड़क पर दौड़ने वाले दुपहिया वाहनों की संख्या सबसे अधिक है। इसके बाद कार, जीप, ऑटोरिक्शा, टैम्पो, मिनीडोर बसें, ट्रक, ट्रोला आदि का स्थान है। झुंझुनूं शहर के मध्य से गुजरने वाले तीन राज्य राजमार्ग (राज्य राजमार्ग संख्या 37, 41, 8) जिनके कारण षहर में भारी वाहनों की लम्बी लाईन दिखाई देती है। इसी प्रकार अनाज मण्डी, सब्जी में टैम्पो व ट्रेक्टरों की लाईन लगी रहती है।

1. भारी वाहन – देश में विभिन्न प्रकार के सामानों का परिवहन करने के लिए भारी वाहनों का महत्त्वपूर्ण योगदान है। ये वाहन निरंतर चलकर एक स्थान से दूसरे स्थान पर विभिन्न प्रकार के माल की ढुलाई करने में कारगार साबित हुये है। इनके कारण समय की बचत व लाभ तो मिलता ही है जबकि साथ ही साथ ये भारी वाहन पर्यावरण को अत्यन्त प्रभावित एवं प्रदूषित करते है। इससे न केवल पर्यावरण प्रदूषित हो रहा है बल्कि मानव के शरीर पर भी घातक प्रभाव डालते हैं। वाहनों में अधिक सामान भरने व जब ये वाहन सड़क पर ऊँचाई वाले स्थान पर चढ़ते है तो इंजन पर अधिक दबाव के कारण यह वाहन अधिक मात्रा में धुएं का उत्सर्जन करते है जिस कारण षहर की शुद्ध हवा प्रतिदिन इनके कारण प्रदूषित हो रही है। एक अनुमान के अनुसार एक ट्रक से इतना प्रदूषण होता है कि इससे लगभग 40–50 प्रतिशत लोग प्रभावित होते है। सर्वेक्षण में किये गये आंकड़ों के अनुसार झुंझुनूं शहर के मध्य से निकलने वाले राज्य राजमार्ग संख्या 47, 41 व 8 के उपर एक घंटे में लगभग 150–200 भारी वाहन सड़क से गुजरते है जिससे शहर के महत्त्वपूर्ण स्थान व चौराहों वाले क्षेत्र प्रभावित हो रही है इनमें मुख्य रूप से मण्डावा मोड़, गुढ़ा मोड़, बाकरा मोड़, खेमी सती, पीपली चौक व सर्गीरा सर्किल, पीरू सिंह सर्विल व रोड़ नं. 3 आदि इन भारी वाहनों से शहर में सर्वाधिक प्रदूषित हो रही है।

2. तिपहिया वाहन – शहर में स्थिति प्रमुख तिपहिया वाहनों में ऑटो रिक्शा, टेम्पो आदि है। इन वाहनों की संख्या में पिछले वर्षों में लगातार वृद्धि होती जा रही है। इन वाहनों की वृद्धि से निरन्तर शहर में पारिस्थितिकी असंतुलन उत्पन्न हो रहा है। ये सभी तिपहिया वाहन शहर के लगभग सभी स्थानों से होकर गुजरते है। इन वाहनों को शहर के अन्दरूनी भागों में जाने के कारण लगभग सभी स्थानों को प्रदूषित करते है। इन वाहनों की कतारे स्टेशन

रोड़, शाह मार्केट, गांधी चौक, राणी सती रोड़, छावनी बाजार, अनाज व सब्जी मण्डी में देखी जा सकती है। **3. दुपहिया वाहन** — वर्तमान समय के भागदोड़ भरे जीवन में दुपहिया वाहनों का उपयोग लगभग वर्गों के लिए आवश्यक हो गया है। इन वाहनों में मुख्य रूप से मोटन साईकिल, स्कूटर, मोपेड़ आदि आते हैं। शहर में लगातार दुपहिया वाहनों की वृद्धि हो रही है जिससे इन वाहनों से षहर का पर्यावरण दूषित हो रहा है। परिवहन विभाग से प्राप्त आँकड़ों के अनुसार सबसे ज्यादा पंजीकरण अथवा वृद्धि दुपहिया वाहनों में ही हो रही है। पछिले दस वर्षों के उपलब्ध आंकड़ों के आधार पर यह आंकलन किया जा सकता है कि नगरीकरण के कारण यातायात घनत्व भी बढ़ रहा है। इन दुपहिया वाहनों को शहर की गलियों, चौराहों पर लम्बी—लम्बी कतार को सहज रूप से देखा जा सकता है। इन वाहनों की संख्या शहर में सुबह लगभग 10 बजे से 11 बजे तक तथा सांय 4 बजे से 7 बजे के मध्य सर्वाधि कि होती है क्योंकि इस समय कर्मचारियों, छात्र—छात्राओं व ग्रामीण लोगों का अपने कार्यालयों, स्कूल—कॉलेजों व शहर में आने—जाने का समय रहता है जो पर्यावरण को अधिक क्षति पहुंचाते है के द्वारा इस प्रकार के वाहनों की बढ़ती हुई संख्या प्रदर्षित की गई है।

वर्ष	भारी वाहन	भारी वाहन	तिपहिया वाहन	दुपहिया वाहन	कूल
	(Transport)	(Non-			
		Transport)			
2010	1 562	3727	446	14603	20338
201 1	1 019	3885	392	17488	22784
2012	1961	4178	315	18515	24969
2013	1857	4876	455	2 2694	29882
2014	1 851	5227	481	29332	36891
कुल	8250	21893	2089	102632	134864

झुंझुनूं में विभिन्न प्रकार के वाहनों की संख्या



ग्राफ विभिन्न वर्षों में झुंझुनूं शहर में भारी वाहनों की संख्या : झुंझुनूं शहर में पिछले कुछ वर्षों में यातायात के साधनों की संख्या में प्रत्येक श्रेणी के वाहनों की संख्या में तीव्र वृद्धि हुई है। डेढ़ दशक पहले शहर में यातायात के साधनों की संख्या अधिक नही थी लेकिन जैसे–जैसे शहर का विकास होता गया है वैसे–वैसे उसी के अनुसार सभी प्रकार की आवष्यकताओं को पूरा करने में भारी वाहनों, तिपहिया वाहन व दुपहिया वाहनों की संख्या में वृद्धि हुई है क्योंकि इस तकनीकी व मशीनी युग में मानव इतना व्यस्त हो गया है कि यातायात के साधनों के अनुसार सभी कार्य सम्भव नहीं है। इसी कारण वाहनों का महत्त्व दिन–प्रतिदिन बढ़ता जा रहा है जिस कारण शहर में सभी रेणी के वाहनों की संख्या निरन्तर बढ़ती जा रही है।

वर्तमान समय में मानव समाज की बढ़ती आवश्यकताओं के कारण ही प्रदूषण की समस्या सामने आ रही है। मानव भूगोल के जन्म दाता फ्रेडरिक रेटलेज ने अपनी पुस्तक ''एन्थ्रोज्योग्राफी'' में पर्यावरण के विभिन्न सघटको, धरातल की बनावट, जलवायु, वनस्पति आदि भौतिक तत्त्वों का वर्णन मानवीय सम्बन्धों के साथ पर्यावरण भूगोल के विकास को एक नई दिशा दी थी। इसी प्रकार झुंझुनूं षहर में भी विकास के कारण पर्यावरण को क्षति हो रही है। इसी क्रम में षहर से निकलने वाले राज्य मार्गों के आस—पास कई कॉलोनियों एवं बस्तियों का निर्माण हुआ है। शहर में यातायात के साधनों से निकलने वाले धुएं के कारण गम्भीर पर्यावरणीय परिस्थितियां उत्पन्न हो रही है। वर्तमान समय में मानव द्वारा भौतिक व आर्थिक विकास के कारण प्राकृतिक संसाधनों के विदोहन एवं अमर्यादित शोषण के कारण सम्पूर्ण शहर का पारिस्थितिकी—तंत्र में बदलाव अपार है। परम्परागत ऊर्जा संसाधनों के प्रयोग से पर्यावरण प्रदूषण में लगातार वृद्धि हो रही है जो आज तक चिन्ता का विषय है।

वायुमण्डल में गैसों का अनुपात बढ़ने या घटने पर यह हानिकारक सिद्ध होता है। जिससे प्राकृतिक संतुलन समाप्त होने लगता है। जिससे वायु प्रदूषण की समस्या पैदा होती है। षहर में वर्तमान में वाहनों की बढ़ती संख्या के कारण निःसश्त वायु में अवांछनीय (रसायनों) के मिलने से जहरीली गैसों का मिश्रण हो रहा है। यह हम सब जानते है की मानव व पशु—पक्षी बिना भोजन के कई दिनों तक जीवित रह सकते है मगर बिना प्राण वायु के कुछ मिनटों तक ही जीवित रहना असम्भव है। अतः वायु का महत्त्व सर्वविदित है अतः जब वायु दुषित हो जाती है तो ईश्वर प्रदत्त स्वच्छ वायु में नाईट्रोजन, ऑक्सीजन, कार्बन—डाई—ऑक्साइड, हीलियम आदि गैसों का वायुमण्डल में एक निश्चित अनुपात होता है। जब यह अनुपात बदल जाता है तो वायु प्रदूषित हो जाता है तब वायु श्वसन के लिए पूर्ण रूप से स्वास्थ्य वर्धक नही रह पाती है। वर्तमान समय में मानव द्वारा शहर की वायु में शुद्ध एक विषैली तथा हानिकारक रसायनों से दूषित हो रही है।

शहर में भारी वाहनों, तिपहिया एवं दुपहिया वाहनों से निकलने वाले धुएं से प्रदूषण में लगातार वृद्धि हो रही है। वायु में धुआ, राख, परागकण, विषेली गैस तथा दूसरे अन्य पदार्थ के कणो की मात्रा वायु में घुल रही है जो वायु के सामान्य संगठन को बदल रहे है। इस प्रकार जीवाश्म ईंधनों जैसे पेट्रोल, डीजल व गैस से झुंझुनूं शहर की वायु में कार्बन—डाई—ऑक्साइड, सल्फर डाई ऑक्साइड, नाइट्रोजन के ऑक्साइड जैसे हानिकारक गैसे वायु में मिल रही है। वाहनों से डीजल एवं पैट्रोल व LNG/LPG से निकलने वाली गैसों का विवरण

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क्र. सं.	निकले हुए पदार्थ/गैस	पेट्रोल इंजन	डीजल इंजन		
1.	कार्बन मोनो ऑक्साइड	3	-		
2.	सल्फर ऑक्साइड	40 P P M	400 PPM		
3.	सल्फर ऑक्साइड	1100 PPM	20 PPM		
4.	बिना जले हाड्रो कार्बनस	150 PPM	20 PPM		
5.	पार्टिकुलेट	0.19 / m ³	0.01 G/3		

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ताहना क	टत्नन	रुम	निकलन	ताला	गाँचगा	का र	ਸਾਨਾ
910 11 97	2911	× 1	1 19701 1	91.011	1 1 1	9/1	11 11

स्त्रोतः– भारतीय पर्यावरण प्रदूषण नियंत्रण बोर्ड

शहर में दौड़ते ये वाहन शहर की वायु को लगातार प्रभावित करते है। शोध में किये गये सर्वेक्षण में पाया गया है कि झुंझुनूं शहर में वायु प्रदूषण प्रातः 9 बजे से 11 बजे के मध्य एवं सांय 4 बजे से 7 बजे के मध्य अत्यधिक रहता है जिसमें स्टेशन रोड़, रोड़ नं. 3, मण्डावा मोड़ व चूरू बाई पास रोड़, राणी सती रोड़, गोलाई मोड़, अग्रसेन सर्किल, गुढ़ा

मोड़, वारिसपुरा रोड़, रीको व पुलिस लाईन आदि स्थानों पर इन वाहनों द्वारा वायु को प्रदूषित किया जा रहा है। इस प्रकार डीजल व पेट्रोल से चलने वाले वाहन भारी वाहन, तिपहिया वाहन व दुपहिया वाहन से इस प्रकार हानिकारक गैसे स्वच्छ पर्यावरण को विशैले तत्वों को मिला रही है। शहर में बढ़ते हुए वायु प्रदूषण से न केवल प्रत्येक व्यक्ति प्रभावित हो रहा है जबकि जीव–जन्तुओं व पेड़–पौधों पर पड़ रहा है। जिससे सभी जीविय जातियों में अनेक प्रकार की बिमारियों का प्रसार हो रहा है।

निश्कर्षः—इस प्रकार निम्न तालिकाओं के अध्ययन से सहज ही पता चलता है कि झुंझुनूं में लगातार विभिन्न प्रकार के वाहनों की संख्या बढ़ती जा रही है। जैसे सन् 2010 में चोपहिया वाहनों की संख्या (भारी / हल्के वाहन) 5228 वाहनों का रजिस्ट्रेशन हुआ, इसी प्रकार से 446 तिपहिया वाहन व 14603 दुपहिया वाहनों के रजिस्ट्रेशन हुआ जो सन् 2014 में बढ़कर 1851 (भारी) चोपहिया वाहन, 5227 (हल्के), 481 तिपहिया वाहन तथा 29332 दुपहिया वाहनों का रजिस्ट्रेशन हुआ था। इस प्रकार प्रतिवर्ष जिले में वाहनों की संख्या बढ़ती जा रही है जिसके कारण वाहनों से शहर में वायु प्रदूषण लगातार प्रवाहित हो रहा है। क्योंकि वाहनों के इंजन में खनिज तेल के दहन के कारण वाहनों से शहर में वाये प्रदूषण लगातार प्रवाहित हो रहा है। क्योंकि वाहनों के इंजन में खनिज तेल के दहन के कारण वाहनों से शहर उसके प्राकृतिक संघटनमें एरिवर्तन कर रही हैं। जिसका प्रभाव न केवल मानव स्वास्थ्य पर पड़ता है बल्कि पेड़—पौधों के लिये भी हानिकारक हैं। वायु प्रदूषण मानव स्वास्थ्य पर प्रतिकुल प्रभाव डालता है जिससे विभिन्न रोग जैसे—फेफड़ों का कैंसर, गले में खरास, आँखों में पानी आना, श्वांस लेने में तकनीफ, त्वचा रोग आदि से ग्रसित हो जाता है।

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Sustainability of Environment, Enegry, Ecologyand Corporate Governance in india

Kandarp Gopal Sharma Research Scholar, JJT Univesity, Rajasthan Kandarp4u@gmail.com "Save Earth...... Save Ourselves" Reduce, Recycle, Re-use

•• Abstract : E-waste and its proper disposal/ implications has today become a major issue around the Globe. It is obsereved in both developed and developing countries like India are facing the problem of proper E-waste management. E-waste has been rapidly growing with the improving technologies and up gradation in technology and high rate of change in electronic industry has led E-waste as one of the fastest growing waste streams around the globe. Electronic Waste or E-waste involves a wide range of electrical and electronic waste; containing numerous toxic and hazardous materials which can irreversible impact to living beings and environment as well if these materials are not properly and timely disposed off. In this paper we discuss the scenario of E-waste, thus discarding in environment has minimal or no effect. This paper also focuses on health hazards and various methods for dealing with this hazardous waste. Hence an attempt is made to find a sustainable solution for handling the mass volume of e-waste generated without disturbing the environment and public is needed.

-: Key Words: E waste, health, hazardous, environment, environmental impact

•: Introduction : E-waste or electronic waste involves redundant electrical or electronic devices. While we use the word E-waste in general, it covers a wide range of equipment such as cell phones, laptops, printers, white goods like refrigerators, and stereo systems, toys etc... - or we can describe it is any household or business item with power or battery supply that has been discarded by the initial users is categorized as E-waste.

E-waste can be categorized as:-

- Household appliances :- Large and Small
- -: Telecommunications and IT equipments
- •:• Industrial equipments
- Consumer Electronics or electrical devices.
- -: Equipments or tools used in industry.
- •:• Monitoring and Control instruments.
- -: Automated Dispensers
- •: Toys, leisure and sports equipments.
- Decorative lightning and other lighting equipments.

Electrical equipments that are destined for recycling, resale, salvage or disposal are considered as E-waste. Large number of e-waste contains contaminants such lead, cadmium & beryllium, brominates flame retardant and other heavy metals makes e-waste toxic and more hazardous. E-waste contains both valuable and hazardous material it requires special handling and proper recycling before final disposal.

In this paper I have tried to put a light on hurdles faced by developing nations like India in handling of E-waste and some of inventive approaches not only to recycle e-waste but also to recover valuable metals, hence lethal or hazardous materials getting discarded directly to environment is minimized or found nil. The paper also emphasizes on health hazards due to improper disposal of e-waste and various management methods for handling hazardous waste. Hence find a justifiable and sustainable solution to handle bulk volume of e-waste generated without impacting the environment and public health is essential today.



Fig. 1 Represents E-waste scenario in India

Objectives : For the success of any work objectives are necessary .so we have to decide some objectives for the above mentioned work.

- . To improve the technologies of Industries for E-Waste management.
- •: To aware the society about the materials which are irreversible impact on living beings.
- Toto aware the society about advancement in technology for recycling of E-waste.
- To solve and handle the mass volume of E-waste to save the environment and public needs.
- To create healthy environment by recycling of E-waste.

•:• Methodology: - Three methods like reduce, recycle, re- use can improve a healthy environment of society. It can save so many lives .

•:• What E-WASTE is composed of? :Electrical appliances comprise of various materials which can be both toxic and equally of high value. Of which majority materials such as iron, aluminum, plastics and glass account for over 80 weight % of e-waste, whereas valuable and toxic materials are found in smaller quantities but are still of high importance. The material composition of different appliances is usually similar, but the percentage of these different components varies a lot.

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Figure: 2 represent the composition of e-waste

The precious metals such as Gold, silver, copper, platinum etc., has changed recycling of e-waste into a huge business opportunity today. Whereas the recycling of hazardous e-waste that posses carcinogens such as lead and arsenic is critical and cause serious health risks and environment dangers if not properly treated/ handled.

India emerging as world's second largest mobile market, India has also become the fifth largest producer of E-waste, according to a study India generates approximately 19 lakh tones of e-waste annually which consist of major contribution from the telecom industry alone; roughly about 12-14 %. The rise in levels of e-waste generated in India is a matter of concern in last few decades. It has been observed that out of 1.25billion mobiles phones (estimated to be in circulation in India); 25% of it contribute to e-waste annually.

: Electronic Waste Collection : As per the notification given by The Ministry of Environment, Forest and Climate Change has given some e-waste management rules, 2016. Introducing the concept of

"EPR" i.e. Extended Producer's Responsibility covering all producers of e-waste under this category. Initially a waste collection target of 30% is benchmarked for first two years under EPR, which will be further increased to 70% of total waste generated in the seventh year of the rule. Under this rule stern monetary penalties for refusal are laid by the department. However we cannot ignore the fact that 95% of the E-waste generated in India comes from then unorganized sector as well as Telecom Sector in India has a huge user base, it is practically difficult and expensive too especially for the handset manufacturers to achieve the targets prescribed in the rules from the first year which has also suggested for finding a solution in a phased manner. "It is recommended that electronic-waste gathering targets are implemented in a phased manner with low and almost attainable target limits. Also, systematic implementation of procedures for collection of electronic waste from the market needs to be followed."

REDUCE, RECYCLE and REUSE:

Need for Recycling of Electronic Waste :-

- Electronic Waste is one of the fastest growing segments of Solid Waste stream.
- Electronic Waste contains many valuable and recoverable resources such as gold, copper, aluminum, silver etc... . In order to conserve the energy and natural resources that are needed in extracting these metals or produce new electronic equipments from their virgin resources, we can make use of electronic equipments by refurbishing, reusing and recycling instead of using them for the purpose of landfill.
- Electronic Waste also contains number of harmful and toxic materials such as lead, mercury, cadmium etc... and chemical flame retardants, which have the potential to leach into our soil and water systems.
- Recycling of waste (e-waste) material has number of advantages with respect to environment few of them are as follows:
- Protects Environment.
- Conservation of Resources.
- ✤ Promotes Energy Efficiency.
- -: Empowers Economy.
- -: Recycling industry enables job creation.
- Helps building an eco-sensitive community and saves the space required for landfills.
- . It can also be rewarding financially.
- Electronic waste management options hierarchy:
 - Reuse of entire units: Reuse of running electronic equipment by donating it to someone who can still use it.
 - . Repair/refurbishment/remanufacturing of units
 - -: Recovery/reuse of functional peripherals or components



•:• Recycling of essential equipments: Recycle those components that cannot be repaired.

- Last : Responsible disposal of hazardous and non-hazardous waste in permitted landfills.

. Conclusion : The dilemma of Electronic waste and its management is increasing in alarming magnitude in India similarily in the world. Although many developed countries have established well defined E-waste management systems, the systems in India have barriers from socioeconomic, infrastructural, and legal reasons. The E-waste recycling and recovery options practiced in India are very outdated and hazardous, causing severe ecological and occupational hazards. There is an essential disparity between the current European models of E-waste management and the truth of Electronic waste recycling in India. Simultaneously, innovative techniques and best practices like ARF and EPR need to be introduced in the country.

Consumers in India, however, expect to receive payment for their Electronic waste, which can be seen as a potentially important resource. Hence management of Electronic waste, if properly carried out, is an opportunity as it is often called as "urban mining." In-order to support the environmentally secure action and recycling of Electronic waste, a high preliminary venture is required for setting facility built-in with technologically advanced equipment and processes. E waste management in India can be strategized more effectively though public – private partnership to develop and organize electronic waste disposal. A very small number of private organizations has established the facilities for the E-waste treatment in few metropolitan cities like Noida, Chennai and Bangalore, thereby handling and treating the E-waste in more scientific and eco-friendly manner, it is therefore needed to establish more such enterprises in other cities too. We need to utilize more and implement new and efficient techniques for proper E waste management so as to protect the future of ourselves and generations to come.

We need to do it for one very simple reason...

OUR CHILDREN'S FUTURE

DEPENDS ON IT!

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आधुनिक विकास में हिन्दी भाषा की भूमिका

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भाषा वह साधन है जिसके माध्यम से प्रत्येक प्राणी अपने विचारों को दूसरों पर अभिव्यक्त करता है। यह ऐसी देवी शक्ति है, जो मनुष्य को मानवता प्रदान करती है और उसका सम्मान तथा यश बढ़ाती है। जिसे वाणी का वरदान प्राप्त होता है, वह बड़े से बड़े पद पर प्रतिष्ठित हो सकता है और अक्षतः कीर्ति का अधिकारी भी बन सकता है। इसके विपरीत अवांछनीय वाणी, उसके पतन का कारण भी बन सकती है। अतः भाषा का प्रयोग बहुत सोच विचार कर करना चाहिए।

राजभाषा हिन्दी का विकास व देश का विकास परस्पर पूरक है। वैश्विक जगत में अगर भारत का दायरा बढ़ेगा तो हिन्दी की भूमिका भी बढ़ेगी। हिन्दी भाषा संस्कृत, पाली, प्राकृत, अपभ्रंष, अवहट्ट से निरंतर विकसित होते हुए अपने वर्तमान स्वरूप तक एक लम्बे संघर्ष के पश्चात् पहुँच गई है। आज हिन्दी केवल साहित्य की भाषा ही नहीं है अपितु विश्व की सम्पर्क भाषा बन गई है। युगों पहले भी अनेक अलग—अलग सम्प्रदायों के विद्वानों, संतों जैसे वल्भाचार्य, रामानुज, रामानन्द, नामदेव, नरसी मेहता, मीराबाई, गुरूनानक देव चैतन्य महाप्रभु आदि संतों ने अपने विचारों व धर्म का प्रचार—प्रसार करने के लिए हिन्दी भाषा को अपनाया। ये सभी संत किसी समान पृष्ठभूमि से सम्बन्धित नहीं थे, अपितु सम्पूर्ण भारतवर्ष के अलग—अलग प्रान्तों से सम्बन्धित थे फिर भी हिन्दी भाषा को अपनी अभिव्यक्ति का माध्यम बनाकर हिन्दी भाषा को राष्ट्रीय स्तर पर स्थापित किया।

स्वातंत्रोयोत्तर भारत में राजभाषा हिन्दी के कार्यान्वयन का पैंसठ—छियासठ वर्षों का इतिहास है। कई प्रकार की कठिनाईयों को पार कर राजभाषा हिन्दी ने अपना एक इच्छित स्वरूप प्राप्त किया है और इस संघर्ष में अहिन्दी भाषा प्रांतों से सम्बन्ध रखने वाले महात्मा गांधी व दयानन्द सरस्वती जैसे अनेक हिन्दी प्रेमियों ने अमूल्य योगदान दिया। इन्होनें हिन्दी भाषा में नए प्राणों का संचार ही नहीं किया अपितु हिन्दी को राष्ट्रभाषा के गौरवशाली पद तक पहुंचाने के लिए निरन्त प्रयत्न किये, जिसके परिणामस्वरूप 14 सितम्बर 1949 को हिन्दी भारत की राजभाषा के रूप में अपने आपको स्थापित कर पाई।

हिन्दी भाषा का इतिहास लगभग एक हजार साल पुराना है। हिन्दी भाषा व साहित्य के जानकार अपभ्रंश की अंतिम अवस्था अवहट्ट से हिन्दी का उद्भव स्वीकार करते हैं चन्द्रधर शर्मा गुलेरी ने इसी अवहट्ट को पुरानी हिन्दी नाम दिया। अपभ्रंश की समाप्ति और आधुनिक भारतीय भाषाओं के जन्मकाल के समय को संक्रान्तिकाल कहा जा सकता है। हिन्दी का स्वरूप शोरसैनी और अर्धमागधी अपभ्रंशों से विकसित हुआ है। 1000 ई. के आसपास इसकी स्वतंत्र सत्ता का परिचय मिलने लगा था, जब अपभ्रंश साहित्य संदर्भों में प्रयोग में आ रही थी। यही भाषाएं बाद में विकसित होकर आधुनिक भारतीय आर्यभाषाओं के रूप में प्रचलित हुई।

एक समय ऐसा था, जब राजभाषा हिन्दी दोयम दर्जे के नागरिक की तरह अंग्रेजी के पीछे चल रही थी। कालांतर में वह अंग्रेजी के समकक्ष आई और आज यह अंग्रेजी से आगे निकलने के लिए प्रयत्नरत है। इतना ही नहीं, भाषा के प्रति हमारी मूल दृष्टि बदल गई है। पहले हम यही सोचते थे कि अंग्रेजी का कोई विकल्प नहीं है, परन्तु आज यह स्थिति नहीं है। देवनागरी वैज्ञानिक लिपि सिद्ध हो चुकी है, जिस कारण यह मात्र प्रशासन की भाषा ही नहीं रह गई है, अपितु वित्त एवं कारोबार के क्षेत्र में भी हिन्दी की जड़ें मजबूत हुई है। इसे राजभाषा हिन्दी का इच्छित विकास कहा जा सकता है, जिसके लिए हिन्दी भाषी लोगों की तरह हिन्दीतर प्रदेशों की भी महत्ती भूमिका है।

गाँधी जी ने ही हिन्दी को राष्ट्र की उन्नति का मूल समझकर राष्ट्रभाषा बनाने के लिए नहीं कहा था, बल्कि उनसे पूर्व भी देश के सभी अंचलों के समाज सुधारकों, संतों और नेताओं ने इसके महत्व को समझ लिया था। महाराष्ट्र में जहां ग्याहरवीं—बाहरवीं शताब्दी में मराठी के आदि कवि मुकुन्दराज और संत ज्ञानेश्वर ने इसके महत्व को समझ था, वहीं कालांतर में गोपाल नरहरि देशपांडे तथा केशव वामन पेठे नाम महानुभावों ने क्रमशः 1875 तथा 1876 में हिन्दी को राष्ट्रभाषा के रूप में प्रतिष्ठित करने का अभिनंदनीय प्रयास किया था। उन्हीं दिनों महादेव गोविन्द रानाडे तथा लोकमान्य बाल गंगाधर तिलक ने भी इस दिशा में प्रशंसनीय कार्य किया था। उन्हीं दिनों महादेव गोविन्द रानाडे तथा से भारत के अनेक संतों, सुधारकों, मनीषियों और नेताओं ने अपने विचारों का प्रचार—प्रसार किया था। अपनी दूरदर्शिता के कारण उन्होनें ऐसी ही भाषा को अपनी भावधारा के प्रचार का साधन बनाया था, जो देश के सभी भूभागों के अधिकांश जन—समुदाय को एकता के सूत्र में पिरो सकती थी और वह भाषा हिन्दी थी।

राष्ट्रीय एकीकरण की प्रक्रिया के संदर्भ में भाशा की महत्वपूर्ण भूमिका होती है। भारत संघ के एकीकरण में हिन्दी भाषा की विशेष भूमिका रही है। हिन्दी देश के आर्थिक और सामाजिक विकास में बेहद सहायक सिद्ध हुई है। भारत की बहुभाषिक यथार्थता के अनुकूल है जो राष्ट्रीय एकीकरण प्रक्रिया में साधक सिद्ध हुई है। भारतीय भाषा होने के नाते हिन्दी पर अधिकार प्राप्त कर लेना अंग्रेजी के मुकाबले कहीं ज्यादा अवसर प्रदान करती है। क्योंकि हिन्दी बोलने और समझने वालों की संख्या अन्य भाषा–भाषियों की तुलना में सबसे अधिक है। भाषा–संप्रेषणीयता, संचार और एकीकरण की प्रक्रिया आदि को भाषा नियोजन का लक्ष्य रखना चाहिए। हिन्दी किसी भी दृष्टि से पिछड़ी भाषा नहीं है। वह राष्ट्र को राजनीतिक और आर्थिक दृष्टि से एक सूत्रता में बांधने के काम में आने वाली प्रशासनिक प्रयोजनों की भाषा है। राष्ट्रभाषा का संबंध राष्ट्रीयता से रहता है, उसके सहारे राष्ट्र के स्तर पर समाज और संस्कृति के संदर्भ में तादातम्य स्थापित करता है और अपनी सामाजिक अस्मिता सिद्ध करता है। हिन्दी एक ऐसी भाषा है जिसके सहारे पूरे भारत में संवाद स्थापित करके काम चलाया जा सकता है। हालांकि हमारे देश के विभिन्न भागों में अनेक भाषाएं बोली जाती है, फिर भी हिन्दी हमारे देश की ऐसी भाषा है, जो प्राय: सारे देश में समान रूप से व्यवहार में लाई जाती है। उसके इस व्यापक रूप को समझते हुए ही सारे देश ने इसे राष्ट्रभाषा के पद पर सुशोभित किया है। भाषाओं की विविधता देश की एकता में कहीं भी बाधक नहीं होती। राष्ट्रकवि मैथलीशरण गुप्त की यह भावना देश की एकता के लिए सत्य सिद्ध हो रही है।

हिन्दी का उद्देश्य यही है, भारत एक रहे अविभाज्य।

यों तो रूस और अमेरिका जितना है उनका जन–राज्य।।

आज भारत के बाहर संसार के लगभग 150 विश्वविद्यालयों द्वारा हिन्दी में शोधकार्य करवाये जा रहे हैं इससे सिद्ध होता है कि विश्व की एक समर्थ और समृद्ध भाषा के रूप में हिन्दी की मान्यता बढ़ती ही जा रही है। मारिशस, फिजी,

सूरीनाथ आदि संसार के अनेक देशों में काफी बड़ी संख्या में बसे भारतीय हिन्दी के माध्यम से अपनी शिक्षा दीक्षा प्राप्त करना चाहते हैं। 2007 के सर्वेक्षण के अनुसार विश्व में हिन्दी (उर्दू सहित) भाषा बोलने/जानने वाले मात्र 1023 मिलियन लोग हैं जबकि चीनी भाषा बोलेने/जानने वाले मात्र 900 मिलियन लोग हैं। मलय भाषा में अधिकांश शब्द हिन्दी और संस्कृत के हैं। इसी प्रकार कम्बोडिया की खमेर भाषा में 3000 से अधिक शब्द हिन्दी–संस्कृत एवं अन्य भारतीय भाषाओं के शब्द मिलते हैं। लेखन के क्षेत्र में हिन्दी भाषा के माध्यम से केवल भारत में ही नहीं अपितु अर्न्तराष्ट्रीय स्तर पर भी अनेक पत्र–पत्रिकाओं का नियमित रूप से प्रकाशन किया जा रहा है। जिसके कारण नये विचारों का आदान–प्रदान विकास के नये द्वारा खोल रहा है।

वर्तमान युग में हिन्दी के अनुवाद कार्य को सुगम बनाने के लिए इतने ज्यादा साफ्टवेयर उपलब्ध है, जिनके माध्यम से हिन्द का केवल अनुवाद ही नहीं बल्कि जहाँ अंग्रेजी का वर्चस्व था, वहाँ भी हिन्दी का अधिकार अनुभव किया जा सकता है। हिन्दी वेबसाईटों के उपभोक्ताओं की संख्या में अभूतपूर्व वृद्धि हुई है। आज इन्टरनेट हिन्दी के बिना अधूरा है। इसके साथ—साथ हिन्दी सिनेमा केवल हिन्दी भाषी क्षेत्रों में ही नहीं अपितु विश्व में अपनी एक अलग पहचान रखता है, जिस कारण अहिंदी भाषी लोगों में भी हिन्दी सिनेमा अपनी संस्कृति व सभ्यता का प्रसार मनोरंजन के माध्यम से करने में सक्षम है। रेडियो के क्षेत्र में अर्न्ताराष्ट्रीय स्तर पर हिन्दी भाषा के कार्यक्रमों को प्रसारित किया जा रहा है, जो हिन्दी भाषा को जन—जन तक पहुँचाने का कार्य कर रहा है।

किसी भी देश की उन्नति यदि सही दिशा में हो, तो उस देश की मुख्य भाषा की अनदेखी करना मुश्किल है, अर्थात देश के विकास में भाषा की भी अहम भूमिका होती है। इस कार्य में देश का मुखिया प्रमुख योगदान दे सकता है। इसी संदर्भ में पूर्व प्रधानमंत्री अटल बिहारी वाजपेयी जी द्वारा सर्वप्रथम किया गया प्रयास सराहनीय है। जब उन्होनें विदेशी भूमि पर जाकर वहाँ की जनता को अपनी मातृभाषा में सम्बोधित किया और वर्तमान में प्रधानमंत्री नरेन्द्र मोदी जी इसी परम्परा का निर्वाह करते हुए हिन्दी को विश्व पटल पर एक विशेष पहचान दिलाने में महत्वपूर्ण भूमिका निभा रहे हैं। जिसके कारण विदेशों में रहने वाले भारतवासियों व अन्य लोगों को अपनी मातृभाषा के माध्यम से जोड़ने का प्रयास कर रहे हैं। इसमें कोई संदेह नहीं है कि आज राष्ट्रभाषा हिन्दी अपनी सीमाओं से बाहर आ चुकी है। वह नई प्रौद्योगिकी वैश्विक विपणन तंत्र और अन्तर्राष्ट्रीय संबंधों की भाषा बन रही है। इस प्रक्रिया को तेज गति देना बेहद जरूरी है। राजभाषा से एक नई वैश्विक भाषा के रूप में हिन्दी बदल रही है व आधुनिक विकास में अपना महत्वपूर्ण योगदान दे रही है। **संदर्भ स्**ची :

- 1. हिन्दी साहित्य का इतिहास : डॉ. नगेन्द्र
- 2. हिन्दी अनुसंधान : विजय पाल सिंह
- 3. राजभाषा हिन्दी : भोलानाथ तिवारी
- 4. हिन्दी की अन्तर्राष्ट्रीय भूमिका : प्रो. महावीर सरन जैन
- 5. अन्तर्राष्ट्रीय संदर्भ में हिन्दी, प्रो. सिद्धेश्वर प्रसाद का आलेख
- 6. हिन्दी भाषा के विकास में पत्र पत्रिकाओं का योगदान : प्रो. ऋषभेदव शर्मा
- 7. हिन्दी भाषा और राष्ट्रीय एकीकरण : रविन्द्रनाथ श्रीवास्तव
- 8. हिन्दी की भावी अन्तर्राष्ट्रीय भूमिका : डॉ. बृजेश्वर वर्मा

Potential health benefits of two important medicinal plants : Saraca asoca and Terminalia chebula: review

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•: Abstract : Since early times, medicinal plants have found significant place for curing various ailments and are commonly available in nature. Medicinal plants can be used as basis of direct remedy in form of extracts or formulations, as a raw material for preparation of semi synthetic compounds and isolated compounds from the plants which can be used as a reference for new synthetic compounds. Medicinal plants are considered as high-quality immuno-modulators because of antioxidants present in it. Since the medicinal property of bark of *Saraca asoca* for treating gynecological disorders has been documented in the ancient scriptures of Indian System of Medicines, extensive research work has been done on chemistry of its bark. Besides, flowers and leaves of *Saraca asoca* are known to contain a number of bioactive metabolites. *Terminalia chebula* has been utilized in *Ayurvedic, Unani* and *Homeopathic* systems of medicine since time immemorial for curing different ailments. Fruits of this herb has a diverse health benefits and used in several famous herbal preparations. This review focuses on the different biological activities demonstrated by different isolates, extracts or fractions from *Saraca asoca* and *Terminalia chebula*.

•:• Keywords: Traditional system of Indian Medicine, Saraca asoca, Gynecological disorders, Terminalia chebula, Astringent

• Saraca asoca : Saraca asoca (Roxb.) de wilde (Syn. S. indica Linn.) (SA) belongs to family *Caesalpiniaceae*, is found all over India especially in humid areas up to an elevation of about 750 m. It is a medium sized handsome evergreen tree grows up to nine meter with carious scattering and drooping uncovered branches. SA is considered as a holly tree of Hindus and Buddhists. The appearance of bark is dark brown to grey or black and its width ranges from 0.1-1.0 cm. A number of herbal formulations containing bark alone or in combination with other species are available in the market for treatment of various ailments. There are a number of reports available that describes various activities of from different plant parts of *Saraca asoca*.

•:• Biological action of Saraca asoca : There are numerous reports presents on antibacterial activity of different extracts obtained using various solvents. These extracts were prepared from different parts such as bark, leaves and flowers of SA. Numerous reports have validated the antibacterial properties of this plant. Many pathogenic bacteria were used to assay different extracts of *S. asoca* and most of the studies demonstrated remarkable antimicrobial activity toward those pathogenic bacteria (Singh *et al*, 2015; Saha *et al*., 2013; Gomashe *et al*., 2014; Mukhopadhyay *et al*., 2011). This potential could be exploited on commercial scale for preparation plant based antibiotic molecules in near future.

Due to increasing human organ transplantation, incidences of fungal infections have been increased, therefore, search for novel antifungal drugs has become a necessity and exploration for identification of suitable medicinal plants is being given attention. The antifungal activity of different extracts of SA bark, flowers and leaves against different fungi stated by various researchers (Shirolkar *et al.*, 2013). Since last few decades, most effective leads to search anticancer drugs have been occurred from the natural plants for successful commercial production. Recent report is available on anti-breast cancer activity of ethanol extract of SA bark along with antioxidant activity. An *in vitro* assay showed that, saracin isolated from the seed integument of SA could provoke apoptosis in human T-lymphocytes (Ghosh *et al.*, 1999). In an *in vivo* study, flavonoid fraction purified from the flowers extract has been stated to show chemopreventive activity on DMBA induced 2 stage skin carcinogenesis on tumor bearing Swiss albino mice models.

The phenolic glycoside isolated from SA has been reported to show oxytocic activity on animal uterine *in vivo* and *in vitro* and on human mymetrail tubes *in vivo* (Satyavati *et al.*, 1970). Middelkoop and Labadie (1985) reported effect of some of the compounds from the bark of SA on the PG-synthatase enzyme. Ethyl acetate and methanol extracts of bark inhibited the conversion of arachidonic acid. Further, procyanidins purified from ethyl acetate extract of bark showed enzyme catalyzed oxidation. Both these mechanisms could explain the positive effect of herbal formulation- *Ashoka Arishta* for the treatment of menorrhagia.

Sharif et al. (2011) studied anti-inflammatory effects of ethanolic extracts of bark of SA on laboratory animals. Results indicated statistically significant anti-inflammatory activity in Carrageenan-induced Hind Paw Edema in long evans rat. Cardioprotective effect of hydroalcoholic extract of bark of SA against cyclophosphamide induced cardiotoxicity was investigated and suggested that SA extracts lowered the level of cholesterol and triglycerides and change lipid profile in cyclophosphamide treated rats. This effect was also supported by histopathological examination. Assessment of anti-inflammatory response of SA seeds on Freund's adjuvant induced arthritic rat model reported and found significant antiarthritic and anti-inflammatory effect. Ahmad et al (2015) stated report on bioactivity guided isolation from the bark. Among isolated compounds, 3'-deoxyepicatechin-3-o-â-D-glucoside and 3'deoxyepicatechin-3-o-á-L-glucosides has shown significant anti-inflammatory activity 52% and 33% respectively in rats. Several reports are available on analgesic activity of petroleum ether, chloroform, methanol and water extracts of bark and leaves of SA. Verma et al. (2014) explored analgesic activity of different extracts of leaves using formalin test and tail immersion method. Results revealed that petroleum ether extract was not effective as an analgesic. In formalin test, extracts caused dose dependent relief in pain, thereby indicating its analgesic effect, which may be due to action of both peripheral and central mechanism. Methanol extract showed highest analgesic activity followed by water and chloroform extracts. In tail immersion method, methanol extract also showed highest effect after 90 min. Roots of SA have been reported to dissolve oxalic acid stone present in kidney and minimize the obstruction to the outflow of urine in urinary systems (Rathod *et al.*, 2014). CNS depressant effect of different extracts of leaves was also reported (Verma *et al.*, 2014).

Mathew *et al.* (2009) reported larvicidal activity of SA. Petroleum ether and chloroform extracts of bark, flower and leaves were tested against three mosquito vector, *A. aegypti, A. stephensi* and *C. quinquefasciatus*. Sharma *et al.* (2011) evaluated anthelminitic property of SA leaves against Indian adult earth worms *Pheretima posthuma*. Results revealed that methanol extract exhibited significant anthelminitic property followed by chloroform and aqueous extracts. An investigation was carried out by Nag *et al.* (2015) on bark extract to study the antioxidant, antimutagenic and antigenotoxic activities. Results revealed that SA bark extract has significant antimutagenic and genoprotective properties.

Terminalia chebula : From ancient times, the therapeutic value of *Terminalia chebula* (TC) has been known and was described in "Charaka Samhita" written by Charaka (Gandhi and Nair, 2005). TC is abundant in deciduous forests of India and Southeast Asia. Its fruits are yellowish-brown and incorporated in Indian Pharmacopoeia in "astringent" class and it is outline in the international commerce as Chebulic or black myrobalans (Anonymous, 1998). TC is a fasten ayurvedic remedy and various preparations made from its leaves, roots and bark, either alone or in combination with other plants like *Embelica officinalis* or *Terminalia belerica*. Dried fruit rinds of TC is frequently used as astringent, antitussive, anti-diarrheal and stypic agents in Indian and traditional Chinese system of medicines (Hsu *et al*, 1985). It is used to treat digestive tract disease, urinary disease, heart diseases, parasitic infections, fever, flatulence and constipation (Srivastava *et al*, 2012). This plant has reported number of biological and pharmacological activities due to presence of different class of chemical constituents including phenolics, flavonoids, tannins, tritepenes, anthraquinone glycosides, sterols, fixed oils, amino acids, resins, etc.

:• **Biological activities of Terminalia chebula** : Sancheti *et al* (2010) studied inhibitory effects of methanol extract of fruits of TC on AChE and BChE *in vitro*. Extracts showed 89% and 95% activity against AChE and BChE respectively. Further, 1,2,3,4,6-penta-O-galloyl-â-D-glucose, a gallotannin isolated from TC reported to be most potent inhibitor of AChE and BChE. Similar *in vivo* and *in vitro* study was carried out by several other researchers and found that gallic acid and ellagic acid along with different extract prepared from TC could also inhibit AChE (Dhivya *et al.*, 2014). Different extracts of TC have been demonstrated to shown antibacterial activity on several human pathogenic bacteria. (Malckzadeh *et al.*, 2001; Bag *et al.*, 2011). Chebulagic acid isolated from ethanol extract of fruits of TC has potent Cyclooxygenase and 5-lypoxygenase dual inhibition activity. Water soluble fraction obtained from the fruits TC can inhibit systematic and local anaphylaxis which may be due to antianaphylatic action of this fraction. Several studies showed that gallic acid derived from TC has

shown anti-inflammatory activity via down regulation of NF-8B pathway both *in vitro* and *in vivo* study (Choi *et al.*, 2009; Das *et al.*, 2011; Kim *et al.*, 2011).

Ali et al (2013) compared antioxidant potential of TC extract with standard guercetin, gallic acid and tbutylhydroguinone. Results revealed that extract of TC showed 95% activity. In vitro antioxidant potential of polyphenolic extracts of TC fruits was evaluated by Saha and Verma (2015). The result revealed that antioxidant capacity of extract was significantly higher than standard ascorbic acid, extracts also showed hydrogen peroxide scavenging activity. Antidiarrhoeal effect of TC extract and its fractions were evaluated. Results have shown that aqueous extract could reduce diarrhea which justifies the use of this herb as antidiarrhoeal agent. In addition, ethyl acetate fraction, containing Gallic acid, 3,4,6tri-O-galloyl-â-D-glucose, corilagin and ellagic acid was found to be most active and presence of this compounds was confirmed by LC-MS analysis (Sheng et al., 2016). A report is available on Anti-LOX activity of gall induced leaves of TC. Evaluation was performed using linoleic acid as a substrate and lipoxidase as an enzyme. Among different extracts assessed, ethanol extract inhibited highest anti-LOX activity (IC₅₀ = 560 µg/ml) followed by aqueous, chloroform and petroleum ether extracts. Further, strong correlation of high anti-LOX activity with high total phenol content and total flavonoid content was found. Results also justified the traditional use of leaves gall extract of TC as a natural antiinflammatory agent (Eshwarappa et al., 2016). Several researchers have reported inhibitory effect of TC phenolics on cancer cells. Potent inhibitory effect of tannic acid, ellagic acid and chebulinic acid found in the fruits of TC was reported. Effect of ethanol extract of fruit of TC in numerous cancer cell lines was evaluated. It was revealed that ethanol extract of TC fruit suppressed cell production and induced cell death in a dose dependent mode on different cell lines. In addition, chebulagic acid isolated from the fruit induced apoptosis in COLO-205 cell lines. Ethanol extract TC was reported to inhibit the hepatotoxicity produced by the dose of combination of rifampicin, isoniazid and pyrazinamide in subchronic model tested for 12 weeks. An investigation was conducted by Choi et al (2015) to assess hepatoprotective effect of water extract of TC using mice model on *t*-BHP induced acute liver injury. Before injection of t-BHP mice were orally administered with TC extract for 5 days. After 18 h of injection, histopathology, liver enzymes, antioxidant response and inflammatory cytokines were examined. Results revealed that pretreatment of extract have significantly ameliorated the alterations caused by *t*-BHP injection. This was also supported by histopathological examinations. This proved that TC extract remarkably prevents acute and severe liver injury.

-: Conclusion : At present, 80% of world population depend on medicinal plants for their primary healthcare and in the near future, herbal medicines can be a new era of healthcare system for curing different ailments. Still there is a need for advance research on process standardization, quality evaluation, and clinical study for new and existing herbal drugs. There are extensive uses of *S. asoca* in traditional systems of Indian medicine. Despite its well-known pharmacological values, this plant is
not scientifically standardized thoroughly. Similarly *T. chebula* is a medicinal plant with a wide spectrum of medicinal properties and it reported to contain various phytochemicals such as hydrolyzable tannins, flavonoids, phenolic compounds, etc. having different therapeutic applications. These medicinal plants are rich source of beneficiary antioxidant compounds and can be a rich source for preparation of functional foods if proper scientific validation is carried out.

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Strengthening India through Quality Education way

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•:• Abstract : India has been among the fastest-growing economies in the world in the last decade. However, low-quality education is crippling India's growth as its emerging workforce is unable to cope with the demands of a 21st-century economy. Traditionally, our efforts around education have focused on enrolment and not on children's learning. It is hardly surprising then that despite 97 per cent enrolment in Class 1, only 35 per cent reach Class 12 and less than 20 per cent enroll into higher education. Even for those who do complete graduation it doesn't really get any better - nearly half of our graduates are unemployable in any sector. In the hope of reaping India's demographic dividend, our governments have prioritized skill development. The new government is developing a 'Skill India' scheme. While we emphasize skilling, it is critical to understand that skilling is about 'repair' and will at best give us some short-term results. To unlock the true potential of our human capital, we must transform our school and higher education system to prepare our students for life and the workplace.

: Keywords : Quality, Education, Skill, Human Capital, Economy

•:• Introduction : The Indian education system was designed by the British rulers to create clerks to help the few thousand British administrators run a country of 50 million people. It was not designed to promote thought and encourage a culture of curiosity. As a result in most Indian schools, at least in the Public schools system, the kids do not really attain knowledge and skills commensurate with their age. There are reasons that contribute to this

- The pedagogy is boring and depends so much on being learning by rote.
- The evaluations, if they happen, are focused on a child being able to vomit out what (s)he has learnt by heart. Study of history is reduced to dates and study of language to reciting poems. The only thing I learnt about Gandhi in school was his birth date, death anniversary, the dates (years) when he launched major agitations. To understand what his philosophy was, I had to wait till I was in college: that is when I could access some good books.
- Most of the kids coming in from poorly educated households do not have the atmosphere at home to aid learning. There are no books. There is no money to pay for extra coaching, even if a kid is a slow learner and needs that support. Parents are not capable of evaluating whether the kid is learning anything.
- The curriculum is designed to leave the kid with no skills or perspectives to be able to build a working life. This is not only at the schooling level. Think about someone with a Bachelors degree; how often does this person manage to leverage what (s)he has learnt into a career? Even fresh

engineers need to be retrained by their employers to make them 'useful'. It is a grim picture. That some Indians do well is **in spite** of the system and not because of it. There is hope though.

- We have begun to recognize that the education system is not delivering. Reports like this one and PROBE (Public Report on Basic Education in India) are bringing matters to the fore.
- Educators are experimenting with new methods of teaching learning.
- Some day someone with the power to do something will wake up.

Unless policy makers and Indians are serious about education, we are going to end up with millions of uneducated or 'educated' yet unemployable youth - a grand recipe for social unrest.

•:• Role of leadership in strengthening quality education : Great leaders make great institutions. Imagine a system where the senior most employees in an organization are made the CEO. Today, unfortunately, our government school system appoints principals based primarily on seniority. We need a process for selecting our school principals and heads of institutions based on merit. Further, we need to invest in equipping these institution heads with skills that can enable them to move beyond administrative functions and assume larger leadership roles.

Technology for personalized learning and quality at scale: Technology has the potential to create new models of learning and achieve impact at scale. We must invest in a strong technology backbone, focusing on hardware and software development across our school and higher education institutions. Educators must be trained to integrate technology in their pedagogy for effective classroom delivery. Developing high-quality Massive Online Open Courses (MOOCs) and personalized learning resources in local languages can go a long way in balancing the tension between equity and excellence at scale. Blended MOOC platforms such as SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds), which was recently announced by the government and is being developed by IIT-Bombay, could deliver high-quality training to teachers at scale.

Integration between various stages of the education system: We cannot expect a business to deliver the best results if every step in the operational cycle is not properly linked to the next step. Adequate resource investment during each step of the cycle is critical for a business to achieve its goal. Similarly, we cannot expect our citizens to realize their full potential if we don't invest in every phase of their education journey. We must start by recognizing that early childhood education lays a strong foundation and ensure that every child receives it as part of the formal schooling system. As we move to primary education, we should focus on strengthening every child's literacy and numeracy skills. Secondary education should focus on enhancing employability and college readiness through vocational education, we should ensure she receives 21st-century skills such as writing, communication, critical thinking and collaboration, which will make her an informed and productive citizen. A high-quality education system is a pre-requisite for our country to achieve global excellence. For addressing

India's education crisis, we require resolute political leadership with a clear vision for education that is able to unite the forces of government, corporate houses and civil society organizations towards building the nation of our dreams.

-: Strategies : Make the problem visible : Regular assessments are needed to measure progress in learning and make the current levels visible in a way that can be understood widely. India should participate regularly in international assessments like Trends in International Mathematics and Science Study and Program for International Student Assessment so as to set goals and benchmark its performance and progress. The quality of national assessments should be improved and third party assessors like Annual Status on Education Report and Educational Initiatives should be encouraged to provide periodic feedback. The District Information System for Education (DISE) system should be upgraded to a 'Student Progress Tracking System' which will track learning levels of individual children and provide diagnostic data to serve as a basis for improvement to schools and teachers.

•• Build systemic and institutional capacity : The biggest problem in the educational system today is a severe shortage of capacity. Consider two initiatives – the Continuous and Comprehensive Evaluation (CCE) and the Teacher Eligibility Test (TET). Few people disagree that these initiatives are based on sound principles and good ideas. Yet, many – some may say most – well-intentioned ideas do not achieve their goals due to people across the system not having the required skills. In the case of the TET test, pass percentages have been between 1% and about 15% and the initiative has not had the intended impact. It raises questions both on our teacher training capacity and also the capacity to understand and execute the assessments successfully.

Strengthening research on learning is the first step and only long-term solution to this crisis. I recommend establishing a 'science of learning' centre, either as a part of National Council of Educational Research and Training (NCERT) or as a separate institute, with a mission of promoting research on how children learn. This institute can undertake research on reading, elementary mathematics, intelligent teaching systems and assessments.

However, research needs an ecosystem and we now need to kick-start such an ecosystem. We recommend the creation of a research fund (similar to the American National Science Foundation Fund), which will provide grant support for innovation to take root and grow in research institutions non-governmental organizations (NGOs) and private players based on their track record and quality of research, and direct research towards areas of national and state priorities.

-:- Establish a reading mission : If we can ensure that 80% of our children can read and write well in any one language by the time they are nine years old, we would have solved 80% of our educational problems. Reading has to become a focus area of both action and measurement and a movement which involves all. A national-level centre for reading research is more important for India than any Indian Institute of Technology and is not so difficult to create. Specialized training programs need to be

created for teachers on reading skill development and measurement. Reading tests need to be made available on computers, tablets and mobile phones so that parents can determine the reading levels of their children.

:• Build teacher and head teacher capacity : Starting with regular assessments of teacher needs which will determine individual gaps/needs in teachers, high-quality training programs need to be deployed for teacher training. Information and Communication Technology should be used as a tool to provide many of these courses on an on-demand basis.

The resources available in the National Repository of Open Education Resources (and other open education resources) should be moderated by experts to ensure that high-quality resources – including videos, teaching material and assessment questions - are available to every teacher. Rather than depending solely on government organizations like the NCERT to create all this material, this work should be carried out through 'request for proposals' that would allow talented individuals and organizations to participate and contribute.

.: Change the goal post by reforming board exams to test understanding, not recall : India's rote-based Board Exams are a source of the learning crisis observed even in primary schools. The focus on students, parents and teachers is on maximizing exam marks and not on learning, which needs to be corrected by having Board Exams that measure learning. This is not difficult to do because there are so many exams that can serve as a benchmark for this change.

•:• Work on mindsets through public education campaigns : Public education campaigns should be aimed at prospective teachers to attract talent to the sector; at parents to make them aware of what constitutes a good school, the value of education beyond marks etc.; and at existing teachers to make them understand that every child can learn well if supported etc.

•• Holistic development : Efforts in areas such as sports, arts and culture should be initiated or expanded in order to enrich holistic development. An analysis of national and international education reform efforts reveals that the following measures are critical for achieving system-wide education transformation. Accountability to student learning and reforms in governance: Just as the success of a business cannot be determined by the amount of raw material consumed or the strength of its infrastructure, the success of an education system must not be determined by inputs such as the number of classrooms, the number of books in the library or pupil-teacher ratios.

-: CONCLUSION : Quality has both absolute and relative meanings. The concept of absoluteness in quality props up the moral of the higher education system at the delivery end and at the receiving end i.e. Institutional and Students respectively. We must hold our education system accountable to high standards of student achievement. For this, we need to move from monitoring inputs to regulating for outcomes. Schools must be evaluated on outcomes such as college readiness of students, employability of school graduates and student performance on standardized assessments. Higher

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education institutes, similarly, must be evaluated based on measures such as student selectivity, placements, research papers published/cited in premier academic publications, etc. Investment in human capital development: For our children to receive best-quality education, it is imperative we attract the best and the brightest into the teaching profession. We must have a high bar for entry into the profession, with top-quality institutes for developing their capacities. It is essential to professionalize teaching, such that multiple career tracks and avenues for growth (e.g. subject matter experts, curriculum developers, teacher educators, principals/ heads of institutions) are available to our teachers.

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SUSTAINABLE DEVELOPMENT- ITS SCOPE, IMPACT & CHALLENGES

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•: INTRODUCTION : This paper present the scope, impact and challenges associated with achieving Sustainable Development in India. "Sustainable development is a development that meets the needs of the present, without compromising the ability of future generations to meet their own needs."

All too often, development is driven by one particular need, without fully considering the wider or future impacts. We are already seeing the damage this kind of approach has caused, from large-scale financial crises caused by irresponsible loans given by banks, to changes in global climate resulting from our dependence on fossil fuel-based energy sources like Thermal power plants & Nuclear power Plants. The longer we pursue unsustainable development, the more frequent and severe its consequences are likely to become. That's why this is the right time to take the action now.

•: SCOPE OF THE STUDY : The scope of sustainable development is far broader than just the environment. Living within our environmental limits is one of the main principals of sustainable development and one of the effects we know is climate change. Butit's all about strong and healthy society. Where we can meet the diverse needs of people in present and future worldby promoting personal wellbeing, social & cultural awareness, and by creating equal opportunity for one and all.

Often it is said that sustainable development just focuses on the future and not on present. But it is not the case, Sustainable development is about finding better ways of doing things, both for the future and the present. We might need to change the way we work and live now, but this doesn't mean our quality of life will be reduced.

The way we approach the development affect each one of us. The impacts of our decisions as a society have too much consequences on people's lives. For example poor planning of societies increases the possibility of society being deprived of essential services such as better roads, water, electricity, medical facilities & play areas. Thus reducing the quality of life for people living in them. Also if we don't grow our own food, inflation is surely going to rise but making it difficult for people to afford essential food items.

Whereas sustainable development provides an approach making better decisions on the issues that affect all of our lives. By incorporating health plans into the planning of new societies, where we can ensure people have easy access to healthcare & recreational areas. We can also encourage more sustainable food supply chains such as organic food produce, so that India is capable of producing enough food for long-term.

What are some examples of sustainable development?

- •:• Wind and solar energy provide sustainable sources of energy, as they cannot be depleted like fossil coal or gas. While the potential for wind energy is limited by location, modern solar panels make solar energy practical almost anywhere.
- Sustainable construction practices include the incorporation of sustainable energy, including solar, wind and geothermal energy, and the significant use of recycled lumber, plastic and metal. Lumber grown with sustainable farming practices also satisfies sustainable construction needs.
- Efficient water fixtures reduce water use, which significantly reduces the energy used in heating and transporting water.

IMPACTS OF SUSTAINABLE DEVELOPMENT -

There are many projects which fall under sustainable development. Such water dams & hydroelectricity projects. Even Solar power plants.

Why Sustainable development?

The rate at which unsustainable development is going on, we humans will not be able to last long on planet earth because of climate change, pollution, drought, diseases. The only way we all and our future generations can survive on this planet is by adopting the practice of sustainable development.

Why is sustainable development important?

- Whether it's a matter of international public policy, city planning or designing a dream home, sustainable development means catering a project to meet the immediate needs of the current generation while incorporating long-term planning into the design.
- Sustainable development makes financial sense. Taking a long-term view on investments of time and money produces more benefit over the life of a project. It is often tempting to choose an inexpensive temporary fix rather than investing more for an innovative permanent solution, as it requires a smaller initial investment. However, striving for solutions that have long-term benefits encourages technological innovation, which drives engineers and entrepreneurs to develop and market technology that is literally next-generation.
- Sustainable solutions could change the landscape of fields such as energy policy, health care, transportation and housing. Each of these areas demands attention to address local, immediate needs, but simultaneously each continues to demand attention into the future. Through sustainable development, long-term plans can address both proximal and distal issues in these areas.

What are some general concepts of sustainable development?

Sustainable development is a set of ideas and methods that seek to continue the progress and advancement of humanity, while at the same time ensuring that future generations inherit a planet able to support them. Because of this, proponents of sustainable development suggest a view of global development as a vast, interconnected system, rather than a patchwork of many different nations responsible solely for their own development.

- This systematic view of development stems from the fact that one nation's actions, for better or worse, have repercussions not just in that nation, but around the world. For instance, reforestation in Brazil improves air quality for the entire planet, because air currents eventually travel around the world. For the same reason, pollution generated within the United States or China can have the opposite effect on global air quality.
- While many global problems were created by nations and organizations that held an individualist view, proponents of social development claim that the same sort of view cannot solve these problems. Because modern global issues are systematic, resolving them requires systematic thinking and action.

•: CHALLENGES INACHIEVINGSUSTAINABLE DEVELOPMENT - It is no secret that developed nations have much larger emissions than developing countries. However, the effects of these emissions are hard-hitting on the developing nations, the ones that often do not have the resources to provide health care to their people, let alone fight the negative impacts of climate change. In the meantime, developed countries are trying to enforce "sustainable" development around the world so that the inevitable increase in carbon emissions from industrialization does not occur as development progresses.

While, I do believe it is crucial to regulate emissions in the developing world, what gives the developed world the moral authority to intervene and tell these struggling countries what to do? Development has been riddled by failed foreign intervention, and massive international aid projects that do not get resources to the right people. For years, the West has been telling developing nations what they need, instead of actually asking these nations what is important to them, is it really going to be any different this time around?

In saying this, I am not saying that developing countries do not care about the environment, because that is simply not true. I am saying that the developed world's push to force sustainable development on poor countries may not be the best approach. Environmental sustainability is a topical issue that receives plenty of attention from the media and from different governmental departments. There are some disadvantages of environmental sustainability.

- •:• Air pollution, water pollution and spreading diseases among people are main effect of the environmental in-sustainability. Different businesses are discharged the several different nitrates and sulphates, organic chemicals, metals, and dust and/or particles of soil. This matter leads air can direct to health problems in humans such as chronic and asthma.
- . The areas are generally sparsely populated resulting in interventions being generally more expensive.
- •:• There are security problems in many of the ASAL districts, so if the situation deteriorates, project achievements could be lost and plans abandoned. It can be difficult to get well-qualified outside

people to work in these areas. This disadvantage of choosing not to take the journey can be substantial opportunity losses and the risk of being left behind by more competitors.

- •:• The complexity of having a number of different interrelated project components can result in slow progress.
- Requires development of markets/infrastructure. The investments in market infrastructure that will directly by increasing productivity and improving incomes and profitability through diversification to high-value.
- Requires compromise and communication. When dealing with sustainability, clients have previously included a general requirement for projects to be 'sustainable' to their consultant teams. This provides an ill-defined requirement which is frequently interpreted by different team members in divergent ways to deliver value.
- . In the short term may be less economically hence costly.
- Heating buildings can account for as much as 17% of total organizational energy costs. Simple measures can be taken to reduce these, such as draught-proofing doors and windows and insulating pipes to radiators. Buildings with high ceilings cost more to heat, so putting in a false ceiling reduces energy consumption. As with other measures a cost to benefit assessment needs to be calculated.
- **:** Risks of over-exploitation.
- -: Requires intensive research and planning.
- During normal operation nuclear energy has a low impact on health and the environment. In order to make a continuing contribution to sustainable development goals, nuclear energy will have to maintain its high standards of safety in spite of increasing competition in the electricity sector ageing reactors and the expansion of the industry to new countries and regions.
- Requires the resolution of competing claims forests to forest lands through the institution of new laws and may require conflict management mechanisms.
- Physical influence on people and traffic (Noise, dust, smell, vibration, ground settlement, traffic congestion.
- Environmental Influence upon surrounding nature. (Change in water level & quality, chemical reaction of reducing ground).
- Using solar energy Solar energy is useful when the sun shines but in the course of night these expensive solar equipment's are useless. It is the drawback of using the solar energy for generating electricity and heat.
- It is another disadvantage of using solar energy in electricity generation, as solar equipment's require large areas for installation, hence if the area is limited, it will create problems. As solar energy is diluted, it requires a lot of solar collectors for the purpose of storing solar energy effectively. Solar collectors are expensive and need a heavy maintenance for proper functioning.

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•:• Key factors to achieve greener economy (pillar of sustainable development)- While changes in employment and incomes will be seen throughout the economy, eight key sectors will need to undergo major changes: agriculture, forestry, fishing, energy, resource-intensive manufacturing, recycling, buildings and transport.

•:• *Agriculture* is the largest employer globally with over a billion workers, including a large number of poor rural workers and subsistence farmers (notably women). Strong investment in skills, rural infrastructure and organization to enable smallholder farmers to adopt greener and more productive farming practices could boost food security, lift tens of millions out of poverty and prevent accelerated rural–urban migration thus boosting the sustainable growth.

•:• In the **forest industries**, unsustainable practices have already led to job losses, sometimes on a very large scale. Sustainable forest management provides both essential environmental services and renewable raw material to other sectors while also providing quality jobs.

•:• The *fisheries* sector faces a major, albeit temporary, transition challenge due to overfishing. Of particular concern is that the vast majority (95 per cent) of the 45 million workers employed in fishing are mostly poor artisanal coastal fishermen in developing countries. Temporary reductions of catch are needed in many fisheries to avoid the collapse of fish stocks and to allow their recovery for sustainable food production and employment.

•: In the **energy** sector, rapid employment growth in renewable energy, improvements in energy efficiency and enhanced access to energy can lead to major gains in employment and income opportunities, as well as in significant environmental benefits. Fossil energy generation islikely to see job losses, calling for policies that ensure a just transition for workers and communities.

Resource-intensive manufacturing has seen a decline in employment for decades, in which the environment has been a minor factor. However, a green economy could increase demand for products from these industries, contributing to improved competitiveness while protecting existing employment and even creating new jobs.

•: **Recycling** is critical for energy efficiency, avoidance of waste, safe treatment of hazardous waste and recovery of valuable materials. Employment could be increased significantly by improving recycling rates, and there is major potential to improve social inclusion and reduce poverty through formalization, as the majority of waste pickers, notably women and child labourers, are concentrated in informal employment Energy- and resource-efficient buildings have the largest potential to reduce greenhouse gas emissions and resource use. There are also significant opportunities for employment creation in new, green buildings, and even more opportunities in retrofitting the large estate of older buildings. A successful strategy hinges on skills development and on preparation and upgrading among the small and medium-sized enterprises (SMEs) which dominate the sector.

SUSTAINABLE DEVELOPMENT: COSTS AND BENEFITS

COSTS	BENEFITS
 In the short term may be less economically hence costly Risks of over-exploitation Requires intensive research and planning Requires development of markets/infrastructure Requires compromise and communication Requires mechanisms for education Requires the resolution of competing claims forests to forest lands through the institution of new laws May require conflict management mechanisms May require politically unpopular land reform 	 Involves local people and provides them with rewarding, immediate work, income, and education Preserves functionality and diversity of system while providing a wide range of economic benefits Promotes the diversification of forest products including non-wood forest products (NWFPs) Preserves the natural services provided by forests Provides a niche for indigenous peoples in modern, free market society should they choose

•• CONCLUSION : We all have a part to play. Small actions, taken collectively, can add up to real change. We already have technology and if we all get a supportive system & political will, we can achieve sustainable development for us & our future generations to come. Without compromising on the environment & quality of life we are expecting thru advanced technologies. We just need to keep in mind "We humans need mother earth and not the vice versa."

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Ramabai Ranade: Famous Social Reformer Who Fight Against Social Evils Darshan Kumar, Research Schloar

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Ramabai Ranade (January 25, 1862-1924) was an Indian social worker and one of the first women's rights activists in the 19th century. She was born in Kurlekar family in 1862. At the age of 11, she was married to Justice Mahadev Govind Ranade, who was a distinguished Indian scholar and social reformer. In that era of social inequality, when women were not allowed to go to school and become literate, ramabai, soon after her marriage, started to learn reading and writing with strong spot and encouragement from Mahadev Govind Ranade. Starting with her native language Marathi, Ramabai strove hard to master English and Bengali. Inspired by her husband, Ramabai starded, " Hindu Ladies Social Club", in Mumbai to develop public speaking among women. Ramabai was also a founder and President of " Seva Sadan Society" in Pune. Ramabai devoted her life to the improvement of women's lives. Ramabai Ranade open famous girl's school in Pune " Hujurpaga".

-:- Introduction : Ramabai Ranade is a pioneer of the modern women's movement in India and outside. She was the founder and president of the Seva Sadan, which is the most successful of all Indian women's institution and is attended by thousands of women. The immense popularity of the institution was due to the fact that it was under Ramabai's close personal supervision. She concentrated all her energy for the growth of Seva Sadan.

•:• Early Life and background : Ramabai Ranade was born on 25th January 1862 in Kurlekar family, living in a small village, Devrashtre of Sangli district, Maharastra. As educating girls was a taboo in those days, her father did not educate her. In 1873, she was married to Justice Mahadev Govind Ranade, a pioneer of India's social reformer movement. He devoted his time to educate her in face of opposition of the women in the house and helped her to become an ideal wife and a worthy helpmate in social and educational reform. With his strong support and sharing his visionary path, Ramabai spent all her life making women self-reliant and economically independent.

She was barely 11 years old when she was married to Mahadev Govind Ranade, who was a scholar, idealist and a revolutionary social activist. Ramabai was illiterate when she was married as she live in a time when considered a sin for a girl to read or write. On the contrary, her husband, addressed as the "Prince of Graduates", was a graduate of Bombay University with first class honors. He not only worked as the Professor of English and Economics at the Elphinstone College in Bombay, but was also as an oriental translator and a social reformer. He worked rigorously against evils that existed in the society. He was against untouchability, childmarriage and Sati. He took over the Sarvajanik Sabha and led a number of movements for social development. He had won the praise of the whole of

Maharastra by the time he was in his early thirties. His overarching thinking, dynamic vision, passionate and devoted social commitment strongly inspired Ramabai and illuminated her path for future social work.

•:• Education : Ramabai made it a mission to educate herself, so that she could be an equal partner in the active life led by her husband. Justice Ranade gave regular lessons to young Ramabai in writing and reading Marathi, History, Geography, Mathematics and English. He used to make her read all news papers and discuss current affairs with him. She became his devoted disciple and slowly became his secretary and his trusted friend. Ramabai's important literary contribution is her autobiography Amachya Ayushyatil Athavani in Marathi in which she give a detailed account of her married life. She also published a collection of justice Ranade's lectures on Religion. She was very fond of English Literature.

Ramabai made her first public appearance at Nasik High School as the Chief Guest. Justice Ranade wrote her maiden speech. She soon mastered the art of public speaking, both in English and Marathi. Her speeches were always simple and heart-touching. She began working for Prarthana Samay in Mumbai. She established a branch of Arya Mahila Samaj in the city. From 1893 to 1901 Ramabai was at the peak of her popularity in her social activities. She established the Hindu Ladies Social and Literary Club in Bombay and started a number of classes to train women in languages, general knowledge, tailoring and hand work. The latter half of her life was tragic as it was shadowed by the death of her husband. She left Bombay and came to Pune and stayed at their old ancestral house near Phule Market. For one year she led an isolated life. Finally, she came out of her selfimposed isolation to organize the first Bharat Mahila Parisad in Bambay. Ramabai lived 24 years after her husband's death- a life full of activity for social awakening redressal of grievances and established social institution like Seva Sadan for rehabilitation of distressed women. Ramabai vigorously worked for the next 25 years for women's education, legal rights, equal status, and general awakening. She encouraged them to enter the nursing profession. At that time, this profession was not looked up on as service-oriented and was so considered forbidden for women. To encourage women to come forward, she always asserted, "Don't we nurse our father or brother when he falls ill? All male patients are our brothers and nursing them is our sacred duty."

•:• Work for Society : Ramabai made her entry into public life in the 1870s, but it was after justice Ranade's death in 1901 that she wholly identified herself with the cause of women in India. She became a regular visitor to the central prison, especially the women's wing, to kindle self-esteem amongst prison inmates.

She paid visit to boys in the reformatory school, spoke to them and distributed sweets to them on festive occasions. She regularly visited patients in local hospitals, distributing fruits, flowers and books. She also went out to Gujrat and Kathiawar in 1913 to organize relief for famine-stricken people. Even in the final years of her life she went to Alandi at the time of Ashadi and Kartiki fairs, with volunteers from the Seva Sadan, to render help to women pilgrims visiting the shrine of Sant Dnyaneshwar. In taking up this activity she laid foundation for a new type of social service for women. In 1904 when Ramakrishna Gopal Bhandarkar, Shri Bhajekar and other leaders of social reforms proposed to organize an All India Women Conference they approach Shrimati Ranade for her cooperation, lead and support. The first session of the conference was held under the presidency of Smt. Ranade in December 1904, at Mumbai.

•• Work for Women : In 1908 Shri B M Malbari and Shri Dayaram Gidumal, came across with the idea of founding home for women and training Indian women to be "sevikas". They then turned to Smt. Ranade, the President of the first All India Women Conference for the guidance and help for starting a society and thus Seva Sadan(Bombay) came into being. In 1915 the Pune Seva Sadan was registered as a society under her guidance, the society expanded its old educational departments and also started new ones. It developed a Women's Training College, three hostels, one of them for medical students and other for probationer nurses.

In 1924, when Smt. Ranade died, the Pune Seva Sadan was training more than one thousand women in different departments. It was largely owing to Smt. Ranade's initiatives, guidance and exertions that Seva Sadan found a footing and grew so rapidly in spite of prevailing prejudices. The last two outstanding contribution which Smt. Ranade made were- the organization of agitation for extending compulsory and pre primary education to girls: and secondly organization of women's Suffrage Movement in Bombay presidency in 1921-22. The singular position, which smt Ranade assumed at the end of her life deserved Mahatma Gandhi's tribute to her as quoted: "The death of Ramabai Ranade is a great national loss. She was the embodiment of all that a Hindu widow could be. She was a true friend and helpmate of her illustrious in his lifetime".

In those days mostly widows took the nursing course sponsored by Seva Sadan. Once there was an occasion of the annual social gathering of Seva Sadan. One of the highlight of the function was the prize distribution ceremony. Among the prize winners was a widow. She was dressed in the traditional dress of the widows of those days, a simple dark red sari with the pallu tightly drawn over her clean shaven head. As the widow stepped on the stage, the student crowding the galleries started hooting and shouting. This outburst of misbehavior hurt Ramabai's feelings deeply. As she stood upon the stage towards the end of the function to give a brief thanksgiving speech, she was so provoked that she could not help chastising the student crowd with all the severity at her command: "You are college students and yet how can you be regarded as educated? How can those be considered as educated who not only do not extend sympathy to their unfortunate sisters who have fallen victims to cruel fate and merciless social customs, but find it fit to heap ridicule on them.

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ASSESSMENT OF FLEXIBILITY BETWEEN BOYS AND GIRLS OF PROFESSIONAL COLLEGE AND NON PROFESSIONAL COLLEGE STUDENTS

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- Abstract : The present study was under taken to study of assessment of flexibility between boys and girls of professional and non professional college students. To achieve this purpose of the study, 100 boys and 100 girls from professional colleges and 100 boys and 100 girls from non professional colleges were selected as subjects who were from the various colleges, Trivandrum. The selected subjects were aged between 18 to 25 years. The subjects were tested on selected criterion variable such as flexibility. The selected criterion variable such as flexibility was measuring by sits and reach test. The 't' test was used to compare two groups boys and girls and professional and non professional college students and analysis of variance (ANOVA) was used to find out to compare all the four groups. Whenever the 'F' ratio is significant, Scheffe's post hoc test was computed. The 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The result of the present study has revealed that there was significant difference between boys and girls, and difference between professional college students and non professional college students on health related physical fitness variable, flexibility and it was also found that girls were more flexibility than boys and students of non professional college students have more flexibility than professional college students. Comparisons among Professional college (PC) boys, Professional College (PC) girls, non professional college (NPC) boys and non professional college (NPC) girls on health related physical fitness variable, flexibility proved that there was significant differences among the groups. And it was found that PC girls were stood best in flexibility, followed by NPC girls, NPC boys and PC boys and the differences were significant. : Key words : flexibility-boys-girls-professional & non professional students

•:• INTRODUCTION : The human body developed to be physically dynamic. At the end of the day, our bodies require physical action to stay sound. All through history, survival of the human species relied on upon chasing or assembling our sustenance supplies, interests that requested delayed and frequently strenuous physical movement. The appearance of automation and present day innovation in the most recent couple of decades has brought about humankind turning out to be less physically dynamic than at any other time – and we are paying for it with our wellbeing. Physical fitness is essential for every human being irrespective of their age. A minimum level of physical strength is required to carry out a

given work. Extraordinary skill and fitness should be possessed for a game of basketball .If he cannot possess necessary requirements of a game till the end of allotted time; he may not find a berth in the team. To enjoy the life fully fitness is the first and foremost thing. Physical fitness is a universally accepted and realized terminology. Physical fitness is a capacity to meet the present and potential physical challenges of life with success. The present concept of physical fitness is not only freedom from disease, but also to gain enough strength, agility, flexibility, endurance and skills to meet the demands of daily life and to build sufficient reserve energy to withstand stress and strain. Physical fitness is an important outcome of physical education and it is physical education in the school system that is most capable of bringing it out. The physical fitness over a long span and examination of the same reflect the status of health. Physical examination assesses the growth pattern and functional efficiency of sensory and motor organs, functional efficiency of the body in terms of strength, cardiorespiratory endurance, flexibility, speed, agility, balance and neuromuscular co-ordination. Nichols in his study has narrated Health - related physical fitness as a must for everyone and it should be emphasized by physical educators and medical people alike. Health related fitness is the ability to execute strain full activity without being fatigued showing evidence of traits that limit the risk of budding diseases and disorders which affect a person's functional capability. The Health related physical fitness has muscular strength, endurance, flexibility, cardio respiratory endurance and body composition as its components.

Flexibility or agility alludes to the total scope of development in a joint or arrangement of joints, and length in muscles that cross the joints to prompt a bowing development or movement. Flexibility shifts between people, especially as far as contrasts in muscle length of multi-joint muscles. Flexibility is a pre requisite for maximal development of movement force and speed. Greater range of movement enables the muscles to develop more force and speed. It also allows movements with minimum of muscle tension and internal resistance help in achieving higher movement economy. Flexibility is significant in performing sports skills and also in physical medicine such as rehabilitation, general health and fitness, example, flexibility exercises are important for relief of dysmenerrhea, general neuromuscular tensions and low back pains.

•:• Methodology : To achieve the purpose of the study 100 boys and 100 girls were randomly selected from four professional colleges in Kerala and 100 boys and 100 girls were randomly selected from four non professional colleges. The colleges were located at various places at university of Kerala. Each 25 boys and girls from Mar Baselios Engg. College, St. Thomas Engg. College, Heera Engg. College, Lourd Matha Engg. College, Mar Ivanios College, St. Xaviers College, Mother Teresa Arts & Science College and University College. They were in the age between 18 to 25 years. For this study flexibility was chosen as a variable. The selected criterion variable such as flexibility was measuring

by sit and reach test. The 't' test was used to compare two groups boys and girls and professional and non professional college students and analysis of variance (ANOVA) was used to find out to compare all the four groups. Whenever the 'F' ratio is significant, Scheffe's post hoc test was computed. The 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate.

•:• Statistical Analysis : The data collected from all the four groups was statistically examined for significant difference if any, by applying the 't' test was used to compare two groups boys and girls and professional and non professional college students and analysis of variance (ANOVA) was used to find out to compare all the four groups. Whenever the 'F' ratio is significant, Scheffe's post hoc test was computed. The 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate.

Findings Flexibility : In order to compare health related physical fitness variable such as, Flexibility, between boys and girls of professional and non professional college students, data were collected using 'sit and reach test'. The obtained data were subjected to 't' test and the results presented in Table I, Table I Mean, Mean Difference, Standard Deviation and Obtained 't' Ratio on Flexibility between Boys and Girls of Professional and Non Professional Colleges

Groups	N	Means	MD	SD	SDM	Obtained 't'
Boys	200	35.15		4.41		
Girls	200	38.48	-3.33	4.67	0.45	7.34*

* Significant at 0.05 level

't' value required at (0.05)(1,199) = 1.65

The obtained means on health related physical fitness component, Flexibility of boys was 35.15 with standard deviation ± 4.41 and girls was 38.48 with standard deviation ± 4.67 and the mean difference was -3.33. The obtained 't' value of -7.34 was significant at 0.05 as the obtained 't' value was greater than the required 't' value of 1.65 to be significant at 0.05 level. Comparison proved that there was significant difference between boys and girls on health related physical fitness variable Flexibility. In order to compare health related physical fitness variable such as, Flexibility, between professional and non professional college students, data were collected using 'sit and reach test'. The obtained data were subjected to 't' test and the results presented in Table II

Table II

Mean, Mean Difference, Standard Deviation and Obtained 't' Ratio on Flexibility between

Professional and Non Professional College Students

Groups	N	Means	MD	SD	SDM	Obtained 't'
Professional College Students	200	36.51		4.85		
Non Professional College Students	200	37.12	0.61	4.81	0.48	1.27

Not Significant at 0.05 level

The obtained means on health related physical fitness component, Flexibility of professional college students was 36.51 with standard deviation ± 4.85 and non professional college students was 37.12 with standard deviation ± 4.81 and the mean difference was -0.61. The obtained 't' value of -1.27 was significant at 0.05 as the obtained 't' value was greater than the required 't' value of 1.65 to be significant at 0.05 level. Comparison proved that there was significant difference between professional college students and non professional college students on health related physical fitness variable Flexibility. In order to compare the differences among boys and girls of professional college and boys and girls of non professional college, that is, four groups, ANOVA was employed and the descriptive statistics, mean, standard deviation, minimum and maximum on health related physical fitness variable, Flexibility is presented in Table III.

Table III

Descriptive Statistics, Mean, Standard Deviation and Range on Health Related Physical Fitness variable Flexibility among boys and girls of Professional and Non Professional College Students

GROUP	Ν	MEAN	S D	RANGE	
			5 D	Min	Max
PC Boys	100	34.45	3.33	27.00	41.00
PC Girls	100	38.56	5.26	31.00	45.00
NPC Boys	100	35.84	5.20	11.00	48.00
NPC Girls	100	37.44	4.02	31.00	48.00

PC : Professional College NPC : Non Professional College

The results presented in Table III proved that the professional college boys mean on Flexibility was 34.45 with standard deviation \pm 3.33 professional college girls mean was 38.56 with standard deviation \pm 5.26 non professional college boys mean was 35.84 with standard deviation \pm 5.20 non professional girls mean was 37.44 with standard deviation \pm 4.02.

Since there were differences in means among the four groups to test statistical significance, ANOVA was used and results presented in Table IV.

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Table IV

ANOVA Results on Health Related Physical Fitness Variable Flexibility among Boys and Girls of Professional and Non Professional College Students

Source of Variance	Sum of Squares	df	Mean Squares	F	
Between	1210.11	3	403.37		
Within	8120.83	396	20.51	19.67*	

Required F value at 0.05 (3,396) : 2.627 * Significant

The obtained F value 19.67 was greater than the required F value of 2.627 to be significant at 0.05 level. As the obtained F value was greater than the required table F value, it was found that there was significant difference among the groups, that is, professional college boys; professional college girls, non professional college boys and non professional college girls.

Since significant F value was obtained, the results were further subjected to statistical treatment using Scheffe's confidence interval test and the results presented in Table V., Table V

Multiple Comparisons of Paired Mean Comparisons among Boys and Girls of Professional College

PC BOYS	PC GIRLS	NPC BOYS	NPC GIRLS	MD	REQUIRED C I
34.45	38.56			4.11	0.93
34.45		35.84		1.39	0.93
34.45			37.44	2.99	0.93
	38.56	35.84		2.72	0.93
	38.56		37.44	1.12	0.93
		35.84	37.44	1.60	0.93

and Non Professional College Students

PC: Professional College NPC: Non Professional College

Reqd CI : Confidence Interval

* Significant

The following paired mean comparisons were significant as the obtained mean differences were greater than the required confidence 0.93

Professional College Boys Vs Professional College Girls (MD: 4.11)

Professional College Boys Vs Non Professional College Boys (MD:1.39)

Professional College Boys Vs Non Professional College Girls (MD:2.99)

Professional College Girls Vs Non Professional College Boys (MD:2.72)

Professional College Girls Vs Non Professional College Girls (MD:1.12)

Non Professional College Boys Vs Non Professional College Girls (MD: 1.60)

-: Discussion : The results of the study reveal that there was significant difference between boys and girls of professional and non professional college students on health related physical fitness variable, such as flexibility. It was also found that girls were more flexible than boys. It was found that there was significant difference between professional college students and non professional college students on health related physical fitness variable, flexibility and students of non professional college students have more flexibility than professional college students. Comparisons among Professional college (PC) boys, Professional College (PC) girls, non professional college (NPC) boys and non professional college (NPC) girls on health related physical fitness variable, flexibility proved that there was significant differences among the groups. And it was found that PC girls were stood best in flexibility, followed by NPC girls, NPC boys and PC boys and the differences were significant. The result of the study is in consonance with Van de Vliet et.al (2006) and Ciaran MacDonncha and Rhoda Sohun (2006).

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हिन्दी साहित्य में सम्बन्धित नारी तथ्य

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लेखसार : वैदिक काल से नारी का समाज के लिए एक महत्वपूर्ण योगदान रहा है। उस काल में नारी एक सशक्त रुप में थी उत्तरोति समय में नारी की शक्ति छिन्न होती गई और समाज उसको कमत्तर आँकने लगा। वैदिक काल में नारी की स्थिति अत्यधिक सहज और प्रभावशाली थी और वह पुरुशों के समान अधिकार रखती थी। शिक्षा के द्वार उसके लिए खुले और अनुकूल थे। वह ऋषियों तक का स्थान ग्रहण कर सकती थी। समाज में उसे पूरे अधिकार थे वह अपना जीवन साथी स्वयं चुन सकती थी। पुर्नविवाह नारी और नर के लिए दोनों के लिए मान्य था। नारी के विकास को कम करने वाली अमानवीय प्रथाओं का इस काल में कहीं भी नहीं दिखाई देता।

सृष्टि रचना से ही नारी का एक विशेष अवस्था या स्थान रहा है। इस देश में भी प्राचीन काल से शिक्षा का खूब प्रचार था। वैदिक काल में अनेक नारियाँ विदुषी थी। गार्गी, मैत्रेयी और सुलभा आदि अनेक ब्रहमवादिनी और मंत्र—दर्शिनी नारियों का समाज में विशिष्ट स्थान था। वैदिक काल में नारियों की दशा बहुत अच्छी थी अनेक नारियों ने ऋषियों की समानता की । वैदिक काल में ही काक्षीवान की पत्नी घोशा काक्षीवती ऋग्वेद के दो सूक्तों की ऋषिका थी। इसी प्रकार नारियों का भारत में काव्य सृजन या साहित्य सृजन के क्षेत्र में एक लम्बी परम्परा रही है। नारियों का वैदिक ऋचाओं की लेखिका होने के साथ उपनिषदों, भाष्यों, तर्कशास्त्र, काव्य, संगीत, श्लोक उच्चारण आदि में महत्वपूर्ण भूमिका रही है।

भारतवर्ष में महिलाओं की स्थिति ने पिछली कुछ सदियों में कई बदलावों का सामना करना किया है। प्राचीन काल में पुरूषों के साथ बराबरी की स्थिति से लेकर मध्ययुगीन काल के निम्न स्तरीय जीवन और साथ ही कई सुधारकों द्वारा समान अधिकारों को बढावा दिए जाने तक भारत में महिलाओं का इतिहास काफी गतिशील रहा है। संसार भर में नारी की स्थिति सदा पददलित रही है। यद्यपि साहित्य में नारी का बहुत गुणगान किया गया है और इसकी महिमा को स्थापित करके समाज के आगे समर्पित किया गया है लेकिन व्यवहार में इसके विपरित प्रतिक्रिया हुई है। नारी जाती की विषेशताएं सदा से ही बनी रही हैं। नारी समाज में महत्वपूर्ण अंग होते हुए भी इसे सुख सुविधाओं से सदा वंचित रहना पड़ा है।

महाराज मनु ने नारी के सम्बन्ध में बहुत ही उच्च पद दिया है, *'यत्र नार्यस्तु पूज्यन्ते रमन्ते तत्र देवताः*। यत्रैतास्तु न पूज्यन्ते सर्वास्तत्राफलाः क्रियाः।'' अर्थात जिस घर में नारी की मान सम्मान होता है वहाँ सदा सभी कार्य सफल हो जाते हैं और उस घर में मानव रुपी देवता निवास करते है। जहाँ नारी का अपमान होता है वहाँ के सभी कार्य असफल हो जामे हैं।

हिन्दी साहित्य की अनेक विधाओं में नारी के सम्मान की बात की गई है। एक तरफ तो मनु का उदाहरण दे कर नारी का सम्मान किया जाता है दूसरी तरफ उसकी स्वतन्त्रता के विचार को रोका जाता है। इस प्रकार यहाँ नारी के प्रति ऐसी द्वैत स्थिति है कि वह चक्की के दो पाट्टो के बीच पीस रही है। लेकिन मानव के चेतना के स्तर पर नारी को पूजा के लिए आज भी देवियों का अस्तित्व बना हुआ है।

भारतीय हिन्दी साहित्यः–

भारत के हिन्दी साहित्य में नारी को सम्मान मिला है। उसको विभिन्न रुपों में पूजा गया है। हिन्दी साहित्य की एकांकी विधा में नारी के उधार चरित्र को रंगमंच के माध्यम से प्रस्तुत किया गया है। एकांकी के माध्यम से चर्चा करते हुए प्राचीन काल से ही नाट्य कला में नारी को समाज का अभिन्न अंग दर्शाया गया है। एकांकी में एक पात्र को अभिनय से अपनी अभिव्यक्ति को प्रभावशाली बना सकता है। भारतीय साहित्य में महादेवी वर्मा ने कहा है, "भारतीय स्त्री के सम्बन्ध में भी यही सत्य हो रहा है। उसको बहुत आदर और सम्मान मिला उसके बहुत गुणगान हुए, उसकी ख्याति दूर दूर देशों तक पहुँचाई गई, यह ठीक है, परन्तु मन्दिर के देवता के समान ही सब उसकी मौन जड़ता में ही अपना कल्याण समझते रहे। उसके अत्यधिक श्रद्धालु पुजारी भी उसकी निर्जीवता को ही देवत्व का प्रधान अंश मानते रहे और आज भीमान रहे हैं।"

हिन्दी साहित्य में नारी की चर्चा करते और उसको समझने के लिए साहित्य को विभिन्न कालों में सुविधा की दृष्टि अनेक कालों में विभाजित कर सकते है। इन काल खण्डों में सभी प्रकार की विधा का अध्ययन में एकांकी या नाट्य कला में नारी की भूमिका को स्पष्ट करके नारी को स्थापित किया है। इन काल खण्डों में आदिकाल के हिन्दी साहित्य में अनेक प्रकार के साहित्य की रचना हुई है।

आदिकाल:— हम आदिकाल को आचार्य रामचन्द्र शुक्ल ने संवत् 1050 विक्रमी से माना है। इन्होंने इस समय में विभिन्न प्रकार से देखा है जो सिद्ध साहित्य, जैन साहित्य, रासों साहित्य, नाथ साहित्य के अतिरिक्त रुपकों, उपरुपकों (एकांकी / नाट्य) आदि है। इस साहित्य में नारी का स्वरुप निम्न कोटि का माना गया है। सिद्ध, जैन, नाथ साहित्य में नारी को पुरुष की उन्नति में का सबसे बड़ा बाधक माना है। रासो साहित्य में नारी का दूसरा चरित्र उभरकर सामने आया है। रासो साहित्य की महत्वपूर्ण रचना पृथ्वीराज रासो में नारी का उदात चरित्र पेश करके उसे समाज में संघर्ष करते हुए और कामिनी रुप दिखाया गया है। अब्दुर्रहमान का संदेश रासक ऐसा काव्य है जो एक नारी की व्यथा, उसकी संवेदना, मार्मिकता, उसके धैये, प्रेम के अथाह सागर रुपी व्यक्तित्व को प्रस्तुत किया है। इस प्रकार आदिकाल में नारी के लिए ज्यादा अच्छा नहीं रहा। भक्तिकाल:— भक्तिकाल एक आध्यात्मिक काल रहा है। इसको हिन्दी साहित्य का भी स्वर्णकाल कहते है। इस काल के प्रमुख रचनाकार कबीरदास, जायसी, तुलसीदास और सूरदास आदि के नारी के सम्बन्ति तथ्य द्वैत रुप में है। अगर सन्त काव्य को छोड़ दिया जाए तो इस काल में नारी को ही सम्पूर्ण काव्य चेतना सामाजिक सन्दर्भ में नारी को ही केन्द्र में रखा है। इस काल में नारी का गुणगान रहस्य के रुप में प्रर्दशित हुई है। मध्यकाल तक नारी का जीवन सामान्यतः मानव समाज की आधारभूत संस्था परिवार तक ही सीमित था। पूर्व मध्यकालीन हिन्दी भक्ति काव्य धारा आध्यात्मिक चेतना पर आधारित कोरा भावविलास ही नहीं, उसमें कहीं वाच्यार्थ में तो कहीं प्रतीकार्थ में सामाजिक चिन्ताओं का सन्निवेष है। इस काल में मीरा के पद जरूर ही नारी अस्तित्व की पहचान में समर्थ मालूम पड़ते है। मीरा सबसे पहली कवयित्री है जो समाज के बनाए हुए परम्परागत मूल्यों का निवाई नहीं करती। डॉ. विश्वनाथ त्रिपाठी ने भक्ति आन्दोलन में नारी पुरूष की समानता को लेकर लिखा है ''भक्ति आन्दोलन को भी घर से उसी तरह बाहर आने का निमंत्रण देता था जिस प्रकार पुरूष को। भक्ति की दृष्टि में नारी और पुरूष में अन्तर नहीं है। दोनों अंशी के अंश है।''

उत्तरमध्यकाल या रीतिकालः— रीति काल के हिन्दी साहित्य केन्द्र में नारी की भूमिका रही है किन्तु इसका रुप बदल गया। रीति काल के कवियों ने नारी को विलास की ही वस्तु समझा था। उन्होंने उसकी भावनाओं की नहीं बल्कि उसेकी शारीरिक बनावट को केन्द्र में रख कर काव्य रचना की। प्रेम के बाह्य रुप को ही उन्होंने अपने काव्य का विषय बनाया अर्थार्त इन काव्य ग्रन्थों में सेक्स की अधिक अपील की गई है और औरत के शारिरिक स्वरुप का सुक्ष्मता सं विश्लेषण किया है। नायिका भेद, उसके नख से शिख तक का वर्णन इस काल में किया गया है। डॉ. नगेन्द्र ने इस बारे में लिखते हैं ''वास्तव में नारी के प्रति इन कवियों की दृष्टि सामान्तीय ही रही है। ये उसे पुरूष के समकक्ष समाज की चेतन इकाई अथवा पुरूष का अर्द्धांग न समझकर भोग्य सम्पत्ति के समान उसे भोग का मात्र उपकरण समझतम हैं।''

आधुनिककाल या गद्यकाल :- इस काल में आकर नारियों को भी अपने भावों और विचारों को अभिव्यक्ति करने का अवसर मिला। इस काल में अनेक विधाओं का सृजन हुआ। गद्य में अनेक विद्याओं में से एक विद्या एकांकी / नाट्य के रुप में स्वतन्त्र होकर सामने आई जिसमें नारी का भी चित्रण हुआ। इस काल में एकांकी का उद्देय हुआ। भारतेन्दु से इस काल और एक अंक वाले नाटकों का आरम्भ माना जाता है। इस प्रकार भारतेन्दु युग में ही एकांकी का नींव रखी गई। भारतेन्दु की कर्षत 'प्रेम जोगनी' जो एकांकी का आरम्भ माना जाता है इसमें नारी के भारतीय जीवन का जीवित एवं सजीव चित्र दिखाया है। इस दृष्टि से भारतेन्दु रचित 'मारत दुर्दशा', प्रताप नारायण मिश्र रवित 'कलि कौतक रुपक', श्रीशरण रचित 'बाल विवाह' जैसे अनेक नाटक एकांकी के माध्यम से सामाजिक समस्याओं पर प्रहार किया है। एकांकी के दूसरे युग में जयशंकर प्रसाद का 'एक घूँट' लिखा गया है। इस एकांकी में नारी Rexjounal

के विवाह समस्या का विवेचन एवं समाधान भावुकतापूर्ण शैली में किया गया है। आधुनिक काल में प्रमुख एकांकीकार *डॉ. रामकुमार वर्मा* ने तो अनेक सामाजिक समस्या प्रधान एकांकियों की रचना करके हिन्दी एकांकी साहित्य को बहुमूल्य धरोहर प्रदान की है। इन्होंने जीवन की वास्तविकताओं को अपनी एकांकियों का आधार बनाया। इस दृष्टि से इनके *'एक तोले अफीम की किमत', 'अठारह जुलाई की शाम', 'दस मिनट', स्वर्ग का कमरा', 'जवानी की डीब्बी', 'आखों का आकाश', 'रंगीन स्वप्न'* आदि एकांकी सामाजिक एवं नारीशक्ति एकांकी का प्रतिनिधि ात्व करते है। इन्होंने नारी को चित्रित करते हुए दिखाई देते हैं इसकी एकांकियों में पाप, पुण्य, प्रेम तथा वासना संबन्ध ी प्रश्नों को उठाते हुए यह चित्रित किया है कि प्रेम के बिना वासना असम्भव है।

लेख उद्देश:-- हिन्दी साहित्य में काव्य, उपन्यास, कहानी आदि के अतिरिक्त एकांकी विधा के माध्यम से नारी पात्रों को दर्शाना है। एकांकी विधाओं में चित्रित नारी के नेतृत्व, हृदयवेदना स्वरुप को दिखाना रहा है। इस लेख में एकांकी विधा में चित्रित नारी के सम्मान जनक स्थिति मानवीय मूल्य स्थापित करने की आशा करना। सामाजिक वास्तविकताओं के बारे में विशुद्ध ज्ञान प्राप्त तथा सिद्धान्तों का विकास अथवा विस्तार ।

उपसंहार :- अतः कहा जा सकता है कि हिन्दी साहित्य में नारी के विषय और उसकी समस्या पूर्ति, उसके नेतृत्व आदि को पहचान कर एकांकी के माध्यम से मंचन करवाके समाज में एक सकारात्मक संदेश करना चाहिए। इस प्रकार साहित्य में नारी चिन्तन और महिमा के साथ अभिव्यक्ति की है। नारी और उसका स्वाभिमान रुप उसके चिन्तन और व्यवहार को प्रकट करता है।

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Network graphs over the river Yamuna and factors resultingin flood.

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-: Abstract : Over the past many centuries river floods have been a matter of great concern throughout India. India being a country with varied natural habitats is also fortified with several rivers flowing through almost every state. These rivers mostly have their tributaries playing a major role to reach out the remote places that are difficult to reach by the river itself. However, during the time of monsoon or the rainy season these rivers also act as catastrophe originating instruments and thereby resulting in floods. These floods cause heavy destruction causing financial as well as loss of life at many times. One such incident of the river Yamuna during the time of flood is discussed. This paper involves a mathematical approach in the form of constructing graphical network over the flow patterns of the river and its flooded parts. This networks constructed over the network of the river flow will also give rise to the understanding of the cause of the floods and thereby taking proper measures to avoid major losses or minimize losses to an extent.

•:• Introduction : River network in India is a dominant feature to nurture a majority of the agricultural lands. Along with agriculture it also contributes to the many other demands of the population like the drinking water provision, hydroelectric power plants, dams, fisheries and other many features that improve the magnitude of importance of this river. Origin of this river range until the northern part of the Himalayas along the Yamunotri which also is known as the forms of the tributary of the river Ganga. This tributary flows from the northern part of the Indian sub-continent from the lower Himalayas and further entering the Delhi state and later moving towards the eastern part and splitting up into multiple tributaries ahead in Allahabad where two more sources come to meet up at a point.



Figure 1 Origin of the river Yamuna.

•: Concerns over the path of river Yamuna : The main concern arises for the river Yamuna is its path it that travels through Delhi which is much steeper slope and also causes a lot of floods during the monsoon seasons. These floods are more intense towards the banks that are tapering ahead where the flow becomes more intense and volatile. This feature of the path that enters Delhi causes more concern where the flow as it involves a large amount of developing civilization on its banks. We intend to follow a mathematical approach to study the path of the river during the flood and focus on the areas causing flood which will further give rise to the understanding of respective measures to be taken under such circumstances to avoid financial loss as well as loss of life. If not it reduces the losses to a large extent.

•:• Graph theory maps: A mathematical approach : A graph is a mathematical instrument to study a structural formation of edges and vertices that are arranged in a network formation that are associated in a way so as to understand its relation with the various elements that are included in the graph. Below is a representation of a general form where edges and vertices are associated in a connected form so as to call a network.



A directed graph with six vertices and seven edges.

Figure 2. A general formation of a directed graph



Undirected and directed graph.

Figure 3. A representation of the types of directed graphs.

We see the vertices that are connected in the form of a directed graph showing association among the vertices. The map induces the locations of the river Yamuna with specific influence of the flood causing effects. For understanding these effects we fit the map of the locations overDelhi which are mostly affected by floods.



Figure 4. Locations of flood in the path of river Yamuna

We see that the certain locations that are affected during floods are the ones on the banks of the river where the slope is steeper and more intense as it moves ahead with the lines directed in the form of arrows showing flooding at specific locations.

If for an instance a certain location is considered as a vertex of a graph to be considered as locations and every specific adjacent location to be considered as adjoining to the main location affected during the flood. Suppose a specific location of the graph given as \vec{X} it is considered as collection of all the locations responsible at that part with collation cluster form.





Figure 5. Collation of multiple locations of a single location

As we consider the location over a vertex of a graph to be a collation of multiple locations that are adjacent to it can be also given in the following form. $X = \{x_1, x_2, \dots, x_n\}$



Figure 6 Directed graph involving forces of river flow in a pattern.

As seen in the above diagram the locations of the graph forming vertices in a specific pattern result in a directed graph with each coordinate acting as a vertex and formation of the graph as given ahead. $G = (x_i, e_i)$ for i = 1, 2, 3, ..., n

Each location has a prominent aspect to gain forces during the flood season. The flood pressure gained potential from the initial paths accumulate further to form a huge wave or current that overcomes the thrust on each location or the vertex of the graph which is the form of the river path. This potential current that flows though the vertices is not assumed to arise only through the channels present in the flood region. However, the strong currents are a resultant of the previously gained potential water flow networks. The only concern is there are many parallel rivers that are running through the same plane and yet not seem to get flooded in the same manner as that of the river Yamuna. Let us focus on the origin of this path where the answer to this reason might find place in the form of a potential source.



Figure 7 Influence of the dam built on the opening network flow of the river Yamuna.

-: Identification of the problem areas:

As we see above the path of the graph also induces a sub graph formed out of the main graph G. this can be related in the following relation as follows to see a nested relation among the sub graphs so formed depending upon the number of edges and the combination of the vertices contained in each graph.

$$G = \bigcup_{i=1}^{n} G_i$$

For all the values of i are discrete and well ordered.

This further shows the nested union or the collection of the various graphs under the Ordered form. G=G1f"G2f"....f"Gn

We focus on the graph with the closed walk.

$$G = \bigcup_{i=1}^{3} (x_i, e_i)$$

The discreteness of the values obtained by *t* confirm a ordered collection of a graphical network flow of three edges and three vertices so as to form a closed graph. This ensures the forces that are associated in the flow of the river flood water also arise in the same sequence as the flow of the forces and thereby the resultant flooding takes place in the later vertices of the graph following the same pattern. However, the main reason for these factors of resultant floods is not merely the structural formations through which the river network is flowing. There is a specific structure that is constructed in the form of a dam on the steep flow of this river before it meets the regions of Delhi and thus tapers to the later part of it.

Asseen in the figure 7 the projection of the dam over the upper flow of the river Yamuna not only obstructs the flow but also creates a potential for the flow of the speed of the water in the network of the river. This in turn acts as a threat to the sub lying areas that fall in the lower plains of the river or the further ordered vertices of the graph G(x, e) as described above. The dam which was built on this part resulting to violent flow of the river to fortify many other features like the reservation and irrigation along with hydro power plants is the main cause to cause floods in the later parts of the river network due to the potential thrust provided to the water speed during the floods. As the gates of the dam are let open during the floods, this potential gain in the water flow affects the increase in the magnitude of the further flow which is unguarded by any other means and keeps on increasing the speed of flow through the channel forming strong currents within the network.

Ø Force impact on location points (x_i, x_{i-1}) : The force impact over certain location at a specific point can be achieved with the intensity before fold and after flood are understood with the further analysis. This can be imagined with the forces on the specific locations with the effect on the incoming force and the outgoing force. Let the location out of the graph $G = (x_i, e_i)$ for any x_i for i = 1, 2, 3, ..., n considering two locations x_1 and x_2 where the forces are counted as incoming and outgoing in the following manner.

For a location x_1 the total force F_i acting on any location a collection of the various forces onto that location. The first inwards force is due to the normal water flow of the network given as F_{nf} . This abbreviation is given as the normal flow force of the water and during the flood this force is added with a impulsive force that accelerates the flow of the water in a manner so as to increase the intensity. This gives the total force acted upon the location as the following equation of forces. Hence, the forces acting on the location is given as follows.

where is the miscellaneous force acted upon the location due to gravity and the other features adjacent to it like the soil density and hardness, the resistance parameter by the bordering trees that are along the edges of the river bank, the slope of flow of the river network and some other parameters also which cannot be taken into consideration by their magnitude. These forces act as influential parameters in formation of the total force. However, in the scenario of the floods there is a slight change in the forces acted upon the same location as to see the force of water flow given as to be replaced by .

-:- Inward forces on location :

-: Outwards forces on the location

Where is the resistive force that acts opposite to all the other forces and is the flood flow that is an accelerated flow in the normal flow and creates more pressure on the location. However, this results in less damage as this is also the outward force of the same location.



Figure 8: Forces acting on the location x_1

There is a controversial change in the forces acting on the location x_3 where the location is adjacent to two different network paths of the same river and thus the forces acting on it will increase substantially but not the resistive forces. As it remains the same due to the non-mobile land conditions. The inwards forces acting on the location can be given as follows:

However, the outwards forces flowing from the location is given as with the same resistance as that of the earlier conditions. The result of which the total forces acting on this location exceeds the normal sustainability and thus results in the flood causing a catastrophe.



Figure 9: Forces acting on location x_3

•:• Further scope of solving the flood problems : The past data over the path shows a large amount of pressure being generated over the borders of the river due to the dam built over the initial path. It is not possible to eliminate the dam. However, the problem can be looked upon with the slight understanding of the model the river can achieve in its path with the increase in its intensity of flow. The water that is accumulated in the dam is forcibly sent to the lower paths needs to be free flowing to avoid any other obstacles to create a collision of forces and affect the subsidiary locations in the form of flood. The network flow of the river causing the flood over a location are seen with the impact from the location that is bounded with the dam and thereby creating a forcibly denser impact during the floods causing a larger destruction on the underlying areas. This can be seen ahead in the diagrammatic form.



Figure 8: Flood formation due to impact from the dam formation.

Hence, it is to be left natural for the river to be flowing along a path and rather than building a dam and obstructing it and creating a potential flow of higher impact during the floods and causing destruction in the later paths of the river. The later paths can be left unattended with avoiding civilization on the banks of these locations and bound the banks with higher levels of ground level to direct the flood water in such a way so as to avoid any more catastrophe losses. This can be achieved by building elevation on the banks of the river and thereby planting trees or some other natural constructions.

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TEACHER'S ATTITUDE TOWARDS TEACHING AND THEIR LEVEL OF INSPIRATION

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Teaching is referred to either as occupation in profession of community know as teacher or an activity of group activities undertaken to help individual to learn or acquire some knowledge skills, attitude or interests etc. It is a quite complex social, cultural and ethical process designed in a social and cultural context. Research is invariably conducted by means of a sample drawn from the target population on the basis of which generalization are drawn and made applicable to the population as a whole. The target population in the present study covered five secondary school of Thane District selected randomly for drawing out the sample of the study.

*** KEYWORDS :** TEACHER ATTITUDE, TEACHING APTITUDE.

INTRODUCTION : Teaching is one of the common profession in society. The teacher is a great force in building future citizens and inspiring the young generation. He alone has the privilege to train up a child in the way, he will not depart from it. Children are the hopes of tomorrow. They are the citizens and leaders for the progress of future of nation. Its system, its quality and ideals will depend upon how and by whom they are educated. In present study was confined to a sample of 50 terseness of Secondary school were selected randomly for drawing out the sample of 50 teachers of secondary school, working in the Thane District. For this purpose six teachers from seven schools and eight teachers form one school were selected.

✤ OBJECTIVES OF THE STUDY

- To compare the attitude of male and female teachers towards teaching.
- To compare the attitude of the traind and untrained teachers towards teaching.
- To compare the attitude of high and low income group teachers towards teaching.

HYPOTHESES

- There is no significant difference between male and female teachers attitude towards teaching.
- There is no significant difference between trained and untrained teachers attitude towards teaching.
- There is no significant difference between teachers of high income and low income towards teaching.

✤ DEFINITION OF THE KEY TERMS :

Attitude: Attitude as a feeling of disposition in favour of to be against an object, idea, persona or group. In this connection, one may study attitude, which may be a matter of approval and disapproval.

Attitude towards teaching may be positive or favourable attitude, negative or unfavorable attitude. A positive attitude towards teaching is the one in which the teacher favors or likes the of teaching and the task is easier and interesting for him. A negative attitude towards teaching is one, which evokes the feeling of disfavour and disproval of the teacher towards teaching and for him the teaching work is hard and tedious.

Level of Inspiration: Level of inspiration is an important aspect of personality which deserves consideration with regard to academic attainment of a student.

TOOL FOR COLLECTING DATA: tool is appropriate in a given situation of gathering device for a particular purpose. Each data gathering device has both merits and hazards of limitations. Best (1986)

For the presents study the investigator used questionnaires because they were most suitable and convenient tools for data collection in any research proposal.

Questionnaire for Teachers Attitude to check these aspects:

- Status of Teaching
- Teaching skill
- Teachers Expectations

Questionnaire for level of inspiration to check these aspects has been constructed and standardized by Sujata Mishra, Department of Education Kurukshetra University.

- Social Expectation
- Economic and Cultural Background
- Values Interest
- Professional Attitude

COLLECTION OF DATA:

The investigator visited the schools with tools meant for teacher. They were given to the selected sample of teacher. They were assured that their responses would be kept confidential. They were also instructed that the things which was not applicable in their case might be committed and there was not time limit for the questionnaire.

Scoring procedure:

For scoring of teachers attitude towards teaching and their level of aspiration five points scales was used.

The five points were:

- a) Strongly Agree
- b) Agree
- c) Undecided
- d) Disagree
- e) Strongly Disagree

TABLE-1

SIGNIFICANCE DIFFERENCE BETWEEN MALE AND FEMALE SENIOR SECONDARY TEACHERS ATTITUDE TOWARDS TEACHING.

Teachers	N	М	S.D.	S.E.D.	T- ratio	Level of Significant
Male	30	73	8.13	1.8	4.44	Significant
Female	20	65	6.49			at 0.5 level
						& 0.01
						level

Interpretation: Table No-1 shows that the value of t-ratio is 4.44. It is significant at.01 level of significance. The table value at .01 level is 2.01 and at .05 level the table value is 2.68. So the null hypothesis is rejected. Thus, there is significant difference between the attitude of male and female teachers towards teaching.

Table-2

SIGNIFICANCE DIFFERENCE OF ATTITUDE SCORES OF TRAINED AND UNTRAINED TEACHERS TOWARDS TEACHING.

Teachers	Ν	М	S.D.	S.E.D.	T-ratio	Level of Significant
Trained	25	67	10.42	2.75	2.90	Significant
Untrained	59	59	11.30			at 0.5 level
						and .01
						level

Interpretation: Table No-2 shows that the value of t-ratio is 2.90. It is significant at .05 level of significance. The table value at .01 level is 2.01 and at .05 level the table value is 2.68. So the null hypothesis is rejected. Thus, there is significant difference between the attitude of trained and untrained teachers towards teaching.

- FINDINGS OF THE STUDY : The present main findings of the study based on analysis and interpretation and suggestion for further research.
- Researcher found there was significant difference between attitude of male and female teachers towards teaching.
- Researcher found there was significant difference between attitude of trained and untrained teachers toward teaching.
- Researcher found there was no significant difference between male and female teachers towards their level of inspiration.

EDUCATIONAL IMPLICATION OF THE STUDY: The present study has its educational implications for the governing authorities, managements and organizers of educational institutions. The teachers who set the favourable conditions will try to create the interest of the students towards students towards studies and will find out the method to create attraction towards the schools. So the educational planners and organizers should keep this point in view while appointing teachers. So it is duty of the educational planners and organizers to provide the adequate facilities to teachers so that their attitude towards teaching becomes favourable.

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ELEMENTARY EDUCATION IN TRIBAL MADHYA PRADESH CONCERNED ISSUES FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT : {This article is focusing towards elementary education among tribes of Madhya Pradesh state concerned with the issues at ground root level specially focused on implementations of policy of both State and Central Government. The literacy rate of Scheduled Caste, Scheduled Tribes and Other backward Caste against the general cast are also critically analyzed. The implementation level with opinion of beneficiaries with the teachers, administrators involved for the implementations of the special drive by the commissioners, committees are also discussed at the end of the article. The cost of the planning with sustainable development of the tribal education and scheduled caste with backward class are divisionalised with respect to year and planning. The present scenario of primary education system in India and specific to Tribal Education are evaluated by using both primary and secondary sources of data. Lastly the researcher tried to give his own view about the status of tribal education in India and Madhya Pradesh as well. }

✤ Key Words: DPEP, Tribal Education, Elementary Education, National Policy of Education, etc. ELEMENTARY EDUCATION IN TRIBAL MADHYA PRADESH CONCERNED ISSUES FOR SUSTAINABLE DEVELOPMENT

◆ INTRODUCTION : Despite the declaration, "Education for all by 2020" and official strategies/or the attainment of universal elementary education, little could be done in the districts where tribal population is predominantly large. Increase in number of schools and building up of infrastructural facilities notwithstanding, the tribes, scheduled castes and other backward sections reaped little benefit. This was due mainly to dominant non-tribal administration and ideological framework and therefore, the tribal belt largely contributed towards promotion of non-tribal employment. This is brought out by the empirical study of tribal Madhya Pradesh.

Needless to say, education plays a pivotal role in all round developmental process of a society. The rate of progress in education parallels the rate of socio-economic progress of a given society. Moreover, in a country like India which is composed of various social groups who are at different levels of socio-economic development with extremes of privileges and deprivations among them, education is conceived as the key mechanism for the empowerment of the marginalized groups like Schedule Castes and Scheduled Tribes. In recognition of this basic proposition, Universalisation of Elementary Education has been accepted as a national goal since 1950. However, before 1976 education was exclusively the responsibility of states and the central government was only concerned with certain

aspects like coordination and determination of standards in technical and higher education. Following the constitutional amendment of 1976, education has become a joint responsibility of union and state governments. Though the state plays a-major role in this regard, the union government has a clear responsibility regarding the quality and character of education. With regard to the low level of literacy among the people especially among scheduled castes and scheduled tribes, strategies have been evolved by Government of India for the attainment Universal Elementary Education (UEE), as envisaged in the National Policy on Education (1986) as well as the Programme of Action (1992) formulated in tune with the World Declaration on Education For All by 2020 A.D."

Keeping in view the approach of the Government of India, the commitment to UEE by providing free and compulsory education to all children upto14 years of age by 2020 A.D. has become the major component of Madhya Pradesh's Education Policy. It has specified three aspects of elementary education such as a) universal access and enrolment, b) universal retention of children up to age of 14 and c) achieving essential levels of learning by all children by improving the quality of education (Government of Madhya Pradesh 2007-2014: 154). Some of the relatively backward districts such as Betul, Jhabua, Alirajpur, (now reorganized into 10 new districts) have been identified for special intervention. In addition, another major initiative which has been taken recently is the "District Primary Education Programme" (DPEP) formulated by the Ministry of HRD, Government of India. Besides, general measures to promote interest among the Scheduled Caste and the Scheduled Tribe students, they have been provided with 'free' reading and veiling materials, sets of garments and stipend to meet the expenses of food. Very recently (since 1995) the Mid-Day Meal Programme has been launched by the Madhya Pradesh Government which *inter alia* aims at the enhancement of enrolment and retention rate.

These systematic efforts and initiatives and elaborate arrangements give an impression of the state's concern for the educational development of all sections of the society and specifically the educationally backward segments such as scheduled castes and scheduled tribes. In such a context, it is essential and imperative to examine how far the new educational strategy has contributed to the educational development of the tribes(who with a sizeable portion of state's population constitute the backward segment of the society) within the existing mechanism of tribal and non tribal relationship vis-a-vis the state.

Though the Scheduled Tribes in India constitute around 8 percent of the total population which is more than the population of many European countries, they have not been able to emerge as a powerful combination either at state or central level (except in the North Eastern region). They are known for their different socio-cultural practices and backwardness. Any attempt to bring them into the mainstream of national life needs a different political will that can ensure a special and adequate development. Moreover, in Indian society inequality, domination, deprivation and exploitation are the basis of social relationship. In such a context any policy and programme that aims at equalizing under-privileged with privileged, get thwarted by the people of hegemonic structure at all levels of its implementation. In addition, planning in India like other South Asian countries is fundamentally a political programme through which the state tries to impress upon the masses with its pro-people image in order to get their support without much coercion or regimentation (Myrdal 1972:362). Therefore, the state representing the dominant sections of society formulates policies that can concede the demands of the privileged groups on the one side and produce ideological effect, which is responsive to 'popular', will on the other. The backward and ignorant sections, are provided with a make-belief world through propaganda and slogan of welfare state and populist measures. The measures of securing educational development of Scheduled Tribes may be an agenda of this wider framework. Against this backdrop, the present paper attempts to examine some aspects of the impact of this new educational planning over the tribals of the different districts of Madhya Pradesh and the other side of its consequences.

The tribals constitute more than 22 percent of the Madhya Pradesh's population spreading over all the districts in varying proportion (Table 1). Among the districts the Highly Tribal Concentrated Districts (HTCD-with more than 50 percent of tribal population) are: Khorgonge, Jhabua, Betul, Balaghat and Mandla belong to the Moderately Tribal Concentrated Districts (MTCD) where tribal population comes to more than 30 percent to 50 percent. The Less Tribal Concentrated Districts (LTCD) with more than 10 percent to 30 percent of tribal.

Literacy Rate : In spite of enshrining free and compulsory education, the educational backwardness among the tribes of the state is quite glaring even after 50 years of independence. As per the 2007-2014 census, (Table 2) only 22.31 percent of the tribes of the state are literate as against the general literacy rate of 59.14 percent. Only 10.21 percent of the tribal females are literate. Looking at the district wise distribution, the rate of illiteracy is less in the HTCDs (21.70 percent). Of the 7 HTCD, the literacy is extremely lower (below 10 percent) in Jhabua , Khorgonge and Nabarangpur. In these districts the female literacy is only about 2 percent. On the other hand, the general literacy is much higher compared to that of tribals across the HCTDs. In other districts also the literacy rate among the tribals (both male and female) is much lower than that of the general population.

Table 1: Status of Enrollment of Learners in TLC in Betul District

N o	Particular s	Total	Male	Female	SC	ST	Others
1.	Total Populatio n (2007- 2014 Census)	11,30,90 3 (100.0)	5,65,59 5 (50.0)	5,65,30 8 (50.0)	1,92,36 6 (70.0)	3,26,64 8 (29.0)	6,11,88 9 (54.0)
2.	Literate (2007- 2014 Census)	2,94,617 (100.0)	2,22,22 3 (75.4)	72,394 (24.6)	53,901 (18.3)	60,560 (20.6)	1,80,15 6 (61.1)
3.	Literacy Rate (2007- 2014 Census)	31.08%	46.85%	15.28%	28.20%	18.54%	29.44%
4.	No. of Learners Enrolled under TLC	2,64,068 (100.0)	1,21,47 1 (46%)	1,42,59 7 (54%)	58,147 (22%)	95,945 (36%)	1,09,97 6 (42%)

Source: 1. ZSS, Betul.

2.District Statistical Handbook, 1995, Directorate of Economics and Statistics, Government

of Madhya Pradesh

Table 2: Block-Wise Distribution of Sample ST Learners

S.No.	Block	Sample Size	STs
1.	Mandla	919	286
		(12.4)	(31.1)
2.	Khargonje	787	113
		(10.6)	(14.4)
3.	Balaghat	646	79
		(8.7)	(12.2)
4.	Betul	582	201
		(7.9)	(34.5)
5.	Jhabua	1,178	265
		(15.9)	(22.5)
6.	Allirajpur	1,130	368
		(15.3)	(32.6)
7.	Badwani	2,131	599
		(28.8)	(28.1)
8.	Khandwa	31	6
		(0.4)	(19.4)
	Total	7,404	1,917
		(100)	(25.9)

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Table 3: Performance	Level and Caste

No.	Caste	70%	60-	50-	35-	Below	Total
		and	69%	59%	49%	34%	
		above					
1.	General	1,465	463	300	252	114	2,594
		(56.9)	(17.6)	(11.5)	(9.7)	(4.3)	
2.	Scheduled	477	127	96	80	41	821
	Caste	(58.1)	(15.5)	(11.7)	(9.7)	(5.0)	
3.	Scheduled	798	190	135	154	69	1,346
	Tribe	(59.3)	(14.1)	(10.0)	(11.4)	(5.1)	
	Total	2,740	780	531	486	224	4,761
		(57.6)	(16.4)	(11.2)	(10.2)	(4.7)	

ANALYSIS AND DISCUSSIONS : The total population of Betul district was 11,30,903 according to the 2007-2014 census, of which men and women constitute 50 percent each. Out of the total population, 54 percent come under the general category, 17 percent under scheduled castes and 29 percent under scheduled tribes. Out of the total literate, 75 percent were males, sixty-one percent belonged to the general category, while scheduled castes and scheduled tribes were 18.3 percent and 20.6 percent respectively.

Coming to the number of learners enrolled under TLC, females were more as their literacy rate was low. Out of the total enrolled, 36 percent were scheduled tribes. This shows the efforts of the TLC to improve literacy among weaker sections, especially scheduled tribes. The above details are given in Table 1. Out of the total sample, around 26 percent were scheduled tribes. A block-wise sample distribution is given in Table 2.

According to the 2007-2014 census, the literacy percentage of scheduled tribes in Betul district was 18.54%. The date of completion of the learning process under TLC was May 1995 according to ZSS, but the external evaluation was conducted in January 1999. Even then, results showed that 59.3 percent of the sample scheduled tribes were qualified according to NLM norms. This shows that TLC improved the literacy rate in scheduled tribes.

When the three components, viz. reading, writing and arithmetics were taken, the comparison shows that in writing, there was not much difference among scheduled tribes, scheduled castes and general category. In comparison, percentages were low in reading. Here, the performance of scheduled tribes was more than scheduled castes and general category. In doing arithmetics, scheduled tribes were almost equal to the general category. The above details are given in Table 4.

Table 4: Distribution of Percentage of Learners by Caste and their Performance in ThreeComponents of Literacy

Where: W - Writing, R - Reading, A - Arithmetics, T - Total

Who gets educated?

The rate of enrolment of the tribal students at primary, middle and secondary school levels of the state is shown in Table 3. The enrolment of the tribal students is extremely low at all levels across the districts compared to the non tribals. In HTCDs (where the tribal population is more than 50 percent) the enrolment at the primary level comes to only 43.49 percent and the rate decreases further at the middle and secondary levels. In the secondary level only 32.28 percent of the students are the tribals. Similarly in MTCDs and LTCDs the enrolment is lower in proportion to their population. In the state the non-tribals have better access to school at all levels.

School-Teacher-Pupil Ratio : There is not much difference in the number of student and teachers per school and teacher-student ratio (Table 4). However, at the primary' school level the number of students per school and number of teachers per school decreases with the increase in the total population. The teacher student ratio becomes higher in HTCDs which may be due to small number of students. Similarly, at the secondary school level the number of students per school in HTCDs is higher due to small number of schools. The teacher-student ratio is also higher at this level as compared to MTCDs, LTCDs and NTCDs. The school-teacher-pupil ratio though neglected in tribal areas in some respects it comes closer to the state average.

Who are the teachers?

Looking at the number of tribal teachers projected in Table 4, it is evident that at primary school level only 20.4 percent of the teachers in HCTDs are tribals. In the districts of Khorgonge and Jhabua their number is negligible (around 5 percent). In the middle and secondary school level it is further lower (19.99 percent and 8.52 percent respectively). In MCTD, while the percentage of tribal teachers comes to only 13.76 percent at the primary level in the middle and secondary schools it is 8.90 percent and 1.74 percent respectively. The negligible number of teachers in LCTDs and NCTDs shows a quite familiar pattern in which the distribution of teachers more or less reflects the interests to the dominant section of the society. It seems that entire educational programme by establishing schools in the tribal areas have provided employment opportunity to the nontribals. The teachers at the primary stage and secondary stages play an important role in mobilising and encouraging the students to attend schools and they usually keep good rapport with their parents. In such a context, the large scale appointment of non-tribal teachers in tribal areas who are unaware of local dialects and mostly from a different socio-cultural background may not take interest in this kind of exercise. Allegedly, many teachers are found absent (Agragami 1994: 4; Pashayat, 1997) but they get their salary in time collusion with the officials and authorities who are mostly non-tribals. Most of them are also found involved in local politics and are engaged in petty business.

It is summarised from the above discussion that despite the unprecedented growth in the number of schools in tribal regions of Madhya Pradesh, the literacy and enrolment among the tribals continue to be low. On the other hand, the expansion of this infrastructure in the belt has contributed largely to the non-tribal education and employment in government jobs. The study concludes that as the educational policies of the state are formulated within dominant non-tribal ideological framework, it serves the interests of the non-tribals and the slogan of removal of ignorance, illiteracy and educational backwardness of the tribals is a rhetoric which forms the integral part of the political process of manufacturing consent for a regime of domination and deprivation.

CONCLUSION : The above discussion shows that TLC helped the scheduled tribes in improving their literacy. Caste leaders, educated people, especially from the schedule tribes were mainly responsible for the success of the programme. Some of the ZSS staff were artists, painters, singers, etc., and they put more effort in motivating the tribes by using their talents. The scheduled tribes contributed part of their grain to purchase kerosene as electricity, which was a major problem in the interior areas. Youth and NGOs contributed significantly in this programme while Mahila Mandals and Self Help Groups in the villages acted as catalysts in motivating women. The response in terms of attendance was good. In the beginning, women faced the problem of sitting and learning with men. So alternative arrangements were made for them by the community leaders. Women also felt that lady instructors should be more involved for their better participation.

OPINIONS & OBSERVATIONS OF SUPERVISORS AND COMMUNITY LEADERS : Electricity was a problem in many villages. The scheduled tribes contributed equally with others to purchase kerosene. It was felt that women instructors were required for better participation of the women folk. Children acted as catalysts in improving the literacy of their parents. It was felt that encouragement to ST learners by providing incentives or diverting part of the funds used for developmental programmes would further improve literacy among scheduled tribes.

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Skill Development & Service sector

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♦ Abstract : Skills are the basic driving force of any economic growth and social development for any country. Service sector plays a major role to balance the economy. For the economy to grow at 8% to 9%, it is required that the secondary and tertiary sectors grow at 10% to 11%, assuming agriculture grows at 4%. In such a scenario, it is obvious that a large portion of the workforce would migrate from the primary sector (agriculture) to the secondary and tertiary sectors. This scenario necessitates skill development in the workforce.

India should be home of a skilled workforce of 500 million by 2022. Near about 12 million persons are expected to join the workforce every year. This talent pool needs to be adequately skilled. All sectors are expected to drive the growth of the economy as well as play a significant role in employment.

To full fill this objectives, Government has taken various step like the National Skills Development Policy, delivery of Modular Employable Schemes, upgradation of existing institutions through World Bank and Government of India funding, as well as upgradation of training institutes under Public Private Partnership mode, setting up of the National Skill Development Corporation, and the plan to establish 50,000 Skill Development Centres. Apart from these, several ministries/departments and state governments are engaged in skill development initiatives.

The services sector, with around 52 per cent contribution to the Gross Domestic Product (GDP) in 2014-15, has made rapid strides in the past decade and a half to emerge as the largest and one of the fastest-growing sectors of the economy. The services sector is not only the dominant sector in India's GDP, but has also attracted significant foreign investment flows, contributed significantly to exports as well as provided large-scale employment. India's services sector covers a wide variety of activities such as trade, hotel and restaurants, transport, storage and communication, financing, insurance, real estate, business services, community, social and personal services, and services associated with construction.

Now we have to prepare human resource to cater and survive service sector with present outfit.

Introduction : India moves progressively towards going for human resource hub it becomes increasingly important that the country should focus on advancement of skills and these skills have to be compatible with to the emerging trend and working environment. In order to achieve this targets of growth and inclusive development this requires significant progress in several areas, including infrastructure development, agricultural growth, productivity improvements, financial sector growth, a healthy business environment, supported by a skilled workforce. We would like to focus education as a prime service sector by which skill development can be achieved and thought of in present scenario.

Current Structure and Skill Development system in India : Education, including all aspects higher education and college education falls under the Ministry of Human Resource Development. The University and Higher Education arm is responsible for all college education (Arts, Science, Commerce, etc.), while engineering education, polytechnics, etc., fall under the category of Technical Education. The University Grants Commission (UGC) provides funds in the form of grants and also coordinates as well as sets standards for teaching, examination and research in universities. The All India Council for Technical Education (AICTE) is the regulatory body for Technical Education in India. Its objectives are: promotion of quality in technical education,

The Skill Development Landscape in India and Implementing Quality Skills Training planning and coordinated development of technical education system, regulation and maintenance of norms and standards.

A large part of the current vocational training infrastructure, the Government ITIs and Private ITCs, falls under the Ministry of Labour and Employment's Directorate General of Employment and Training (DGET). The National Council on Vocation Training (NCVT) plays a key role in the formation of training curriculum, policies, standards, as well as in certification by means of the 'trade test'. The National Skill Development Corporation (NSDC) has been set up under Public-PrivatePartnership (PPP) mode as a Section-25 Company under the Ministry of Finance to provide viability gap funding and coordinate private sector initiatives. The Prime Minister's National Council on Skill Development has been formulated to coordinate action on skill development.

India as developing countries of the world, India has the highest potential to meet the skill gap with its large, young and dynamic population. The world shortage of skilled manpower will stand at approximately 56.5 million by 2020. With a target of skilling 500mn by 2020, India can not only fulfil its own requirements but can also cater to the labour shortages in other countries such as the U.S., France and Germany. Presently 80% of the workforce in India (both rural and urban) does not possess any identifiable or marketable skills. Bridging this gap could make India the global hub for skilled manpower, and also result in a surplus of skilled manpower of approximately 47 million 2020.

A successful R-EDP (Rural Entrepreneurial Development) Model has been implemented by the Grameen Bank in Bangladesh across various rural pockets. This has been customized and implemented by the Indian Government as well.

Innovative E-learning Platforms have been gaining more popularity in recent times. They offer a greater mobile and flexible learning environment. Students can learn and attend classes and participate in discussion forums online, at their convenience, from their offices, homes and so on. **The Way Ahead :**Services sector growth is governed by both domestic and global factors Considering the fact the challenge in terms of skilling&training about 15 million persons every year and ensuring that the workforce of 500 million is adequately skilled by 2022, it is required that the adequate initiatives to achieve these mammoth targets in the right 'scale' and 'speed'. We can think of achieving this task by

- 1. Targeting skill development at all levels. It is required to not only skill and educate the workforce at the higher skill levels but also to adequately skill the workforce at the lower
- 2. Implementing Vocational Education in schools
- 3. Creating a large talent pool through Modular Employable Skills
- 4. The Skill Development focus with Quality Skills Training

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शहरी महिला शिक्षकों की व्यवहारिक समस्याओं का अध्ययन

अन्जु गुप्ता, शोध छात्रा श्री जगदीश प्रसाद झाबरमल टिबड़ेबाला विश्वविद्यालय विद्यानगरी, झुनझुनू, (राजस्थान) – 333001

साराशः गाँधीजी स्त्री शिक्षा को अत्यधिक महत्वपूर्ण मानते थे तथा आरंभ से ही उन्होंने स्त्रियों की शिक्षा का विधान किया। सर्वप्रथम शिक्षा माता से ही आरंभ होती थी। मनोवैज्ञानिकों का मानना है कि बच्चा माता के गर्भ से ही शिक्षा ग्रहण करना आरंभ कर देता है। अतः हम समझ सकते हैं कि कन्या का शिक्षित होना कितना आवष्यक है। प्रस्तुत शोध में ग्रामीण विघालयों में कार्यरत शहरी महिला शिक्षकों की व्यवहारिक समस्याओं को जानने तथा संभावित उपायों का अध्ययन किया गया है।

परिचयः भारतीय मानस वैदिक काल में या आधुनिक काल में अनेक रूपों में समान है। महात्मा गाँधी का विचार था कि पारिवारिक गाड़ी के संचालन में स्त्री —पुरुष पहिये के समान हैं। अतः पारस्परिक समझ और उत्तरदायित्वों के निर्वाह हेतु दोनों को शिक्षित होना चाहिए। एक पहिये के विपरीत स्थिति में रहने के कारण दांपत्य रूपी गाड़ी कासंचालन असुविधा जनक हो जाता है। गाँधीजी स्त्री शिक्षा को अत्यधिक महत्वपूर्ण मानते थे तथा आरंभ से ही उन्होंने स्त्रियों की शिक्षा का विधान किया। सर्वप्रथम शिक्षा माता से ही आरंभ होती थी। मनोवैज्ञानिकों का मानना है कि बच्चा माता के गर्भ से ही शिक्षा ग्रहण करना आरंभ कर देता है। अतः हम समझ सकते हैं कि कन्या का शिक्षित होना कितना आवश्यक है। हम समाज में एक पुरुष को शिक्षित करके केवल एक व्यक्ति विशेष को करते हैं, किन्तु एक स्त्री को शिक्षित करने का अभिप्राय है संपूर्ण परिवार और आने वाली पीढ़ियों को शिक्षित करना। अतः आज भारत में स्त्री शिक्षा की बहुत आवश्यकता है। परिवार ,समाज और राष्ट्र के निर्माण में इतना अधिक महत्वपूर्ण स्थान होने के बाद भी आधुनिक भारत की असंख्य स्त्रियाँ अशिक्षित हैं उन्हें अक्षर ज्ञान भी नहीं है ।

शिक्षण की दृष्टि से अध्यापक का अत्यधिक महत्व है। शिक्षा के सुधार के लिए सच्चरित्र एवं कुशल अध्यापक का होना अनिवार्य है। आज के बदलते हुए परिवेश में अध्यापकों की भूमिका और भी महत्वपूर्ण हो गयी है। आज अध्यापकों के वर्तमान सामाजिक प्रतिष्ठा में पहले की अपेक्षा हास हो रहा है। इसके कई कारण है– अध्यापकों में कार्य–न्यूनता, उत्साह का अभाव, आर्थिक परिस्थिति तथा कार्य असन्तोष आदि है। वर्तमान समय में अध्यापक अपनी भूमिका का निर्वाह कितने उपयुक्त ढंग से करता है तथा किन भूमिकाओं को वह अधिक महत्व देता है, यह भी उसकी सामाजिक प्रतिष्ठा को प्रभावित करता है। विद्यालय के छोटे कार्य से लेकर शिक्षण–विधि सम्पादन तक समस्त शैक्षिक प्रक्रिया का संचालन अध्यापक करता है। अनेक भूमिकाओं का सफलतापूर्वक निर्वाह करने में अध्यापकों को कई परिस्थितियों से गुजरना पड़ता है। इन विभिन्न भूमिकाओं को शिक्षक किस प्रकार सम्पन्न करता है, उसका प्रभाव विद्यार्थियों पर पड़ता है। आधुनिक युग में अध्यापक के महत्व पर और अधिक बल दिया जाता है। महात्मा गाँधी ने अध्यापक के बारे में कहा है "छात्र अध्यापक के व्यक्तिगत जीवन से बहुत कुछ सीखते हैं, वे इतना उन व्याख्यानों से जो अध्यापक अपने मुख से उन्हें देता है, नहीं सीखते। मुझे यह खोज कर प्रसन्नता होती है कि छात्र—छात्राएं बिना जाने ही अपने मस्तिष्क में एक अन्तर—विधि—विभाग रखते हैं जिनमें वे अपने अध्यापकों के विचारों का अध्ययन कर लेते हैं। उनको उन अध्यापकों से दुःख होता था जो वाणी से कुछ कहते थे और मन में कुछ रखते थे। शिक्षा के कार्यक्रमों की सफलता अध्यापकों के गुणों पर निर्भर है। अध्यापक का कार्य विषय शिक्षण तक सीमित नहीं है अपितु अपने आचरण के द्वारा छात्रों में मानवता का बीजारोपण भी करना है तथा नैतिकता एवं सद्चरित्र का पाठ पढ़ाना है। अध्यापक के लिए उपदेष का विधान बाद में है। आचरण की संहिता पहले निर्धारित है। आचरण से ही वे आचार्य कहलाते हैं। उपदेश तो उनका परिवर्ती एवं भौतिक मात्र है। अध्यापक अनुकरणीय एवं पवित्र आचरण के कारण छात्रों के लिए आदर्श होता है।"

भूमंडलीकरण के दौर में प्राथमिकताएं बहुत बदल गई है। जो गरीब हैं और जिनके पास कुछ नहीं है उनकी प्राथमिकताएं नहीं बदल सकती हैं। उनके लिए तो रोटी, कपड़ा, मकान थोड़ी सी इज्जत, बच्चों के लिए शिक्षा और अपने लिए थोड़े सी स्वास्थ्य सेवाएं पहले भी प्राथमिक थीं और आज भी है। शहरी क्षेत्रों में स्थिति काफी खराब है। शहरी भारत में 945 रोजगार दफ्तरों में 2003 में 1.7 करोड़ महिलाओं के नाम दर्ज थे जिनमें से 70 प्रतिशत से अधिक दसवीं पास या उससे अधिक पढ़ी लिखी थीं। ये महिलाएं पलायन के लिए मजबूर है। इसीलिए देश भर की महिलाएं यह मांग करती रही हैं कि रोजगार को सुनिश्चित करने वाली योजनाए बनाई जाएं।

महिला शिक्षकों पर दबाव : आज चाहे समाज कितना भी बदल गया हो, लेकिन स्त्रियों की सामाजिक और पारिवारिक स्थिति में कोई खास बदलाव नही आया है। पहले शोषण खुलेआम होता था और उसके तरीके बर्बर थे। आज यह सब सूक्ष्म रूपों में दिखाई देता है। हमने चाहे कितना भी विकास कर लिया हो, लेकिन सच्चाई यही है कि समाज की बुनियाद अब भी पितृसत्ता पर ही टिकी हुई है जो अपने मूल में स्त्री विरोधी है। यही कारण है कि दहेज जैसी कुप्रथा के खिलाफ कानून तो बन गया लेकिन यह कुरीति समाज में उसी तरह सहज स्वीकार्य है जैसे यह मान्यता कि रसोई संभालना महिला की ही जिम्मेदारी है।

घर से बाहर निकल कर काम करने वाली महिलाओं पर भी कुछ कम दबाव नहीं होता.जहाँ घरेलू महिलाएें अपने तरीके से घर को चला कर तथा पल पल बढ़ते अपने बच्चों को देख कर संतोष और सूख अनुभव कर सकती वहीं कामकाजी महिलाएें छह कर भी ऐसा नहीं कर पाती हैं। अपने कार्यस्थल पर संतोषजनक नतीजे देने के साथ ही उसे पारिवारिक जिम्मेदारियों को भी बेहतर तरीके से निभाना होता है। एक औरत के मन में स्वाभाविक रूप से अपने परिवार के प्रति प्रेम और जिम्मेदारी की भावना होती है लेकिन समाज और परिवार दोनों ही बाहर निकल कर काम करने वाली कामकाजी महिलाओं को उतना जिम्मेदार नहीं समझते. अपनी ममता और कर्तव्य भावना को समाज के सामने प्रमाणित करने के लिए उसे अपनी पूरी शक्ति झोंक देनी पड़ती है साथ ही महिलाओं के वेतन का उपयोग

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करते हुए परिवार यह जताना नहीं भूलता कि ये सब वे अपनी खुशी और आजादी के लिए कर रही हैं और इसके साथ उन्हें अपनी घरेलू जिम्मेदारियां निभानी ही हैं, अधिक तनाव और श्रम के कारण कभी कभी अनेक प्रकार की शारीरिक और मानसिक परेशानियाँ भी उन्हें घेर लेती है। घर में रहने वाली महिलाओं के लिए माना जाता है कि उनके पास काफी समय होता है घर का काम कुछ ही घंटों में समाप्त कर षेश समय में वे आराम कर सकती हैं या अपना मनोरंजन कर सकती हैं, लेकिन व्यवहारिक रूप से ऐसा संभव नहीं हो पाता है.घर पर रहने वाली महिलाओं से परिवारीजनों की कुछ अधिक ही अपेक्षाएं रहती हैं, चाहे वह पति और बच्चे हो या फिर अन्य ससुरालीजन हों.परिवार के सभी सदस्यों की यही सोच होती है कि सारा दिन घर पर रह कर क्या हमारे लिए कुछ भी समय नहीं निकाला जा सकता .लेकिन नौकरी करने वाली महिलाओं को एक निष्चित समय पर घर से निकलना होता है, इसलिए घर के सदस्य ही नहीं बल्कि नौकर भी उनके समय अनुसार काम करने का प्रयास करते हैं .मेलजोल वाले अन्य लोग तथा पड़ोसी भी किसी अवसर पर उनकी गैरमौजूदगी का बुरा नहीं मानते ,इस तरह की कुछ सहूलियतें मिल जाने से वे अपने समय का बेहतर उपयोग कर पाती हैं ।

महिला शिक्षकों से विभिन्न वर्गो की अपेक्षायें :

- समुदाय चाहता है कि उनका बच्चा पढ़–लिखकर, सर्वगुण संपन्न बन जाए पर बच्चे के प्रति कोई भी जिम्मेदारी लेने को तैयार नहीं।
- परिवार चाहता है कि शिक्षक, परिवार के सदस्य के रूप में उन्हें धन एवं वक्त दोनों ही दे पर वास्तविकता में शिक्षक इन दोनों की पूर्ति करने में असमर्थ है।
- प्रशासन चाहता है कि आरटीई पूर्ण रूप से सफल हो जाए। शालाओं को सुविधा संपन्न बना दिया जाए। शिक्षा का स्तर सुधार दिया जाए। एक ही शिक्षक से प्रधान पाठक, शिक्षक, क्लर्क एवं चपरासी आदि का कार्य करा लिया जाए और इन सबके बीच पालक को स्वतंत्र छोड़ दिया जाए, उसे कोइ जिम्मेदारी न सौंपी जाए। वो जब भी शाला में आए, गणवेश की राशि या फिर छात्रवृत्ति की बात करने आए। शासन 'एक हाथ से ताली नहीं बजती' वाली कहावत को अर्थहीन साबित कर, शिक्षक को एक हाथ से ताली बजाने पर मजबूर कर रहा है। भले ही ताली बजाते बजाते उसके ही हाथों फांसी का फंदा उसके गले में क्यों न पड़ जाए।
- विभाग चाहता है कि षिक्षक उसके आदेश को गौमाता की तरह सिर झुकाकर मानता रहे, चाहे वो उसकी क्षमता में हो या नहीं। एक ही शिक्षक स्कूल की सभी व्यवस्थाएं संभाल ले, कार्यालय का पूरा ध्यान रखे। घर जाकर बच्चों को बुला लाए लेकिन किसी से सहयोग की अपेक्षा न रखे। बच्चों में दक्षताएं पूर्ण करवा दे। मध्यान्ह भोजन को सुचारु रूप से चलवाएं। रसोइयों की निगरानी करे। भोजन की गड़बड़ी की जांच करे। बैंकों एवं अन्य कार्यालयों के चक्कर लगाए। अपनी छोटी बड़ी आवष्यकताओं के लिए षाला प्रबंधन समिति के अध्यक्ष को खोजती

Rexjounal

◆ अध्ययन की आवश्यकता : वास्तव में अपनी सृजनात्मकता के कारण ही स्त्रियाँ परिवार व परिवार के बाहर, दोनों ही स्थानों पर समाज के सर्वागीण विकास के लिए कार्य कर सकने में अद्वितीय क्षमता से युक्त है। जनगणना 2011 में उ.प्र. की कुल साक्षरता 67.7 प्रति. है। जिसमें पुरुष साक्षरता 77.3 प्रति. और स्त्री साक्षरता 57.2 प्रति. रही है। अतः स्पष्ट है कि महिलाओं की साक्षरता का प्रतिशत पुरुषों की अपेक्षा कम है। राष्ट्र निर्माण में पुरुषों के समान ही स्त्रियों की समान भागीदारी आवश्यक है। एक शिक्षित बालिका ही शिक्षित परिवार, शिक्षित समाज और शिक्षित राष्ट्र का निर्माण कर सकती है। शिक्षित स्त्री की राष्ट्र को आवश्यकता होने के पश्चात् भी स्त्रियों की स्थिति संतोषप्रद नहीं है।

* प्रस्तुत शोध के उद्देश्य :

- ग्रामीण विद्यालयो में कार्यरत शहरी महिला शिक्षको की कार्यस्थल परिस्थितियों तथा कार्य संतुष्टि के बीच सम्बन्ध का अध्ययन किया गया है
- ग्रामीण विद्यालयों में कार्यरत शहरी महिला शिक्षको के समक्ष उत्पन्न विभिन्न शैक्षणिक समस्याओं का उनके कार्य संतुष्टि पर प्रभाव का अध्ययन किया गया है ।
- ग्रामीण विद्यालयों में कार्यरत शहरी महिला शिक्षकों के समक्ष उत्पन्न विभिन्न व्यवहारिक समस्याओं का उनके कार्य संतुष्टि पर प्रभाव का अध्ययन किया गया है।
- ग्रामीण विद्यालयों में कार्यरत शहरी महिला शिक्षकों के समक्ष उत्पन्न विभिन्न समस्याओं के फलस्वरूप उत्पन्न तनाव का शहरी महिला शिक्षकों के परिवार पर प्रभाव का अध्ययन किया गया है।
- ग्रामीण विद्यालयों में कार्यरत शहरी महिला शिक्षकों के समक्ष उत्पन्न विभिन्न समस्याओं के फलस्वरूप उत्पन्न तनाव तथा उसका शहरी महिला शिक्षकों के स्वास्थ्य पर प्रभाव का अध्ययन किया गया है।

*** साहित्य पुनरावलोकन** : किसी भी विषय पर शोध करने से पूर्व यह आवश्यक है कि वह पहले अपने विषय से संबंधित साहित्य, पत्रिकाओं तथा सूचनाओं का सर्वेक्षण करें। इसकी उपयोगिता इससे सिट्ट होती है कि शोधार्थी शोध कार्यों के पूर्व इतिहास एवं उसके करने की विद्या से परिचित हो सकें। संबंधित साहित्य का जिप्रायन अनुसंध ानकर्ता के लिये उपयोगी और महत्वपूर्ण होता है क्योकि यह उसके अनुसंधान की मौलिकता को आधार प्रदान करता हैं। क्षेत्र में हुये कार्य, उसकी विधि तथा निष्कर्ष के आधार पर अनुसंधानकर्ता, समस्या चयन, उसकी रूपरेखा तथा शोधविधि का निर्माण करना काफी सरल हो जाता है। साहित्यिक पुनरावलोकन कर लेने से शोध कार्य में काफी

सरलता आ जाती है और शोधकर्ता को छोटे–छोटे बिन्दुओं पर विचार करना आवश्यक हो जाता है। 1. सेन मुप्ता (1960) ने बंगाल के विभिन्न क्षेत्रों में स्त्रियों की स्थिति तथा अधिकार एवं उच्च दायित्वों का अध्ययन किया। अध्ययन के आधार पर निष्कर्ष ज्ञापित करते हुए उन्होंने कहा कि विभिन्न व्यवसायों में प्रवेश करने वाली स्त्रियों की संख्या निःसंदेह बडी है।

- नरूला उमानन्दा (1969) ने अपने सर्वेक्षण में पाया कि मध्यम वर्गीय स्त्रियॉ अपनी नौकरी के प्रति उभयवाही होती हैं। वह नौकरी इसलिए करना चाहती हैं कि इससे उन्हें आर्थिक एवं मनोवैज्ञानिक संतुष्टि मिलती है तथा वे परिवार की आय में योगदान कर पाती है।
- देसाई नीरा (1982) ने लिखा है कि ''अब नारी न तो मात्र बच्चा जनने की एक मशीन और न घर की एक दासी ही मानी जाती है। उसने एक नया दर्जा एवं नयी सामाजिक महत्ता प्राप्त कर ली है।''
- रास (2004) ने अपने अध्ययन मे यह पाया है कि अनेक पत्नियाँ अब जाने या अनजाने में अधिक प्रभुत्व रखने लगी हैं तथापि उनके आपसी सम्बन्ध के बारे में नयी अवधारणा अभी स्पष्ट नहीं हुई हैं।
- ब्लूम, (1963) द्वारा उत्तर भारत के शहरों में विभिन्न वर्गों की महिलाओ पर किये गए शोध में कार्योजित महिला, गृहणी, शिक्षित अशिक्षित आदि वर्गों में महिलायों पर शोध किया गया और उनके वातावरण का उनके स्वास्थ्य पर पडने वाले प्रभाव का आकलन किया गया।
- इल (2001) द्वारा अपने शोध पत्र में भारत में कार्यशील महिलाओं कि स्तिथि और उनके आर्थिक योगदान तथा कार्य क्षमता को प्रभावित करने वाले विभिन्न कारको का अध्ययन किया है।
- 7. श्री, प. गिरिजा (2015) द्वारा किया गए शोध में उन्होंने भारत में बी. पी. ओ. इंडस्ट्री में कार्यरत महिलाओं के उनके घर और कार्य में संतुलन का अध्ययन है बी. पी. ओ. इंडस्ट्री में चुकी कार्य २४ घंटे होता है तथा वहां तीन शिफ्ट में काम करना होता है जिसके कारन महिलाओं के लिए काम करना और भी चुनोती भरा हो जाता है।
- किशोरी लाल शर्मा (2014) द्वारा प्रकाशित शोध पत्र में भारत में महिला उधमियों के समक्ष प्रस्तुत चुनोतियों तथा समस्याओं का विवरण प्रस्तुत किया है।
- नीतेश, व नन्दकुमार (2014) द्वारा किया गए शोध में महिला उधमियों के भारत के आर्थिक विकास में योगदान, उनके समक्ष प्रस्तुत चुनोतिया तथा उनके के लिए उपलब्ध सुविधाओं का आकलन किया गया है ।
- 10. सोफीया अली (2011) में प्रकाशित शोध में केन्या में कार्यरत महिलायों में आये सामाजिक, आर्थिक और पारिवारिक स्तिथियों पर अध्ययन किया गया है उन्होंने ने निष्कर्ष में कहा है कि कार्यरत महिलायें घरेलु महिलाओं की तुलना में अपने जीवन से अधिक संतुष्ट होती है ।
- 11. अमीना अहमद, (2007) में अपने किये गए शोध में कार्य-परिवार संघर्ष में सामाजिक संबल का कार्यरत महिलाओं में योगदान पर अध्ययन किया है यह शोध कई मायनो में महत्वपूर्ण है क्योंकि कार्यरत महिला का सबसे बडा डर समाज का होता है जिसके सहयोग के बिना उनका कार्य करना कठिन हो सकता है।
- बोरूआ, (2005) द्वारा किया गए शोध से स्पष्ट है कि ग्रामीण भारत में आज भी शिक्षा के क्षेत्र में जाति, वर्ग और लिंग के आधार पर भेदभाव किया जाता है।

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 प्रसिद्ध मार्क्सवादी राजनेता बृंदा करात (1997) द्वारा प्रकाशित शोध में भारत में महिलाओं द्वारा किया गए अनेक प्रकार के संघर्षों यथा परिवरिल स्तर पर, सामाजिक स्तर पर, आर्थिक स्तर पर का अध्ययन किया गया है ।
 मगलस्वर्ण (2012) में किये गए शोध में पुलिस विभाग में कार्यरत विवाहित महिलाओं के पारिवारिक सामंजस्य

हेतु उत्पन्न कठिनाई का अध्ययन किया गया है।

- 15. देसाई और जैन द्वारा 1994 में किये गए शोध में पाया गया कि विवाहित महिलाओं को विवाह के बाद नौकरी करने के कारण अनेक सामाजिक बन्धनों का सामना करना पडता है और इस का उनके पारिवारिक सगठन पर भी प्रभाव पडता है यथा उन्हें फॅमिली प्लानिंग के लिए उचित समय का इंतजार करना पडता है।
- 16. डेविड मोंक (2009) में शोध किया गया "किस प्रकार उच्च गुणवत्ता के शिक्षकों को ग्रामीण क्षेत्र में नियुक्त किया जाये और उन्हें वहां से जाने से रोका जाये" के कारणों और निवारण का गहन अध्ययन किया गया है।
- 17. सोनल और देवकी (1994) द्वारा पाने शोध में पाया कि विवाहित महिलाओं को विवाह के बाद नौकरी करने के कारण अनेक सामाजिक बन्धनों का सामना करना पडता है और इस का उनके पारिवारिक सगठन पर भी प्रभाव पडता है।
- 18. उज्वल्ला और स्वाति (2004) ने कार्य और परिवार के समायोजन के क्षेत्र में तत्कालीन समय तक हुए शोध को एक जगह उपलब्ध कराने का सराहनीय प्रयास किया है।
- 19. हुमा किदवई व् अन्य (2014) द्वारा तैयार रिपोर्ट में ग्रामीण क्षेत्रों में कार्यरत शिक्षकों को पुनः प्रशिक्षण प्रदान करने की आवश्यकता, कठिनाइय और उपाय पर शोध किया गया है इस रिपोर्ट में इंगित है कि विवाहित महिलाओं को पुनः प्रशिक्षण प्राप्त करने के लिए जब किसी प्रशिक्षण केंद्र पर भेजे जाने का प्रावधान किया जाता है तो उनके समक्ष सर्वप्रथम पारिवारिक और सामाजिक समस्या उत्पन्न होती है।
- 20. मंजुला (2012) द्वारा किया गए शोध में स्पष्ट है कि विवाहित शिक्षक महिलाओं को किस प्रकार कार्य और परिवार में समायोजन करना पडता है और इस क्रम में उत्पन्न तनाव का उनकी कार्य निष्ठा पर कितना प्रभाव पडता है।
- 21. अजीज (2004) द्वारा 264 महिलाओं पर किया गए शोध में भूमिकाओं के समायोजन के फलस्वरूप उत्पन्न तनाव को मापने का प्रयास किया गया है हालाकि शैक्षणिक स्तर पर भिन्नता का इस तनाव मापन में कोई विशेष प्रभाव नहीं पाया गया।
- 22. विजेंद्र राव (1999) द्वारा किया गए शोध में पारिवारिक हिंसा तथा उसके विवाहित महिलाओं पर व्यवहारिक प्रभाव का अध्ययन किया है किस प्रकार घरेलु हिंसा तनाव को जनम देती है और उसका पूरे कार्य प्रणाली पर कितना प्रभाव पडता है।
- 23. उषा जयचौद्रन (1997) ने भारत में प्राथमिक शिक्षा की स्तिथि एव् समस्याएँ पर शोध कार्य किया है ।

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- 24. कुषमेन (2005) द्वारा किया गए शोध मे प्राथमिक शिक्षा में कार्यरत पुरुष शिक्षकों की समस्यायों और व्यवहारिक कठिनाइयों का अध्ययन किया गया है।
- 25. लिंडा इवेंस (1998) द्वारा किया गए शोध मे शिक्षकों के नेतिक मूल्यों, नौकरी से संतुष्टि और अभिप्रेरणा के बीच सम्बन्ध दर्शाने का प्रयास किया गया है।

🔹 शोध प्रविधि

न्यादर्शः –

शोधकार्य के लिय झॉसी मण्डल के तीन जिलों के प्रत्येक विकासखण्ड में स्थित ग्रामीण विद्यालयों से कुल 220 विद्यालयों में कार्यरत कुल 500 शहरी महिला शिक्षको का चयन किया गया जिसमें 65 ग्रामीण महिला शिक्षा मित्र सम्मिलित है ।

उपकरण :--

शोधकार्य के लिये शोधार्थी द्वारा निर्मित तीन प्रश्नावलियो का प्रयोग किया गया है:— प्रथम प्रश्नावली में कार्यस्थल परिस्थितियों तथा कार्य संतुष्टि के बीच समबन्ध स्थापित करने का प्रयास किया गया है। द्वितीय प्रश्नावली में शहरी महिला शिक्षको समक्ष उत्पन्न विभिन्न व्यवहारिक एंव शैक्षणिक समस्याओ को जानने को प्रयास किया गया है और उन समस्याओ के कारण उनकी कार्य क्षमता पर क्या प्रभाव पडता है यह जानने का प्रयास किया गया है तृतीय प्रश्नावली में शहरी महिला शिक्षको में कार्य के कारण उत्पन्न तनाव तथा उसके कारणो को जानने का प्रयास किया गया है।

प्रथम दो प्रश्नावली को परीक्षण के लिये 500 शहरी महिला शिक्षकों / शिक्षा मित्रों को दिया गया। जिसमें से लगभग 450 महिलाओ द्वारा ही दोनों प्रश्नावलियो को पूर्ण रूप से भरकर दिया गया। परन्तु संख्या की समानता को ध्यान में रख केवल 400 प्रतिदर्शो का प्रयोग अतिंम गणना के लिये किया गया है। जिसमें 65 शिक्षा मित्र सम्मिलित है। तथा तृतीय प्रश्नावली को परीक्षण के लिये 435 शहरी महिला शिक्षको को दिया गया। जिसमें से लगभग 385 महिलाओ द्वारा ही दोनो प्रश्नावलियो को पूर्ण रूप से भरकर दिया गया। परन्तु संख्या की समानता को ध्यान में रख केवल 335 प्रतिदर्शो का प्रयोग अतिंम गणना के लिये किया गया है।

प्रदत्तों का संकलन :-- प्रदत्तों का संकलन मण्डल के तीन जिलो यथा झॉसी, ललितपुर तथा जालौन के विद्यालयों से किया गया। विद्यालय का चयन यादषच्छिकी न्यादर्शन विधि द्वारा किया गया। सभी परीक्षणों को प्रत्येक विद्यालय को परीक्षण के लिये दिया गया ।

• परिणाम एंव सुझाव : तथ्यों के विद्यिवत संकलन (Data Collaction) के पश्चात् उसका विश्लेषण (Analysis) किया गया तथा निम्न समस्याओ को पाया गया : Rexjounal

*** महिला यौन उत्पीड़न** : महिला यौन उत्पीड़न एक वैश्विक समस्या है। भारत में ही नहीं वरन् सम्पूर्ण विश्व में महिलाएं भेदभाव असमानता, दमन, शोषण एवं यौन उत्पीड़न आदि की शिकार रही हैं। उत्तर प्रदेश सरकारी कर्मचारियों की आचरण (संशोधन) नियमावली, 1998 के द्वारा असाधारण गजट उत्तर प्रदेश भाग 8 खण्ड (क) दिनांक 17.10.1998 में नियम (3–क), (11), (15), (22), (24) में संशोधन किये गये। संशोधित नियम (3) के पश्चात नया नियम

(3-क) बढा दिया गया जिसके अनुसार कामकाजी महिलाओं के यौन उत्पीड़न पर प्रतिबंध लगाया गया। **♦ जाति भेद**: जाति व्यक्ति के समाज, जिसमें जन्म हुआ हो, को कहते हैं। ब्राह्मण, क्षत्रिय, वैश्य, तेली, लोहार, कुर्मी. धोबी आदि कुछ उत्तर भारतीय हिन्दू जातियाँ हैं। वैदिक समाज को श्रम विभाजन के निमित्त चार वर्णों में विभक्त किया गया था। ये चार वर्ण हैं ब्राह्मण, क्षत्रिय, वैष्य, वैष्य, वेष्य, वेष्य, जेली, लोहार, जियां गया था। ये चार वर्ण हैं ब्राह्मण, क्षत्रिय, वैष्य, वेष्य, पवं शूद्र। किन्तु कालान्तर में इससे लाखों जातियाँ बन गयीं। जाति के आधार पर किसी प्रकार का भेदभाव या पक्षपात करना जातिवाद कहलाता है।

♦ लिंग भेद : हम 21वीं शताब्दी के भारतीय होने पर गर्व करते हैं जो एक बेटा पैदा होने पर खुशी का जश्न मनाते हैं और यदि एक बेटी का जन्म हो जाये तो शान्त हो जाते हैं यहाँ तक कि कोई भी जश्न नहीं मनाने का नियम बनाया गया हैं। लड़के के लिये इतना ज्यादा प्यार कि लड़कों के जन्म की चाह में हम प्राचीन काल से ही लड़कियों को जन्म के समय या जन्म से पहले ही मारते आ रहे हैं, यदि सौभाग्य से वो नहीं मारी जाती तो हम जीवनभर उनके साथ भेदभाव के अनेक तरीके ढूँढ लेते हैं। हांलाकि, हमारे धार्मिक विचार औरत को देवी का स्वरुप मानते हैं लेकिन हम उसे एक इंसान के रुप में पहचानने से ही मना कर देते हैं। हम देवी की पूजा करते हैं, पर लड़कियों का शोषण करते हैं। जहाँ तक कि महिलाओं के संबंध में हमारे दृष्टिकोण का सवाल हैं तो हम दोहरे–मानकों का एक ऐसा समाज हैं जहाँ हमारे विचार और उपदेश हमारे कार्यों से अलग हैं।

• कार्यस्थल का वातावरण : कामकाजी औरतों की चर्चा होते ही प्राय उन स्त्रियों की छवि आंखों के आगे तैर जाती है, जो किसी स्कूल, कार्यालय आदि में काम करती और बदले में निश्चित वेतन पाती हैं। इसी तरह आर्थिक जगत का नाम आते ही कुछ नामचीन महिलाओं का स्मरण स्वाभाविक है। भारतीय समाज में महिलाओं की सूझबूझ, कर्तव्य परायणता, ईमानदारी, त्याग, बलिदान, बहादुरी, प्रशासनिक क्षमता, संगठनात्मक क्षमता, परिश्रम करने कि क्षमता

हर क्षेत्र में प्रमाणित हो चुकी है। किसी भी क्षेत्र में महिलाओं कि अक्षमता को आंकना बेईमानी होगी। *** मानसिक तनाव** : तेजी से बदलते माहौल में हमारे शरीर और मन पर जो असर पड़ता है, उसे तनाव कहते है। तनाव दो तरह का होता है। पहला अच्छा तनाव और दूसरा बुरा तनाव। जहां अच्छे तनाव की वजह से आप अपनी नौकरी में प्रमोशन पाते है, वहीं बुरे तनाव में आप किसी से गुस्से में बहस कर लेते है। परिवार, पैसा, काम और स्कूल – ये तनाव के सामान्य कारण है। ज्यादा तनाव आपकी सेहत के लिए नुकसानदायक होता है और इसकी वजह से आपके परिवार और दोस्तों से संबंध भी बिगड़ सकते है। कई बार जब लोग लगातार तनाव भरी परिस्थितियों से गुजरते

है, तो उनका गुस्से पर नियंत्रण नहीं रहता।

🔹 सुझाव

- प्रत्येक विद्यार्थी की शैक्षिक के साथ-साथ सहशैक्षिक गतिविधियों की उपलब्धि का भी अभिलेख विधिवत् रखा जाए।
- 2. शिक्षा के वार्षिक स्तर की रिपोर्ट (एएसईआर 2013) के अनुसार उत्तर प्रदेश तथा बिहार के चार में से तीन शिक्षक पाँचवी कक्षा के स्तर के प्रतिशत निकालने वाले प्रश्नों का हल नहीं कर सके। शंकर (2015) के अनुसार शिक्षकों के चयन, नियुक्तियों के सही मानदंड बनाने की आवश्यकता है। शिक्षक कम भी हों मगर अच्छे व निष्ठावान ही होने चाहिए। शिक्षा का स्तर संभालने में यह आधारभूत बिन्दु है। शिक्षा में छोटी–बड़ी सभी नियुक्तियों तक गंभीरता होनी आवश्यक है, जैसी राष्ट्रीय सुरक्षा संबधी विषयों में रहती है। दोनों का एक जैसा ही महत्त्व है। शिक्षकों को स्थाई नौकरी, पर्याप्त वेतन प्रदान किया जाए जिससे उनकी कार्यक्षमता में वृद्धि हो। शिक्षक प्रशिक्षण कार्यक्रमों, पाठ्यचर्या में सुधार ध्यान देने योग्य बिंदु हैं। शिक्षकों से गैर–शिक्षकीय कार्य लेना बन्द किया जाए। शिक्षकों को समय पर गोष्ठी, सम्मेलन आदि के द्वारा नवाचारों से अवगत कराया जाए। कर्त्तव्य निर्वाह न करने वाले शिक्षकों व अधिकारियों पर त्वरित कार्यवाही व दण्ड का प्रावधान होना चाहिए। फर्जी अंकपत्र व उपाधि से नियुक्ति या जाए जिससे डिया जाए जिससे शिक्षकों को समय पर गोष्ठी, सम्मेलन आदि के द्वारा नवाचारों से अवगत कराया जाए। कर्त्तव्य निर्वाह न करने वाले शिक्षकों की पहचान करके आवश्यक दण्ड दिया जाए जिससे शिक्षा की गुणवत्ता बान वाले युवाओ के चयन को प्राथमिकता दी जानी चाहिए, साथ ही उन्हें उपयुक्त प्रशिक्षण दिया जाए जा यांत्रिक नहीं अपितु रचनात्मक हो।
- 3. अभिभावकों को जागरूक व सहयोगी बने रहने की प्रेरणा माता—पिता व अभिभावकों को शिक्षा के प्रति जागरूक व सहयोगी बनाने के लिए विचार—गोष्ठी, अभिभावक सम्मेलन आयोजित किए जाने चाहिए एवं समय पर उनके अभिमतों व उपयोगी सुझावों का प्रयोग विद्यालय की कार्य—प्रणाली में किया जाना चाहिए, जिससे वे स्वयं को विद्यालय के बाहर का हिस्सा न समझें। अभिभावक सम्मेलन एवं विचार—गोष्ठी औपचारिकतापूर्ण न हों अपितु उनके द्वारा अभिभावकों को जागरूक व सहयोगी बने रहने की प्रेरणा दी जाए।
- 4. सरकार व समाज के सहयोग की भूमिका महत्त्वपूर्ण शिक्षा के क्षेत्र में गुणवत्ता बढ़ाने में सरकार की भूमिका महत्त्वपूर्ण है। सरकार द्वारा शिक्षा के लिए की गई घोषणाओं एवं बनाई गई नीतियों व योजनाओं का भली—भाँति क्रियान्वयन करना सबसे बड़ा कर्त्तव्य है जिससे शिक्षा का गुणवत्ता स्तर ऊँचा हो सकता है, परन्तु बिना समाज के सहयोग के यह कार्य संभव नहीं है। समाज को भी अपना दायित्व समझकर आगे आना होगा। अनेक गैर सरकारी संगठन (एनजीओ) यथा—प्रथम, बोध शिक्षा समिति, एकलव्य, अँगना, अक्षरा, कथा, गूँज, दीपालय, फोर्टी फाउन्डेशन, के साथ कई व्यापार और उद्योग घरानों जैसे— अंबानी फाउन्डेशन, अजीम प्रेमजी फाउन्डेशन, जागरण समूह द्वारा गरीब छात्रों को गुणवत्तापूर्ण शिक्षा सुलभ कराने की दिशा में जो कदम उठाए गए हैं, वे सराहनीय हैं, इन्हें और प्रोत्साहित करने की आवश्यकता है।

5. शिक्षा के अधिकार अधिनियम का पुनरावलोकन गुरूचरण (2015) ने अपने लेख में शिक्षा के अधिकार अधिनियम में भी परिवर्तन का सुझाव दिया है। उनके अनुसार समस्या 2009 में बनाए गए शिक्षा के अधिकार अधिनियम में है। आरटीई कानून पढ़ाई जाने वाली चीजों के परिणाम और गुणवत्ता पर बिल्कुल मौन है। इसमें यह माना गया है कि बच्चों की उपलब्धि की समीक्षा का बच्चों पर दबाब पड़ेगा और इस विचार ने विद्यार्थियों की शिक्षा की परिक्षा के महत्त्व को कम कर दिया है। परिणामस्वरूप बच्चों के प्रदर्शन के लिए शिक्षकों की कोई जिम्मेदारी नहीं बनती। शिक्षा के अधिकार अधिनियम की धारा (16) में प्रावधान है कि किसी बच्चे को आठवीं कक्षा तक फेल नहीं किया जाएगा और न ही विद्यालय से निकाला जाएगा। इसके पीछे सिद्धान्त तो अच्छा है कि कमजोर बच्चों को नालायक घोषित करने के स्थान पर विद्यालय उन पर विशेष ध्यान दे व उसकी प्रगति का उत्तरदायित्व वहन करे तथा बच्चों को अपनी–अपनी गति के अनुसार पढ़ाई ठीक से हो.

- 6. शिक्षक को-अभिभावक शिक्षक सभा का आयोजन प्रभावी रूप में करना चाहिए। सामान्यतः परीक्षा परिणाम के अवसर पर या किसी विद्यार्थी की विशिष्ट समस्या होने पर ही शिक्षक अभिभावकों से सम्पर्क स्थापन करते हैं जबकि इस प्रकार की मीटिंग का आयोजन सत्र में कम से कम छह बार तो होना ही चाहिए जिसमें विद्यार्थियों की प्रगति अथवा अन्य पक्षों पर विचार विमर्श किया जा सके। इसी के आधार पर ज्ञात किया जा सकेगा कि अभिभावकों की क्या अपेक्षाएं है और बालकों की क्या इस सम्बन्ध में निर्णय आपसी वार्ता द्वारा ही उचित रूप में लिया जा सकेगा। बालकों के सम्बन्ध में उनकी शैक्षणिक प्रगति के सम्बन्ध में उनके अभिभावकों को निरंतर जानकारी देते रहना चाहिए।
- 7. कई कक्षाओं को एक साथ बैठाकर शिक्षण कार्य किस प्रकार कराया जा सकता है इस हेतु उन्हें सैद्वांतिक ज्ञान के साथ साथ व्यावहारिक ज्ञान भी देना चाहिए। इस तरह की पद्वति द्वारा जिन विद्यालयों में सुचारू रूप से पढाया जाता है उस संस्था के शिक्षकों से सम्पर्क स्थापन कर विचार विर्मश करें व अवलोकन के आधार पर उचित शिक्षण प्रक्रिया के आधार पर कक्षा शिक्षण करें यदि इस प्रकार के प्रशिक्षण का प्रावधान कहीं हो तो उन्हें अवश्य ही इसमें भाग लेकर सीखने का अवसर प्राप्त करना चाहिए। इस प्रकार से अनुशासन की समस्या का भी समाधान हो सकेगा व विद्यार्थी विद्यालयों में ठहर सकेगें।
- 8. शिक्षकों की सेवा शर्तो, वेतन, पदोन्नति (प्रमोशन) कठिनाईयों का निवारण, आदि पर विचार किया जाना चाहिए।
- 9. विद्यालयों की भौतिक स्थिति में सुधार हेतु प्रशासन को व विद्यालय को ठोस कदम उठाना होगा
- 10. शिक्षकों को शिक्षणेत्तर कार्यों में यथा पशुपालन गणना, पल्स पोलियो, जनगणना आदि कार्यक्रमों में ड्यूटी लगाने पर नियंत्रण करना होगा क्योंकि प्राथमिक स्तर पर अध्यापक होते ही कम है और इन कार्यो में लगाने के बाद पूरे विद्यालय का शिक्षण कार्य बाधित होता है ।

 प्रधानाध्यापक को शिक्षकों की सेमिनार, कार्यशालाओं आदि में भाग लेने हेतु भेजना चाहिए ताकि वे शिक्षण नवाचारों से अवगत हो सकें और उन्हें क्रियान्वित कर सकें।

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A study in comparison to Indian Economy

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ABSTRACT :

In present scenario, Retail banking is one of the innovative and major financial services delivered by the wide range of commercial banks including PSB i.e. Public Sector Banks, Private sector banks and foreign banks. Alike other developed nations, India too, possess an established retail banking sector that account for about 20 percent of all bank credits. Retail lending has been a display in context of innovative services particularly in banking sector all over the world. The strategies related to retail banking are experiencing a major transformation phase because presently the banks have started to adopt a combination of different strategies like acquisition of organic growth and formation of alliance. As a result of this, there is a slight shift in the strategic marketing policies by the banks. PSB are in process of implementing aggressive strategies and leveraging its network of branches so as to acquire large retail market share. The article puts an attempt to enlighten the prospects and future role of retail banking in India. This report coversgeneral study & exploration of this rapidly growing sector. It predominantlyencompasses analysis of the current status, latest trends, major issues & challenges in the growing of the retail banking sector in India.

Keywords: Retail Banking,, Financial Market Reforms, , Retail Banking Sectors, ,Commercial Banks, Indian Banking sector, Public Sector BanksInformation Technology, Economic Development.

INTRODUCTION : Like in various other countries all across the globe, Retail banking in India has fast arisenas a major driver in the entire banking sector witnessing vast growth rate in recent past. There exists a huge potential for retail banking because of the continuously rising demand for its products coined as term deposits, customer durable loans, auto loans, debit card, credit cards, ATM facilities, insurance, online banking etc. The increase in retail lending sectorhas significant contributions in economic development for any country. Nations like India and china have come up as potential advertises with varying investment opportunities. Various factors like personal wealth, favorable demographics, continuous technological advancements in IT industry, the helpful macroeconomic environs, financial reforms in markets, minor supply side factors etc. are the various attributes that leads to high growth rate of retail lending in developing economies. When the transactions of the bank are being executed directly with customers leaving behind the other corporations or banks then

it is termed Retail banking. It is now seen as significant and major market segment with attractive offers and opportunities for growth and profits. The whole world recognizes it as an important factorwhich has a major role in economic development of the country. Retail banking offers a wide range of products like Mortgages, loans (e.g., personal/housing, auto and educational) on the asset sideand auxiliary services comprises of credit cards and depository services. The other Services offered embraces savings and transactional accounts, mortgages, personal loans, debit cards, and cards. It has been observed that there is an increasing demand for term deposits, consumer durable loans, auto loans, debit card, credit cards, ATM facilities, insurance, online banking, etc.

OBJECTIVES

- 1. To understand the recent trends in retail banking
- 2. To realize the impact of retail banking on Indian economy.
- 3. To study the different factors responsible for growth of retail banking in India
- 3. To identify the differentchallenges and opportunities of retail banking in India.

Recent Trends in Retail Banking : As per the Report's Customer Experience Index that surveyed more than 18,000 customers in about 35 markets, the percentage of customers likely to leave their banks in upcoming six months is 10% whereas 41% are unsure of leaving or staying with their banks . To re-instate the relationship between bank and customers the report stated that bank may transform their approach to customer-centric by increasing the number of personal interactions, Despite of a no of ATM machines and Internet Banking facilities, a large numbers of customers still have a preference of personal touch by their closest bank branches. Facilities like core banking and technical advancements has enabled banks to provide its services across all branches, giving instant updates to account status for brisk movement of liquidity for stock. Be it a service kiosk at a metro station, a grocery store mini branch, a district central branch, or a bank-on-wheels visiting different corporate locations, the thing that matters most is closeness to targeted customers than having a conventional bank pretense. Flexibility and nimbleness are important to gain competitive advantage for bank. The banks rely high on technology to increase customer experience by identifying and implementing technology-based solutions. Few banks, are even trying quasi-Internet cafes that includes high-tech lounge surroundings with relaxing furniture and Wi-Fi access combined to ATMs, self-service booths, vicinity for connecting consumer devices, guides for mobile and net banking along with videoconferencing facilities to provide consultation services provided by call center staff. In addition, the step to a cash-light society is likely to trigger the more changes in the proper deployment of branches.

The Impact of Retail Banking In Indian Economy : In country like India is not a noveloccurrence. History states its presence in India in different forms. Lately, it has been in streamline with mainstream banking for majority ofbanks. The usual products and services in retail banking sectorpresent in India Rexjounal

are housing loans, consumption loans for procurement ofdurables, car loans, credit cards and educational loans. These loans are been offered under various brands so as to bifurcate among the different products offered by various banks.. According to the Report on Trend and Progress of India, 2003-04 the total worth of these loans in retail lending characteristicallylies between Rs.20, 000 toRs.100 lack. Normally these loans are for a period of 5 to 7 years keeping home loans in exception which are usually granted for a longer period of about 15 to 20 years. Credit cards are also a growing trend in this sub-segment lying in the same product group. In recent times retail lending has become an important profit driver for banks leading to a retail portfoliocomprising 37.5% of whole outstanding advances till March 2014. The taken as a whole, the mutilation of the retail loan portfolio worked out much less than the Gross NPA ratio for the total loan portfolio. Inside the retail section, the home loans hadthe smallest gross asset impairment. As a matter of fact, retailing is considered as making business sense in the banking industry. Since, the new generationprivate sector banks have successfully created a niche in this regard, so the public sector banks also started to increase their vast network and leveraging their outreach. But as per the international standards, yet, there is a significant scope for retail banking in India.

Since in India retail banking is in growing phase from its modest base, there is a probability that the growthnumber appear to get somewhat overstated. But it is evident from the report that retail banking has significant impact on Indian economy since growth rate in retail banking contributes largely to growth in economy. Because more number of loans is directly proportional to the increase in living standard of consumers and as such giving economic boost up to individuals that contributes to overall economic growth. Lastly, the bankshas been benefited by increasing loans gaining higher profits contributing to economic growth as a whole.

Factors contributing to growth of retail bankingin India : Following are the factors can be well thought-out to have influencedandmade the way for the development of retail banking in India:

Since the usage of plastic money is Dramatic increase in number of cards issuedby banks. Since the usage of plasticmoney has augmented, so a working Group was set up forproper regulation in mechanism for cards. The terms and conditions of the WorkingGroup were quitebroad and its aim was to determine the sort of regulatory measures which needs to be incorporated for safe, secure and effective running of cards. And, it also has to look after the bestconsumer practices and grievances handling mechanism described for the end for the card users. The loans taken by credit cards contribute to growth of retail banking.

Housing Loans: The amount of home loans has grown up considerablyover last few years. And the flexibility of retail banking to get housing loans in easier manner from the consumer point of view has contributed to overall growth of retail banking. Moreover the younger generation focuses on high level

of consumer satisfaction with quality service. They have increased disposable income which also contributes to retail banking growth.

Wide customer base: Wide variety in terms of services offered by retail banking has significantly succeeded in making a large customer base.

Range of products: There are a wide range of options for consumer taking retail loans. Most private Banks and PSB's even provide finance for registration cost, stamp duty, society charges and various other related expenses like furniture and fixtures in case of housingloans and insurance, etc. Increase in disposable Income and Economic prosperity has also contributed to retail banking sector's growth.

Technological innovations: Technicaladvancements have a major role to play in retailbanking. Handinessin banking in form of debit cards, internet and mobile-banking, facility to access from anywhere and anytimehas fascinated consumers into the banking sector. Technical improvement such as increased use of credit /debit cards, ATMs, direct debits and mobile banking hasadded to the development of retail banking in India.

Low burden on banks: Increased profits by increased number of loans lessen the burden on banks and it has sufficient liquidity to run the banking operations smoothly.

Lower interest rates: The decline in interest rates over the last few years has also attracted more customers towards bank and as such helped the retail banking sector to grow further.

LIMITATIONS

Challenges and Opportunities of Retail Banking In India : There are vast opportunities for retail banking in India as it has been recognized as "secondmost attractive destination of 30 emergent markets." The significant growth of middle classis amajor contributoraspectin this reference. The SEZs will also offerdevelopment opportunity for retail banking. While retail banking presentsexceptional opportunities forgrowth, it has equally daunting challenges. Few of them are listed below:

♦ Marketing the products: There is a need forretailbanks to market their products aggressively. The main challenge to devise and to launch innovative products as per the changing requirements of the target segment. This needs to develop products that are easy to recognize and at the same time are able to fulfill the fiscal goals of the consumers.

Attracting and maintain the customers: An additionalkey challenge in retail banking is todraw aswell as to retain thepatrons. Retention has become more complexin this competitive business world. Consumer retention constructivelyinfluences the profitability. According to a research byReich held and Sesser in the Harvard Business Review, "5% increase in customer retention can increase profitability by35% in banking business". Hence, banks must focus onconsumer retention.

Sustainability is an addedissue that has becomemore and morecriticalin regards to the growth of retail banking inIndia. Technical innovations have enabled the banks to deliver its services all through its branch network but it also has made them too dependent on technology.Nevertheless, this dependency has brought added responsibilities and challenges on IT department like to uphold, supervise and optimize the retail banking overall performance and to keep up with it is a major challenge **Increase in Non-Performingassets and increasing indebtedness:**This mighthave an effect on thepotential growth of retail banking.According to the latest economic regulations made bythe government there is an immense inflow of moneyin the banking and financial services sector. It is likely that sometimes, banks will find it difficult to survive and smaller banks possibly will have to merge with bigger and branded banks.

Keeping up with market share: Need for higher market share is also another issue for retail banking, For commercial or private banks, maintaining consumer loyalty is getting highly tough. Users insist on instant resolution for their grievances and service personalization at low cost. Moreover, in a digital environment, shifting in market share is likely to be more because of flexibility for customers to switch easily. Since the choice is in customer's hands, so banks need to shift its focus from product centric to customer centric model and plan in advance to meet the customer requirements.

Technological challenges. Majority of the retail banks are observing anincrediblegrowth in their consumer base with the advancements in Information technology. While, converselythese advancements has also increased the number and types of cybercrimes like spam, scam, spy ware, phishing, and embezzlement etc. there is a considerable increase in the number of complaints aboutdifferentunwanted practices and cheating of creditcard account holders.

VTILITY: Retail banking enables the Indian banking sector by giving a large extent of innovative services. Retail loan is projected to account for almost one-fifth of overall bank credit. For the last few years, housing sector is getting a considerable boost up because of availability of credit. Slowly the retail loan market has transformed itself into buyer's market from seller's market. It has become very easier to get retail loans these days. The significant growth in retail banking contributes vastly in growth of economy. Retail banking is beneficial from both perspectives either from the banks side or from the consumer's side. So, the report focuses on the need for increment of retail banking.

***** STRATEGIES FOR FUTURE

- More Banks need to spread their banking services to the people residing in rural areas where people are still ignorant of the offers and services provided by banks,
- Products according to need of consumers can be put into more quantity by implementing customer segmentation or product differentiation
- Encouraging low risk retail banking products will enablebanks to lessen their liabilities and threat of refunding or repayment.
- Also encouraging cost effective expansion programs will help banks for more growth and development.

- Retail banking sector needs to put more emphasis on Customer relationship management as it is the backbone of retail banking. So a properresponse mechanism for customer enquiries must be planned whichshould be operated by specialists.
- Improved service quality can also be put into practice so as to increase customer satisfaction level and increase the number of loyal customers.

Maintaining brand and reputation is the key so they must maintain it to avoid negative impact on present and future consumers mind .Identifying, measuring and scheming risk to reputation should be taken care of by the banks.

CONCLUSION : There is a necessity of regular innovation in retail banking. In invigorating for future, a model shift in bank is financing viainnovative products and improved mechanisms concerning constant up gradation and revalidation of the internal systems and processes within the bank and is called for. Retail can now be used by Bankas a growth trigger. It has prerequisites such as -"product development and differentiation, innovation and business process reengineering, micro-planning, marketing, prudent pricing, customization, technological up gradation, home / electronic / mobile banking, cost reduction and cross-selling". While retail banking presents exceptional opportunities for growth, it has equally daunting challenges. So far, retail banking has been able to continuously drive the growth as context of banking industry but the future of that would rely upon the ability of retail banking to meet the challenges that come across and to make the optimum use of opportunities in a profitable manner. Though, the brand of technology used and the competence of operations should give the anticipated competitive edge to attain success in retail banking industry. Besides, all these the fact that customers' interest is of paramount importance still persists. So, it is very important for banks to get betterof their customer services and cut off rapaciouslending strategies, especially in the field of interests applied on credit cards. Lastly we conclude that retail banking is one of the most remarkable sectors nowadays to be taken care of by the banking industry.

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Assess The Behavioural Changes In Kindergarten Children And The Problems Faced By Their Mothers

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♦ ABSTRACT : The main purpose of this study was to assess the behavioural changes in kindergarten children and the problems faced by their mothers in selected school in Nehru Nagar, Bhilai (C.G.). The sources of data were collected from mothers of kindergarten children at mile stone school in Bhilai. The researcher had selected 100 mothers of kindergarten children for this study. The subjects were selected by using simple random sampling method. The study utilized the descriptive survey research method. A structured interview schedule was prepared to determine behaviour of kindergarten children and the problems faced by mothers. Data collected were analyzed and interpreted by using descriptive and inferential statistics. The result showed that there was positive correlation (0.4843) between behavioral changes of children before & after attending kindergarten school and the problem of mothers regarding behavioural changes in their children.

INTRODUCTION : Childhood is said to be the "golden age" for the building of physical, mental, social and emotional health. Children are dependent on adult for physical, social, and emotional needs. The childhood period is divided into infant, toddler, preschool, schooler, and adolescent according to age group. Each age group has its uniqueness. The age group of 3 to 5 years is considered as preschool. During this period physical growth is less rapid than at earlier age levels. Till the age of three the child is at home and then he enters in kindergarten school. "Kindergarten is called extension

of home". (Katherine H. Read)

It introduces the child to a new and different social world, the new agents of socialization such as teachers and peers. The new setting will make significant impact on him, giving rise to modification in his established behavioural pattern and characteristics.

***** REVIEW OF LITERATURE

In this study review of literature is categorized in two parts.

- I) Studies related to –
- a) Psychological development of children.
- b) Social development of children.
- II) Studies related to problems faced by working women.

Pushpalatha G. (2006) studied psychological factors associated with abdominal pain in 30 pediatric cases having abdominal pain in the age group of 4-10 years. The study finding highlights that school environment cause's stress in children which makes the child to complaint about vague aches & pain.

Tamer S. K et al (2007) studied on working educated mothers and its impact on child health. The impact of work by mother on child health was assessed by comparing 200 working educated mothers and their 408 children with 200 non-working mothers and their 440 children. Significant numbers of children in study group were reported to have psychological problem as perceived by the mothers. Working of the mothers produced a significant nutritional and psychological impact on the children.

Mishra P. (2008) studied the social & emotional development of 20 children attending kindergarten. Study revealed that –Children with younger siblings were more likely to rank high on aggression at least in the school setting than those who had elder siblings. The above study findings highlight that the ordinal positions in the siblings have a positive or negative influence on child's behaviour & children of working women are more likely to adjust better with less problems.

*** OBJECTIVES OF STUDY**

- 1) To assess the behavioural changes of children before and after attending kindergarten school.
- 2) To assess the problems faced by mothers in relation to behavioural changes in their children.
- 3) To find out the correlation between the behavioural changes of children before and after attending kindergarten school and the problems faced by working mothers in relation to behavioural changes in their children.
- 4) To find out association between the behavioural changes in children with selected demographic variables.
- 5) To find out association between the problems faced by mothers regarding children's behaviour with selected demographic variables.

✤ DELIMITATIONS :

- 1. The study is limited to age group 3-4 years of children.
- 2. The study is limited to mothers of newly admitted junior kindergarten children from selected school in Bhilai..
- 3. The study is limited to verbal response of mothers.
- 4. Response limited to mother's capacity to recall so we can be accurate.
- 5. Educated mothers are included in my study.
- ***** RESEARCH METHODOLOGY
- RESEARCH APPROACH : Descriptive survey research approach
- RESEARCH DESIGN : Non experimental design
- SAMPLE SIZE : 100 mothers of kindergarten children in the age group 3-4 years
- SAMPLING TECHNIQUES : Simple random sampling technique
- SETTING OF THE STUDY : Mile stone school in Nehru Nagar, Bhilai
- **POPULATION :** The population comprised mothers of kindergarten children.

♦ VARIABLES : The extraneous variables under study are age, birth order, play school attendance, exposure to babysitting, mile stone, type of work, type of family, family income, marital status.

♦ METHOD OF DATA COLLECTION : A structured interview schedule was prepared to determine behaviour of kindergarten children and the problems faced by mother and the data collected in Mile stone school in Nehru Nagar, Bhilai (C.G.).

RESEARCH TOOL : Tool consisted of three sections.

Section I - a) Demographic data of the child.

b) Demographic data of parents.

Section II - Behavioural changes of kindergarten children before and after attending kindergarten school.

Section III - Problems faced by mothers in relation to behaviour changes in their children.

- a) At home
- b) At work place
- c) At social contact
- ***** TESTING OF THE TOOL

Validity : Content validity of tool was established by six experts in field of different speciality in nursing.

Reliability : The reliability of the tool was tested through rational equivalence method.

ANALYSIS OF THE DATA :The descriptive statistical analysis of the data gathered to assess the behavioural changes in kindergarten children and the problems faced by their mother.

*** MAJOR FINDINGS OF THE STUDY**

Findings related to socio-demographic data

- Majority of the children were fallen between the age group of 3.3 to 3.9 years (47%).
- Majority of children was first birth order (50%).
- Maximum of children had exposure of more than twelve months in babysitting (72%).
- Majority of the children were attained the normal growth and development (95%) according to their age.
- Majority of the mothers of kindergarten children were attended part time job (43%).
- Majority of the mothers of kindergarten children were belong to nuclear families (76%).
- Maximum (96%) mothers of kindergarten children were married.
- Maximum (54 %) parents were having two children.
- Majority of the fathers of kindergarten children received collegiate education (54%).
- Majority of the mothers (54%) were studied up to secondary education.

Findings related to behavioral changes of children

 Highest mean score was (20.88%) obtained by children regarding behavioral changes after admission in school.
• There is significant effectiveness (**3.2871**) between behavioural changes of children before & after admission in school.

Findings related to problem faced by mothers

- Highest mean score was (42.5%) obtained by mothers regarding behavioral changes of children after admission in school.
- There is significant effectiveness **(0.38334)** between problems of mothers regarding behavioral changes and the behavioural changes of children before & after admission in school.

Findings related to correlation between problems of mothers regarding behavioral changes and the behavioural changes of children before & after admission in school

• There is positive correlation **(0.4843)** between problems of mothers regarding behavioral changes of children before & after admission in school.

Findings related to association between behavioural changes in childrens with their demographic variables

- There is significant association between behavioural changes in children with their demographic variables. (P> 0.05) shows that association between behavioural changes in children with their demographic variables age, dressing, feeding, brushing habit and attained bladder and bowel control.
- There is no association between behavioural changes in children with their demographic variables like birth order, exposure to babysitting, talk simple sentence, tolerate separation. Findings related to association between problems of mother regarding behavioural changes in children with their demographic variables
- There is significant association between problems of mother regarding behavioural changes in children with their demographic variables. (P> 0.05) shows that significant association between problems of mother regarding behavioural changes in children with their demographic variables working mother, type of family and income.
- There is no association between problems of mother regarding behavioural changes in children with their demographic variables like marital status, no. of children, educational status of father and mother.

CONCLUSION : The exposure to new environment had positive as well as negative influence on children's behaviours. Some children became more independent in self care, became more social, talkative. But at the same time some children developed habits of bed wetting, stammering, constipation, decreased appetite and temper tantrum may be as a result of exposure to new environment.

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Impact of E-Business on Environmental Sustainability

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Abstract : Modern consumers are aware of social and environmental issues and keep themselves informed about which businesses are acting responsibly in the community. Environmental sustainability differentiation should have two clear goals. Firstly, it should provide you with a competitive advantage or at least put you on equal ground with other businesses in the market. Secondly, it should help you to become more socially responsible and have a positive impact on the health of the environment. Environment sustainable strategies should consider information about pollution prevention, energy efficiency, renewable energy, carbon emissions and lifecycle management. It is intended to help the concept of sustainability by providing more clarity of purpose and direction, particularly regarding the importance of valuing ecological services and recognizing our interconnectedness. The term environment refers to the surrounding, atmosphere or the conditions for existence. Environment includes physical, natural, man-made structures which are inclusive of parks, gardens, building, flora and fauna, human's etc. Sustainability means an ongoing non-static maintenance of systems. "Sustainability is the ability of a system to continue over the long term within certain boundaries and under certain conditions."Environmental sustainability could be defined as a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity.

* Key Words: Ecosystem, carbon emission Sustainability

INTRODUCTION : The term environment refers to the surrounding, atmosphere or the conditions for existence. Environment includes physical, natural, man-made structures which are inclusive of parks, gardens, building, flora and fauna, human's etc. Sustainability means an ongoing non-static maintenance of systems. "Sustainability is the ability of a system to continue over the long term within certain boundaries and under certain conditions."Environmental sustainability could be defined as a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity.

PRINCIPLES OF ENVIRONMENTAL SUSTAINABILITY : The primary purpose for this effort to develop a definition of environmental sustainability was to help environmental professionals and others operationalize a portion of the concept sustainable development as set forth in Our Common Future. They are included to stimulate thought as well as provide advice. Readers are encouraged to visit the original sources for greater depth and perspective.

Societal Needs :

• Produce nothing that will require future generations to maintain vigilance

Design and deliver products and services that contribute

Environmental sustainability involves making decisions and taking action that are in the interests of protecting the natural world, with particular emphasis on preserving the capability of the environment to support human life. It is an important topic at the present time, as people are realizing the full impact that businesses and individuals can have on environment. Currently, environmental sustainability is a topical issue that receives plenty of attention from the media and from different governmental departments. Businesses can potentially cause damage to all areas of the environment. Some of the common environmental concerns include :

Damaging rainforests and woodlands through logging and agricultural clearing

Polluting and over-fishing of oceans, rivers and lakes

Environmental sustainability forces businesses to look beyond making short term gains and look at the long term impact they are having on the natural world. You need to consider not only the immediate impact your actions have on the environment, but the long term implications as well. For example, when manufacturing a product, you need to look at the environmental impact of the products entire lifecycle, from development to disposal before finalizing your designs. Establishing a business is an important step in assessing the viability of environmentally sustainable practices. Environmental sustainability becomes more heavily regulated by governments; there could be significant costs involved. For example, regulators may begin charging businesses based on their negative impact on the environment, leaving you to play catch up and incurring expenses in the process Consumers as well as investors are equally aware of these issues and there is a trend developing towards investing in environmentally sustainable companies.

THE THREE PILLARS OF SUSTAINABILITY: The principle of The Three Pillars of Sustainability says that for the *complete* sustainability problem to be solved all three pillars of sustainability must be sustainable. The three pillars are social sustainability, environmental sustainability, and economic sustainability. Of the three pillars, the most important is environmental sustainability. If this is not solved, then no matter how hard we try the other pillars cannot be made strong because they are dependent on the greater system they live within, the environmental.

✤ BUSINESS DIFFERENTIATION : Without differentiation, all businesses that sell the same product or service would be in direct competition with one another. Business differentiation allows you to position your products so that consumers can distinguish between those that are offered by your business and those offered by the competition. The key is to differentiate your business based on

points that consumers value as important when making purchasing decisions. The main driver behind environmental sustainability differentiation is changing consumer expectations. Consumers are become more aware and more interested in limiting their negative impact on the environment. Consumers are also openly expressing their disappointment in businesses that focus on profit making at the expense of a healthy environment. Environmental sustainability consulting is another type of enterprise with excellent potential in the current social climate. Environmental sustainability consultants visit a business or home and analyses the total impact that it is having on the environment. Government incentives offered to businesses that improve their environmental sustainability also offer a unique business opportunity. There are grants, funding and tax incentives available for start-up enterprises in the environmental sustainability sector as well as for businesses that actively work at reducing their environmental impact.

***** ENVIRONMENTALLY SUSTAINABLE STRATEGIES CONSISTS OF FOLLOWING:

- 1. Pollution prevention,
- 2. Energy efficiency,
- 3. Renewable energy,
- 4. Carbon emissions
- 5. Lifecycle management.

♦ E-BUSINESS : E- Business is buying and selling of goods, information and services as well as serving customers, collaboration with business partners, and conducting electronic transactions with an individual or organization. E business or electronic business refers to any type of business that is done primarily on the internet. An example of an E business would be a simple website that sells a product. Electronic business- Using the internet to assist with the operation of your business. It can be difficult to enter the e-business market, as the technology required is complex and often expensive. It gives great benefits from selling. E-Business, organizations have several goals in mind :

- · Reach how markets
- · Create new products
- · Built customer locality
- · Enrich human capital
- Make the best use of the existing and emerging technologies
- · Achieve market leadership and competitive advantage

Classification by provider and consumer e-businesses into the following categories :

Business-to-business (B2B)

Business-to-consumer (B2C)

Business-to-employee (B2E)

Business-to-government (B2G)

Government-to-business (G2B)

Government-to-government (G2G)

Government-to-citizen (G2C)

Consumer-to-consumer (C2C)

Consumer-to-business (C2B)

SECURITY IN E-BUSINESS : E-Business systems naturally have greater security risks than traditional business systems, therefore it is important for e-business systems to be fully protected against these risks. A far greater number of people have access to e-businesses through the internet than would have access to a traditional business. Customers, suppliers, employees, and numerous other people use any particular e-business system daily and expect their confidential information to stay secure. Hackers are one of the great threats to the security of e-businesses. Some common security concerns for e-Businesses include keeping business and customer information private and confidential, authenticity of data, and data integrity. Some of the methods of protecting e-business security and keeping information secure include physical security measures as well as data storage, data transmission, anti-virus software, firewalls, and encryption to list a few.

Availability : This concern is specifically pertinent to a business' customers as certain information must be available when customers need it. Messages must be delivered in a reliable and timely fashion, and information must be stored and retrieved as required. Because availability of service is important for all e-business websites, steps must be taken to prevent disruption of service by events such as power outages and damage to physical infrastructure. Examples to address this include data backup, fire-suppression systems, Uninterrupted Power Supply (UPS) systems, virus protection, as well as making sure that there is sufficient capacity to handle the demands posed by heavy network traffic.

CONCLUSION : Today's society is more and more education and advanced. We have no time to stand in queue for are day to day life's work. E-business is best solution for today world. E-business like mobile banking, internet banking, e-shopping, e-education made the life easiest and helps in time saving. But because of e-business and advanced life we are playing with environment.

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Flip-Flop Circuit Design using Reversible Logic Gates

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Abstract : In recent years, computing with reversible logic gate has emerged as a promising technology that can be viewed as an alternative approach to solve many problems in transmission, storage and processing of large amount of information in digital signal processing. Reversible logic circuits have found emerging attention in nanotechnology, quantum computing and low power CMOS designs. In this paper we have proposed a novel reversible Flip-Flop circuit. Then it is compared with the existing reversible Flip-Flop circuit. The result shows the improvement in the quantum cost, the number of garbage inputs and outputs.

Keywords : Reversible logic gate, Feynman gate (FG), Toffoli gate (TG), Fredkin gate (FRG), New gate (NG), New-Toffoli gate (NTG), Hybrid New Feynman Gate (HNFG).

Introduction : Reversible logic is of increasing importance to many future computer technologies. Reversible circuits are those circuits that do not lose information and reversible computation in a system can be performed only when the system comprises of reversible gates [1-7]. Irreversible hardware computation results in energy dissipation due to information loss. According to Landauer's research, the amount of energy dissipated for every irreversible bit operation is at least KTIn2 joules, where K is the Boltzmann's constant and T is the temperature at which operation is performed [1]. In 1973, Bennett showed that KTIn2 energy would not dissipate from a system as long as the system allows the reproduction of the inputs from observed outputs [2]. Reversible logic supports the process of running the system both forward and backward. This means that reversible computations can generate inputs from outputs and can stop and go back to any point in the computation history. Thus, reversible logic circuits offer an alternative that allows computation with arbitrarily small energy dissipation. These circuits can generate unique output vector from each input vector, and vice versa, that is, there is a one-to-one mapping between input and output vectors. The classical set of gates such as AND, OR, and EXOR are not reversible as they are all multiple-input single output logic gates. A gate is reversible if the gate's inputs and outputs have a one-to-one correspondence, i.e. there is a distinct output assignment for each distinct input. Therefore, a reversible gate's inputs can be uniquely determined from its outputs. Reversible logic gates must have an equal number of inputs and outputs. In this paper, a novel reversible Flip-Flop circuit with the help of basic reversible logic gates is reported. Reversible Logic Gates in used : There is a number of existing reversible logic gates such as Feynman gate, Toffoli gate, Fredkin gate, New gate, New-Toffoli gate, Hybrid New Feynman gate [8-13].

Feynman Gate (FG) : A 2*2 Feynman gate is also known as controlled NOT .depicted in figure. It implements the logic functions P=A & Q=A B. Feynman gate is the most suitable gate for a single copy of a bit. A '0' in the second input will copy the first input in both outputs of the gate. Thus Feynman gate is the most suitable gate for single copy of bit since it is not producing any garbage output. The basic structure and truth table of FG are shown below.



A	В	P	Q
0	0	0	0
0	1	0	1
1	0	1	1
1	1	1	0

Toffoli Gate (TG) : It is a 3-input ,3-output gate .The Input 'A' and 'B' are passed as first and second output respectively and third output is controlled by 'A' and 'B' to invert 'C'. The basic structure and truth table of TG are shown below.



A	В	C	Р	Q	R
0	0	0	0	0	0
0	0	1	0	0	1
0	1	0	0	1	0
0	1	1	0	1	1
1	0	0	1	0	0
1	0	1	1	0	1
1	1	0	1	1	1
1	1	1	1	1	0

Fredkin Gate (FRG) : It is a 3-input, 3-output gate .here the input 'A' is passed as first output. Input 'B' and 'C' are swapped to get the second and third output which is controlled by input 'A'. If 'A'=0; then simply duplicates the inputs, otherwise if 'A'=1; then the two input lines 'B' and 'C' are swapped. The basic structure and truth table of FRG are shown below.



A	В	C	P	Q	R
0	0	0	0	0	0
0	0	1	0	1	0
0	1	0	0	0	1
0	1	1	0	1	1
1	0	0	1	0	0
1	0	1	1	0	1
1	1	0	1	1	0
1	1	1	1	1	1

New Gate (NG) : A 3*3 New gate (NG) depicted in figure .It can be defined as I= (A, B, C) and Q= (P=A, Q=AB_{\oplus}C, R=A'C'B') .Where I and Q are the input and output vectors respectively. The basic structure and truth table of NG are shown below.



New Toffoli Gate (NTG): A 3*3 New Toffoli gate (NTG) also known as Peres gate (PG), is equivalent to the transformation produced by a Toffoli gate followed by a Feynman gate. A 3*3 New Toffoli gate (NTG) depicted in figure below.

R

0

1

0

0 0

0 0

1

0 1

0 1

1 1 0

1



New 4*4 Reversible Gate:

Hybrid New Feynman Gate (HNFG) : HNFG is shown in Fig. below; the corresponding truth table of the gate is shown in the table. HNFG is 4-input, 4-output reversible gate. Each HNFG gate can be used as two well-known 2*2 Feynman gates. It also can be used as "Copying Circuit" to increase fanout because fan-out is not allowed in reversible circuits. It is suitable for a single copy of two bits with no garbage outputs as depicted in Fig.



Existing Reversible Flip-Flop Circuit : In order to design the sequential circuits. the conventional logic gates are appropriately designed from the reversible gates. The digital gate function can be implemented by reversible gates. The following functions are shown below.



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X 1 NG Y	$\begin{array}{c c} & & & \\ & & & \\$	X FG X 0 Y ⊕ 0=X

New gate as NOR gate

Feyman gate as coping output

Feyman gate as NOT gate

3.1 Sequential RS Flip-flop Circuit :



3.2 The above circuit is the existing digital circuit.



3.3 Our Proposed Reversible Flip-Flop 1:



3.4 Our Proposed Reversible Flip-Flop 2 :



Comparism between existing & proposed circuit

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FEATURE	EXSITING CIRCUIT A	PROPOSED CIRCUIT1	PROPOSED CIRCUIT2
1.GATE USED:	FREDKIN NEW & FEYMAN	FREDKIN,NEW , HNFG GATES	TOFFOLI &FEYMAN GATES
2.NO OF GATES USED	6	5	4
3.NO OF GARBAGE OUTPUT	8	8	4
4.NO OF DELAY	б	5	4

* Conclusion and Scope of Future Works:

In this paper, a novel reversible flip-flop circuit is theoretically addressed and demonstrated. The significant advantages of this proposed circuit are that it reduces the number of garbage output and the complexity of the circuit. It also reduces the cost of the circuit to build and the energy loss due to less complexity and has better flexibility & reliability. It is worth noting that the synthesis of reversible logic is different from irreversible logic synthesis. One of the major constraints in reversible logic is to minimize the number of reversible gates used and garbage outputs produced. Garbage output refers to the output that is not used for further computations. While constructing reversible circuits, some restrictions should be strictly maintained:

- Fan-out is not permitted
- Loops are not permitted

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TO STUDY ON PERIPHYTON AND INDIAN CARPS

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Abstrect : To study periphyton-based systems for fish culture. Twenty-five liters plastic aquaria were stocked with three Nile tilapia, *Labeo rohita*, *Cirrhinus mrigala*, juveniles for 6 weeks in a 2x2factorial design. Small plastic bottles were placed in some aquaria for periphyton development. Two feeding regimes were employed:"full-fed" and "half-fed". Growth performance and limnological variables were observed in each aquarium. There were five replicates per treatment. Fish have fed actively on periphyton, especially in the half-fed aquaria. The placement of periphyton bottles had no significant effects on the water quality variables, except by the gross primary productivity which became lower. THE final body weight of fish in half-fed aquaria with periphyton bottles was significantly higher than in aquaria without bottles. Only in the aquaria with periphyton the feed conversation ratio was improved by the feeding restriction regime. Despite of emerging interests on utilizing periphyton as nutrient transfer tool in aquatic ecosystem, the major challenges ahead for modern aquatic biologists lies on determining nutrient uptake and transfer rate of periphyton, periphytic growth and simulating nutrient models of periphyton to figure a complete energy cycle in aquatic ecosystem.

Key words : Periphyton, tilapia, catla, mrigala, feeding restriction, fish culture.

◆ Introduction: Indian fisheries production in 2014 was over .5 million ton which represented an increase of 8% in relation to 2013. Out of the total, aquaculture had a share of 33.5% with a gross revenue over R\$ 1 billion. Among the fish species cultivated in India, the Nile tilapia, *Labeo rohita*, *Cirrhinus mrigala, is the top one with total production of 123,987ton in 2014. India one of the greatest world producers of farmed tilapia, after China, Bangladesh, Indonesia and Srilanka in decreasing order.*

The production of tilapia in ponds and cages is considered a non-efficient process because just 5-15% of all nutrients delivered to fish as fertilizers or diets are converted in fish biomass. On this background, certain basic questions need critical review in comprehending the nature of nutrient transfer ability of the periphytic life forms in aquatic food chain.

Periphyton is the general designation for the microorganisms that thrive in any submerged substrate and it is formed by algae, bacteria, fungi, aquatic invertebrates, protozoa and debris. This property embodies periphyton under extensive research to design as a tool for biofiltering excess nutrient from

polluted waters and for efficient nutrient transfer from primary to higher trophic levels. Periphyton, though a form of biofilm appears at a later stage of succession should be discussed under the preview of nutrient exchange between benthic and pelagic ecosystems. Bacterial colonization and EPS formation are preconditions for periphyton colonization on any substrate.

The present work was performed in laboratory conditions to answer the following questions about the substrate-based systems or Nil tilapia culture: (i) How does epiphytic or periphytic community act as food source for the grazers/detritus feeders? (ii) How the uptaken C, N and P in periphyton are being transferred into aquatic food chain and (iii) What are the stoichiometric consequences for uptake and transfer of nutrients in a periphyton based food chain? Once validated the experimental model will be useful as a research tool to develop suitable managements for substrate-based aquaculture system.

Materials and methods :

One thousand male sex reversed Nile tilapia, *Labeo rohita*, *Cirrhinus mrigala*, *fingerlings* were obtained at the West Bengal, India.Initially, fish stayed in the reception tank for one week to acclimatize themselves to laboratory conditions. Qualitative and quantitative studies of different parameters were sampled and analyzed at 30 days intervals.

I. Water (APHA, 1989)

- (i) Temperature (°C) by mercury in glass thermometer
- (ii) pH by electronic pH meter
- (iii) Dissolved oxygen
- (iv) Free Carbon dioxide
- (i) Conductivity by digital conductivity meter (systronic -303)

II. Phytoplankton and Zooplankton : Measurement of plankton density both in control pond and experimental ponds plankton were collected by plankton net from nine different regions. Total volume of collected water was passed through the plankton net. Then the collected plankton were measured in terms of plankton volume per 50 liter of sampling water in a ml. graduated test tube.

III. Soil analysis :

Following parameters of soil was analyzed following standard methods of AOAC (1990).

- (i) Nitrogen by micro kjeldhal technique.
- (ii) Phosphorus by Specto photometer at 720 nm.
- (iii) Potassium (K⁺) by digital flame photometer (systronic -121)

IV. Bacterial population was counted by "Plate count method".

In the initial day of experiment the water sample brought into the laboratory and plated on nitrifying and denitrifying media for counting bacterial population of nitrifying and denitrifying respectively. Visual observation of nitrifying and denitrifying plate showing different types of such bacteria. Among them one bacteria of each type isolated purely on that medium and identifying as *Aerobactorsp, Bacillus sp*

respectively. Mass culture of those bacteria are done separately in 250 ml conical flask containing 100 ml media. After 36 hours of incubation at 37°C temperature on rotary shaker, the media turns turbid and shows full growth of bacteria.

V. The fish were sample at 30 days interval from each of the experimental pond and the fish flesh were analyzed for crude protein and crude lipid content following the methods of Lowry *et. al.*, 1957 and Floch *et.al.* 1957 respectively.

VI. Organoleptic Quality : The Organoleptic qualities of fish were studied by two or three different groups of people from Sabang Block area. The meterials used and the methods applied are presented in this section. The test fishes for the experiment include three major carps, viz; *Catla catla* (Ham.), *Labeo rohita* (Ham.) and *cirrhinus mirgala* (Ham.) locally called as catla, rohu and mrigal respectively. Location : Dist.-Midnapur (West), W.B, India considered to be natural and managed and used Indian major carps culture. Fish species : Indian major carps

For the proposed work five ponds have been selected at Sabang block area, Vill- Talda, P.O – Chandkuri Nile tilapia, *Labeo rohita*, *Cirrhinus mrigal*

♦ Results and Discussion : Visible green biofilms were formed on the bottles' surfaces just after two weeks the incubation of bottles in water. On average, 4.3mg of dry periphyton biomass were weighted per cm². That value is comparable to the better results observed by AZIM at al. using different substrates and higher to the initial periphyton density reported by HUCHETTE & BEVERIDGE whoadded plastic bottles to tilapia cages. A good periphyton development was achived in the present work.

Feeding rate	Start	End	ANOVA P
Full	4.43±0.70	1.04±0.15	<0.05
Half	4.28±0.56	0.47±0.10	<0.05
ANOVA P	ns²	<0.05	

Full: the feeding rates advised by the laboratory's were followed completely;

Half: the feeding rates advised by the laboratory's were divided by two;

²Not significant (P>0.05)

Significantly lower densities of periphyton biomass were observed in the bottles at the end of the present experiment when compared to the initial values. This result demonstrates that periphyton was actively fed by tilapia in the aquaria and confirms the findings of DEMPSTER et al. the activity of grazing periphyton probably spends more energy than the activity of feeding a finely ground artificial diet. Hence, tilapia seems to have chosen the feeding activity that has spared more energy to it.

Fish survival was significantly higher in half-fed aquaria than in full-fed aquaria. That was true both for aquaria with or without periphyton bottles. The significantly lower concentrations of ammonia and nither

in water, which are toxic metabolites for aquatic animals, could explain the better results of survival in the former aquaria.

Conclusion : Submerged substrates placed in , Labeo rohita, Cirrhinus mrigala, rearing units do not bring any negative impact on water quality and fish growth performance. It was not possible to reduce by half the daily feeding allowalces to fish in the substrate-based unit without detriment in fish growth performance. The lab-scale model , Lowry et. al., 1957 and Floch et.al. 1957, Plate count method, Soil analysis , APHA, 1989 methods used in the present work is valid to perform studies on periphyton-based system fof fish culture, especially if the sub aquatic area for periphyton development is close to 100% of the aquarium surface area.

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Heat equation in Lithosphere modelling

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Abstract: Since from both laboratory and theoretical study, it is found that the rheology of solids is primarily as a function of temperature. Therefore, in order to understand the mechanical behavior of earth, it is necessary to understand its thermal structure. The paper discusses the plate cooling model of lithosphere. The temperature distribution in the lithosphere plate is obtained by solving one dimensional heat equation. The complete solution of heat equation is presented in the paper by both analytical method as well as numerical methods. The plot shows the comparison between analytical and numerical solution. The variation of temperature with time at different depths (depth under considerations are 102 Km and 110 Km) and also the variation of temperature with depth(max. depth undertaken is 125 Km) at different times (Times under consideration are 0Myr, 25Myrs, 50Myrs, 100Myrs, 150Myrs, 250Myrs) for both analytical and numerical solutions are reported in the paper.

Keywords : Lithosphere, Heat equation, Plate model.

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♦ Introduction: Over the past 200 years, the cooling of the earth has been the object of many studies. Plate model is extensively used to determine the temperature structure of the lithosphere. It consists of a plate of thickness Y_{LO} which is generated at constant temperature T_1 . The thermal conductivity K is considered to be constant. The plate surface is assumed to have constant surface temperature and heat is flowing vertically upward. There is complete neglection of horizontal heat flow. This model shows the variation of lithosphere temperature with the age and the depth of the plate. It shows that lithosphere plate is cooling with the age and depth of the plate.

•: <u>Analytical solution of plate model</u> Let us consider the lithospheric plate of thickness to be Y_{LO} . The infinitely long plate fills the region $0 \le y Y_{LO}$. The temperature in the plate is a solution of one dimensional unsteady state heat equation which is written as

1.1 Analytical solution of plate model

Let us consider the lithospheric plate of thickness to be Y_{LO} . The infinitely long plate fills the region $0 \le y \le Y_{LO}$. The temperature in the plate is a solution of one dimensional unsteady state heat equation which is written as

$$\frac{\partial T}{\partial t} = k \frac{\partial^2 T}{\partial^2 y} \tag{1}$$

where k is the thermal diffusivity

k =K/pc (2)(2)

Here, K is the thermal conductivity, p is the density and c is the specific heat capacity. Initially at t = 0 the plate is at temperature T_i; for t> 0, the plate y = 0 is maintained at the temperature T₀.

The base of the plate has constant temperature T₁. The boundary conditions for the plate model is as

$T = T_1$	at $t = 0$,	0≤	$y \leq y_{LO}$
$\mathbf{T}=\mathbf{T}_0$	at t>0,	$\mathbf{y} = 0$	
$T = T_1$	at t>0,	y=yLO	(3)

Now we reduce this to a case of steady temperature and a case where the ends are kept at zero temperature as

Put T = U + W(4)

where U and W satisfy the following equations

$$\frac{d^2 \cup}{dy^2} = 0 \qquad (0 < y < y_{LO})$$
$$\cup = T_0; \qquad \text{When } y = 0$$
$$\cup = T_1; \qquad \text{When } y = y_{LO}$$

From the steady state heat equation we found that the solution for U is

$$U = T_0 + (T_1 - T_0) y / y_{LO}$$
(5)







Since the temperature at the current time step (n) is known, we can use eqn (30) to compute the new temperature without solving any additional equations .Such a scheme is an explicit finite difference method and was made possible by the choice to evaluate the temporal derivative with forward differences **··· Variation of temperature with depth and time :** The Figure 1 shows the variation of temperature with depth and time : The Figure 1 shows the variation of temperature decreases with the increase of depth and with the age of the lithosphere .The maximum depth under consideration in this model is 125 Km.The red colour shade has the maximum temperature and which is at the maximum depth as we can see in Figure 1. Different shaded regions with different colours shows the cooling of the lithosphere for both analytical and numerical solution.



Figure1: Variation of temperature with depth for analytical solution(left plot) and Numerical solution(right plot)

-: Temperature variation with times at particular depths :

The following plots show the variation of temperature with time at two different depths for both analytical and numerical solution .The depths under consideration are 110 Km and 102 Km as shown in Figure 2.The solid line in the figure represents the temperature curve at 110 Km and the dotted line represents the temperature curve at 102 Km for both analytical and numerical model. It shows that temperature changes more frequently at depth 102 km than that at 110 km. From this result, it is found temperature changes more at the lower depth than at the bottom. In the 1800, it was recognized that the temperature in the caves and mines increase with depth. Typical values for this increase are 20 K per km to 30 K per Km with the thermal conductivities of the near surface rocks are usually in the range 2 to 3 W per meter.





Figure2: Variation of temperature with time at 110 Km and 102 Km for analytical solution(left plot) and Numerical solution(right plot).

•:• Temperature variation with depth at different times : The below plots show the variation of temperature with depth at different times for both analytical and numerical solution. The times under consideration are at 0Myr,25Myrs,50Myrs,100Myrs,150Myrs,200Myrs and 250Myrs for both analytical and numerical solution as we can see in Figure 3. The different colours are used to represents temperature curves for different times.



Figure 3: Variation of temperature with depth at different times for analytical solution(left plot) and Numerical solution(right plot).

. Conclusion : The distribution of temperature in the lithosphere is shown here. These results shows the cooling of the plate with the age of the lithosphere. The cooling of the lithosphere temperature is more at the surface than at the depth with the age of the lithosphere. The surface of the lithosphere is cooled and become rigid with the age of the plate.

The paper discusses the plate cooling model of lithosphere. The temperature distribution in the lithosphere plate is obtained by solving one dimensional heat equation. The complete solution of heat equation is presented in the paper by both analytical method as well as numerical methods. The plot shows the comparison between analytical and numerical solution.

The variation of temperature with time at different depths (depth under considerations are 102 Km and 110 Km) and also the variation of temperature with depth(max. depth undertaken is 125 Km) at different times (Times under consideration are 0Myr, 25Myrs, 50Myrs, 100Myrs, 150Myrs, 250Myrs) for both analytical and numerical solutions are reported in the paper. These results shows that upper portion of the lithosphere rock are cooled and as we go in the interior, the temperature is gradually increased. In the laboratory it is found that the lithospheric rocks deform after 1600K temperature. It means that lithosphere is the region between the surface and a particular isotherm. The depth of the isotherm increases with the age of the lithosphere.

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माध्यमिक स्तर पर अध्ययनरत विघार्थियों में पर्यावरण का तुलनात्मक अध्ययन

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<u>प्रस्तावना</u>:— प्रकृति कि (बी.एड.) आलोचना, अदितिय ईश्वर प्रदत्त यदि कोई रचना है तो वह मनुष्य है किन्तु आज वही प्रकृति का रक्षक अपनी मॉ स्वरुप इस प्रकृति को अपने ही हाथों से नष्ट करने पर आमादा हो गया है। प्रकृति ने जिन संसाधनों को अपनी मनुष्य—रुप संतान को उनका नैतिक उपयोग करने का अधिकार दिया था आज उन्ही अवयवों को मनुष्य अपनी वैज्ञानिक खोजो भोगा विलासो की तृप्ती के चलते नष्ट कर रहा है जिसके कारण प्रकृति का स्वरुप दूषित ही नहीं पूरी तरह खण्डित भी हो गया है उसकी हरीयाली का ऑचल सिमट कर बडे—बडे प्रासादों कल कारखाने और चौडी—चौडी सड़को के रुप में दृष्टि गोचर हो रहा है। व्यक्ति अपनी मॉ स्वरूप प्रकृति की हरि—भरी गोद को भी सूना करने के साथ—साथ उसके अस्तित्व को भी समाप्त करने पर तुला है। सभी पर्यावरण की गोद में खेलते हुए भी पशु—पक्षीयों को भी शिकार स्वरूप कार्य में ले रहे है। अपने आस—पास के वातावरण वायु, जल, ध्वनि, मृदा व सामाजिक आदि विभिन्न प्रकार के प्रदूषणों द्वारा गंदा किया जा रहा है।

पर्यावरण के संसाधनों का जितना दोहन किया जा रहा है उससे इसका भण्डार कम होता जा रहा है। इन संसाधनों को मानव अपने दैनिक क्रियाकलापों से प्रदूषित भी करते है अतः इसके संरक्षण के उपाय भी करने चाहिए। इसकी तरफ इस बात की भी आवश्यकता महसूस की जा रही है कि पर्यावरण के सुरक्षा के उपाय भी किये जाये। पर्यावरण के लिए शिक्षा वास्तव में एक ऐसी प्रक्रिया है जिसके द्वारा पर्यावरण संबंधी असली और मूल मुद्दों की जानकारी प्राप्त होती है। इस प्रक्रिया को सफल बनाने के लिये सबसे ज्यादा जरूरत इस बात की है कि बच्चे किन–किन समस्याओं के प्रति जागरूक बने और उनके संबंध में गहराई से सोच विचार करें और उन्हे हल करने में जुट जाए।

पर्यावरण के संबंध में जागरूकता उत्पन्न करने की परम आवश्यकता है जो कि बचपन से आंरभ होकर सभी अवस्थाओं और समाज के सभी वर्गो में व्यक्त होनी चाहिए। यही कारण है कि पर्यावरण अध्ययन को प्राथमिक स्तर पर एक विशय एवं उच्च स्तर पर कला, वाणिज्य और कार्यानुभव के रूप में स्थान दिया गया है। आज पर्यावरण जागरूकता पर परिवेष भी महत्वपूर्ण प्रभाव डाल रहा है। ग्रामिण किशोर पर्यावरण के प्रति अधिक जागरूक होते हैं जबकि शहरी छात्र—छात्राओं में पर्यावरण जागरूकता अपेक्षाकृत कम होती है यही कारण है कि शहरो में पर्यावरण प्रदूषण अधिक होने से नगरीय जनसंख्या इसके दुष्परिणमों को भोग रही है इसके लिए औधोगिक प्रतिष्ठान सबसे ज्यादा जिम्मेदार है क्योकि औधोगिक प्रतिष्ठानों की चिमनियों से निकलने वाला धुँआ जहॉ एक ओर वायुमण्डल में कार्बनडाइ आक्साइड एवं कार्बन मोनोबाक्साइड जैसी जहरीलर गैसों को जन्म दे रही है वही दूसरी ओर वाहनो से निरन्तर निकलने वाले धूभ्र युक्त वातावरण में सॉस लेनी पड रही है। शहरों में पर्यावरण प्रदूषण के अन्य भी कई खतरे हैं। अतः शहरों में बसे लोग पर्यावरण आपदाओ के सहजता से शिकार हो जाते हैं ।

प्रकृति ने संपूर्ण जीवमंण्डल के लिए स्थल ,जल और वायु के रुप में एक विस्तृत आवरण निर्मित किया है, जिसे हम 'पर्यावरण' की संबा देते हैं। पर्यावरण के संतुलन के लिए प्रकृति ने कुछ नियम भी निर्धारित किए हैं, किंतु जब से इस पृथ्वी पर मनुष्य का अवतार हुआ हैं, तब से पर्यावरण संतुलन प्राकृतिक नियमों का खुला उल्लंधन शुरु हुआ है और निरंतर प्रकृति की अनदेखी के कारण आज हमारे पर्यावरण को अनेक ससमस्याओं से जूझना पड़ रहा

हैं। वायु–प्रदूषण ,भूमि–प्रदूषण, ध्वनि–प्रदूषण आदि ने सम्मिलित से संपूण्र वातावरण को प्रदूषित कर दिया हैं और इसका परिणाम यह हुआ कि प्रकृति–प्रदत्त जीवनदायी वायु, भूमि और जलत्रितत्त्व आज जीवन–घामक बन गए हैं। पर्यावरण क्षरण एक बार फिर चर्चा में हैं इसको लेकर एक विश्वस्तरीय महासम्मेलन का आयोजन 1 से 10 दिसम्बर, 1977 तक जापान के क्योटो शहर में किया। इस सम्मेलन में जिस विशय को केन्द्र को केंन्द्र बनाया गया, वह था विश्वव्यापी तापमान वृद्धि (ग्लोबल वार्मिग)।

वातावरण में तापमान की वृद्धि वर्तमान विश्व के लिए सर्वाधिक चिंतनीय विषय हैं, क्योंकि जिस गति से इसकी वृद्धि हो रही हें, वह संपूर्ण जीवसमुदाय के लिए द्यातक सिद्ध हो रहा है। व्यापक उत्परिवर्तनों के बावजूद लम्बी अवधि तक मनुष्य एवं पर्यावरण संबंध लगभगा सौहार्दपूण्र रहा हैं और पर्यावरण अपरिवर्तित रहा। पर्यावरण का संतुलन बिगडना शुरु हुआ पश्चिमी देशों की औधोगिक क्रान्ति के बाद से मनुष्य की आर्थिक व भौतिक समृद्धि प्राप्त करने की आकांक्षा दिन व दिन बढती गई और परिणामों को अनदेखा करते हुए वह प्रकृति तथा पर्यावरण का शोषण करने लगाा ।

औधोगिक क्रान्ति ने वायु—प्रदूषण को चिंतनीय स्थिति तक पहुँचा दिया। नवीन उधोंगों में कोयला का अंधाधुंध प्रयोग शुरु हुआ कोयले का प्रयोग विद्युत उत्पादन के लिए भी होने लगा। इसके परिणामस्वरुप 19 वीं और 20 वीं सदी के आंरभ में यूरोप एवं अमेरिका के नगरों पर काला आवरण सा छाने लगा। सेंट पीट्सबर्ग एवं पेसिलवेनिया जैसे औधोगिक नगरों में तो वायु प्रदूषण की मात्रा इतनी अधिक हो जाती थी कि वाहन चलकों को दिन में भी हेडलाइट उपयोग करना पडता था। इस संदर्भ मध्यातव्य है कि जिस गति से औधोगिक की प्रकिया बढ रही है, उससे न्यून गति नहीं है वायु प्रदूषण में वृद्धि की ।

मनुष्य की विलासिता की प्रवृति ने अभी भी उसे प्रदूषण की गंभीरता से अवगत होने से रोके रखा है। प्रशीतन के विश्वव्यापी अनियंत्रीत प्रयोग ने वातावरण में क्लोरोफ्लोरोकार्बन गैस की मात्रा बढा दी हैं और इसके परिणामस्वरुप वायुमण्डल के ओजोन—स्तर में छिद्र हो गया हैं इससे पृथ्वी के तापमान एवं मनुष्य के स्वास्थ्य को कितना नुकसान पहुँचेगा, वह से परे हैं। वस्तुतः मनुष्य प्रकृति से अनुकूल के बदले प्रकृति को अपने अनुकूल बनाने की जितनी चेष्टा करेगा, वह पर्यावरण को और उसके परिणामस्वरुप चक्रीय श्रृंखला में अपनी क्षमता को ही नुकसान पहुँचाना शूरु कर देगा ।

<u>समस्या का शीर्षक</u>: — साहित्य की समीक्षा एक सतत् प्रक्रिया है। शोधकर्त्ता साहित्य की समीक्षा शोध की समस्या के चयन से भी पहले प्रारम्भ कर देता है। वास्तव में साहित्य की समीक्षा शोध समस्या की पहचान और चयन में सहायता पहुँचाती है। यदि शोधकर्त्ता ने स्वयं समस्या का चयन कर लिया है या विशेषज्ञ द्वारा बता दी गयी है तो भी उसको यह सिद्व करने के लिए कि यह एक नयी समस्या है,साहित्य का पुनर्निरीक्षण करना पड़ता है। सास्या का चयन और परिभाषित करने के पश्चात् उसको समस्या के लिए परिकल्पनायें बनानी पड़ती है। साहित्य की समीक्षा परिकल्पनाओं का आधार है। साहित्य के पुनर्निरीक्षण से विधि, प्रतिरूप साधन और सांख्यिकीय तकनीक के लिए आधार प्राप्त किये जाते है। पूर्व अध्ययनों के निष्कर्ष उसकी व्यवस्था को अनुमोदित कर सकते है। साहित्य की समीक्षा के पुनर्निरीक्षण की समस्या के चयन से अध्ययन के निष्कर्ष के लेखन तक प्रयोग किया जाता है।

चूकि समय के साथ—साथ ज्ञान बढ़ रहा है और शोध भी लगातार किए जा रहे है अतः शोध विद्यार्थी को अपने शोध कार्य के पूरे समय में एस क्षेत्र या साहित्य के लिए पुस्तकालय के सम्पर्क में रहना चाहिए। उसको अपने निष्कर्षों के वाद—विवाद और साहित्य की समीक्षा के अभिलेखन के समय नवीनतम ज्ञान होना चाहिए। साहित्य की समीक्षा का अभिलेख शोध अध्ययन को वैज्ञानिक और नवीनतम बनाता है तथा शोधकर्त्ता में विद्वता विकसित करता है। वह साक्षात्कार, विचार, गोष्ठियों, सभायें,अपने शिक्षण कार्य और व्यावसायिक वृद्वि में भी इसके उचित कारण बताता है। शैक्षिक शोध शिक्षा जगत में गुणात्मक स्तर पर वृद्धि का मापदण्ड माना जाता हैं शोध का लाभ है "ज्ञान के प्रति तार्किक दृष्टि का विकास" प्रस्तुत अनुसंधान का शीर्षक निम्न है–

" माध्यमिक स्तर पर अध्ययनरत विघार्थियों में पर्यावरण के प्रति संचेतना का तुलनात्मक अध्ययन "

शोध का उद्देश्य – प्रस्तुत शोध हेतु निम्न उद्देश्य रखे गये है।

- समस्या अनुसंधान का उद्देश्य वर्तमान पर्यावरण शिक्षा के प्रति व्यापक दुष्टिकोण, रूचि, जिज्ञासा को विकसित करने हेतु सुझाव व उपाय प्रस्तुत करना है जिससे बालक–बालिकऐं लाभान्वित हो सके।
- 2. माध्यमिक विद्यालय में बालक-बालिकओं की पर्यावरण के प्रति रूचि का अध्ययन।
- 3. कक्षा नवीं के स्तर पर पर्यावरण शिक्षा में रूचि का अध्ययन करना ।
- गैर सरकारी एंव सरकारी विद्यालयों में सामाजिक, आर्थिक एंव राजनैतिक परिस्थिति के परस्पर संबंध के बारे में स्पष्ट जानकारी का विकास करना एंव रूचि बनाये रखना।
- पर्यावरण के प्रति प्रत्येक व्यक्ति को सुरक्षा एंव सुधार के लिए वांछनिय ज्ञान, मुल्य, मनोवृत्ति, वचन बद्धता और कौशल प्राप्त करने का अवसर प्रदान करना।

शोध की परिकल्पनाएं – प्रस्तुत शोध हेतु निम्न परिकल्पनायें है।

- माध्यमिक स्तर पर अध्ययनरत विघार्थियों में पर्यावरण के प्रति संचेतना का तुलनात्मक अध्ययन में कोई सार्थक अंतर नहीं है।
- माध्यमिक स्तर पर अध्ययनरत गैरसरकारी एंव सरकारी विघार्थियों में पर्यावरण के प्रति संचेतना में कोई सार्थक अंतर नहीं है।
- माध्यमिक स्तर पर अध्ययनरत विघार्थियों में पर्यावरण के प्रति संचेतना में गैरसरकारी बालक एंव बालिकाओं के उपलब्धि में कोई सार्थक अंतर नहीं है।
- माध्यमिक स्तर पर अध्ययनरत विघार्थियों में पर्यावरण के प्रति संचेतना में सरकारी बालक एंव बालिकाओं के उपलब्धि में कोई सार्थक अंतर नहीं है।

<u>शोध का निष्कर्ष –</u>

- माध्यमिक स्तर पर अध्ययनरत सरकारी विद्यालय के बालक एंव बालिकाओं में पर्यावरण के प्रति संचेतना की अभिवृत्ति परीक्षण से प्राप्त प्राप्तांको से ज्ञान किया गया टी का मान 0.12 आया जो 58 डिग्री आफ फ्रीडम के लिए 0.01 स्तर पर टी के प्रमाणिक मान 2.66 और 0.05 स्तर पर टी के प्रमाणिक मान 2.00 से कम है। अर्थात सरकारी विद्यालय के बालक एंव बालिकाओं की उपलब्धि में कोई सार्थक अंतर नहीं है।
- 2. माध्यमिक स्तर पर अध्ययनरत गैरसरकारी विद्यालय के बालक एंव बालिकाओं में पर्यावरण के प्रति संचेतना की अभिवृत्ति परीक्षण से प्राप्त प्राप्तांको से ज्ञान किया गया टी का मान 0.98 आया जो 58 डिग्री आफ फ्रीडम के लिए 0.01 स्तर पर टी के प्रमाणिक मान 2.66 और 0.05 स्तर पर टी के प्रमाणिक मान 2.00 से कम है। अर्थात गैरसरकारी विद्यालय के बालक एंव बालिकाओं की उपलब्धि में कोई सार्थक अंतर नहीं है।
- माध्यमिक स्तर पर अध्ययनरत गैरसरकारी एंव सरकारी विद्यालय के बालक एंव बालिकाओं में पर्यावरण के प्रति संचेतना की अभिवर्षत्त परीक्षण से प्राप्त प्राप्तांको से ज्ञान किया गया टी का मान 1.44 आया जो 118 डिग्री आफ फ्रीडम के लिए 0.01 स्तर पर टी के प्रमाणिक मान 2.60 और 0.05 स्तर पर टी के प्रमाणिक मान 1.97 से कम

है। गैरसरकारी एंव सरकारी विद्यालय के बालक एंव बालिकाओं की उपलब्धि में कोई सार्थक अंतर नहीं है।

4. माध्यमिक स्तर पर अध्ययनरत बालक एंव बालिकाओं (गैरसरकारी एंव सरकारी विद्यालय) में पर्यावरण के प्रति संचेतना की अभिवर्षत्त परीक्षण से प्राप्त प्राप्तांको से ज्ञान किया गया टी का मान 0.58 आया जो 118 डिग्री आफ फ्रीडम के लिए 0.01 स्तर पर टी के प्रमाणिक मान 2.60 और 0.05 स्तर पर टी के प्रमाणिक मान 1.97 से कम है। गैरसरकारी एंव सरकारी विद्यालय के बालक एंव बालिकाओं की उपलब्धि में कोई सार्थक अंतर नहीं है।

भविष्य में अध्ययन सुझाव :

प्रस्तुत शोध प्रबन्ध में शोधकर्त्री द्धारा सरकारी एंव गैरसरकारी विद्यालयों में माध्यमिक स्तर पर अध्ययनरत विघार्थियों में पर्यावरण के प्रति संचेतना का तुलनात्मक अध्ययन किया गया है यद्यपि यह शोध कार्य पूर्व में हुए शोध कार्यों से सर्वथा भिन्न है फिर भी पर्यावरण के संदर्भ में इसे प्रर्याप्त नहीं कहा जा सकता, है इस अध्ययन के परिणामों तथा व्याख्या के आधार पर अन्य अध्ययन भी किये जा सकते है ये अध्ययन निम्नलिखित हो सकते है–

- प्रस्तुत शोध कार्य मात्र जयपुर शहर के विद्यालयों में अध्ययनरत् विघार्थियों पर किया गया है। इसी प्रकार का शोध कार्य ग्रामिण विघार्थियों पर भी किया जा सकता है।
- प्रस्तुत शोध कार्य मात्र जयपुर शहर के विद्यालयों में अध्ययनरत् विघार्थियों पर किया गया है। इसी प्रकार का शोध राजस्थान के समस्त शहर के विद्यालयों पर भी किया जा सकता है।
- प्रस्तुत शोध कार्य मात्र जयपुर शहर के विद्यालयों में अध्ययनरत् विघार्थियों पर किया गया है। इसी प्रकार का शोध कार्य राजस्थान के समस्त शहरी एंव ग्रामिण के विद्यालयों पर भी किया जा सकता है।
- 4. विद्यालयों में विधार्थियों द्धारा प्राकृतिक सौन्दर्य वृद्धि हेतु किये जा सकने वाले प्रयासों का अध्ययन।
- 5. प्रस्तुत शोध कार्य मात्र जयपुर शहर के महाविद्यालयों में अध्ययनरत् विघार्थियों पर किया गया है।
- 6. प्रस्तुत शोध कार्य मात्र मानव और पर्यावरण के मध्य संबंध पर किया गया है।
- 7. विघार्थियों में स्वच्छ आदतों का अध्ययन करना।
- 8. विद्यालयों में सफाई के स्तर का स्तर।
- 9. विद्यालय में पीने के पानी की शुद्धता का अध्ययन।

<u>संदर्भ ग्रथ सूची</u>

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- 😯 पर्यावरण शिक्षा शिक्षण— राधा प्रकाशन मंदिर , एच.एस. शर्मा एवं डॉ एच.पी. सिंह
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- 🕂 पर्यावरण शिक्षा जैन प्रकाशन मंदिर , डॉ नरेन्द्र सिंह बैस ,डॉ सुनिता भार्गव एवं संजय दत्त
- 🕂 पर्यावरणीय अध्ययन एवं शिक्षा– स्वाति पब्लिकेशनस, डॉ प्यारेलाल चौधरी
- पर्यावरणीय और प्राकृतिक संसाधन स्टार पब्लिकेशनस, संजय तिवारी

<u> पत्रिकाएँ – परिकल्पनाएँ</u>

- 🕂 राष्ट्रीय पर्यावरण जागरुकता अभियान 2002 जिला भिण्ड म.प्र.– वसुन्धरा
- विश्व पर्यावरण दिवस पर नई दिल्ली विज्ञाप प्रगति
- पर्यावरण शिक्षा केन्द्र अहमदाबाद, पक्षी निरीक्षण पुस्तिका—प्रकृति परिचय श्रृखंला—1
- मानव विकास मंत्रालय पर्यावरण शिक्षा केन्द्र पश्चिम भारत सी. ई. ई., पक्षी निरीक्षण पुस्तिका—प्रकृति
 परिचय श्रृखंला –4
- राष्ट्रीय हरित कोर योजना ई. को. क्लब जिला ग्वालियर—पर्यावरण मित्र
- पर्यावरण नियोजन एवं समन्वय संगठन ई–5 एरेरा कालोनी भोपाल वेटलैण्ड–हमारी अनमोल धरोवर

A STUDY ON FACTORS AFFECTING CUSTOMERS INVESTMENT TOWARDS LIFE INSURANCE POLICIES

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- ABSTRACT : A person or the human life is the most useful or a valuable thing or an important resource and providing coverage is the most important type of life insurance which provides financial safety and security or protection to an individual and his immediate family in case of any untimely death of the bread owner. Life insurance provides both the state of being comfortable, healthy or happy and protection to a person of a specified kind and also gives support, confidence or hope to people. Life Insurance Corporation of India, one of the largest public sector insurance giant of India plays a vital role in the health, happiness and fortune of a person or group by providing life security to millions of people against risks such as uncertain death or accident. The present exploratory and descriptive based study was identified with an objective to establish or indicate those facets that influence consumer's policy buying decision and also to analyze the preferences of clients while making the life policy investment decision-making. The diversified insurance related facets have been discussed in the above paper. The input for the above study has been collected from both primary and secondary sources. The research area is restricted to Jabalpur district, of Madhya Pradesh and the sample or size is 150 purchasers of policies of Life Insurance Company and various other private life insurers have been chosen through a stratified and purposive sampling method. Researchers have taken few hypothesis based on demographic and insurance based preference factors and tested them with the help of various statistical tools like chi-square, correlation and weighted average method. The examined data has been presented in the form of tables, bar graphs and pie-charts. The LIC is the widely recognised and a popular brand among the insurance sector, the market share of private insurers are gradually expanding with people firms belief in reliability, truth or the ability to provide credence and better services offered by them are some of the main findings of the study. Insurance companies should spread more awareness about life insurance, reduction in premium amount and giving more attention on more users friendly and innovative products are some of the suggestions provided by the researcher in the above analysis. This paper concludes that demographic classification of the people play a major and pivotal role in deciding the purchase of life insurance policies.

•: KEY WORDS: Consumers, Life Insurance Policies, Life Insurance Corporation, Investment, Socio-Economic Factors.

•• **INTRODUCTION** : Life insurance is a must for each individual because human life is of great value. With a population of over 1.25 billion, national and international life insurance companies, see India as a terra firma or the province or the land of opportunities and a market for large business

houses. Before liberalisation till 1999 and ahead of 2000, the business of life insurance in India was the monopoly of Life Insurance Corporation of India (LIC). Post liberalisation after the year 2000, the insurance sector introduced privatization and it witnessed dynamic changes in the insurance business and majority of the private insurance companies are joint ventures with recognized foreign players spread across the globe. The buyers of the policy are the main pillars of life insurance business. Each and every enterprise or the entities make many maximum plan and efforts to attract and retain existing consumers to keep generating revenue year after year. The proper understanding of customers, their needs and expectations help insurance providers to bring about improvement in product as well as services offered. When this sector is compared with the developed foreign countries, the Indian life insurance industry has achieved only a small amount because of low consumer awareness, poor affordability, delayed customer services, lack of suitable products and poor quality of services. In today's cut throat competition, it becomes important and essential for life insurers to provide better customer services, spread more awareness, emphasis on need based innovative products and reasonable price offerings such that every individual may avail the benefits of insurance and protect their lives against future uncertainties.

• REVIEW OF LITERATURE : Athma P and Kumar R (2007), in their study or research about "an explorative study of life insurance purchase decision making: influence of product and non-product factors" states that the empirical based study was conducted on 200 sample size comprising of both rural and urban market. The various product and non-product related facets have been identified and their impact on life insurance purchase decision-making has been analyzed. Based on the survey analysis, the urban market is more influenced with product based factors like risk coverage, tax benefits, returns etc. whereas rural population is influenced with non-product related factors such as credibility of agent, company's reputation, trust, customer services. Companies goodwill and money back guarantee attracts many buyers for life insurance.

Girish K and Eldhose (2008), published in insurance chronicle ICFAI monthly magazine in August 2008 in their paper titled Customer perception on life insurance services: a comparative study of public and private sectors", well explained the importance of quality services and its significance in raising customer satisfaction level. A comparative study of public and private sector helps in understanding the customer perception, satisfaction and awareness on various life insurance services. Jayakar (2003), in his study emphasized that new products innovation, distribution and better use of technology are helping the new private life insurers to take market share away from Life Insurance Corporation, the only company selling life safety measures before liberalization of insurance industry. With the privatization of insurance sector and the entrance and cut throat competition among the private sectors is gaining an ever increasing edge over the public sector.

Narayan H. J (2009), in an article has made an emphasis on importance of customer in the business of insurance. He explained in phase of growing market competition, there is an intense need to go beyond mere efficiency in designing products. To understand the customer's needs and to convey what they have to offer would perhaps bring in higher efficiencies in customer service. Insurance business revolves around the customer and fair treatment to customers is need of an hour to win their loyalty and trust. In a service based organizations, customer service is the most dominating feature that differentiate and gives good return to the insurers. Proper dealing with customer complaints, effective customer grievances handling mechanism and fast claim settlement procedure are some of the ways through which satisfaction level of customers can be increased. Hence to serve the customers promptly and effectively is the key success of a life insurance business.

Praveen K T (2008), in his summer training project report titled "customer buying behaviour with a focus on market segmentation" conducted a research based study on buying pattern in the insurance industry with a special focus on HDFC Standard life insurance. The various segments of the markets divided in terms of insurance needs, age groups, satisfaction levels etc were taken into account to know the customer perception and expectation from private insurers.

•:• NEED OF THE STUDY : The insurance industry is one of the fastest growing industries in the country and offers abundance growth opportunity to the life insurers. When compared with the developed foreign countries, the Indian life insurance industry has achieved only a little because of the lack of insurance awareness, ineffective marketing strategies, poor affordability and low investment in life insurance products. The huge and ever rising population levels in our country provide an attractive opportunity but still nearly 70% Indian lives are un-insured. This study is basically intended to discover and examine the factors affecting customer's decision towards investment in life insurance policy.

✤ PURPOSE OF THE STUDY

-: To explore the various factors influencing customer investment decision in life insurance.

- To study and analyze the impact of various demographic factors on customers life insurance investment decision.

-: To evaluate preferences of the customers while taking life insurance investment decision.

-: To study and rank the factors responsible for the selection life insurance as an investment option.

•:• To offer suggestions for popularizing life insurance among the public at large.

HYPOTHESIS

-: Age and income has no significant impact on the customer life insurance investment decision.

-: Occupation and gender are independent of the customer life insurance investment decision.

-: There is an immense need to focus on product innovation and customers need based policies for market expansion.

-- LIC is the most trusted and preferred brand among other life insurance companies

• RESEARCH METHODOLOGY : The present study is an exploratory and descriptive type of research study. The study aims to find out the factors influencing customer's life insurance investment decision and their preferences at the time of policy buying decision. In order to conduct this study, 150 policyholders situated at Kandivali district located within Mumbai, have been surveyed for a period from October 2016 to November 2016 and questionnaire method was used for data collection.

•:• SOURCES OF DATA : The data for the study has been collected from both primary and secondary sources. The primary data has been collected through a well-drafted interview schedule. The secondary data has been collected from IRDA annual reports, insurance journals, magazines and insurance website.

•:• DATA COLLECTION METHODS : The data collection method used to obtain the desired information from primary sources has been through direct interview and questionnaire has been used as an instrument.

RESEARCH PLAN :

Target population and universe: Kandivali district (Mumbai) Sampling unit: life insurance policyholders Sampling method: purposive sampling Sample size: 150

•:• STATISTICAL TOOLS AND TECHNIQUES : For measuring various phenomena and analyzing the collected data effectively and efficiently to draw sound conclusions, a number of statistical techniques including chi-square, correlation, and weighted average score have been used for the testing of hypotheses.

✤ DATA ANALYSIS & INTERPRETATIONS

•:• FACTORIAL ANALYSIS AT KANDIVALI AREA : The respondents of different age groups, occupation, income and gender for study have been selected through purposive sampling method in order to achieve the research objectives.

→ DEMOGRAPHIC PROFILE OF THE RESPONDENTS: Socioeconomic factors such as age, income, occupation and gender are some of the important determinant in the decision of life insurance. The study is conducted with reference to the customers of Jabalpur district, Madhya Pradesh. The demographic profile of the respondents is analyzed on the basis of age, monthly income, gender and occupation. The distribution of sample respondents is shown in table no. 1 and it is quite evident from the table that a majority of the respondents (52%) fall in the age band of 30-40 years. Out of 150 sample drawn, 108 (72%) are male and it depicts the domination of male in the life insurance sector. Occupation-wise, around 44% respondents are govt. employee followed by private/businessman, professionals, agriculture occupied respondents with 18.6%, 14.6% and 22.8% respectively.

	TABLE 1				
DEMOGRAF	HIC DETAILS OF THE RESP	ONDENTS			
	IN PERCENTAGE				
BASIS	RESPONDENTS	PERCENTAGE			
	AGE				
20 -30	39	25.3			
30 - 40	78	52			
40 - 50	30	20			
Above 50	3	2			
Total	150	100			
5000 - 10000	18	12			
10000 - 15000	29	19.3			
15000 - 20000	48	32			
20000 - 25000	32	21.3			
Ab ove 25000	23	15.3			
Total	150	100			
	OCCUPATION				
Govt Class employee	66	44			
Business men/ Private	28	18.6			
Professionals	22	14.6			
Agriculture	34	22.8			
Total	150	100			
	GENDER				
Male	108	72			
Female	42	28			
Total 150 100					

Source: primary data

Age and customer investment decision in life insurance

H1: Age and Income has a significant impact on the customer life insurance investment decision

TABLE 2							
	CALCULAT	TION OF COEFF	ICIENT C	ORRELATION	I BETWEEN A	GE OF	
	RESPON	NDENTS AND LIF	E INSUF	RANCE INVES	TMENT DECK	SION	
				-			
Age	X	Dx = (X - 40)	Dx2	Y	Dy (y-38)	Dy2	DxxDy
20 - 30	25	-15	225	39	1	1	- 15
30 - 40	35	-5	25	78	40	1600	-200
40 - 50	45	5	25	30	-8	64	-45
Above 50	55	15	225	3	-35	1225	-525
Total	160/4=40	0	500	150/4=37.5	0	2890	785

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Here, the value of correlation (r)

Correlation (r) = 785/1202.08=0.65

Since the calculated value of r is positive, it is concluded that there is a significant relationship between age and customer insurance investment decision. Hence age affects the customer life policy buying decision.

TABLE 3							
CALCULA	TION OF CO	EFFICIENT C	ORRELATIO			YINCOM	EOF
	RESPONDE	NTS AND LIFE	EINSURANO	CE INVESTM	ENT DECIS	SION	
Age	x	Dx = (X - 175)	Dx2	Y	Dy (y-30)	Dy2	DxxDy
5000-10000	7500	-100	10000	14	-16	256	-1600
10000-15000	12500	-50	2500	37	7	49	-350
15000-20000	17500	0	0	54	24	576	0
20000-25000	22500	50	2500	29	-1	1	-50
Above 25000	27500	100	10000	16	- 14	196	-1400
Total	87500/5= 17500	0	25000	150/5=30	0	1078	3400

Here, the value of correlation (r) correlation (r) = 650/3612.4 = 0.65

Since the calculated value of r is positive, it is concluded that there is a significant relationship between monthly income and customer insurance investment decision. Hence income is one of the important determinants in customer life policy buying decision.

H2: Occupation and Gender are independent of the customer life insurance investment decision.

•: CHI-SQUARE TEST: chi-square test is applied to test the goodness of fit, to verify the distribution of observed data with assumed theoretical distribution. Therefore it is a measure to study the divergence of actual and expected frequencies; Karl Pearson's has developed a method to test the difference between the theoretical (hypothesis) & the observed value. The researcher has used chi-square test to test the impact of occupation and gender on customer investment decision.

TABLE 4						
CALCULATION OF COEFFICIENT CORRELATION BETWEEN OCCUPATION OF						
RESPONDENTS A	ND LIFE INSU	RANCE INVEST	MENT DECISION	l		
OCCUPATION	INVESTMENT DECISION TOTAL					
	HIGH	MEDIUM	LOW			
Govt / Service	38	22	6	66		
Business men/ Private service	18 8 2 28					
Professionals	14 6 2			22		
Agriculture	21 9 4 34					
Total	91	45	14	150		

Chi – square test (x2) = (o - e) 2 / e

Degrees of freedom = v = (r - 1) (c - 1)

Were, here x2 calculated= (o - e) 2 / e = 14.09 at 5% level of significance for 6 DF, the calculated value of chi-square is 12.59.

Since the chi-square calculated > chi-square tabulated, it is concluded that there is a no significant association between occupation and customer insurance investment decision. Hence occupation does not influence the customer life policy buying decision.

TABLE 5								
CALCULATION	CALCULATION OF COEFFICIENT CORRELATION BETWEEN GENDER OF							
RESPOND	ENTS AND LIFE I	NSURANCE INVES	STMENT DECISIC	N				
GENDER	INVE	STMENT DECISI	ON 1	TOTAL				
	HIGH	MEDIUM	LOW					
Male	72 28 8 108							
Female	26	26 10 6 42						
Total	98	38	14	150				

Here, x2 calculated= (o - e) 2 / e = 1.66

At 5% level of significance for 2 DF, the calculated value of chi-square is 5.99

Since the chi-square calculated < chi-square tabulated, it is concluded that there is a significant association between gender and customer insurance investment decision. Hence gender influence customer's life policy buying decision.

PREFERENCE OF THE POLICY HOLDERS TOWARDS LIFE INSURANCE COMPANIES		
RESPONSE	NO OF RESPONDENTS	PERCENTAGE
LIC	82	54.6
HDFC Standard Life	10	6.6
ICICI Prudential	16	10.6
SBI Life	22	14.6
Bajaj Allianz	12	8
Others	8	5.3
Total	150	100


.: Interpretation: It is revealed from the table no. 6 and graph no. 1, a majority (55%) of the respondents preferred to buy policy from LIC, followed by the 14.6% and 10.6% of respondents preferred to buy from SBI life insurance, ICICI prudential life respectively. Remaining 8% and 10.6% of the respondents preferred Bajaj Allianz and HDFC Standard life insurance respectively. The left 5.3% respondents preferred other than these life insurance companies. Thus it can be inferred that LIC of India is the most preferred life insurance company and majority of them prefer government-owned LIC for getting insured because of security. The other private life insurance companies are having less percentage of share and those who prefer private insurers are because of better customer services and high returns.

TABLE 7							
TYPES OF POLICY							
POLICY TYPES	NO OF RESPONDENTS	PERCENTAGE					
Endowment	23	15.3					
Term Plan	15	10					
Unit Linked	47	31.3					
Money Back	56	37.3					
Others	9	6					
Total	150	0					



HITERPRETATION: it is quite evident from the table no. 7 and graph no. 2, there are various types
 of life insurance policies with customized features and value additions catering to the needs of specific
 target segments. That a majority (38%) of the respondents preferred money back policy, followed by
 31.3% of the respondents preferred unit linked plans and 15.3% preferred endowment plans. Out of
 150 samples drawn, only 10% of the respondents preferred term plans. Thus it can depict that among
 many plans available, the most preferred one among the mass is money back plan. This plan helps
 you to withdraw your money at regular intervals and still staying insured. This plan is famous for its
 high liquidity advantage. The other product gaining popularity is ULIP's (unit linked insurance plan), as
 its serve multiple purpose, it give high returns, tax benefit, life insurance , critical illness cover and is
 admired for its flexibility for paying premium amount.

TABLE 8								
THE MOST ATTRACTIVE FEATURES OF POLICY								
RESPONSES	NO OF RESPONDENTS	PERCENTAGE						
Money back guarantee	39	26						
Larger risk coverance	28	18.6						
Easy access to agents	18	12						
Low Premium	23	15.3						
Company's reputation	42	28						
Total	150	100						



↔ INTERPRETATION: it is evident from the table no. 8 and graph no. 3, when the policyholders were asked to rank the features of policy that attracts the most their order of their preference as 1, 2, 3, 4, 5 and 6. A majority (28%) of the respondents believes that company reputation is the most influencing factor in policy buying decision, followed by the 26% of respondents influenced with money back guarantee, 18.6% influenced with larger risk coverage. Remaining 15.3% and 12% of the respondents are influenced with low premium rates and easy access to agents respectively. Hence reputation of company is the main influencing factor during policy purchasing decision.

TABLE 9							
PEOPLE WOULD LOOK FOR INSURANCE COMPANY							
RESPONSE	NO OF RESPONDENTS	PERCENTAGE					
A trusted name	72	48					
Friendly service and							
responsiveness	27	18					
Good plans	45	30					
Accessibility	6	4					
Total	150	100					



•: INTERPRETATION : it is revealed from the table no. 9 and graph no. 4, that a majority (48%) of the respondents look for a trusted name in a company for insurance. 30% respondents look for a good plans and 18% looks for a friendly service and responsiveness. Remaining 4% respondents looks for an ease of accessibility in a company for insurance. Hence it can be inferred that trust is very important factor, which a majority of customers looks before buying policy from an insurance company.

RANKING VARIOUS FACTORS RESPONSIBLE FOR INVESTMENT IN LIFE INSURANCE PRODUCTS : During the study, it was found that the investors generally invested in life insurance due to the reasons like tax benefit, risk coverage, saving, return, insurance services, premium charges, security. During the survey, the respondents were asked to rank these factors and the data obtained is presented in table no. 10.

FACTORS RESPONSIBLE FOR INVESTMENT IN LIFE INSURANCE								
RANKING FACTORS	NO OF RESPONDENTS TOTAL							
	1	2	3	4	5	150		
Tax Benefits	100	36	5	9	0	150		
Risk Coverage and Savings	18	42	36	33	21	150		
Security with high returns	15	9	39	33	54	150		
Insurance services	3	18	21	44	64	150		
Premium charges	12	39	48	27	24	150		

now, for analyzing the various factors responsible for investment in mutual funds, ranking is done on the basis of weighted scores (table 7). Scoring is done as per the following scale: rank 1 - 5 weights, rank 2 - 4 weights, rank 3 - 3 weights, rank 4 - 2 weights and rank 5 - 1 weight.

FACTORS	WEIGHTED SCORES	MEAN VALUE	RANK
Tax benefits	695	4.63	1
Risk coverage and savings	453	3.02	2
Security with high returns	348	2.32	4
Insurance services	302	2.01	5
Premium charges	438	2.92	3

TABLE 11 RANKING OF VARIOUS FACTORS

•:• INTERPRETATION: it is revealed from the table no. 10 and table no. 11, which among the surveyed people, majority of the respondents invest in life insurance for tax benefit, followed by the risk coverage & saving, premium charges, security with high return and insurance services can be ranked as 1st, 2nd, 3rd, 4th and 5th respectively. Thus it can be depicted that tax benefit is the main concern of customers while making investment in insurance policy.

FINDINGS :

- The consumer decision to purchase insurance product from different insurance companies can be affected by several factors like age, gender and income level. From the analysis, it is inferred that respondents belonging to the age group between 30 to 40 years (which contribute 52% to the total respondents) found to be more interested in buying a life insurance policy as compare to other age group.
- •• Out of 150 samples drawn, a majority (54.6%) of policyholders have shown preference towards LIC followed by SBI life insurance with (14.6%) among the private players. Therefore LIC has the maximum no. of policyholders and rank as 1st among other insurance companies, followed by SBI Life (14.6%), ICICI Prudential (10.6%), Bajaj Allianz (8.0%) and HDFC Standard life with 6.6%.
- The features of policy that attracted policyholders can be ranked as follows: company reputation, money back guarantee, risk coverage, low premium and easy access to agents as 1st, 2nd, 3rd, 4th and 5th respectively. Thus it can be inferred that goodwill of the company is the most influencing factor while policy buying decision.
- It is found from the analysis that out of 150 respondents, majority (37.3%) respondents preferred money-back policy of LIC. This is followed by the unit linked plan of private insurers (31.3%) and endowment plans (15.3%). Only 10% of the respondents have shown interest towards term plan. Hence in present days people are more interested in such policy which gives higher return along with the risk coverage benefit.
- It is evident from the above study that most (54.6%) of the respondent's have opted for LIC policies because of safety and rest of the respondent's opted for private players for higher returns. Among

private insurers, SBI life insurance holds 14.6% market share, followed by the ICICI Prudential and Bajaj Allianz with 14.6% and 8.0% respectively. The study reveals the fact that LIC still holds the major share of the life insurance market.

A large no. Of the respondents (48%) said that they look for trusted name in a company for insurance, followed by good plans, friendly service and accessibility with 30%, 18% and 4% respectively.

SUGGESTIONS :

- In present competitive world, customer satisfaction has become an important aspect to retain the customers, not only to grow but also to survive. Customer service is the critical success factor and private insurers through their best services would be able to reposition and differentiate itself from LIC.
- Private insurers should emphasis more on advertising and building brand awareness through different modes of communication. This will help in spreading insurance awareness among the common man.
- To achieve greater insurance penetration, the healthier competition has to be intensified by both the sectors and they should come up with new innovative products to offer greater variety or choice to the customers and also make improvement in the quality of services and sell products through appropriate distribution channel to win-win situation for both the parties.
- •: Insurance companies should devise policies which provide effective risk coverage rather than focusing on the tax benefits and also encourages them for long term investment in insurance.
- ↔ Life insurance companies should come up with innovative tailor-made products with high risk cover, more return and low insurance premium to attract more number of customers.

CONCLUSION: Life insurance is an important form of insurance and essential for every individual. Life insurance penetration in India is very low as compare to developed nation where almost all the lives are covered and stage of saturation has been reached. Customers are the real pillar of the success of life insurance business and thus it's important for insurers to keep their policyholders satisfied and retained as long as possible and also get new business out of it by offering need based innovative products. There are many factors which affect customer's investment decision in life insurance and from the study it has been concluded that demographic factors of the people play a major and pivotal role in deciding the purchase of life insurance policies.

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Role of Value in Educations System in Making Strong Resurgent and Vibrant India B.S. Tiwary

Research Scholar, JJT University

I stand before this distinguished gathering as a humble and enlightened being and thank you profusely for giving this opportunity to present the paper in this prestigious seminar on role of value in educations system towards global development.

At the outset, I would like to bring it to the notice of this august audience what is a value when it is imbibed it becomes larger than the life of an individual race and nation. On 8th August, 1942, in Mumbai itself there was a rally at the grounds of Gwalior tank in Mumbai and Father of the Nation Mahatma Gandhi addressed the rally. All National leaders were already in Jail. On 9th August, 1942 Quit India Movement was announced and Mahatma Gandhi was arrested alon with Mahadev Desai, Kasturba Gandhi and other national leaders. It was a matter to think that where these national leaders could be housed in jail. Aga Khan came forward and handed over his palace in Pune to be converted into make-shift jail for housing the National leaders. Everydoby earns money, money was equally dear to the family of Aga Khan too but I would like to submit which I have drawn from Mahatma Gandhi that this world is not even sufficient for a single man's greed but the world gives enough for everybody's need. That it the belief in the value system. Once while in jail Mahatma Gandhi told Kasturba that if I die my last rites will be performed by Mahadev Desai. To this statement of Bapu, Kasturba got angry and asked Bapu that what kind of a father you are. Why should you confer the right of your funeral to somebody else who is not your own son. Mahatama Gandhi replied what kind of a woman you are. Mahadev has served me for 35 years without asking a single question or doubting my decision still you need your son to be your biological son only to be given the rightful place of a son. This is not acceptable. This is another example of what is faith and what is value. To tell further as the almighty had decided that Mahadey Desai died in 1944 before Mahatma Gandhi's demise. Mahatma had woven from his charkha a hadkerchief for Jail superintendent, Kasturba and Mahatma Desai irrespective of waiting the decision/opinion of other people whether they will put on the cloth woven by Mahatma Gandhi. When jail authorites came to the room of Mahatma Gandhi the dead body of Mahadev Desai was lying there. Jail staff wanted to remove the body for cremation. Kasturba was in the same room, when this happened. Mahatama Gandhi said to Jail Staff "Don't touch my son's body. I am alive. It is against Hindu rites and right of a Father". He insisted that the funeral of Mahadev Desai should be done by him alone and if British Government did not agree to it be would cremate Mahadev Desia in the room itself. The British Government did not agree and the last rite of Mahadev Desai was performed by Mahatma Gandhi by lighting the funeral pyre. Going a step further, he had opined that near the samadhi of Mahadev Desai, the samadhi of Kasturba will be there and Mahatma Gandhi's Samadhi will be the last

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in order because he thought even after death he should not come in between the affection of a mother and a son. This is a resounding example of value system which surpasses everything.

When somebody says that veer Bhogya Vasundara, Janambhoomi Swargad P Gariasi it does not put a pre-condition that what could be required in terms of logistics or worldly richness to come up to that stage which makes so many Chandrashekhar Azad and Bhagat Singh to wait for a thousand deaths beyond the persent life for a single value system that their Motherland should not be sesecrated or enslaved. The best part of value system is that it allows forgiveness rather than Revenge. Forgiveness allows a person to become emotionally stable after few bouts of intial disturbances because forgiveness gives the strength to hold on to pain, suffering and also to an exent resentment. When Nelson Mandela was released after more than 12 decades of prison he latched up to his values of suffering, pain still keeping the flame with in alive. Vinobha Bhave said in his experience "Nishkaam Karm Mein Bahut Shakto Hain" meaning that at times or even most of the times we do not know how much power a single human body has in store and we allow it to go waste because we do not live with a value system . Nishkaam karm comes out from something known as Sa Karm or Nisha karm. Meaning when we link it to a value it is very simple we decide to do something and we decide not to do something. Meaning something we adopt and something we leave. With something we adopt, the same ordinary human body by sticking to value system can turn a normal human being into a noble prize winner. A great saintand aboud soldier or if not a more worthly person than his neighbor. it can also turn nar into narayan which the coming generation would be wondering to think that wheather there was a man like this who actually one doubts could have walked on the earth as a mortal being. It provides an structure for the life and allows you to remain motivated in your own way in which you can proud of. The right kind of motivation reduces stress level which is a requirement of so called practical living in todays modesty. These two qualities of being honest and modest requires a great amount of self discipline. When I say honest I am referring to a belief system and a value system which in its essentiality is generally never wrong. It is a kind of hunger which is so pure and if it is pure how it can be wrong? It is good to keep working and wait for right time to come when that attains acceptability. It is like trying to hold YOUR SKY TOO FAR YET CLOSE IN YOUR FIST. It is the belief system and response of ourself that makes you feel that everything is going so smooth and easily and you have been able to achieve what you have dream without looking for endorsement from anybody and this is the honesty of which I am talking about. The value system makes you courageous from anybody and this is the compassionate. It can turn into a weapon of construction. So far ,we have only heard the weapon of destruction. How can value system go to courage less, spinless and weak person. The value system steers you quickly back towards your lost self respect and gives you determination to reinforce, rebounce to bravely face the world .Courage and compassion, if you look be carefully are part of the same coin . The courage makes you brave to face the world while compassion allows you to become sympathetic to others. Here I say that there is a big divide between academic and real world. We must strive to bridge this gap and make every effort to sensitive a large chunk of value less fence sitting population of all age group towards the value system. When I talk of value system, I don't think that value system should come in a way of a strong resurgent and vibrant india. It is also not against any nation but if united states of America and other developed countries have their own doctrine to talk their scope of national interest beyond their physical boundaries to the farthest point on the earth. Its my firm belief and my value system that anyone who has taken up arms against Indian union has to be eliminated in a dual armed combat in the fastest possible time to enforce our national values of intergrity, sovergnity, non-violent, peace loving , strong resurgent and vibrant India with a determination that we shall rise from theashes and re-group to live up to our value system.

A Study on Preference of Female Respondents towards Yoga

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•:• ABSTRACT – A yoga practice can provide women with both obvious and unexpected benefits for the body, mind and spirit. International yoga expert colleen saidman says yoga "offers women salace, reflection, joy, acceptance and ease in their bodies." It is a group of physical, mental and spiritual practices or disciplines which originated in ancient India. In this paper the researcher will converse about the concept of female respondents towards yoga as a career.

.: KEYWORDS - Yoga, Motivation, Reflection & Physical,

 HITRODUCTION: There is a broad variety of Yoga schools, practices, and goals in <u>Hinduism</u>, <u>Buddhism</u>, and <u>Jainism</u>. Among the most well-known types of yoga are <u>Hath yoga</u> and Raja. The origins of yoga have been speculated to date back to pre-<u>Vedic Indian</u> traditions, it is mentioned in the <u>Rig-</u> <u>Veda</u>, but most likely developed around the sixth and fifth centuries BCE, in ancient India's <u>ascetic</u> and <u>œramaGa</u> movements.

The chronology of earliest texts describing yoga-practices is unclear, varyingly credited to Hindu Upanishads. The <u>Yoga Sutras of Patanjali</u> date from the first half of the 1st millennium CE but only gained prominence in the West in the 20th century. Hath yoga texts emerged around the 11th century with origins in <u>tantra</u>.

Yoga gurus from India later introduced yoga to the west, following the success of <u>Swami</u> <u>Vivekananda</u> in the late 19th and early 20th century.[16] In the 1980s, yoga became popular as a system of exercise across the Western world. Yoga in Indian traditions, however, is more than physical exercise; it has a meditative and spiritual core. One of the six major orthodox schools of Hinduism is also called <u>Yoga</u>, which has its own epistemology and metaphysics, and is closely related to Hindu <u>Samkhya</u> philosophy.

Many studies have tried to determine the effectiveness of yoga as a complementary intervention for <u>cancer</u>, schizophrenia, asthma, and heart disease. The results of these studies have been mixed and inconclusive, with cancer studies suggesting none to unclear effectiveness, and others suggesting yoga may reduce risk factors and aid in a patient's psychological healing process. On December 1, 2016, Yoga was listed as <u>UNESCO's Intangible cultural heritage</u>.

•: YOGA : The term "yoga" comes from a <u>Sanskrit</u> word meaning "union." Yoga combines physical exercises, mental <u>meditation</u>, and breathing techniques to strengthen the muscles and relieve stress. <u>Yoga</u> is an ancient art based on a harmonizing system of development for the body, mind, and spirit.

Physical postures strengthen and tone muscles, and when performed in rapid succession, can provide cardiovascular conditioning. Meditation and deep breathing can reduce stress, thereby

lowering blood pressure and inducing relaxation. Mind/body awareness can influence mood and **self-esteem** to improve quality of life.

- OBJECTIVES -

- •:• To study the importance of yoga
- To analyze and understand the concept behind good health.

A data is collected from the women so opinion can be bias.

REVIEW OF LITERATURE –

Modulation of stress induced by isometric handgrip test in hypertensive patients following yogic relaxation training

Vijayalakshmi P, Madanmohan, Bhavanani A.B, Asmita Patil And Kumar Babu P - Modern man has become a victim of daily stress and stress related disorders like essential hypertension, angina, insomnia and impotency. Being holistic in their approach, yogic techniques are ideal for improving one's ability to withstand stressful stimuli. There is evidence that yoga is effective for prevention as well as management of bronchial asthma (1), stress due to exams (2), anxiety and depression (3), stress in hypertensive patients (4) and in the cure/control of essential hypertension (5).

RESEARCH METHODOLOGY –

• ANALYSIS AND INTERPRETATION OF DATA : Yoga practice during pregnancy is gaining increasing popularity. This study examined the characteristics of pregnant women who practiced yoga in regard to the different locations (at home, in yoga classes, or both). The study sample was drawn from the Australian Longitudinal Study on Women's Health (ALSWH), a national longitudinal study of women to investigate multiple factors affecting health and well-being of women over a 20-year period. Women born between 1973 and 1978, who were randomly selected from the national Medicare database and identified as being pregnant or having recently given birth, Relationships between yoga use (attending yoga classes and/or practicing yoga at home) and women's characteristics (demographic measures, pregnancy-related health concerns, health service utilization, attitudes to complementary and alternative medicine)

- •• After studying all data the researcher has found that the yoga is a thing which gives a new life to the woman.
- •:• Yoga on daily useful for them to forget the stress and starting with a new day.
- In their pregnancy or any other problems yoga is a best way to solve the mental, physical etc.
 Problems.

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The Law of Cyber Crime : A Curse or a Boon

Hassekar Pranita Prakash

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Abstract : Cybercrime cut across territorial borders, creating a new realm of illegal human activity and undermining the feasibility-and legitimacy-of applying laws based on geographic boundaries. Territorially-based law-making and law-enforcing authorities find cybercrime deeply threatening. It has subjected the nation-State to unprecedented challenges with regard to its efficacy, sovereignty and functions. However, established territorial authorities may yet learn to defer to the self-regulatory efforts of Cyberspace participants who care most deeply about this new digital trade in ideas, information, and services. Separated from doctrine tied to territorial jurisdictions, new legislations will emerge, in a variety of online spaces, to deal with a wide range of new phenomena that have no clear parallel in the real world.

Key words : Cybercrime, Cyberspace

INTRODUCTION : Cyber Crime is one of the words frequently used by individuals in our contemporary Society. To understand the true meaning of cybercrime, there is the need to understand the slit meaning of Cyber and Crime. The term "Cyber" is a prefix used to describe an idea as part of the computer and Information age and "Crime" Can be described as any activity that contravenes legal procedure mostly performed by individuals with a criminal motive. Cybercrimes are defined as: "Offences that are committed against individuals or groups of individuals with a criminal motive to intentionally harm the reputation of the victim or cause physical or mental harm to the victim directly or indirectly, using modern telecommunication networks such as Internet (Chat rooms, emails, notice boards and groups) and mobile phones" Halder & Jaishankar (2011). Such crimes may threaten a nation's security and financial health Saul (2007). Cyber crime can simply be explained as crimes carried out with the aid of a computer system.

•:• The Rise of Cyber Crime : The number of reported information security incidents around the world rose 48% to 42.8 million, the equivalent of 117,339 attacks per day, according to The Global State of Information Security® Survey 2015, released by PwC in conjunction with CIO and CSO magazines. Detected security incidents have increased 66% year-over-year since 2009, the survey data indicates. "It's not surprising that reported security breach incidents and the associated financial impact continue to rise year-over-year," said David Burg, PwC's Global and US Advisory Cyber security Leader. "However, the actual magnitude of these breaches is much higher when considering the nature of detection and reporting of these incidents."

As security incidents become more frequent, the associated costs of managing and mitigating breaches are also increasing. Globally, the estimated reported average financial loss from cyber security incidents was US\$2.7m – a 34% increase over 2013. Big losses have been more common this year

as organisations reporting financial hits in excess of US\$20m nearly doubled. But despite elevated concerns, the survey found that global information security budgets actually decreased four% compared with 2013. Security spending as a percentage of IT budget has remained stalled at 4% or less for the past five years. "Strategic security spending demands that businesses identify and invest in cybersecurity practices that are most relevant to today's advanced attacks," explained Mark Lobel, PwC Advisory principal focused on information security. "It's critical to fund processes that fully integrate predictive, preventive, detective and incident-response capabilities to minimise the impact of these incidents." Organisations of all sizes and industries are aware of the serious risks involved with cyber security; however, larger companies detect more incidents. Large organisations – with gross annual revenues of US\$100m to US\$10n – witnessed a 64% increase in the number of incidents detected. And while risk has become universal, the survey found that financial losses also vary widely by organisational size.

"Cyber risks will never be completely eliminated, and with the rising tide of cybercrime, organisations must remain vigilant and agile in the face of a constantly evolving landscape," said PwC's Burg. "Organisations must shift from security that focuses on prevention and controls, to a risk-based approach that prioritises an organisation's most valuable assets and its most relevant threats. Investing in robust internal security awareness policies and processes will be critical to the ongoing success of any organisation."

• What is Cyber Crime : Cyber crime is a real and growing threat. As people do more business online, criminals are developing ever more sophisticated ways to break into systems and steal information, take control of computers and defraud companies and individuals. This is a real worry for many business owners as cyber crime moves further into the sphere of organised gangs and identity theft. Cybercrime refers to any type of criminal activity that uses computers or the web as a tool to steal money, goods, information or other assets. Criminals often prey on smaller businesses, with malware, spam and all manner of emerging threats, as small businesses often forget to implement basic security measures. But, unfortunately, even well-protected businesses cannot guarantee they won't be hit. Insider computer crime is also common. Rogue employees steal data and intellectual property; an employee preparing to start his or her own business may steal customer lists. During an economic downturn, this type of crime tends to rise as staff fear they will be laid off or feel they are being treated unfairly.

Halware : Malware is any software designed with malicious intent and includes viruses, adware and spyware. It can arrive on your computer (or other device such as a smartphone) by various methods, typically when you open an infected email attachment or click on a particular web link. At best, it can be a nuisance, slowing down computers and causing software to crash. At worst, it can

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steal confidential information, cripple your business or lead to identity theft and fraud. If you allow sensitive customer data to be compromised, the resulting payouts to those who take legal action can be huge. The Information Commissioner may also fine businesses who lose personal data.

Laws of Cyber Crime - A Curse or a Boon? : Computers and the internet have ingrained themselves as such an indelible part of modern society that it isn't surprising how often they're used to commit crimes. Computer and internet crimes run the gamut from identity theft to computer fraud and computer hacking. States and the federal government have laws that criminalize various types of behavior involving computers, computer systems, and the internet, and each has its own requirements and potential penalties.

There are a number of offenses which can fall under the category of "computer crime." Any crime that either targets a computer, or in which someone uses a computer to commit a crime, falls into this category. State computer crime laws differ widely, and when a person uses a computer to commit a crime, that crime may be covered under several different state or federal laws.

•: Unlawful use or access. Some states have laws that make it a crime to use or access a someone else's computer without permission or authority. This type of crime includes instances where a person physically accesses someone else's computer, gains access electronically, or uses a virus to gain access. These laws are often used in *computer hacking* cases where someone gains access to someone else's computer without permission.

•: Access for fraudulent purposes. Other states have laws that punish using a computer to accomplish a fraudulent act. Some states, for example, make it a crime to use a computer, computer software, or computer network to fraudulently obtain goods or services of any kind.

•: Data theft. Even if you're allowed to use or access a computer, you can still commit a computer crime if you access, copy, damage, or alter information you don't have permission to use. Some states provide additional penalties in cases where the data theft resulted in damage, while less severe penalties apply for thefts which did result in data being damaged, altered, or destroyed.

•:• Child pornography. It's a crime to make, possess, or <u>transmit images</u> that portray child pornography. All 50 states, as well as the federal government, have laws which prohibit keeping pornographic images of children. There are also laws which prohibit transmitting harmful materials to children. "Harmful materials" include sexual or pornographic images that may be legal for adults to view, but which are harmful to, or inappropriate for, children.

Internet Crime : While computer crimes cover a wide range of activity, internet crime laws punish activity that specifically involves the internet in some way. These laws apply to emails and websites, as well as using the internet to commit identity theft or other forms of fraud. Like computer crimes, both individual states and the federal government have laws that apply to internet crime.

Luring or soliciting children.

Harassment, stalking, and bullying.

• Other laws and new laws.

In the era of cyber world as the usage of computers became more popular, there was expansion in the growth of technology as well, and the term **'Cyber'** became more familiar to the people. The evolution of Information Technology (IT) gave birth to the cyber space wherein internet provides equal opportunities to all the people to access any information, data storage, analyse etc. with the use of high technology. Due to increase in the number of netizens, misuse of technology in the cyberspace was clutching up which gave birth to cyber crimes at the domestic and international level as well. Though the word Crime carries its general meaning as "a legal wrong that can be followed by criminal proceedings which may result into punishment" whereas **Cyber Crime** may be "unlawful acts wherein the computer is either a tool or target or both".

The world 1st computer specific law was enacted in the year 1970 by the German State of Hesse in the form of 'Data Protection Act, 1970' with the advancement of cyber technology. With the emergence of technology the misuse of technology has also expanded to its optimum level and then there arises a need of strict statutory laws to regulate the criminal activities in the cyber world and to protect technological advancement system. It is under these circumstances Indian parliament passed its "**INFORMATION TECHNOLOGY ACT, 2000**" on 17th oct to have its exhaustive law to deal with the technology in the field of e-commerce, e-governance, e-banking as well as penalties and punishments in the field of cyber crimes.

•:• Classifications Of Cyber Crimes: Cyber Crimes which are growing day by day, it is very difficult to find out what is actually a cyber crime and what is the conventional crime so to come out of this confusion, cyber crimes can be classified under different categories which are as follows:

Cyber Crimes against Persons : There are certain offences which affects the personality of individuals can be defined as:

Harassment via E-Mails: It is very common type of harassment through sending letters, attachments of files & folders i.e. via e-mails. At present harassment is common as usage of social sites i.e. Facebook, Twitter etc. increasing day by day.

- Cyber-Stalking:
- Dissemination of Obscene Material
- Defamation:
- Hacking:
- · Cracking:
- E-Mail Spoofing:
- SMS SpoofingCarding:
- Cheating & Fraud:

- Child Pornography:
- Assault by Threat:

✤ Crimes against Persons Property : As there is rapid growth in the international trade where businesses and consumers are increasingly using computers to create, transmit and to store information in the electronic form instead of traditional paper documents. There are certain offences which affects persons property which are as follows:

- Intellectual Property Crimes:
- · Cyber Squatting
- · Cyber Vandalism
- Hacking Computer System:
- Transmitting Virus:
- Cyber Trespass:
- Internet Time Thefts.

Cybercrimes Against Government : There are certain offences done by group of persons intending to threaten the international governments by using internet facilities. It includes:

- · Cyber Terrorism:
- · Cyber Warfare:
- Distribution of pirated software:
- Possession of Unauthorized Information

Cybercrimes Against Society at large : An unlawful act done with the intention of causing harm to the cyberspace will affect large number of persons. These offences include:

- · Child Pornography
- · Cyber Trafficking
- Online Gambling:
- Financial Crimes:
- · Forgery
- Affects To Whom:

Need of Cyber Law : information technology has spread throughout the world. The computer is used in each and every sector wherein cyberspace provides equal opportunities to all for economic growth and human development. As the user of cyberspace grows increasingly diverse and the range of online interaction expands, there is expansion in the cyber crimes i.e. breach of online contracts, perpetration of online torts and crimes etc. Due to these consequences there was need to adopt a strict law by the cyber space authority to regulate criminal activities relating to cyber and to provide better administration of justice to the victim of cyber crime. In the modern cyber technology world it is very much necessary to regulate cyber crimes and most importantly cyber law should be made stricter in the case of cyber terrorism and hackers.

Case Study-Attacks on Cyberspace :

•:• Worm Attack: The Robert Tappan Morris well Known as First Hacker, Son of former National Security Agency Scientist Robert Morris, was the first person to be prosecuted under the 'Computer and Fraud Act, 1986'. He has created worm while at Cornell as student claiming that he intended to use the worm to check how large the internet was that time. The worm was uncontrollable due to which around 6000 computer machines were destroyed and many computers were shut down until they had completely malfunctioned. He was ultimately sentenced to three years probation, 400 hours of community service and assessed a fine of \$10500. So there must be strict laws to punish the criminals who are involved in cyber crime activities.

•:• Hacker Attack: Fred Cohen, a Ph.D. student at the University of Southern California wrote a short program in the year 1983, as an experiment, that could "infect" computers, make copies of itself, and spread from one machine to another. It was beginning & it was hidden inside a larger, legitimate program, which was loaded into a computer on a floppy disk and many computers were sold which can be accommodate at present too. Other computer scientists had warned that computer viruses were possible, but Cohen's was the first to be documented. A professor of his suggested the name "virus". Cohen now runs a computer security firm.

•:• Internet Hacker: Wang Qun, who was known by the nickname of "playgirl", was arrested by chinese police in the Hubei province first ever arrest of an internet hacker in China. He was a 19 year old computing student, arrested in connection with the alleged posting of pornographic material on the homepages of several government-run web sites. Wang had openly boasted in internet chat rooms that he had also hacked over 30 other web sites too.

Conclusion : Since users of computer system and internet are increasing worldwide, where it is easy to access any information easily within a few seconds by using internet which is the medium for huge information and a large base of communications around the world. Certain precautionary measures should be taken by natives while using the internet which will assist in challis going this major threat Cyber Crime.

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Branding through GI Status for Global Sustenance of Paithani Handicraft Products

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ABSTRACT : A product acquires a unique recognition owing to its natural characteristics and the human efforts put in to give it the visible form. Geographic indication (GI) is an indication that identifies agricultural, natural or manufactured products in terms of their origin or manufacturing in a specific geographic area. Many a times, products not made in the specific area are also sold as genuine products, thereby misleading the consumer. In order to curb these malpractices in India, the Geographical Indications of Goods (Registration and Protection) Act was passed as a law in 1999 (the GI Act). India offers a diverse product range of indigenous goods. The state of Maharashtra in the western part of India is the proud home to various rich and exquisite traditional handicrafts. Amongst these, Paithani brocades are believed to have originated more than 2000 years ago. The craft is preserved in its original patterns and the paithani handlooms are woven with the same techniques even today. As with many other crafts in India, the ownership of the paithani handloom business is hereditary and passed from father to son. The craft was traditionally protected from external competition through the formation of artistic cooperative guilds. Despite the threats posed by expanding powerloom industry during the British rule, the handlooms and handicrafts sector is still an important sector in the rural economy and needs to be given unique identification and protection from imitation. Branding, as a marketing strategy, helps to give recognition to a product and brings it in the visibility zone of a consumer. This study is an attempt to understand how branding through GI status can help paithani handicrafts to earn a recognition thereby not only protecting it but also ensuring its sustenance in the global market.

Keywords: GI status, Branding, Paithani, handicraft, indigenous, sustenance.

INTRODUCTION: Maharashtra is well known for its rich and indigenous handloom textiles and handicrafts. According to the Indian Textile Ministry, the handicrafts sector plays a significant & important role in the country's economy. It provides employment to a vast segment of craft persons in rural & semi urban areas and generates substantial foreign exchange for the country, while preserving its cultural heritage. Maharashtrian handicraft, Paithani has its own unique features. The skilled Indian craftsmen are carrying this tradition, learning it from their forefathers and passing it on from generation to generation. There is a need to provide a recognition to these handicrafts to create awareness about them and to prevent their imitation. Branding is the marketing practice of creating a name, symbol or design that identifies and differentiates a product from other products. GI is a type of brand name. Geographical Indications are inseparably linked to places where they are produced and build up reputation over a period of time. Paithani handicraft got the GI status in 2010.

OBJECTIVES OF STUDY

1. To understand the importance of GI status.

2. To study the unique characteristics of paithani handicraft products.

3. To analyse the importance of branding for paithani handicraft products through GI Status.

RESEARCH METHODOLOGY : Extensive literature survey is done to meet the objectives of study by referring to relevant books, journals, newspapers, magazines, websites to collect and analyze information.

GEOGRAPHICAL INDICATION (GI) : A geographical indication (GI) acts as a mechanism that helps producers differentiate their products from competing products in the market and enables producers to build a reputation and goodwill around their products that will fetch a premium price. The current international framework is laid down in Article 22 of the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement which mandates member countries to provide for the protection of all GIs, where the obligation is for members to provide the 'legal means for interested parties' to secure protection of their GIs. The TRIPS defines GIs as 'indications which identify a good as originating in the territory of a member, or a region or locality in that territory, where a given quality reputation or other characteristic of the good is essentially attributable to its geographical origin'. As a party to the TRIPS Agreement, India is required to protect GI and hence in order to fulfill that obligation, the Geographical Indications of Goods (Registration and Protection) Act, 1999 was enacted. It may also be noted that India felt that some of its products have high potential to benefit from GI registration and it was necessary to put in place a comprehensive legislation for registration.

The main benefits which accrue from registration under the Act are that it confers legal protection to GI in India; prevents unauthorized use of a registered geographical indication by others; enables seeking legal protection in other WTO member countries. From the perspective of a developing country, one ofthe best features of the Indian Act is the comprehensive definition of GI given, whereby agricultural, natural and manufactured goods all come under the ambit of GI. This is especially important in the Indian context considering the wide variety of goods that deserve protection ranging from agricultural products like Basmati, Darjeelingtea to manufactured goods such as Paithani sari, Kolhapurechappal &Chanderi silk.

GIs—on the way to being brands: There is a considerable overlap between GIs and brands, though both are protected by different Acts. Historically, the first trade marks were in the form of symbols indicating the geographical origin of goods. Traders used these symbols to differentiate merchandise produced in different regions or territories and to convey a sense of quality. However, the Trade Marks Act does not consider geographical namesas distinctive or capable of distinguishing goods, and accordingly does not register them as trademarks. Geographical names can be registered only under the Geographical Indications of Goods Registration and Protection) Act 1999, subject to satisfying certain conditions. The names then enjoy protection by an action for infringement as well as other Rexjounal

benefits of registration. Once the GI is registered, it must exhibit the attributes of a brand and maintain a high level of quality, worth the price that it demands. For charging a premium price, the product should have something which no other similar product offers, evoke a feeling of pride and confidence among its users and emerge as a special regional brand.

In the language of marketing, a brand is a "name, term, sign, symbol or design, or a combination of them" that helps in identifying products of one seller and differentiate them from those of competitors. Hence the basic functions of identification and differentiation are the same for both GIs and brands. Branding is important, as it extends some unique benefits to both the manufacturer and the consumer. The manufacturer obtains an identity for the product that is legally protected, conveys quality and attributes, fosters loyalty among consumers and allows them to charge a premium.

The story of the evolution of legislation for protecting geographic indicators shows that GIs perform essentially the same functions as performed by brands in marketing. GI is a regional symbol used to recognise goods having distinct features originating from a specific geographical region. In case of a GI, the right is owned by the community. Collective ownership of GIs within a certain specified area is assumed to exert collective control over the production and marketing of the product. The GI Act does not grant right to ownership; it is simply the right to claim as being one. Unlike brands, GIs do not have a distinct visual element that helps in easy recognition and which is common to all those who claim it. This makes GIs "pseudo" or "half" brands.

CHARACTERISTICS OF PAITHANI PRODUCTS: The Paithani sari is known the world over for its unique beauty. The paithani sari was traditionally a part of the trousseau of every Maharashtrian bride. It is a handwoven silk sari with a rich, ornamental Zari (gold thread) pallav and border. A special feature of paithani is that no mechanical means like the jacquard or jala are used to produce the designs. Skilled weavers count the threads of the warp for each part of the design and using tiny cloth pirns or "tillies" for the weft which is interlocked with the silk or gold yarn. Even a 21/2-inch border might need 15 to 20 separate tillies depending on the nature of the design. When the entire spread of the pallav is to be covered, there could be over 400 tillies arranged across the warp to be used in turn. The technique employed in the paithani designs is known as extra weft. Production of one paithani saree may consume on an average of about 200 to 350 gm of silk and a completed sari has weight between 800 to 900 gm, including the weight of zari. Warp used is generally 20-22 denier and the weft is 30-32 denier. The woven design on the pallav looks the same on both sides of the saree due to the tapestry technique of weaving used. Two types of pallavs are woven- single and double. A single pallav is about 12 inches in length and the double pallav is about 24 inches, thereby increasing the cost of saree.

Motifs : A variety of motifs are seen in a paithani saree, popular ones being Narali (coconut motif), BangdiMor (four peacocks within a circle/bangle), Muniya (Parrot), Ruiphool (cotton bud), Pankha (fan), Asavali (an imaginary flower), Ajanta Lotus, TotaMaina, Huma parinda (pheasant), Anar bel (Pomegrantae), Tara(star), etc. The motifs have evolved during various ruling dynasties, e.g. flowers, plants, trees and bird motifs largely developed during Mughal period and golden lotus was a prominent motif during Yadav period (13th century). A lot of inspiration in paithani motifs has come from Ajanta caves e.g. Ajanta Lotus, Seated Budhha.

Colours : Paithani saris are woven in a number of colors. The colors that are typically used inthese saris are:kaalichandrakala(black),uddani(lighter black),pophali(yellow),neeligungi(blue),pasila(a combination of green, red and pink),pheroze(a blend of green, white and red),samprus(a mixture of green and red) andkusumbi(a purple and red combination).

Products : Paithani sarees are the most important products sold in pure silk and zari. Cotton paithani sarees are also slowly becoming popular due to the comfort they give and can thus be easily worn in the summer season. Apart from sarees, exclusive paithani products like bags, clutches, dupattas, stoles, waist coats, book covers, dress materials for ladies' suits and lancha are also available.

GEOGRAPHICAL INDICATOR (GI) STATUS FOR PAITHANI: The paithani sarees and fabrics known for their intricate designs have been protected under Geographical Indication Act 1991 of India, facilitated by the Textiles Committee, a statutory body under the Ministry of Textiles, in the year 2010. This GI registration is intended to safeguard the interest of the artisans of the Paithani Saree & Fabrics of Maharashtra against infringement and hence protect the livelihood of 35,000 weavers associated with the production and marketing of this handloom product. The GI protection provided through the registration of paithani has recognized its uniqueness and distinctive style.

CREATING AWARENESS for GI status of PAITHANI : While some of the products like Kota Doria, Darjeeling tea and Coir handicrafts have witnessed increase in sales after GI registration, the registration has not been exploited to its full potential commercially for paithani products.

The GI status identification can gain more importance by taking a few steps:

- 1) Creating a producer database and tracking system
- 2) Identifying target markets
- 3) Increasing financial support for marketing
- 4) Increasing share for producers
- 5) Designing a GI identification logo
- 6) Increasing brand building visibility
- 7) Enforcing penalty for misuse of GI, by conducting raids
- 8) Formalizing organizational structure
- 9) Improving Online presence and e-marketing
- 10) Expanding reach in National and International markets

INFERENCES: Paithani is often regarded as a poem in silk and gold. The delicate colors, the beautiful motifs and the soft yarns make this craft unique and exquisite. Creating awareness about this craft on

the global level can earn foreign exchange for the country and ensure livelihood to the artisans. Branding through GI status can help this craft survive and thrive commercially by creating a GI logo for the same and promoting it through celebrity endorsements.

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A Feminist Outlook on Struggle : A Study of Alice Walker's the Color Purple

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★ Abstract : Alice Walker, the great Afro-American writer, presents the realistic picture of struggle which the coloured people experienced and particularly the black women. They are always treated as "other" And "Marginal" characters whose life seems to be a curse for them. Their condition is worse than slaves. They are silenced beings and their inner consciousness is suppressed under the blackness of narrow social thinking, poverty. Illiteracy, male domination, racism, sexism and gender inequalities.

& Keywords : Gender- inequality, Racial discrimination, Sexual Exploitation, Self-Consciousness.

Introduction : The Color Purple is a superb creation of the prolific writer Alice Walker. The miserable condition of black women remains the central theme of the novel. They are victims of racism, sexism, poverty and even the male members in their own houses. Celie, the central figure, whose whole life represents the struggle of black women, suffers a lot. Her only crime seems to be a woman and that too a black woman. In her own house, she is repeatedly raped by the man she calls 'father'. He doesn't let her tell all this to anybody else and threatens her by saying, "you better not never tell nobody but God. It'd kill your mummy."

At the tender age of fourteen, she became mother. Although she was good at her studies but was not allowed to school. Her own mother died because of extreme exploitation by her father. The only thing before which she revealed her grief was an imaginary powerful figure which she called 'God'. The effect of male superiority is so much on her mind that she even considers God to be a man and that too a white one.

In order to save Nettie, her younger sister from her father's ill-intentions, she agrees to get married to a cruel man, Albert whom she calls 'Mr.' In the house of this man, Celie experienced a more hellish life. His son, Harpo, who was from earlier marriage, tormented Celie a lot. He used to say, *"women work. I'm a man."* Later he gets married to Sofia who comes out to be a bold and aggressive woman. She is quite opposite to Celie. She was not meek like Celie and fought for her rights also. Harpo wanted to suppress her like her own father as he says to Celie, *"I want her to do what I say, like you do for Pa.*" But he failed to do so. Celie was also impressed by her courageousness.

Another female figure in the novel is Shug Avery who brings great change in the life of Celie. She is a confident and independent woman who earned by signing blues. In her contact, Celie became aware of her own self and her earlier concept of 'God' changed into a wider one. Shug made her cognizant of God's omnipresence. Hitherto Celie was extremely tolerant woman. Her yielding spirit Rexjounal

can well be assessed by her reply when Nettie asked her to fight for her right. She answered, *"I don't know how to fight. All I know how to do is stay alive."* She is beaten just like an animal. She explained this to Nettie that she is not even allowed to cry. She makes herself wood.

Most of the problems with which the female characters in the novels are suffering, are created by males dominating nature. The fights between Harpo and his wife sofia occur due to this male ego. Sofia makes it clear to Celie by saying *"All he think about since us married is how to make me mind. He don't want a wife, he want a dog.* "Later at one place when she says that a woman also need a little fun, he replies, " A woman need to be at home." But this problem is not limited to America. It becomes clear from Nettie's letter also. She lives in Olinka as a missionary but there also suffers a lot because of the discrimination on the basis of gender. The olinka believed that girls should not be educated. They held that a girl is nothing to herself; only to her husband can she become something. Nettie tries to convince that she is also a woman but something to herself. But they didn't get anything. This is all because of their illiteracy. There also the males considered themselves superior to women. Nettie in her letter writes, "No wonder the men are often childish. And a grown up child is a dangerous thing, especially since, among the Olinka, the husband has life and death power over the wife. If he accuses one of his wives of witchcraft or infidelity, she can be killed."

Conclusion : The pathetic condition of black women discussed is the consequence of many reasons. Its solution through Alice's point of view is to become aware of self-identity. Once the characters like Celie realized the significance of their own lives, there will be no more suffering. After Celie's becoming self dependent the people around her also change. Albert her husband became humble and even supported her. In this way, it can be concluded that Alice walker as an Afro-American writer is successful in depicting the true picture of struggle that black, people suffer still today.

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Development and evaluation of Natural active based formulation for Oral hygiene

By : Vivek Patwardhan*, Vijay Gokarn

◆ ABSTRACT : Clean and green India movement started to safeguard the Earth Planet. Technological development leading to increase in carbon foot printing, green house effect, climate change, global warming and Pollution. This is due to deforestation, increase in population and not developing the environmental friendly processes and products.

Government of India has taken initiatives to propagate clean technology, "Swatch Bharat abhiyan", use of solar energy and reduce the carbon foot printing, building energy management system. Government has also initiated to use more natural or nature derived ingredients so as to increase the theme of Green chemistry. Department of Science and Technology is working closely with CSIR labs and many industries to develop actives based on Ayurveda and other nature friendly actives. India has a traditional knowledge in this area. This traditional knowledge needs to be fused with latest technology and modern format which are acceptable to the end user. Herbal products have recently undergone more thorough investigation for their potential in preventing oral diseases, particularly plaque-related diseases, such as dental caries. It is well known that *Streptococcus mutans* and other cariogenic bacteria are the major etiological agents in dental caries. Hence the present work is focused on developing and evaluating Natural active based formulation for oral care.

METHODOLGY: Literature survey was done to identify various herbs and essential oils which are known to have antibacterial activity against various microorganisms. Several plant derived essential oils were screened by using disc diffusion method. In the present work finally 7 of the plant derived essential oils has shown the zone of inhibition. Subsequently Minimum Inhibitory Concentration (MIC) was studied against the organism viz., *Streptococcus mutans* which is known to be major pathogens in causing human dental caries, commonly known as the tooth decay *and Staphylococcus aureus*. The next step was to evaluate the synergy of selected essential oils. Eventually the Natural Mouth wash was formulated and the In-Vitro examinations were carried out against the selected microorganisms. Finally a comparative evaluation study was performed with the leading Mouth wash brand available in the market.

RESULTS : Among the seven selected essential oils Tea Tree oil, Basil oil and Clove bud oil did show minimum zone of inhibition by plate method. Hence the three oils showing the most promising MIC against *S. Mutans* and *S. Aureus* were used for evaluating the syneregistic effect & an aqueous Mouhwash was prepared by using the three essential oil complex. This mouthwash formulation was compared with the leading brand available in the market. It was observed that the formulated Mouth wash with 1.25 % essential oil complex did shown much better results compared to the marketed product.

* KEY WORDS : Mouthwash, Antimicrobial, Essential oil, In-Vitro Study

INTRODUCTION : Periodontal diseases are multifactorial in nature and several risk and susceptibility factors have been proposed to explain the onset and progression of the diseases¹. Most of the research has shown that microorganism are the primary etiologic agents causing destruction of the supporting periodontal tissues². Bacteria's in the subgingivial area are organized in a complex microbial biofilm. These biofilm play a vital role in periodontal diseases. Thus elimination of these biofilm is the priority of periodontal therapy.

Non-Surgical periodontal treatment remains the core component of successful periodontal therapy³. Self controlled oral hygiene along with professional maintenance is the most effective method of prevention and maintenance of periodontal diseases. However, in reality the the degree of motivation and dexterity required for an optimal oral hygiene level may be beyond the ability of the majority of patients⁴. Chemical Plaque control has been found to augment mechanical plaque control procedures. Mouthrinses provide a method of depositing an active material for slow release in the mouth. There are many such active ingredients which are conventionally administered by mouthrinses, for example anti-inflammatories, fluorides, desensitizers, deodorants and antimicrobials. Commercial interest in mouth rinses has been intense due to its effectiveness in reducing halitosis, build-up in dental plaque and the associated severity of gingivitis in addition to disinfectecting the tongue. From this perspective, the utilization of antimicrobial mouth rinses, as antiplaque agents has been considered a useful adjunct to oral hygiene.

digluconate has been considered to be the most effective plaque inhibitor against which other plaque agents are measured. But there are Since 1970, Chlorohexidine few side effects associated with chlorhexidine, such as staining the teeth, altered taste sensation and supragingival calculus formation in some patients when used over a long period. As a result there is an increased interest in research for newer and Natural formulations. The relative safe nature of herbal extracts and essential oils has led to their use in several fields of medicine. Plant based Essential oil are safe and maintains sound Dental Health.

Dental Health is basically maintenance of Plaque, Tarter, Cavity, Gum Problem, Bad Breath, Enamel Erosion, Senstivity of Teeth and Whitening. Herbal extracts and plant essential oils (EO) have the potential to be used as therapeutic agents for chronic gingivitis and periodontal conditions that have both bacterial and inflammatory components. These are useful in long term daily use and have negligible adverse effects on health of an individual. Also these are more cost-effective and easily available as over-the-counter (OTC). In lieu of this, extensive research is being carried out successfully, for the formulations of various herbal mouthwash for their effective long -term use. Some of the Herbal

extracts that have been assessed in dentistry are aloevera⁵. Neem(*Azardiracta indica*),⁶. basil(*Ocimum sanctum*),⁷ Tea Tree oil(*Melaleuca alternifolia*),⁸ clove,⁹ Lemon Grass, Lime and Lemon etc. A study was conducted to assess the efficacy of Individual Plant Essential oils against the two potent micro organism *S. Mutans* and *S. Aureus*. The synergy of the essential oils was established. Formulation was made with the selected Plant essential oils Tea Tree Oil, Clove Bud Oil and Basil oil and MIC was determined. Comparative evaluation of the formulated product was tested against the leading Branded marketed product.

MATERIALS AND METHODS : The bacterial strains were purchased and used in the study: S. mutans (ATCC) and S. aureus (ATCC) from IMTECH (MTCC) Institute of Microbial Technology, Chandigarh. Essential oils (Tea Tree oil, Clove bud oil and Basil Oil) were procured from M/S Suyash Herbs Exports Pvt. Ltd.-Surat. Hydrogenated castor oil, used as solubilizer was procured from M/s BASF-Mumbai, sweeting agent was procured from M/S Gujrat Ambuja, Distilled water was used as diluent. The MIC values of selected essential oils were tested against bacterial strains; MIC was determined by using broth microdilution method. Formulation development was carried out by solubilising the essential oils with solubilizer. Then it was mixed with Sorbitol and diluted with distilled water.

* RESULTS & DISCUSSIONS :-

Screening of Essential Oils : In all 35 herbal extracts/ Essential oils were screened by disc diffusion method of which only 7 Plant derived essential oils showed predominant Zone of Inhibition. Below are the Inhibitory levels depicted in Table 1.0 below.

E	ssential Oil	Zone of Inhibition (mm)				
1)	Lemon grass oil	36mm				
2)	Lime Oil	18mm				
3)	Marjoram oil	15mm				
4)	Tea tree oil	11mm				
5)	Clove bud oil	11mm				
6)	Basil oil	8mm				
7)	Ginger oil.	10mm				

Table '	1.0: Short	listed	essential	oils	showing	significan	t Zone	of inhibition
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Seven listed Essential oils were further tested for evaluating the MIC by Macro broth dilution assay against *S. mutans* & *S. aureus*. Table 2.0 shows the MIC values of the seven screened Essential oils.

Table 2.0 MINIMUM INHIBITORY CONCENTRATION ASSAY OF HERBAL OILS BY MACROBROTH DILUTION ASSAY AGAINST S. MUTANS & S. AUREUS

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S.No.	Herbal	Concentration of Essential oils						
	Oils							
		2%	1%	0.5%	0.25%	0.12%	0.06%	0.03%
1	Lemon	-	-	-	-	-	-(MIC)	+
	Grass oil							
2	Marjoram	+	+	+	+	+	+	+
	oil							
3	Clove Oil	-	-(MIC)	+	+	+	+	+
4	Teatree oil	-	-(MIC)	+	+	+	+	+
5	Basil oil	-	-(MIC)	+	+	+	+	+
6	Lime Oil	+	+	+	+	+	+	+
7	Ginger oil	+	+	+	+	+	+	+

(-) No growth seen

Note: Due to compatibility/ acceptability for mouth wash the above highlighted essential oil in Table 1.1 were further selected for using in the formulation development. Selected oils for Mouthwash formulation:

◆ Tea Tree Oil : Tea tree oil is showing inhibition at 1% level. Antimicrobial activity of tee tree oil is due to Terpinen-4-ol, which constitutes 40% of the oil.

✤ Basil Oil :Basil has potent antiantibacterial. It also has strong carvcrol as active agent. It is

(+) Growth seen



inflammatory, antioxidant and

astringent property. It has methyl eugenol and showing the MIC at 1.0% level.

Clove Oil : The germicidal properties of the oil make it very effective for relieving dental pain, tooth ache, sore gums and mouth ulcers. It has analgesic, local anesthetic, anti-inflammatory, and



antibacterial effects. The activity is due to Eugenol. It is showing the MIC at 1% level. Since all three selected essential oils showed significant efficacy at 1% level it was decided to prepare the mouth wash formulation with equimolar ratio

of all three essential oils. An essential oil blend of all three essential oils was then prepared and used for developing Mouth wash using a sweetener and distilled water and a flavour. Finally mouthwash formulations were prepared at two different concentration levels of 0.75% & 1.25 % to evaluate the synergistic effect of the essential oil blend in comparison to the leading marketed product. The below graphical representation shows the comparative results of the MIC values of the essential oil blends at two different concentration levels 0.75% & 1.25 % to the leading marketed product.

HIC OF NATURAL MOUTHWASH : Graph showing Inhibitory concentrations of the essential oil blend of three essential oils in comparison with marketed product

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In -Vitro results shows that Natural Mouthwash is quite effective than the leading commercial Brand containing Alcohol. The combined antibacterial effect of the three actives led to superior reduction in the microbial load as compared to commercial product.

CONCLUSION : The developed formulation has shown very promising results against important oral microorganism *S. mutans* and *S. aureus* in the In-vitro studies performed. The present study thus indicates that the developed formulation can be further explored for evaluating the In-vivo efficacy on human subjects. This product has the potential of becoming a commercial commodity by virtue of harmonious properties of individual nature friendly actives used in the formulation.

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Impact assessment of SO₂ and O₃ on root-knot nematode infected green gram plants

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ABSTRACT : SO₂ and O₃, individually or jointly, reduced the growth (length, fresh and dry weight of shoot and root) and yield (number of fruits and seeds) of green gram plants. The reduction was SO₂ and/or O₃ concentration dependent i.e. being highest at 0.3ppm than 0.2 and 0.1ppm combination/s. The reductionwas, however, greater in case of O₃ than SO₂ if compared individually or jointly at the same level exposure/s. *Rhizobium leguminosarum* inoculated plants showed performance better than *Meloidogyne incognita* inoculated plants with or without *R. leguminosarum*. *R. leguminosarum* suppressed the root–knot nematode in terms of number of galls and egg masses along with their indices. The suppression to disease were furthered by SO₂ and/or O₃, being greater at higher than lower combination/s. However, individually O₃ was proved more toxic than SO₂ (of same level) in all the treatments. The gaseous mixture were gradually enhanced the disease reduction with respect to their combination levels.

EFFECT OF SO2 ON CHLOROPHYLL PIGMENTS OF NEMATODE AND RHIZOBIUM INFECTED GREEN GRAM PLANT

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ABSTRACT : Chlorophyll content (Chlorophyll a, Chlorophyll b and total Chlorophyll) of leaves were found greater in *Rhizobium leguminosarum* inoculated plants. But *Meloidogyne incognita* infection did significant reduction to them. The Reduction in leaf Pigments due to nematode was Comparatively less in presence of root – nodule bacteria. Exposure of green gram plants to so2, irrespective of the presence or absence of nematode and /or bacteria, reduced all the leaf pigments However, the effect was greater at 0.3ppm, followed by 0.2ppm and 0.1ppm of so2 exposures. Reduction in the leaf pigments was highest in nematode inoculated plants at all the three concentration of so2 in Comparison to rest of the treatments. But in presence of root – nodule bacteria, the adverse effect of so2 on nematode inoculated plants was comparatively less as Compared to those of only nematode inoculated plants.

योगशास्त्र में शरीर का विकास

डॉ. राजीव कुमार सिंह

एस.वी. कॉलेज, अलीगढ़ (यू.पी.)

सारांग्र :--संस्कृत साहित्य के इतिहास में योगशास्त्र का एक महत्वपूर्ण स्थान है पतंजलि रचित योगदर्शन का सम्पूर्ण विश्व में मानव कल्याण का प्रतिपादक ग्रन्थ है। इस ग्रन्थ के आधार पर शरीर का विकास एवं योग द्धारा निस्तारण किया जाता है। शरीर के सम्पूर्ण अवयवों का विस्तार पूर्वक विवेचन किया गया है। प्रस्तुत शोध पत्र के सार का मैंने योग सम्बन्धित सभी आसनों द्धारा शरीर विकास किया जाता है। चित्तवृत्ति निरोध के द्धारा मालूम चलता है कि मानव शरीर के विकास की सभी इन्द्रियाँ व नाड़ी सूक्ष्म रूप से विकसित होती है। वर्तमान में रामदेव योगीजी द्धारा चल रहा योगशास्त्र एक अमूल धरोहर है। भारतीय संस्कृति हमारी एक पहिचान है। जिसमें सभी शास्त्रों का ज्ञान योगशास्त्र द्धारा ही किया जा सकता है। अतः योग दर्शन मानव कल्याण करने के लिये एक मुख्य भुमिका निभाने में सिद्ध होता है। संस्कृत साहित्य के इतिहास में पतंजलि का योगशास्त्र का अपना एक महत्व रखता है।''युज्यतेऽसा योग'' जिसके द्वारा मिलन होता है, वह योगशास्त्र के नाम से जाना जाता हैं इसको व्युत्पन्ति की दृष्टि से देखें, तो योग संस्कृत शब्द की युज् धातु से बना है जिसका अर्थ होता है–''जुड़ना'' अग्रेजी भाषा का योग (yoke) शब्द भी युज् धातु से ही बना है, जिसका अर्थ होता है "To unite" किससे जुड़ना–जुड़ना यहाँ आत्मा को परमात्मा से जोड़ने की बात कही गयी है। चारो वेदो में कहा गया है कि–

> प्रज्ञानम् ब्रह्म' ।।1। अयं आत्मा् ब्रह्म' ।।2।। तत् त्वं असि' ।।3।। अहं बह्मास्मि ।।4।।

आत्मा और परमात्मा के इसी संयोग का नाम योग है। ब्रौद्ध योग, वेदांत योग जैनयोग, सांख्या योग, ताओ योग, तिब्बती योग, चीनी योंग, जापानी योग, योग नन्द परमहंस द्वारा प्रतिपादित क्रिया योग, इत्यादि इन्ही योगशास्त्रों को विश्व व्यापक रूप दिया जाता है। भारत के आचार्य हिरण्यगर्भ योग के आदि प्रवर्न्तक आचार्य है। महर्षि पतंजलि ने योगशास्त्र को संकलित किया और जनसाधारण के लिए सुलभ बना दिया। तब से पतंजलि योगशास्त्र के नाम से प्रचलित हुआ।

चित्तवृत्ति निरोधः— चित्त की वृत्तियों का स्थिर होना ही योग है। और कठोपनिषद् में कहा गया ''तां योगमिति मन्यन्ते स्थिरामिन्द्रिय धारणाम्'' इन्द्रियः मन और बुद्वि की स्थिर धारणा का नाम ही योग है। गीता में भी भगवान् श्रीकृष्ण स्वयं उपदेश देते है

यथा दीपो निवातस्थों नेंगते सोपना स्मृता।

योगिनो यतचिन्तस्य युंजतो योगमात्मनः।।

जिस अवस्था में मनुष्य का चित्त परमात्मा में, इस प्रकार स्थित हो जाता है जैसे वायुरहित स्थान में दीपक होता है उस अवस्था को योग कहते है। सारतः योग एक ऐसी अवस्था है, जिसमें चित्त का आत्मा में लय हो जाता है। आत्मा और परमात्मा का मिलन संभव होता है।

शतरेयोपनिषद्ः ऋज्वेद 3/3 1.

2. माण्डक्योपनिषदः अर्थवेद 1/2

छान्दोग्योपनिषद् सामवेद 6/7/8 4. वृहदारण्यक, उपनिवह यजुर्वेद 1/4/10 3.

यम नियमासन प्राणायाम प्रत्याहार।

धारणा ध्यान समाधयोऽश्टवड्रानि ।।

महर्षि पतंजलि ने समस्त योग को आठ अंगो में बाट दिया है जिसे अष्टांग योग सूत्र का नाम दिया गया। बहिरंग योग को बाहरी जगत में और अंतरंग योग को अन्तर्जगत में साधा जाता है। चित्त शुद्धि के लिए शरीर (इन्द्रियो) मन तथा बुद्वि की शुद्धता अनिवार्य है। बहिरंग योग में पहला है-यम-

"अहिंसा सत्यास्तेय ब्रह्मचार्य परिग्रहा यमाः"। पतंजलि ने पाँच प्रकार के यम बताएँ है–अहिंसा, सत्य, अस्तेय, बह्मचर्य, अपरिग्रह, इन्द्रियों एवं मन के विचारो पर अंकुश लगाकर अपने बाहरी कार्य व्यवहार को नियंत्रित करना ही यम है। नियम-''शौचसंतोशतपः स्वाध्यायेवर प्रणिधानानि नियमाः'' अर्थात शौचः सन्तोष, तप, स्वाध्याय, ईश्वर, प्रणिधान, को ग्रहण करने के लिए निरन्तर प्रयासरत रहना ही नियम है। आसन "स्थिर सुखमासनम्" सुखपूर्वक स्थिरता से दीर्ध काल तक बैठने का नाम ही आसन है। प्रणायाम—"तस्मिन् सति भवासप्रवासयोगति विच्छेदः प्रणायामः" श्वास, प्रश्वास की गति का नियंन्त्रण ही प्रणायाम है और योगिक क्रियाएँ व प्रणायाम, भाति त्राटक शीतली अग्निसार भ्रामरी इत्यादि का नाम प्राणायाम है। प्रत्याहार- "स्वविशय्। संप्रयोगे चित्तस्य स्वरूपानुकार इंवेन्द्रियाणं प्रत्याहारः" इन्द्रियों का अपने–अपने विषयों के संग से रहित होने पर चित्त में स्थिर हो जाना ही प्रत्याहार है। श्रीमद भागवद गीता में कहा

अथ चितं समाधातुं न भाक्नोशि मयि स्थिरम्। अभ्यासयोगेन तत्वो मामिच्छाप्तुं धनंजय।।

ईश्वर में अपने चित्त को स्थिर करने में असमर्थ होने पर अभ्यास योग द्वारा ईश्वर को प्राप्त करने की चेष्ठा करता है,

धारणः - ''देशबन्धश्चित्तस्य धारणा'' चित्त को किसी विशेष अवसर पर स्थिर करना। संसार का एक नियम है। कि अतःकरण जब तक अपने से श्रेष्ठ आत्मा पर केन्द्रिय नहीं किया जाएगा वह बारम्बार अपनी स्वभाविक गतिशीतला को प्राप्त करेगा। इसलिए शास्त्रोों एवं महापुरूषों ने प्रकाशरूपी परमात्मा का अंश आत्मा की धारणा है। उसको धारण कहाँ की जाएँ। इसका उत्तर भगवान श्रीकृष्ण ने श्रीमद्' भगवत् गीता में दिया—"हृदि सर्वस्य विष्ठितम्" वह परमात्मा सबके हृदय में स्थित है। उस प्रकाश स्वरूप परमात्मा

Rexjounal

की धारणा मात्र एक पूर्ण गुरू की कृपा से ही संभव है। गुरू गीता में भगवान शिव स्वयं पार्वती को समझाते हैं

अखण्डैकरसं ब्रह्म नित्यमुक्तं निरामयम्। स्वस्मिन् संदर्शितं चेन स भवेदस्य देशिकः।।

उन अखण्ड एकरस, नित्यमुक्त तथा निरामय परमात्मा को जो आपके अन्दर ही दिखलाते है, वे गुरू होते है। एक पूर्ण गुरू के सानिध्य में जाकर प्रकाशस्वरूप ध्यान परमात्मा को अपने अन्दर धारण कर सकता है। योगदर्शन में **''तत्र प्रत्ययैकतानाता ध्यानम्''।।**

धारण किय हुए, प्रकाशस्वरूप परमात्मा में चित्त की एकाग्रता का नाम ''ध्यान'' है। योगशास्त्र में समाधिः—**''तदेवार्थमात्रनिर्भासं स्वरूप भाून्यमिव समाधिः''।** ध्यान नही समाधि बन जाता है, आष्टॉग योग की सर्वोच्च अवस्था है। योग की वह अवस्था जिसमें चित्त वृत्तियों का पूरी तरह निरोध हो जाए वह समाधि है। इस समाधि रूपी योग की अवस्था के विषय में कठोपनिषद् में कहा गया—

यदा पंचावतिश्ठन्ते ज्ञानानि मनसा सह्।

बुद्धिय न विचेष्टते तमाहुः परमां गतिम्।।

इन्द्रिय, मन व बुद्धि के स्थिर होने पर जब योगी को परमात्मा के अतिरिक्त किसी भी वस्तु का ध्यान नहीं रहता तथा इन्द्रियाँ, मन, बुद्धि चेष्टा रहित हो जाती है, तो योग की उस सर्वोत्तम अवस्था में परमगति (मोक्ष) प्राप्त होती है। भौतिक विज्ञान मुनष्य को हडि्डयों माँस मन्जा, रक्त, आदि का संयोजन मानता है। परन्तु आध्यात्मक विज्ञान मनुष्य के इस स्थूल शरीर से पेर सूक्ष्म व कारण शरीर के अस्तित्व में भी विश्वास करता है। उनमें आत्मा तथा अन्तः करण की प्रबल भूमिका है। आत्मा और परमात्मा का अंश जो जीवन का आधार है आत्मा और स्थूल शरीर का सम्बन्ध अन्तः करण के द्वारा है।

अन्तः करण के चार मुख्य विभाग है। मन, बुद्वि, चित्त और अहंकार मन यानी विचारों का प्रवाहः बुद्वि यानी सोचने व निर्णय लेने की क्षमता, अहंकार यानी आत्मा और परमात्मा के मध्य भेद उत्पन्न करने वाला अज्ञान। इनके अतिरिक्त ''चित्त'' एक ऐसा पहल है, जो स्थूल इन्द्रियो से लेकर सूक्ष्म मन व बुद्वि की समस्त प्रक्रियाओं का साक्षी है। स्वामी विवेकानन्द जी ने योग सूत्रों पर जो भाष्य लिखे, उसमें चित्त की तुलना झील से की है। झील के तले को आत्मा कहा। झील में बाहर से डाले जा रहे पत्थर–कंकड़ो को इन्द्रियों मन व बुद्धि द्वारा पहुचांए गरू विषय– प्रतिबिम्व कहा / शुद्ध चित्त एवं अशुद्ध चित्त में उतना ही अन्तर होता है, जितना काँच (clear glass) और आइने (mirror) में / यदि आइने के पीछे से रंग की परत को हटा दिया जाये, तो वही आइना काँच सा पारदर्शी बन जाता है। ठीक इसी प्रकार मनुष्य का चित्त अशुद्ध है, जिसमें जन्मो–जन्म के कर्म संस्कारो के कारण अंख्य वृत्तियों की परत जम जुकी है। इसलिए चित्त ने अपनी वास्तविक शुद्ध अवस्था को खो दिया है। यही कारण है कि मनुष्य का चित्त आइने की भाँति उसके व्यक्तित्त्व का परावर्तक (reflect) बन जाता है। लेकिन चित्त की वृत्तियों के विक्षेप को हटाकर वृत्तियों का निरोध करके इसे भी पारदर्शी अर्थात् स्थिर किया जा सकता है। ऐसी स्थिर अवस्था में किसी भी बाहरी क्रिया पर चित्त प्रतिक्रिया विहीन रहता है। समस्त बाहरी उत्तेजनाएँ काँच की भाँति चित्त से आर–पार हो जाती है। बात मुक्ति की हो, आध्यात्मिक उन्नति की हो, आनन्द की चित्त अनुभूति की हो, दुःख–विषाद के अहसास से ऊपर उठने की हो, या फिर मनुष्य के सम्पूर्ण स्वास्थ की, क्यों ना हो, निश्चय ही ईश्वर तथा स्वर्ग सम्बन्धी सभी विश्वास संगठित धर्मो के शुद्ध विश्वास है। कोई भी वैज्ञानिक धर्म इस तरह की प्रस्तावना कभी नही करता। योग वह विज्ञान है, जो सिखलाता है। मान लो तुम मन को पूर्ण योगयुक्त अवस्था तक पहुँचाने में सफल हो गयें। उस समय तुमने समस्या हल कर ली। तुमको बोध हो गया कि तुम क्या हो। सभी परिवर्तनों पर तुम्हारा प्रमुख हो गया। उसके पश्चात तुम मन को विवरण करने दो। पर वह अब पहले जैसा मन नहीं रह गया। वह पूर्ण तुम्हारे वशं में है। तुमने ईश्वर का दर्शन कर लिया। यह अनुमान का विषय नही रह गया। वेदों का नहीं, धर्मी व विदेशों का वितण्डावाद या वैसी कोई चीज नही रहीं तुमने स्वयं साक्षात्कार कर लिया–में इन परिवर्तनों से परे आत्मा हूँ। मैं परिवर्तन नही हूँ। भारतीय योगशास्त्रों में सब मिलाकर लगभग छह हजार योग साधन देखे जा चुके है। संख्या और भी बढ़ सकती है। भारत के अलावा अन्य देशों धर्मो और विज्ञानों के अनुसार योगों की संख्या इतनी बड़ी है कि उनकी गणना करना सम्भव नहीं, तो कठिन अवश्य है। अभाव को भाव से, अपूर्णता को पूर्णता से मिलाने की विद्या योग कही जाती है। जीव अपूर्ण है, अभावग्रस्त है, दुखः द्वन्द्वों से आच्छादित हो रहा है, इसको पूर्णता से साधनों से ज्ञान से, आनन्द से परिपूर्ण बनान के लिए जो उपाय काम में लाये जाते है, वे योग कहलाते है। योग में मनुष्य के शारीरिक, मानसिक नैतिक और आध्यात्मिक परिवर्तन की शक्ति तो है, ही उसके अपने व्यक्तिगत सांस्कृतिक स्तर और पूरे समाज के सास्कृतिक स्तर को ऊँचा उठाने की क्षमता भी है। इसीलिए यह शास्त्र मानव जाति के लिए वरदान है। पिछले पचांस वर्षो में इसके सम्बन्धों में बहुत उत्सुकता और जिज्ञासा जागी, उत्पन्न हुई। यह योग बाबा रामदेव ने फिर एक बार जगाकर उठा दिया है। योगी रामदेव जी महाराज बताते है कि मन–बूद्वि, अंहकार और चित्त की सामर्थ्य मनुष्य की विशेषता है। इसका परिणाम यह भी होता है कि कई बार मनुष्य सत और असत, को जानने की इच्छा प्रगट करता है। शारीरिक और मानसिक रोगों को खत्म करना योग एक ही मात्र साधन बचा है। इस योगशास्त्र को हमारे ऋषियों ने पूर्वजों को रोग निवारण के लिए बताया था। योगशास्त्र के द्धारा मानव के शरीर का विकास होता है।
IMPACT OF LITERACY ON SOCIAL SCIENCE

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•:• ABSTRACT : Now a day human beings are the impact of literacy on social science as a state wise . In India Kerala is most literacy state in compare to other states. Due to this reason some of barrier are arising and create effect on economy of country and as well as effect on next generation. So some schemes are launched by Indian government to improve literacy level.

•• INTRODUCTION : As human being we are social and our social life impact on personal life. There are many issues which impact on social life also. Literacy is one of the factors that effect individual as

well as social life. Literacy is the interpret, create, compute, and and digital materials across ability to read, writes, view, write, allows you to communicate



ability to identify, understand, communicate using visual, audible, disciplines and in any context. The design, speak and listen in a way that effectively it means literacy. The

power of literacy lies not just in the ability to read and write , but rather in person's capacity to apply these skills to effectively connect, interpret and discern the intricacies of the world in which they live.

•:• WHAT IS MEAN BY LITERACY : We all may use the word 'Literacy' but May not have the same understanding of what it means. In English the word 'Literate' is meant to be familiar with Literature well educated, learned. The originally meaning of the English word 'Literacy' is different from it translations

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in several other language. Literacy is a key piece of helping people to achieve their goals, develop their knowledge and potential and participate fully in their community. The emphasis on Literacy needs so start at the beginning of a child's life. Literacy means the ability to

read and write at a level that enables a person to develop and function effectively in their day-to-day activities .Literacy acquiring, creating, connecting and communicating meaning in a wide variety of contexts.

•:• WHAT IS THE LITERACY PERCENTAGE IN INDIA : Literacy in India is a key for socio-economic progress and the literacy rate has grown to 74.04% (2011 figure). Kerala is the most literate state in India, with 93.91% literacy. Bihar is the least literate state in India, with a literacy of 63.82%. Im India some state account for about 70% of all illiterates in India like Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, Andhra Pradesh and West Bengal. There is wide gender disparity in the literacy rate in India; in 2011 were 82.14% for men and 65.46% women. In a country like India literacy is the main foundation for social and economic growth. We also need to think why is the literacy rate is law here

in India compared to other developed countries. Basically the population in India is very high. Being the seventh largest country is populations' stands second in the world after china. Illiteracy in India is characterized by wide gaps between the urban and rural populations. The rural population depends mainly on agriculture and the rate of illiteracy is high. While the urban population is more of the employee class and also more educated.

• LITERACY EFFECT ON SOCIETY : The most unfortunate illiterate is considered the politics illiterate, he does not get to hear, does not speak nor takes part on the politics occurrence. The most important effect of illiteracy on society is that it works as an inhibitor. That is to say, the more illiterate person there are in a country , the harder it will be for the country to develop. When we are looked at the history pages, it can be seen that while most illiterate or uneducated people are slaves, guardians and people who educate mostly king , queens and sultans. All these significant results of illiteracy affected society in a bad way. There are gender imbalances, income imbalances, caste imbalances, technological barriers which shape the literacy rates that exist in the country. Poor people have the lack of skills and knowledge involve labor in order to save bread for the family, thus, this reduce the focus from achieving education as the main focus deviates to earning income so as to do able to survive in the society. Literacy and level of education are basic indicator of the level of development achieve by a society. Higher of education and literacy led to a greater awareness and also contributes in improvements of economic and social condition. Spread and diffusion of literacy is generally associated with essential trait of today's civilization, such as modernization, communication and commerce.

-: LITERACY EFFECT ON ECONOMY OF COUNTRY : In the field of development economics, literacy holds an important place. When people are able to believe that they can improve their lives through their own efforts, when they realised that some newly created opportunity is denied to them by illiteracy, then they will learn how to read, write and how to count. Economic development of country entirely depends on the economic resources it has. This sources are classified as Natural resources, sufficient, mineral, excess water supply, financial, human resources.

India today faces some major challenges economically, unemployment, underemployment, poverty and unequal distribution of wealth being few of them. Literacy reduce income disparity, all of which, India faces today. This paper attempts to the impact of literacy in Indian social science, economic growth. Literacy also provides better employment, prospects and gives a higher socio and economics states. The biggest effect of illiteracy in India is poverty. Poverty also happens to be the single biggest cause of illiteracy in India an a precursor to all other effects

-: LITERACY EFFECT ON NEXT GENERATION : We can see that today also poverty, child labour and child marriages are a great reason which does not allow poor children to go to school. Although "Sarv Shiksha Abhiyan" started by government gives rights to education and Mid-day-meal to children which has made it possible for them to go to school. Today we need more efficient education schemes because children belongs to the nation but it is not enough let them pass only eight classes and not more them that. Education is regarded as a key instrument for the empowerment of Childs; education changes their point of view, thoughts, and emotions, improves their chance of employment, facilitates their participation in public life and also influences their fertility. All these significant result of literacy affected on next generation.

 POLICIES OF GOVERNMENT TO IMPROVE LITERACY PERCENTAGE : There are various schemes that our government implements to improve literacy. There are many schemes are launched by Indian government to improve literacy level or percentage. Some of these schemes have directly impacting the education of child such as distance of the school from the home, quality of food provided in the schools, basic infrastructure like toilets, classrooms, chairs and tables etc. All these factors have an impact on the child's thinking process, and progress. There are many schemes are launched by Indian government such as- National literacy Mission Programme (1988), Saakshar Bharat launched in September 2009, Right of Children To Free And Compulsory Education Act in 2009, Mid-day-meal schemes, Free Bicycle program, Swatch Bharat Abhiyan etc. Even countries like srilanka, Myanmar, Vietnam, Thailand, and the like have achieved, in lesser time, a much better percentage of literacy. Literacy is a reasonably good indicator of development in a society.

•:• CONCLUSION : The end of the conclusion illiteracy and India illiterate are simply those who can't learn, read or write but does that translate into those who can't learn earn. Economic development of many of these countries is also increasing in a similar fashion. Thus, one could easily argue that the increase in literacy is directly correlated with positive economic growth. In the past education was not required, but in this day universal education is becoming necessity.

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Impact of Yoga in Autistic Children

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Keywords: Autism spectrum Disorder, Yoga, Complementary and alternative medicine, integrated approach to yoga therapy

Autism is a neurobiological condition, having its origin in the disturbance of theCellular structure of the brain during pregnancy. Research findings have shown conclusively that the disturbance of the cellular structure of the brain, leading to the manifestations of learning difficulty, behavioral, and mobilityproblems. The first few years of life are characterized by enormous physical development accompanied by still greater mental development.

During this period, if a child suffers from any developmental problems, it becomes extremely painful and perplexing for the parents as well as those who associate with them. Autism Spectrum Disorder (ASD) or autism is a pervasive developmental disorder defined by the presence of abnormal and/or impaired development. It involves rigid, repetitive behaviors, as well as, severe impairments in social interaction, communication and imaginative abilities. To be considered an autistic disorder, some of these impairments must be manifested before three years of age.

In India the prevalence rate of Autism is 1 in 150, approximately 4 million in our country. Newly diagnosed Autism has risen sharply over the last couple of decades. They were 17.40 lakhs in 2005, 40 lakhs in 2006, and today the population with Autism Spectrum Disorder in India is close to a core. The World Health Organization states that one in every 500 persons has autism .Autism are the third most common Developmental disorder worldwide. In India it is estimated that there are 40 lakh people with Autism. The prevalence of Autism is assumed to be 1 per every 250 people.

ASD prevalence has been steadily increasing over the last two decades, the number of evidence-based clinical interventions that address both core ASD symptoms and co-morbid symptoms are limited in number and availability. This disconnect possibility accounts for the range of 28% to 95% of patients with ASD whoreceive treatment using complementary and alternative medicines (CAM), a rate twice that of the non-ASD population . Furthermore, treating physicians who are more likely to integrate CAM into their practice have more interactions with ASD patients than their peers, indicating that thelimited availability and access to evidence-based treatment options in conventional, Western medicine may lead providers and families to exploreCAM options .

Yoga is a mind-body form of CAM that has become increasinglypopular in recent years. Comprising poses, asana (controlled breathing) and chanting, yoga is practiced by an estimated 20.4 millionpeople in the United States. In recent years, nonmedicalprograms and lay publications focused on delivering yoga toindividuals with ASD have emerged in an effort to serve this growingpatient

population .There are a large number of claims in the laymedia, and anecdotal reports by parents and therapists suggesting that Yoga makes a significant impact on the trajectory of patients with ASD.

Yoga could potentially benefit patientswith ASD in one of two distinct pathways; directly, by impacting coreASD symptoms or indirectly, by impacting conditions that are co morbid with Autism spectrum Disorder. Children with autism exhibit significant deficits in imitation skills, whichimpede the acquisition of more complex behavior and socialization. Imitation is often targeted early in intervention plans and continues to beaddressed throughout the child's treatment. The use of integrated approach to yoga therapy (IAYT) as a complementary therapy for children diagnosed with autism spectrum disorder (ASD) is rarely reported and little is known on the effectiveness of such therapies.

There are different interventions and supports through which an autistic child develops and acquires social and learning skills, for example, medications, occupational therapy, physical therapy, speech-language therapy, etc.But the most effective form of therapy is an early, intensive, appropriate treatment program built on the interests of the child in a highly structured schedule of constructive activities. Yoga is a powerful tool that can teach children how to connect to their bodies, tap into their own personal strength, better deal with life's challenges.

Autism involves a wide range of problematic behaviors, including deficits in language, perceptual, and motor development; defective reality testing; and an inability to function in social situations. Yoga practices may help improve these symptoms and gradually reduce the severity of autism. In another study, a specially designed Integrated Approach to YogaTherapy module for ASDs over a period of two academic years. Their study included children aged 8-14 years from middle class families, who received an hour of Yoga therapy a day. The Yoga practice was broken down into different exercises under the following categories: warm-up, strengthening, release of tension, and calming. By the middle of the sessions, improvements were observed. They included eye contact, ability to sit for long period of time, and improvement in bodyposture. After 2 years of integrated Yoga therapy, therapist and parents noted much success and found that guided imitation of therapist body positions stimulated mirror neuron activation, resulting in improved sense of self.

KNOWLEDGE AND PRACTICE ON HYPERTENSION AMONG THE RURAL COMMUNITY WITH A VIEW TO IMPLEMENT NEED BASED INTERVENTIONAL PACKAGE

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-: Abstract : Life style diseases are the major causes of mortality and morbidity in the present world. During the earlier days we thought that these killer diseases principally cramped in urban communities but statistics shows that it also be the foremost problem in the rural communities .In Kozhikode district among the people residing in the rural areas there is a sweeping increase in cerebrovascular and cardiovascular mortality and morbidity now a days and moreover 40-50% of the peoples were hypertensive .So the present study was done to assess the knowledge and practice on hypertension among the rural community in Kozhikode district with a view to implement need based interventional package.248 citizens with the diagnosis of hypertension were selected from Olavanna panchyath of Kozhikode district and the knowledge and practice were assessed with knowledge and practice questionnaires Among the rural communities only 5.2% of participants had adequate knowledge and merely 4% had adequate practice on hypertension. Among the participants 134 subjects had known history of hypertension but 114 subjects were newly diagnosed hypertension. 11.3% of the samples had history of cardiovascular diseases, 12% of the subjects had the history of cerebrovascular diseases. The study findings shows that the knowledge and practice of people those who are residing in the rural areas were inadequate, so they require an interventional package based on their needs to perk up their knowledge and practice level on hypertension, it may also reduces the cerebrovascular and cardiovascular mortality and morbidities in the rural locale.

Key Words : Hypertension, rural community, need based interventional package.

• Introduction : Communicable and Non-Communicable diseases are really a threat for the health status of the society. But nowadays the burden of the non-communicable diseases increases significantly and become the leading cause of mortality and morbidity in the present world. According to WHO, the burden of non-communicable diseases may twice over by the year of 2030. Among the non-communicable diseases, Hypertension is a silent slayer and it is an important public health confront in both economically developing and developed counties. According to WHO, about 62% of cerebrovascular diseases and 49% of ischemic heart disease burden world wide are attributed to suboptimal blood pressure levels. According to The " Global burden of disease study has anticipated that cardiovascular and cerebrovascular diseases as the principal cause of mortality the world by the year of 2020. Hypertension is an iceberg could be described as "resting snake"-which bites when it is wakeup. High blood pressure is estimated to cause 7.1 million deaths .Annually accounting for 13% of all deaths globally.

Momentous number of individuals with hypertension are unaware of their condition and unfortunately among those who are having diagnosis hypertension ,treatment is frequently poor. Actions were required at each level of health care system in order to prevent development of hypertension and improve the awareness of people regarding hypertension.

A study conducted by Zachariah MG et al regarding awareness ,treatment and adequacy of control of hypertension among the middle aged urban people in Kerala shows that only 29% of the subjects having good awareness and 10% of the subjects taking adequate treatment for hypertension

The awareness of hypertension in USA is reported as 70%, 59% are receiving treatment and only 34% of these are reported to be controlled (SBP d" 140 mmHg and DBP d" 90 mmHg) blood pressure.

In India, the awareness of having high blood pressure has been reported as 7-8% in Jaipur rural study, 11-16% in Jaipur (urban) study 13, 26.3% in Haryana rural (Chandigarh) study 26, 37.3% in Chennai urban population study 15, and 49.5% in Delhi urban study12. In a study conducted in Kerala, the was 45% in the elderly community.

According to the various study reports, ageing of population, socioeconomic conditions that favoring changes in life style, unhealthy habits etc. may increase the incidence of hypertension in the rural as well as urban communities.

But the low awareness and practice rates reported mainly in the rural areas than that of the urban areas might be due to competing health priorities with new communicable diseases and MCH services. Availability, accessibility and lack of sound health care service and the silent nature of the problem may also add up the low awareness and practice of the rural population.

Lower socioeconomic status, health perception and low level of educational status may also influence the awareness level of the public. So, in this context hypertension will need a keen attention from the health care organizations .Hypertension can be amenable to control both pharmacological and non-pharmacological methods. The investigator thought that a proper assessment of knowledge and practice of individual on hypertension helps to prevent, control and necessitate to adopt a healthy life style. The need of the communities may differ other, this observation facilitates the investigator to assess the knowledge and practice of the rural community primarily and to develop a need based interventional package exclusively for them. A stringent interventional package needed to strengthen the knowledge and practice of the rural population regarding hypertension .

✤ Objectives of the Study :

1. To assess the knowledge on hypertension among the people residing in rural areas .

2. To determine the practice on the prevention of hypertension among the rural population.

3. To develop a need based interventional package for people residing in rural areas regarding control of hypertension.

-: Materials and methods : A community based cross-sectional survey was conducted in the selected rural areas. A stratified random sampling procedure was used to select the study subjects. In the initial phase of study the sub centers under the Primary health centers were identified and every third sub centre from each area was picked from the pool by using systematic random sampling. In the next phase of the study door to door survey was carried out in the selected areas and pulled out those who are above 18 years of age, present at the time of survey and willing to participate in the study were included. In the third phase of the study chosen the subjects those who having diagnosis hypertension were selected and intended to assess their knowledge and practice regarding hypertension was assessed and in the closing phase a need based interventional package was formulated.

After getting the permission from the institutional research and ethical committee, formal permission from the medical officer of primary health centre, Olavanna, the investigator conducted a pilot study in order to find out the practicability of the study a pilot study was conducted in 30 samples and it found to be feasible. These samples were excluded from the main study. An informed consent was obtained from all the subjects before data collection and the confidentiality of the data was ensured.500 samples were drawn from the area and blood pressure was measured with standardized sphygmomanometer. The demographic data were obtained prior to the screening through a structured interview schedule with help of a performa. Two readings was taken with an interval of 15 minutes and based on the average reading. The subjects with average blood pressure reading SBP >130 mm of Hg and DBP > 85 mm of Hg were drawn for knowledge and practice questionnaire. It consists of three parts; Part A-Socio –demographic data, Part B-knowledge Questionnaire and the Part C consists of questions to assess the practice of the study population. Knowledge questionnaire consists of 20 items carrying a total score of 20 and the practice questionnaire consist of 6 items having maximum score of 20.

The questionnaire was developed by the investigator based on the literature review and the tool was validated by the experts from the field of nursing, medicine and the public health. The reliability of the tool was treated by test –retest method and it seems to be reliable. The data collected were analyzed using descriptive and inferential statistics.

Results

Table 1: Distribution of subjects based on socio demographic

		N=248
Socio demographic data	Frequency	Percentage(%)
Sex		
Male	103	41.5
Female	147	59.3

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Age		
15-25 years	01	0.04
26-35 years	58	23.3
36-45 years	86	34.6
Above 45 years	103	41.5
Unhealthy Habits		
Beatal nut Chewing	18	07.3
Smoking	30	12.0
Alcoholism	09	03.7
Betal nut chewing and smoking	02	00.8
Betal nut chewing and alcoholism	00	000
Smoking and alcoholism	42	16.9
Betal nut chewing, smoking and alcoh	olism 01	00.4



Figure 1: Distribution of subjects based on the diagnosis of hypertension

Figure 1 shows that 134 subjects had known history of hypertension but 114 subjects were newly diagnosed cases.



Figure 2: Distribution of subjects based on the history of systemic illnesses

Results shows that 57.3% of the subjects had inadequate knowledge regarding hypertension, 38.3% of samples had moderate level of knowledge and remaining 5.2% had adequate knowledge regarding hypertension. Also illustrates that 87% of the subjects had poor practice regarding the prevention and control of hypertension,9% of samples had moderate level of practice and remaining 4% had adequate practice regarding the prevention of hypertension.

-: Discussion : Hypertension is foremost public health problem in the current world .In most of the developing countries hypertension is escalating in trend both in urban and rural communities. Various studies conducted across India estimated that prevalence of hypertension increases in urban as well as in the rural areas.

In the present study, during the screening phase ,investigator diagnosed as 46% of the subjects had hypertension and this was categorized under newly diagnosed. This is in tune with the findings of the study conducted by ICMR–INDIAB Collaborative Study Group reported that prevalence of undiagnosed hypertension is high in India .

The awareness of the rural population regarding hypertension in this study were very low (57.3% of the samples had inadequate knowledge).in an another study conducted in the Kerala sate by Zachariah et al, it was 39% in the urban middle aged population and 45% in elderly community based sample in a study conducted by Thankapppan KR et al.

A study conducted by the Division of Community Studies, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad, awareness among adult tribal population of Kerala Regarding hypertension indicates that overall, only 10% (n=164) of the adult population was aware of hypertension status, and about 8% (n=129) were on regular treatment. This is in tune with the findings of the present study shows that 87% of the subjects had poor practice regarding the prevention and control of hypertension.

Yuvaraj BY, Nagendra Gowda MR, and Umakantha AG conducted a study Prevalence, Awareness, Treatment, and Control of Hypertension in Rural Areas of Davanagere reveals that only 33.8% of the samples were aware of their hypertensive status. Hypertensives of 32.1% were on treatment, and 12.5% adequately controlled their BP. This also holds up the findings of the present study That the awareness and practice of the samples regarding hypertension is very low compared to other Indian studies conducted in the rural areas.

Meshram, N Arlappa, N Balkrishna, KM Rao, A Laxmaiah and GNV Brahmam Prevalence of hypertension, its correlates and awareness among adult tribal population of Kerala state, concludes that prevalence of hypertension was higher among tribal adult population of Kerala and was associated with age, gender, education, physical inactivity, alcohol consumption, and overweight/obesity. In the present study samples 21.6% had the habits of alcohol consumption and smoking.

-: Conclusion : From this study it is evident that ,hypertension is not only the concern of the urban communities but also a major apprehension of rural communities .In the rural communities most of the peoples having inadequate knowledge regarding hypertension and also their practice is poor regarding the prevention and control hypertension. Consequently hypertension generates a iceberg phenomenon of diseases.

Hence a rigorous effort from the health care fraternity is needed to contain the ill effects of hypertension on the rural communities. So an appropriate interventional package is needed for them in order to save the peoples from the murkiness of hypertension. By keeping this mission in mind investigator constituted an interventional package that includes a training module for the local leaders and health education campaign for the rural peoples regarding early detection, control and preventive aspects of hypertension, that will helps the people to strengthen their knowledge and practice regarding hypertension. Local self governments also have to play a vital role in the containment of non-communicable diseases such as hypertension.

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INFLUENCE OF DEMOGRAPHIC AND CLINICAL PROFILE OF CHILDREN ON RESPIRATORY TRACT INFECTION.

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Abstract : Acute Lower Respiratory Infection (ALRI) is a major cause of morbidity and mortality among young children. They account for nearly 3.9 million deaths every year globally. ALRI accounts for 30-40% of the hospital outpatient visits by children. About 156 million new episodes of childhood clinical pneumonia occurred globally in 2000, more than 95% of them in developing countries. Of all the pneumonia cases occurring in those countries, 8.7% are severe enough to be life-threatening and require hospital admission. About 2 million pneumonia deaths occur each year in children aged less than 5 years, mainly in the African and South-East Asia regions. Various risk factors have been identified across the globe such as low birth weight, lack of exclusive breastfeeding, crowding - more than 7 persons per household, exposure to indoor air pollution, incomplete immunization, under-nutrition, and HIV infection .However most of these studies in children have been conducted in a different demographic setting particularly the race. Thirty Patients in the age group of 3-10 years admitted With ALRI in pediatric in-patient units of Selected Hospital in Kerala were included as subjects. Association between selected demographic and clinical variables and frequency of respiratory infection were found in order to identify whether the incidence of respiratory infection is dependent to any of the demographic variables. An Yate's corrected Chi-square statistics is used to find out the association. It was identified that frequency of ALRI has significant association with Location (p=0.04) and Predominant feeding (p= 0.03). No other selected demographic and clinical variables showed association at 0.05 significance level.

* Key words : Acute Lower respiratory tract infection. Demographic profile, clinical profile

Introduction : In pediatrics patients, respiratory infections can be life threatening if not treated and resolved in time. Acute Lower Respiratory tract infection (ALRI) account for nearly 3.9 million deaths every year globally. ALRI accounts for 30-40% of the hospital outpatient visits by children. About 156 million new episodes of childhood clinical pneumonia occurred globally in 2000, more than 95% of them in developing countries. Of all the pneumonia cases occurring in those countries, 8.7% are severe enough to be life-threatening and require hospital admission. About 2 million pneumonia deaths occur each year in children aged less than 5 years, mainly in the African and South-East Asia regions. Various risk factors have been identified across the globe such as low birth weight, lack of exclusive breastfeeding, crowding – more than 7 persons per household, exposure to indoor air pollution, incomplete immunization, under-nutrition, and HIV infection .However most of these studies in children have been conducted in a different demographic setting particularly the race. This shows the

significance of conducting a descriptive study to identify the actual effect of selected demographic and clinical profile of children and the frequency of ALRI.

Objectives :

1. Find out association between demographic variables and frequency of respiratory infections.

2. Find out association between clinical variables and frequency of respiratory infections.

Methodology: The research approach adopted was descriptive in nature. The Population included children who were admitted with ALRI in paediatric medical ward and paediatric intensive care units. One hundred Children in the age group of 3-10 years who are admitted in the selected paediatric units with ALRI were selected using purposive sampling. The setting of the study was paediatric medical ward and paediatric intensive care units of MIMS hospital at Calicut. Semi structured Questionnaires on Demographic and clinical profiles of the sample were used to collect the data.

Results and Discussion : Among the selected samples, majority (50%) were under the age group of 5-7 years. Majority (63.3%) of sample were male children. Majority of selected samples (46%) were first order children in their family. Parents were the primary care givers of all the selected samples. Majority of the samples (90%) belong to nuclear family. Parents of 70% sample were non smokers. Majority of the sample (73.3%) live in terraced house. Wood along with cooking gas were the most commonly used fuel which accounts for 46.70% Most of the selected samples (40%) live in houses without a chimney in their kitchen. 66.7% children lived in urban areas.

The duration of ALRI was less than one week in 50.0% of children. A majority of selected samples (56.7%) had a past history of similar illness. Majority (86.7%) did not have a family history of tuberculosis. Timely immunisation was given to 73.3% of children. For majority (83.3%) of sample, breast feeding was the predominant feeding during infancy. Majority (80%) of the selected samples received antibiotics as well as antipyretics during the course of treatment. Majority (93.3%) of sample were on nebulisations with various bronchodilators and mucolytics. It was identified that frequency of ALRI has significant association with the demographic variable that is Location (p=0.04). Frequency of ALRI has significant association with the demographic variable that is Predominant feeding (p= 0.03). No other selected demographic and clinical variables showed association at 0.05 significance level. Living in Urban areas and consuming tinned food were identified as the potential risk factors of Acute Lower respiratory tract infection.

✤ Discussion : The findings of the study are discussed below in relation to the findings of other studies reviewed by the investigator. This study highlights the role of the above two risk factors in the development of severe pneumonia in under-five children. Hospitalization for acute lower respiratory infections in young children poses a substantial burden on health services, especially in developing countries. However, since the majority of these risk factors are potentially preventable, governments should consider what action can be taken to decrease the prevalence of these risk factors. In addition,

it emphasizes the need for further studies investigating other potential risk factors. Since these risk factors are potentially preventable, health policies targeted at reducing their prevalence provide a basis for decreasing the burden of childhood pneumonia.

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EARLY DETECTION OF BREAST CANCER AMONG WOMEN IN THE AGE GROUP OF 25-60 YEARS

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- Abstract :

Background : Breast cancer is the second most prevalent form of cancer in women. In India incidence rate of breast cancer among women are 20.21 per 100,000.

. Objectives: The study is aimed to assess knowledge on early detection of breast cancer among women 250 women residing in rural area.

•:• Material & methods: A cross sectional survey study is conducted. Socio demographic data & knowledge of women was collected & analyzed using SPSS. Chi square test was used to identify association between variables.

•:• **Result** : Most 22% of the subject had good knowledge on early detection of breast cancer. There is a significant association between age at married and previous knowledge with knowledge on early detection of breast cancer among women in the age group of 25-60 years.

-:- Conclusion: Every effort should be made to increase knowledge on early detection of breast cancer among women in the age group of 25-60 years, individual as well as group educational programmes, postures, leaflets etc should be readily arranged about breast cancer and its early detection.

•:• Introduction : Many cancers can be prevented or can be detected early in their development, treated and cured. Even with late stage of cancer, the pain can be reduced or the progression of the cancer can be slowed. Cancer is a leading cause of death globally. The WHO estimates that 7.6 million people died of cancer in 2005 and 84 million people will die in the next 10 years. More than 70% of all cancer death occurs in developing and under developed countries, where resources available for prevention, diagnosis and treatment are limited or resistant.

Breast cancer is the second most regularly detected cancer among women. Incidence of breast cancer in India is on the raise and is rapidly becoming the number one cancer in female pushing the cervical cancer to the second spot. These raise is being documented mainly in the metros, but it can be safely said that many cases in rural area go unnoticed.

•:• Statement of the problem : A study to assess knowledge on early detection of breast cancer among women in the age group of 25-60 years in selected rural area. The objectives of the study is to assess knowledge on early detection of breast cancer among women and to find the association between knowledge on early detection of breast cancer among women in the age group of 25-60 year and selected demographic variables.

. Methods : The population refers to entire set of individuals or objects that possess in specific characteristics that the researcher indented in study. In the present study population refers to the

entire women residing in Kerala. The sample of the study was 250 women in the age group of 25-60 years residing in rural area. The design of the study is non experimental design. Cross sectional survey approach is used for the study. The non probability convenient sampling technique was used for data collection. The tool used for the study was a semi structured questionnaire to assess the knowledge regarding early detection of breast cancer among women in the age group of 25-60 years. ••• Data analysis : Data was collected from 250 women residing in rural area. The data was tabulated and analyzed. Socio demographic data and knowledge was analyzed using inferential & descriptive statistics.

•:• Results & Discussion : The present study results most (22%) of the subject had good knowledge on early detection of breast cancer. Majority of subjects (90%) were home makers. Among the subjects more (58%) have no family history of breast cancer. There is a significant association between age at married and previous knowledge with knowledge on early detection of breast cancer among women in the age group of 25-60 years. The stud was limited to 250 samples. The samples who are know to read and write Malayalam are included in the study.

-: Conclusion : Breast cancer can be easily controlled by early detection & treatment. Breast self examination is the easy way to perform this action. But unfortunately less number of women are aware correctly the process. Steps should be taken to improve the knowledge & practice of BSE n the daily life of Indian Women. Breast cancer can be easily cured if it's identified early. The study concludes with the finding that knowledge of women should be improved.

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A DESCRIPTIVE STUDY ON ATTITUDE AND PRACTICE TOWARDS ALCOHOLISM AMONG ADOLESCENTS

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-: ABSTRACT : A descriptive correlation approach was adopted. A purposive sampling technique with 100 samples were adopted for the study. The structured interview schedule consisted Section A deals with selected background factors, Section B consists of 20 statements which relates to the attitude of alcoholism among adolescents and 10 statements relates to the practice of alcoholism among adolescents. The content validity of the tool was established by 6 experts and reliability was established through test–retest method using Karl person coefficient of correlation r'-was found to be 0.976 and 0.986 respectively to the above mentioned parts of the structured interview schedule. The data were collected personally by the investigator and data were interpreted in terms of the objectives and research hypothesis using descriptive and inferential statistics.

The majority of the attitude of adolescents on various aspects of alcoholism, the Mean value of 'alcoholism is a substance' was M=13.93, 'alcoholism in health' was M=17.93, 'alcoholism in psycho. health' was M=21.87, 'alcoholism and social life' was M=17.64, 'overcoming alcoholism was M=14.70.It was inferred that, the attitude of adolescents were unfavourable regarding alcoholism is a substance, alcoholism in health, alcoholism and social life. However the attitude towards psychological health and alcoholism, overcoming alcoholism was favourable. The overall Attitude of adolescents regarding alcoholism was slight favourable 86.14(15.3) and the majority of the practice of adolescents, the Mean value of M=10.51, shows low average practice regarding alcoholism among adolescents. And also there was significant correlation between Attitude and Practice of adolescents regarding alcoholism in relation to background factors such as, the optional subject in PUC and pocket money per month were t = -2.190 and t = 3.311.

:: Key words: Determine, Attitude, Practice, Alcoholism.

✤ INTRODUCTION

"First the man takes the drink Then the drink takes the drink

Then the drink takes the man" - Japanese Proverb

How true! Once man starts to drink, there is no end and then drink not only takes the man but it also takes the entire family along. Alcohol is a group of substances, with the technical name of alcohol beverage as ethanol, or ethyl alcohol; popularly known as alcohol. (James, 1999).

Alcohol produces sedation by depressing the central nervous system. Depending on the amount of alcohol ingested, the effect can range from feelings of mild sedation and relaxation to serious

impairments of motor functions, speech, confusion and severe intoxication that can result in coma, respiratory failure and death (Boyd and Nihart, 1998). The National Institute of Mental Health and Neuro Science (NIMHANS) in Bangalore (2000) reveals that 70% of HIV patients were alcoholics and they were teenagers. All India Institute of Medical Sciences (AIIMS) in Delhi (2001) showed that every 5th teenagers between 15-19 age group in Delhi takes alcohol regularly. 3,00,000 are addicted and another lakh needs medical attention for alcohol related disorders.¹

Alcohol dependence syndrome is generally considered an adult disorder that develops over a period of many years, but the use of alcohol by the adolescent and young people is very common and increasing. Laskin (1996) compared alcohol users above 20 years of age on different countries, the highest numbers were found in France. (5,200 per one lakh population) followed by the United States (4,760 per lakh), Switzerland (2,655 per lakh), Denmark (2,260 per lakh), Sweden (2,250 per lakh), Norway (2,250 per lakh), Canada (2,140 per lakh), Australia (1,640 per lakh), England (1,530 per lakh) and Italy (1,100 per lakh) (as cited by AHUJA 1997).² Heavy alcohol use has been associated with a number of types of liver injury, various cardiac injuries, immune system depression, damage to endocrine system and reproductive function. Alcoholism is also associated with a high incidence of serious and fatal injuries, high-risk behaviour and suicide.³

The consequences of living with an alcoholic are also significant. Families must deal with emotions such as anger towards the alcoholic and guilt over what role they believe they may play in the addiction. Family breakdown, financial problems, legal problems and psychological troubles all result from alcoholism. Society as a whole also pays a price for the alcoholic's addiction. Employers may see productivity affected. Police and law courts may deal with crimes committed by alcoholics while they are drunk. The health-care system pays for treatment of alcoholics, either for illnesses resulting from alcoholism or for treatment of the disease itself.⁴

Sadock and Sadock (2003): Found that approximately 70% of adults with college degrees currently are drinkers, compared to only 40% of those with less than a high school education. These statistics dispel the idea that drinking is often associated with lower – educational levels. Individuals with a college education may use alcohol to reduce stress or to socialize.¹

•:• NEED FOR THE STUDY : Alcohol problems are associated with life style and socio-economic conditions of people. These are becoming more–prevalent in adolescents – both boys and girls mainly because of their risk taking behaviour and more over the emotional control of family; the moral control of school and the social control of community are declining. Information explosion and communication across cultural boundaries through mass media have lot of influence on behaviour pattern of adolescents all over the world. In India, the prevalence of drug abuse, which is generally low in early adolescence, aged 12 & 13 rises – steeply in the late teenage and is highest during the early 20's.⁵

Alcohol consumption has been steadily increasing in developing countries like India and decreasing in developed countries since the 1980s. The pattern of drinking to intoxication is more prevalent in developing countries indicating higher levels of risk due to drinking.

62.5 million alcohol users are estimated in India. Per capita consumption of alcohol increased by 106.75% over the period from 1970 to 1996.⁶

Media Vision India (2004): In India, it has been estimated that 40-50% of all males drink alcohol as compared to less than 1% of female adults. So alcoholism appears to be predominantly a male disorder especially in India. Because of the influence of urbanization peer pressure, westernization, media, curiosity and age, the college students are more prone to alcohol abuse.¹

D'COSTA G, et. al, (2007) Conducted a cross-sectional study of 1567general practice attendees in Goa, India. reported that a total of 338 men (41%) and 597 women (81%) never consumed alcohol. One hundred and twenty-eight people or 8.2 scored >or=8 on the AUDIT (123 (15%) men and 5 (0.7%) women) and were classified as harmful or dependent drinkers. Doctors identified almost 60% of them as problem drinkers but misidentified approximately 5% of moderate drinkers as problem drinkers.⁷

Young adolescents are at risk of alcohol related problems and are noted as special population in need of services in the report by the institute of medicine (1990). Young adolescents as a group are heaviest drinkers in America and other Western societies. In India too the trend is increasing in favour of alcohol use among student population.

Worldwide, alcohol accounted for 3.5% of the global burden of disease, 1.5% of all deaths, 2.1% of all life years lost and 6% of all years lost to disability. In other words, the relative impact of alcohol on disability is considerably larger than its impact on mortality (Murray and Lopez, 1996).⁴

PAL HR, YADAV S et al., (2003) studied about the Treatment non -seeking in alcohol users: a communitybased study from North India. Reported that the majority (n=40) considered alcohol use a "social" problem. Among the reasons fro not seeking treatment, the two most commonly cited were "ashamed to admit problems" and "treatment does not help" in 26.5% (n=21) and 22.8% (n = 18), respectively.⁸ JOHANSON, et al., (1988) environment also influence a great deal on the formation of positive attitude. In college campuses, different living arrangements are associated with different pattern of drinking. Similarly socio-economic status and family also influences the use of alcohol in youngsters.⁹

The investigator felt that there is need to probe on the attitude and practice of adolescents on alcoholism. The finding will contribute in reducing the problems of alcohol abuse. It is widely established that the problem of alcoholism is closely associated with the problem of human relationship, culture and behaviour. Hence such understanding on alcoholism among adolescents, effective prevention programme depends on behavioral – strategies, will help to control the use of alcohol by bringing about a positive attitude towards alcohol – abstinence in a person's life and to society.

So the researcher decided to conduct a study to find out the influence of certain selected variables on the attitude and practice of adolescents towards alcohol.

✤ STATEMENT OF THE PROBLEM : "A Descriptive Study on Attitude and Practice towards Alcoholism among Adolescents in selected college, Mysore"

↔ OBJECTIVES OF THE STUDY :

- •: To determine the attitude of alcoholism among adolescents in selected college, Mysore.
- •: To determine the practice of alcoholism among adolescents in selected college, Mysore.
- To find the relationship between attitude and practice towards alcoholism among adolescents in selected college, Mysore.
- To find the association between selected background factors and attitude and practice towards alcoholism among adolescents in selected college, Mysore.

··· OPERATIONAL DEFINITIONS :

• Attitude - Refers to the expressed feelings of adolescents regarding alcoholism, which was measured by using attitude scale. Attitude on alcoholism was measured in terms of attitude scores.

✤ Practice -Refers to the drinking habit or behaviour of adolescents which was measured by questionnaire. Practice on alcoholism was measured in terms of practice scores.

•:• Adolescents - Refers to males aged about 16 to 18 years who reported to have drinking habit and were studying in selected college and who fulfilled sample selected criteria.

•:• Selected Background factors- Refers to those factors which were thought to influence the attitude and practice of adolescents towards alcoholism such as age, religion, optional subjects in PUC, education of parents, part time job, place of stay, pocket money per month, family income, drinking father.

•:• Alcoholism – Refers to a chronic dependence characterized by compulsive drinking of alcohol to such a degree that it produces mental disturbance, interferes with social & economic functioning. Attitude and practice related to alcoholism was measured in this study.

 H_1 : There will be a significant relationship between the attitude and practice regarding alcoholism among adolescents.

 H_2 : There will be a significant association between the attitude regarding alcoholism among adolescents in relation to their selected background factors such as age, religion, optional subjects in PUC, education of parents, part time job, and place of stay, packet money per month, family income and drinking father.

 H_3 : There will be a significant association between the practice regarding alcoholism among adolescents in relation to their selected background factors such as age, religion, optional subjects in PUC, education, part time job, and place of stay, packet money per month, family income and drinking father.

- 1. Attitude of the adolescents can be assessed by using an attitude scale
- 2. Practice of the adolescents can be assessed by using structured interview questionnaire.

- The study was limited to the Pre-university students of Mysore city, with science or arts or commerce as their optional subjects.
- · Students were selected by purposive sampling method.

CONCEPTUAL FRAMEWORK : The conceptual framework is modified from the **PENDER'S HEALTH BEHAVIOUR MODEL**, as shown in fig. 1.



Fig. 1 – Conceptual frame work Based on Penders Health Behavior Model. RESEARCH METHODOLOGY:

: Research Approach: Non-experimental approach was adopted in this study.

. Research design: Adescriptive correlation approach was used for the study.

Setting of the Study: thestudy was conducted in JSS MahavidyaSamsthe, PU College, Devalapura, Mysore.

- **·: Population:** The population of the study wereadolescents.
- : Sample and sample size: 100 adolescents.
- **:** Sampling Technique: Purposive sampling technique was used in this study.
- ·:· Variables of the study:
- Independent Variable : Alcoholism,
 - **Dependent Variables** : Attitude and Practice of adolescentstowards alcoholism.

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: Associate Variables: Selected background factors.

Selection of Tool: A structured interview schedule was developed to collect data on background factors and Attitude and Practices of alcoholism among adolescents.

-:- Description of the Tool: the tool was developed with 3 sections as follows:

Section – A : Data on background data: The toolcontained items seeking information regarding general background factors like age, religion, optional subject in PUC, education of parents, part-time job, place of stay, pocket money per month, family income and drinking father.

Section – B: Semantic differential scale on attitude regarding alcoholism: The toolcontained 20 items to know the attitude of adolescents regarding alcoholism. Out of 20 items, This section had questions regarding Attitude towards alcoholism as a substance-4 items, alcoholism in health-4 items, alcoholism in psychological health -5 items, alcoholism and social life- 4 items, and overcoming alcoholism-3 items. Adjectives antonyms were placed on either side of the items. Positive and negative adjectives were alternatively placed in the tool.

Attitude of the adolescents regarding alcoholism was measured in terms of Attitude scores. Attitude was scored on a 7-point Semantics Differential scale, where the scores were given as follows –

Strongly agree.	-	7 scores
Agree	-	6 scores
Slightly agree	-	5 scores
Neutral / not sure	-	4 scores
Slight disagree	-	3 scores
Disagree	-	2 scores
Strongly disagree	-	1 scores

The total attitude score was 140, The subsections had the following scores -

-: alcoholism as a substance - 28 scores
- alcoholism as a substance - 28 scores

••••	alcoholism in health	-	28 scores
•;•	alcoholism in Psycho. Healt	th -	35 scores
••••	alcoholism and social life	-	28 scores

- vercoming alcoholism - 21 scores

The Higher the score, the attitude was favourable towards alcoholism and lower the score, the attitude was unfavourable towards alcoholism.

Section –C: Data on Practice regarding Alcoholism : The tool used was a standardized tool called AUDIT (Alcohol use disorder identification test) scale WHO, 1992. Contained 10 items seeking to know the present or appropriate practices of adolescents regarding alcoholism. The items measured alcohol use, dependence on alcohol and consequences of alcohol. There were 3-5 responses according

to items. The practice on alcohol was measured in terms of practice scores. The maximum score was 38. The scoring of individual items are given in Annexure C (Section C). Higher the score, the practice of alcoholism was more.

•:• Data Analysis: In the present study, the statistical analysis was done in accordance to the objectives of the study .The data were analysed as follows.....

- -: Data on demographic factors of adolescents regarding alcoholism were analyzed using frequency distribution and percentage.
- . Data on Attitude of adolescents regarding alcoholism was analyzed using Mean and SD.
- . Data on practice of adolescents regarding alcoholism was analyzed using Mean and SD.
- Data on correlation between Attitude and practice of adolescents regarding alcoholism were analyzed using Karl Pearson's coefficient of correlation.
- Data on Association between attitude and practice of adolescents regarding alcoholism and various selected background variables were analyzed using linear regression.

RESULTS : The Data was presented under the following headings:

Section-A: Data on background factors of adolescents regarding alcoholism :Majority of adolescents were age group of 17 years(53%) , Majority (99%) were Hindus, Majority (92%) were from Arts, Majority (38%) of mother s had done secondary education and Majority (38%) of fathers had done secondary education, Majority (65%) were doing part time job, Majority (95%) were staying in house, Majority (59%) were getting less than Rs 200 /- packet money per month, Majority (27%) were in the group of Rs 1000 to 2000 per month family income. Majority (59%) father were drinking.

Section-B: Data on Attitude of Adolescents on various aspects of Alcoholism : The obtained mean values of 'alcoholism is a substance' was M=13.93 (SD=5.98), 'alcoholism in health' was M=17.93 (SD=4.83), 'alcoholism in psycho. Health' was M= 21.87 (SD=6.15), 'alcoholism and social life' was M=17.64 (SD=4.38), 'overcoming alcoholism was M=14.70 (4.62). It was inferred that, the attitude of adolescents were unfavourable regarding, alcoholism is a substance, alcoholism in health, alcoholism and social life. However the attitude towards psycho health and alcoholism, and overcoming alcoholism were favourable.

Section C: Data on Practice of adolescents regarding alcoholism : The obtained mean value of practice was M= 10.51 (SD=6.86) shows low practice regarding alcoholism among adolescents. It was inferred that, the practice of alcoholism was fairly low among adolescents.

Section D: Data on Correlation of Attitude and Practice of Adolescents regarding Alcoholism. The obtained coefficient correlation between attitude and practice among adolescents were r = (0.28)P<0.01 was significant, therefore null hypothesis was rejected. It was inferred that, there was significant correlation between attitude and practice. The attitude and practice among adolescent regarding alcoholism was fairly average and low respectively. •:• NURSING IMPLICATIONS : The study findings have thrown new light on the implications of the future. It has implication related to nursing education, nursing practice, nursing administration and nursing research.

✤ Nursing education :

- Integration of theory and practice is vital need and its important in nursing profession. Therefore nursing educator can use the result of the study as an information to the students.
- The nursing curriculum should emphasize on imparting health information to community using different teaching methods. So nursing students should be educated on health promotion activities.
- The students and teachers can work together in community area to disseminate knowledge on alcoholism and drug abuse among adolescents.

✤ Nursing practice :

- . More health education activities can be initiated among adolescents to develop a good attitude towards alcoholism.
- Community health nurses are in the best position to effectively teach the adolescents regarding harmful effect of alcoholism.
- A public health nurse can arrange orientation programme for adolescents about alcoholism.
- The school health programmes need to be conducted for screening of the children including alcoholism.

✤ Nursing research

- The study findings would help to expand the scientific body of knowledge upon which further researches can be conducted.
- The large scale studies can be conducted by following various methods of research.
- The research should be continued on assessment of knowledge, attitude and practice of adolescents on alcoholism.

✤ LIMITATIONS

- · Sample size could have been larger.
- Difficulty in contacting the samples during college holidays.

RECOMMENDATIONS

- The study can be done on a large sample.
- The study can be done on alcoholism focusing the sample as females also.
- The study can be done for alcoholism on industrial workers, paurakaramikas, executives, who are more prone to alcoholism.
- The experimental study can done on alcoholism among adolescents.
- The comparative study can be done on different communities like urban and rural.

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DRONE DELIVERY : THE NEXT GENERATION TAKEAWAY

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Abstract : Delivery drones are the buzz word of the next generation. By crossing the military area to the corporate world, they are in the process of building their space in business world. Keeping in mind its unmatched advantages, the present paper views in depth delivery drones experiments conducted all over the world, along with the world busy in framing rules, regulations and legislation for it. It also analysis the status of delivery drones in India, its regulatory and safety authorities as well as the legislations governing them. It also dives into the future prospects of these flying robots into the commercial world.

Keywords : Drones, delivery, regulations, legislations, India, commercial

Introduction : A drone is an <u>aircraft</u> that does not have a <u>pilot</u> but is <u>controlled</u> by someone on the <u>ground</u>, used <u>especially</u> for <u>dropping</u> <u>bombs</u> or for <u>surveillance</u>. A delivery drone, is an <u>unmanned</u> <u>aerial vehicle</u> (UAV) utilized to <u>transport</u> packages, food or other goods. An <u>Unmanned aerial</u> <u>vehicle</u> (UAV) is a type of aircraft which has no onboard crew or passengers. UAVs include both autonomous <u>drones</u> and <u>remotely piloted vehicles</u> (RPVs). A UAV is capable of controlled, sustained level flight and is powered by a jet, reciprocating, or electric engine.

Beyond the battlefield : Initially drones were meant for military areas but they have expanded to 360 degreesby entering into the commercial world. Since Amazon CEO Jeff Bezos announced in 2013 that they were testing the use of drones as a method of delivery, the commercial sector has been abuzz with the endless opportunities drones can create. Delivery drone concept was first cited by various companies around the world like 7- eleven, amazon, google, etc. On 20th December 2016, 7eleven became the first company in the world to deliver packages through drone. The convenience store company made a total of 77 deliveries by drone in the state of Nevada. Amazon promises future deliveries within 30 minutes at the doorstep through Amazon Prime Air, UPS and drone maker CyPhy Works staged a delivery from Beverly, Massachusetts to an island three miles off the Atlantic coast to deliver an inhaler to a child on the island. Likewise, delivery service Flirtey, the company behind the 7-Eleven deliveries, has also demonstrated how its drones can be used for ship-to-shore deliveries of life-saving aid to coastal regions. Land Rover's Project Hero combines a roof-mounted drone for disaster response with a new 2017 Discovery SUV and is currently being used by the Austrian Red Cross. Then there's <u>Zipline</u>, which is already making medical deliveries by drone to hospitals across Rwanda. OK, so delivering pizza isn't the thing that makes drones really valuable and cool, but here's what is: quickly delivering emergency food, medicine and supplies in disaster zones, to rural and remote areas, up mountains or out in the ocean. Delivery drones that can get where trucks and pricey helicopters can't will become indispensable. They're not only going to save time and money, they'll save lives.

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Flying robots world over

1. <u>Medical Field</u>

ü UAVs can transport medicines and vaccines, and retrieve medical samples, into and out of remote or otherwise inaccessible regions.¹"Ambulance drones" rapidly deliver <u>defibrillators</u> in the crucial few minutes after <u>cardiac arrests</u>, and include livestream communication capability allowing paramedics to remotely observe and instruct on-scene individuals in how to use the defibrillators.²

1. Raptopoulos, Andreas (June 2013). <u>"No roads? There's a drone for that"</u>. <u>TED (conference)</u>. Archived from <u>the original</u> on 21 November 2013.

"Ambulance drones" rapidly deliver <u>defibrillators</u> in the crucial few minutes after <u>cardiac arrests</u>, and include livestream communication capability allowing paramedics to remotely observe and instruct on-scene individuals in how to use the defibrillators.²

ü In July 2015, the <u>FAA</u> approved the first such use of a drone within the United States, to deliver medicine to a rural Virginia medical clinic in a program called "Let's Fly Wisely".

2. <u>Food</u>

Connect Robotics, in a pilot project with Santa Casa da Misericórdia de Penela and Penela
 Town Hall, made a first meal delivery per drone in December 2016.

ü The Tacocopter is a <u>taco</u> delivery concept utilizing a smartphone application to order dronedelivered tacos in <u>San Francisco</u> area. It was created by MIT graduate Star Simpson and its website went live in July 2011, garnering the public and the media attention³.

An independent British franchise of <u>Domino's Pizza</u> tested a remote-controlled drone, called DomiCopter, to deliver <u>pizzas</u>. It was developed by a joint effort of U.K. drone specialist AeroSight, Big Communications and creative agency T + Biscuits. A short footage video was released in June 2013.

A German-based restaurant on Anna Maria Island, Florida is testing a remote-controlled drone delivery service. The delivery is called Old Hamburg Schnitzelhaus AIR, to deliver <u>Schnitzel-Wiener</u>, <u>Schnitzel</u> to the nearby beach. It is currently pending regulatory approval. It was developed inhouse with DJI drone parts. A footage video was released in November 2015.

ü Burrito-by-drone deliveries to be tested at the Virginia Tech campus by Chipotle and Google as per articles from September 2016. This is not the first time the concept has come up. There used to be the "burrito bomber" in 2012.

2.Prigg, Mark (October 28, 2014). <u>"The ambulance drone that could save your life: Flying defibrillator</u> <u>can reach speeds of 60mph"</u>. *Daily Mail*. Archived from <u>the original</u> on November 22, 2014

3. <u>"Tacocopter: The Coolest Airborne Taco Delivery System That's Completely Fake"</u>. <u>Wired</u>. March

23, 2012. Retrieved October 9, 2014.

Pizza deliveries via drone are now being trialed in New Zealand by Domino's. The concept can be traced back to 2012 to a Free University of Berlin student project. Other pizza delivery drone attempts

include the DomiCopter from Domino's (UK, 2013), Francesco's Pizzeria (India, 2014), Dodo Pizza (Russia, 2014) and Vero Verde Pizza (Brazil, 2014).⁴

3. Postal Deliveries : With the rapid demise of snail mail and the explosive double digit growth of e-commerce, postal companies have been forced to seek new ways to yond their traditional letter delivery business models. Different postal companies from Australia, Switzerland, Germany, Singapore and Ukraine have undertaken various drone trials as they test the feasibility and profitability of unmanned delivery drone services⁵.

Other Areas

ü Connect Robotics is a startup incubated by ESA BIC Portugal that automates Drones for transportation. It is already operating in Portugal, is actively working to make drones integration in the airspace safe as a founder member of the Global UTM Association.

Matternet is a Silicon Valley startup developing small UAVs for the delivery of lightweight goods.
 Their transportation solution comprises small UAVs able to carry up to 1 kilogram goods over distances of up to 20 kilometers on a battery charge.^[31]

ü <u>Amazon Prime Air</u> – <u>Amazon.com</u> founder <u>Jeff Bezos</u>' December 2013 announcement that Amazon was planning rapid delivery of lightweight commercial products using UAVs was met with skepticism, with perceived obstacles including federal and state regulatory approval, public safety, reliability, individual privacy, operator training and certification, security (hacking), payload thievery, and logistical challenges.

4. <u>"Pizza Pie in the Sky - A Brief History of Using Drones to Deliver Pizzas"</u>. UnmannedCargo.org. 2016-09-28. Retrieved 2017-03-17.

5. <u>"Drones Going Postal – A Summary of Postal Service Delivery Drone Trials"</u>. unmannedcargo.org. June 27, 2016.

ü In July 2014, it was revealed Amazon was working on its 8th and 9th drone prototypes, some that could fly 50 miles per hour and carry 5-pound packages, and had applied to the FAA to test them⁶.

<u>Google</u> revealed in August 2014 it had been testing UAVs in <u>Australia</u> for two years. The <u>Google</u>
 <u>X</u> program known as "<u>Project Wing</u>" aims to produce drones that can deliver not only products sold via e-commerce, but larger delivery items

ü <u>USPS</u> has been testing delivery systems with HorseFly Drones. <u>FedEx</u> is reported to be testing integration of drone delivery with their existing logisticsmodel.

In December 2013, in a research project of Deutsche Post AG subsidiary <u>DHL</u>, a sub-kilogram quantity of medicine was delivered via a prototype Microdrones "parcelcopter", raising speculation that <u>disaster relief</u> may be the first place the company will use the technology.

üIn February 2014, the prime minister and cabinet affairs minister of the United ArabEmirates(UAE) announced that the UAE planned to launch a fleet of UAVs for civilian purposes. Plans

were for the UAVs to use fingerprint and eye-recognition systems to deliver official documents such as passports, ID cards and licenses, and supply emergency services at accidents. A battery-powered prototype four rotor UAV about half a meter across was displayed in <u>Dubai^Z</u>.

ü UK' based FPS Distribution and Switzerland's <u>Swiss Post</u> are both developing drone delivery services for wide scale use.

ü In December 2014, French mail services company <u>La Poste</u> unveiled experimental delivery drone project.

ü In February 2015, Hangzhou based e-commerce provider <u>Ali Baba</u> started delivery drone services around select cities in China.

In March 2015, Shenzhen based <u>SF Express</u> started¹ providing delivery services with <u>Xaircraft</u> drones in China.

ü In May 2015, CJ Express initiatesdelivery with drone services in South Korea⁸.

6. <u>"E-commerce giant Amazon seeks FAA nod for testing drones"</u>. Seattle Bulletin. Retrieved 11 July 2014.

7. Sleiman, Mirna (10 February 2014) <u>Aerial ID card renewal: UAE to use drones for government</u> <u>services</u> Reuters, Retrieved 12 February 2014

8.Sleiman, Mirna (10 February 2014) <u>Aerial ID card renewal: UAE to use drones for government</u> <u>services</u> Reuters, Retrieved 12 February 2014

ü In April 2016, a joint project in Japan involving the central government, <u>Chiba City</u>, research institutions and companies including <u>Rakuten</u> was launched to trial home drone deliveries in an urban area. A similar test project was carried out in <u>Naka, Tokushima</u> in February 2016 as a way to facilitate shopping for people who live in a depopulated area.

Along with saving lives, commercial delivery drones are going to be able to keep things like utilities and manufacturing plants up and running when systems need to be repaired or parts replaced.
 Instead of waiting days for a part to arrive, a delivery drone can be given a flight plan and sent on its way, all on its own.

Delivery drones scenario in India : Although delivery drones are very attractive but its use in India is still very limited due to security and privacy concern.**India's Directorate General of Civil Aviation** (**DGCA**) initially <u>banned the civil use of drones</u> in October, 2014, promising regulations within a few months. The first draft of these regulations was finally issued in April 2016⁹.

DGCA's Draft Guidelines

1. The Draft Guidelines are not designed for commercial deliveries : The DGCA's first attempt to regulate drones has come in the form of the <u>draft Guidelines for Obtaining Unique Identification</u> <u>Number and Operation of Civil Unmanned Aircraft System</u> (the Draft Guidelines). Given the uncertain nature of the use of and security of drones, these guidelines are extremely stringent, and are clearly not designed to cover commercial large-scale deliveries like those proposed by Amazon and similar entities.

9.http://www.dgca.nic.in/misc/draft%20circular/AT_Circular%20-% 20 Civil _UAS (Draft %2 0April% 202016).pdf

2. Every drone flying at or above 200 feet is to be registered : As per the Draft Guidelines, every drone being used for any civil purpose, such as the proposed drone deliveries, will have to obtain a permit from the regulatory authority.with an exception that drones that fly below a height of 200 feet and within 'uncontrolled airspace'. 'Uncontrolled airspace' refers to any airspace that is not under the control of an aviation authority. For example, airspace in and around airports is a controlled airspace. All civil uses within these limitations, including model drones used for recreational and research purposes, will be exempted from obtaining permits.

3. Remote pilots will need aircraft level training : Every operator would have to undergo pilot training equivalent to that of the aircrew of a manned aircraft.

4. Authorities need to be notified of every flight : For every delivery, the operator needs to inform several authorities- the regulatory authority, the Air Traffic Services Unit and the local administration. A 'flight plan' has also to be notified for every delivery. It includes details like the purpose of the flight, the contents of the payload (the item to be delivered) point of departure, destination, cruising speed(s), cruising level(s), Number and location of remote pilot.

5. Deliveries in urban areas possible : International operations of civil UAS (flying across the territory) and/or over water shall be strictly prohibited. The UA shall not be flown over the entire air space over the territory of Delhi (30km radius from Rashtrapati Bhavan) and areas falling within 50 km from the international borders. Also, UA shall not be flown over other sensitive locations viz. nuclear stations, military facilities and strategic locations.

6. Drones to be flown within Visual Line of Sight : The Draft Guidelines specify that drones weighing less than 20 kg need to be flown within the Visual Line of Sight of the operator, or in such a way that the drone is always visible with the unaided vision of the operator. This will make the use of lighter delivery drones impractical. The position on heavier drones is not clear, but it appears that this requirement does not apply to them. The Guidelines also specify that detect-and-avoid technology to avoid obstructions automatically is a must on the drones.

All-weather deliveries not possible : During daylight with Visual Meteorological Conditions (VMC) having ground visibility of 5 km. b) Surface winds of not more than 20 knots (measured using hand held anemometer at site). c) Cloud base not lower than the approved altitude of operations.
 10.16 The UAS operator shall not launch the UA when rain/ thunderstorm warning is in force.

8. Privacy concerns need to be better addressed : Privacy and safety are the major concerns when large-scale civil use of drones is permitted. While the Draft Guidelines mention that the privacy Rex Journal Volume 4 Issue 1, 2017 Page 316 of persons and properties must be protected. In the case of no-fly zones like around airports, authorities have the right to seize and disable wayward drones.

9. Existing aviation authorities will become overburdened : The current framework of the regulations will make it impossible for a single body like the DGCA, which already has its hands full with manned aircrafts, monitoring drones as well. The kind of use of drones that are being contemplated by people indicates the large-scale use of drones in the future. In such a case, instead of imposing such a huge obligation on existing aviation authorities, <u>a separate body</u> should be set up specifically for the use of drones.

Commercial drone revolution : With the potential for so many companies to substantially increase their return on investment, it should come as no surprise that big investors have already claimed their stake in drone market. Table 1

<u>Company</u>	<u>Main Investors</u>	<u>Amount</u>	<u>Special Features of</u> <u>drone</u>
EHANG	GP Capital	\$42 Million	Optional Virtual Reality Goggle add- on.
YUNEEC	Intel	\$60 Million	360 degree gimbal camera
3DR	Qualcomm Ventures and WestSummit Capital	\$64 Million	Streams live HD video direct to iOS/Android devices
DJI	Accel Partners	\$75 Million	Avoids obstacles automatically

Major commercial investments in 2015

Source: YUNEEC, EHANG, 3DR, Accel Partners

According to the BI Intelligent the market for commercial and civilian drones is expected to grow at a compound annual growth rate (CAGR) to 19% by 2020. By 2025, the U.S economy is to see an \$82 billion boost and creation of 100,000 jobs as direct result of opportunities surrounding the commercial drone industry by AUVSI. Thus, the future of delivery drone industry is very bright and promising but how quickly we begin to reap the benefits will depend heavily on the regulations set to monitor this technology, the rolling out of such services depends on regulatory approval. The US Federal Aviation Administration appears to be coming around to the idea of commercialized drones, and Europe's equivalent - the European Aviation Safety Agency - is encouraging their use, but there's still a lot of red tape that businesses will need to overcome. But regardless of the time required, given the attention and resources being dedicated to drone transport in recent years, and the promising early progress across multiple industries, it seems inevitable that drone usage will continue to revolutionize the transport industry. The world is moving towards a new path of drone delivery and although in India it is in its nascent stage. It is definitely coping up with this latest world technology.

Job of the Women Servant – a curse

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ABSTRACT : Servant is an older English word for "domestic worker", though not all servants worked inside the home. Domestic service, or the employment of people for wages in their employer's residence, was sometimes simply called "service" and has often been part of a hierarchical system. A domestic worker, domestic helper or domestic servant, also called menial, is a person who works within the employer's household. Domestic helpers perform a variety of household services for an individual or a family, from providing care for children and elderly dependents to housekeeping, including cleaning and household maintenance. Other responsibilities may include cooking, laundry and ironing, shopping for food and other household errands. Such work has always needed to be done but before the Industrial Revolution and the advent of labour saving devices, it was physically much harder. Many domestic workers are live-in domestics. Though they often have their own quarters, their accommodations are not usually as comfortable as those reserved for the family members. The women workers in unorganised sector of economy in India. The term 'unorganized' is often used in the Indian context to refer to the vast numbers of women and men engaged in different forms of employment. These forms include home-based work (e.g. rolling papads and beedis), self-employment (e.g., selling vegetables), employment in household enterprises, small units, on land as agricultural workers, labour on construction sites, domestic work, and many other forms of casual or temporary employment. This paper throws light on the prospects & problems of Women Servants.

INTRODUCTION OF THE TOPIC : Women in our society have so far had only a secondary status and the economic dependence of women upon men is one of the primary reasons which has pushed them into the background and resulted into their secondary status both within and outside the family. In spite of the fact that the women have proved their mettle in every walk of life, their contribution is not given due credit in most cases.

In India women constitute nearly half of the total population and they play a vital role in domestic sphere, in the rural field and also in urban. Women workers contribute significantly to national development by performing remunerated/paid and unremunerated/unpaid work. They also struggle to combine their roles to look after their families. The great majority of women in India do home-based work, are self-employed, employed in household enterprises, small units, on land as agricultural workers, as labourers on construction sites, as domestic workers, and in many 35 other forms of temporary employment, in rural as well as urban areas. As women are found in a vulnerable and impoverished sector, they face the additional inequalities of gender. These translate into many tangibles-unequal wages, no maternity benefits, sexual harassment, and poor nutrition and illhealth.

Women in the unorganized sector as well as countless other women invariably also do a wide variety of "invisible" work, and often shoulder the dual 36 burden of paid and unpaid labour. Women's work or woman's work is a term used particularly in the West to indicate work that is believed to be exclusively the domain of women and associates particular tasks with the female gender. It is particularly used with regard to work that a mother or wife will perform within a family and household.

OBJECTIVES OF THE PROJECT :

- · Understanding the prospects of Women Workers.
- To understand major difficulties of women servants.
- To understand Problems of Women servants.

LIMITATIONS OF THE PROJECT:

- The topic is so vast but due to certain limitations couldn't express in depth.
- Due to certain situations could not collect primary data.

RESEARCH METHODOLOGY :

PRIMARY DATA : Primary data was not collected for the research paper.

SECONDARY DATA: International Conference of Labour Statisticians, Resolution Concerning Statistics of Employment in the Informal Sector, 15 (Geneva: ILO), 1993.

EMPLOYMENT TRENDS FOR WOMEN IN INDIA: The increase in the number of women in the labor market signifies an important trend regarding women's employment. This has been occurring alongside increases in labor force and workforce, especially for urban women, although rural women workers predominate in terms of participation rates and overall magnitude. The increase in the growth of employment appears to be much higher for female workers compared to male workers. Even where the proportion of working women as reflected in the female work participation rate may be low, the absolute numbers have significantly increased, given the rate of population growth over time. Apart from that, improvement in technologies are also have contributed to such informalisation as we do not posses required skills and training for the employment in the organized sector. A further distinction is often made within the informal sector between those who operated from their residence, and other micro enterprises. Not all those operating from their residence or whom are truly independent enterprises, taking risks and making decisions; many, especially women, are paid for their work by the employer, sub contractor, agent or middlemen and hence consider as "home workers" or "disguised wage workers".

CHARACTERISTICS OF THE WORKERS :

 In rural areas, the unorganized labour force is highly stratified on caste and community considerations. In urban areas while such considerations are much less, it cannot be said that it is altogether absent as the bulk of the unorganized workers in urban areas are basically migrant workers from rural areas.

- Workers in the unorganized sector are usually subject to indebtedness and bondage as their meager income cannot meet with their livelihood needs.
- The unorganized workers are subject to exploitation significantly by the rest of the society. They
 receive poor working conditions especially wages much below that in the formal sector, even for
 closely comparable jobs, ie, where labour productivity are no different. The work status is of inferior
 quality of work and inferior terms of employment, both remuneration and employment.

• The unorganized workers do not receive sufficient attention from the trade unions.

· Inadequate and ineffective labour laws and standards relating to the unorganized sector.

* PROBLEMS FACED BY WORKING WOMEN IN INDIA :

• Occupational problems as stress : In women Occupational stress is stress involving work. Work and family are the two most important aspects in women's lives. Balancing work and family roles has become a key personal and family issue for many societies. There are many facets in working mother's lives that subject to stresses. They deal with home and family issues as well as job stress on a daily basis. World Health Organization's (WHO) definition Occupational or work-related stress "is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope."

•:• **REASONS OF OCCUPATIONAL STRESS** : Imbalance between work and family leads to occupational stress. Imbalance between work and family life arises due to a number of factors. Various factors are following.

•:• Mental harassment : It is an age old convention that women are less capable and inefficient in working as compared to men. The attitude which considers women unfit for certain jobs holds back women. In spite of the constitutional provisions, gender bias creates obstacles in their recruitment. In addition to this, the same attitude governs injustice of unequal salaries for the same job. The true equality has not been achieved even after 61 years of independence. Working in such conditions inevitably puts strain on women to greater extent as compared to men, thus making them less eager in their career.

•:• Sexual harassment: Today, almost all working women are prone to sexual harassment irrespective of their status, personal characteristics and the types of their employment. They face sexual harassment on way on transports, at working places, educational institutions and hospitals, at home and even in police stations when they go to file complaints. It is shocking that the law protectors are violating and outraging modesty of women. Most of the women tend to be concentrated in the poor service jobs whereas men are in an immediate supervisory position, which gives them an opportunity to exploit their subordinate women.

•:• Discrimination at Workplace: However, Indian women still face blatant discrimination at their workplaces. They are often deprived of promotions and growth opportunities at work places but this

doesn't apply to all working women. A majority of working women continue to be denied their right to equal pay, under the Equal Remuneration Act, 1976 and are underpaid in comparison to their male colleagues. This is usually the case in factories and labor-oriented industries.

•: No Safety of Working : Women :While Traveling Typically, the orthodox mindset in the Indian society makes it difficult for a working woman to balance her domestic environment with the professional life. In some families, it may not be acceptable to work after six o'clock. Those families that do accept these working hours may experience considerable anxiety every day about a woman's safety while traveling. So many issues affect a working woman because she is closely protected or watched by her family and the society.

Lack of Family Support : Lack of proper family support is another issue that working women suffers from. At times, the family doesn't support women to leave the household work and go to office. They also resist for women working till late in office which also hampers the performance of the women and this also affects their promotion.

. CONCLUSION: Female labor force participation in India is lower than many other emerging market economies, and has been declining since the mid-2000s. Moreover, there is a large gap in the labor force participation rates of men and women in India. This gender gap should be narrowed to fully harness India's demographic dividend. In addition, a related literature also finds that greater economic partipation of women leads to higher economic growth. 20 A number of policy initiatives could be used to address this gender gap in Indian labor force participation. These include increased labor market flexibility (which could lead to the creation of more formal sector jobs) allowing more women, many of whom are working in the informal sector, to be employed in the formal sector. In addition, supply-side reforms to improve infrastructure and address other constraints to job creation could also enable more women to enter the labor force. Finally, higher social spending, including investment in education, can also lead to higher female labor force participation by boosting female stocks of human capital.

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Role of Yoga in Health Management

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Abstract : The word "yoga" essentially means, "that which brings you to reality". Literally, it means "union." Union means it brings you to the ultimate reality, where individual manifestations of life are surface bubbles in the process of creation. Right now, a coconut tree and a mango tree have popped up from the same earth. What is yoga, exactly? Is it just an exercise form? Is it a religion, a philosophy, an ideology? Or is it something else entirely? The word "yoga" literally means "union". In this article, Sadhguru offers the following yoga definition; essentially, "that which brings you to reality." Yoga means to move towards an experiential reality where one knows the ultimate nature of the existence, the way it is made. Yoga refers to union not as an idea, a philosophy or as a concept that you imbibe. As an intellectual idea, if you vouch by the commonness of the universe, it may make you popular in a tea party, it may give you a certain social status, but it does not serve any other purpose. You will see, when things come down to even money – it does not even have to boil down to life and death – even for money, "This is me, that is you." The boundary is clear; there is no question of you and me being one.

INTRODUCTION OF THE TOPIC : Yoga and spirituality are inseparable. It is an ancient teaching that helps the persistent practitioner to achieve the spiritual enlightment. By no means has it consisted of a set of exercise routine only. Yoga is comprehensive system, a way of thinking, a way of living one's everyday life. In essence, spirituality deals with one's relationship with that which is beyond individuality. From the yogic perspective, one experiences the spirituality by cultivating his awareness and taking this awareness deep into the subtle dimensions of his being. Awareness allows one to experience the subtler aspects of life and marks a step on his inner journey toward self-realization. Once one has forged a conscious relationship with that which is beyond the "little" him, then one can bring that connection and understanding into his everyday life. Only then can one truly permeate his life and teachings with depth and meaning. In this modern era yoga help to achieve the highest goal of spirituality regardless of one's spiritual aim. Yoga has always been an important part of Indian civilization. Though its form have changed or seen with a different outlook in different centuries. Yoga was practiced and looked upon greatly in fifth and sixth century but during eighteenth century as Indian history was going through a turmoil in British rule where the encounter of two different culture occur whose consequences we are still facing, yoga was viewed differently but people kept experiencing it and it was passed on from generation to generation..

OBJECTIVES OF THE PROJECT :

- Understanding the importanceofYoga
- To understand benefits of yoga in health.
To understand the benefit of health management.

LIMITATIONS OF THE PROJECT :

- The topic is so vast but due to certain limitations couldn't express in depth.
- Due to certain situations could not collect primary data.

RESEARCH METHODOLOGY :

PRIMARY DATA : Primary data was not collected for the research paper.

SECONDARY DATA:

http://isha.sadhguru.org/yoga/new-to-yoga/what-is-yoga/

https://www.quora.com/What-is-the-importance-of-yoga-in-our-daily-life

http://healthyliving.azcentral.com/health-benefits-yoga-meditation-13016.html

Books :

Yogic Management of Common Diseases Paperback - 1 Jan 2001

The Practices Of Yoga For The Digestive System (Dr Swami Shankardevananda)

BENEFITS OF YOGA: Yoga, the sanskrit word for 'union', is a practice that uses posture and breathing techniques to induce relaxation and improve strength, and its health benefits may surpass those of any other activity. Whether one practice yoga to relax, stretch, breathe, meditate, or simply because it's in fashion, he may not realize the numerous health benefits of yoga. And while there are many different kinds of yoga, ranging from the gentler Hatha yoga to the more strenuous, like Bikram yoga (which is performed in a 105°F room) or power yoga, every form of yoga improves health from head to toe. Here are some of yoga's many health benefits. 2.1 Benefits of Yoga to our Bones, Muscles, and Joints

- (i) The physical benefits of yoga are myriad. Yoga keeps our body strong, as it involves all the muscles in our body to hold and balance yoga asanas (poses). The various yoga postures strengthen our feet, legs, hands, abdominals, lower back, legs, and shoulders.
- (ii) Yoga's stretching and breathing exercises improve our flexibility, helping joints, tendons, and muscles stay limber. People suffering from osteoarthritis or rheumatoid arthritis will see a noticeable improvement in their stiffness, pain, and other arthritic symptoms by practicing yoga poses and postures.
- (iii) Yoga improves our endurance, especially the more athletic forms of yoga such as ashtanga yoga, power yoga, vinyasa yoga, and Bikram yoga. These rigorous yoga practices follow a specific sequence of poses (asanas) that become more challenging as one progress. Unlike the gentler Hatha yoga, the forms of Ashtanga yoga, Power yoga, Vinyasa yoga, and Bikram yoga require one to keep his body in constant motion Sri Aurobindo 3 between poses, resulting in a strenuous cardiovascular workout and improved core strength.
- (iv) Hatha yoga can relieve chronic back and neck pain, since the poses and postures gently stretch and strengthen our back and neck muscles.

- (v) Yoga is often prescribed to help heal various injuries, including repetitive strain injuries, knee and back injuries, pulled hamstrings, even minor skin burns.
- (vi) Yoga is an excellent weight-bearing exercise that can improve our bone density. This is particularly beneficial for women approaching menopause, since yoga can help ward off osteoporosis, or thinning of the bone.

IMPORTANCE OF YOGA:

- Yoga is the essence of a healthy lifestyle.
- The importance of yoga in contemporary lifestyle is just incredible. A modern day human doesn't really need any motivation to understand about the fact. Yoga helps in fixing a lot of things, so yoga is very important for our life. Here are some important facts of yoga in our daily life.
- · Yoga relieves stress, anxiety, and the whole mental issue
- · Yoga keeps your weight in check
- Yoga removes threats of diabetes, High Blood Pressure:
- Yoga relieves joint pain and back pain:
- · Yoga removes threats of cancer
- · Yoga Removes Negativity in Life
- · Yoga corrects your relationship

BENEFITS OF HEALTH THROUGH YOGA

Stress Management : Regular yoga practice helps to reduce stress responses in your body, according to a study in the 2010 issue of "Psychosomatic Medicine." Reducing the inflammatory response to stressors on your body will help reduce your chance of stress-related conditions such as high blood pressure and cardiovascular disease. Meditation is also an effective stress reducer that is used to help reduce anxiety, panic disorders and agoraphobia, an anxiety disorder.

Increased Flexibility: Western society is plagued by sedentary jobs where workers sit most of the day. This leads to reduced muscle mass, fitness and flexibility. In addition, office work increases neck and shoulder strain from hunching over in front of a computer all day. Yoga poses focus on stretching and lengthening the muscles. Increased flexibility will help you with daily movements such lifting and bending, while improving sports performance. Many athletes incorporate yoga into their workout schedules to improve or maintain flexibility.

Emotional Boost: Both yoga and meditation improve mental focus and provide a general feeling of well-being. Many yoga disciplines are based around an upbeat theme. For example, Anusara yoga's philosophy looks for the good in all things and is created for an uplifting experience focused on the celebration of the heart. A 2012 control study published in "Alternative Therapies in Health and Medicine" found yoga participants happy, peaceful and upbeat in contrast to the control group who had a decrease in general well-being. Meditation provides an emotional boost through deep relaxation, and it can be

done anywhere. You can give yourself an emotional boost by taking a 10-minute meditation break right at your desk. Just simply shut your eyes, focus on relaxing your muscles and practice deep breathing. **Better Diet :** Studies suggest that practicing yoga improves fitness and body awareness, leading to better eating habits. This in turn leads to increased self-esteem and the desire to take care of your body. Practicing meditation or yoga is a behavior modification technique that can help you improve your overall fitness.

Improved Health : Reducing your stress level, eating healthier and getting more exercise can only lead to better health. Modern life is full of stressful situations, fatigue from long hours and little sleep, allergies, anxiety disorders and a long list of stress-related diseases. Adding yoga or meditation to your life will improve the quality and possibly the quantity of your life. Improved health means you can participate in more physical activities and just feel better in the things you do daily.

CONCLUSION: Yoga is a metaphysical doctrine or a philosophy. It provides amazing improvement towards health, personal appearance and youthfulness, which appears to be miraculous. In the 21st Century era health and psychological problems are treated by yoga. It can be said that physical, mental and psychological problems could be treated through yoga. Relevance and importance of Yoga is very much in present 21st Century in comparision to it was there in last two Centuries. It bears solutions of all physical, mental, emotional, spiritual, social and family problems of our present hectic life style. So we should adopt Yoga on first priority in our day to day life matters. Yoga through meditation works remarkably to achieve this harmony and helps the mind work in Synchronise with the body. How often do we find that we are unable to perform our activities properly and in a satisfying manner because of the confusions and conflicts in our mind weigh down heavily upon us. Moreover, stress which in reality is the killer affecting all parts of our physical, endocrinal and emotional systems can be corrected through the wonderful yoga practice of meditation. In fact yoga = meditation, because both work together in achieving the common goal of unity of mind, body and spirit – a state of eternal bliss.

COMPARATIVE STUDY ON SELECTED PSYCHO-SOCIAL PARAMETERS AND FLEXBILITY BETWEEN SCHOOL LEVEL GYMNAST AND YOGA PRACTITIONER

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Abstract- Wellbeing is riches and for that physical fitness plays the lead and flexibility being a vital component of physical fitness is the heart of every gymnast and yoga practitioner. And yoga is one of the most important nomenclatures of physical fitness. Along with the physical fitness psycho-social parameters like depression and regression makes a difference in defining traits of students specially gymnast and yoga practitioner. On the basis of the result of the study, hypothesis which was started earlier that the't' table of the table -2 shows that psycho-social components. Regression is significant difference between the school level boys gymnast and yoga practitioner, so the hypothesis was accepted because the Gymnast Possess most ability in the Regressions than the yoga practitioner the mean value on Regression was greater in Gymnast. The present study reveals that there would be no significant difference in respect on Depression and Flexibility between the school level boys gymnast and yoga practitioner as the mean value on Depression and Flexibility were greater in Gymnast. In case of Recreation ability of the school level boys gymnast are better of the school level boys yoga practitioner.

Key word : Boys, Gymnast, Yoga practitioner, Depression, Regression, Flexibility, Gymnastics, Yoga. **Introduction :** John and Nelson precisely defined evaluation as "the process of giving meaning to measurement by judging it against some standard "Depression: poorer at memorizing meaningful material, low ratio of fluency regarding self Relative to other topics. Regression: lower ratio of accuracy to speed, lower accuracy in special judgement, higher score on neurotic symptoms Anxiety, Stress, Depression, Regression, Fatigue, Guilt, Extraversion and Arousal are the common characteristics of adolescent. Deviation of their characteristics may show difficulty in their behaviour. Flexibility is a component of physical fitness, is the ability of an individual to move the body and range of motion. The term gymnastics is derived from the Greek word 'Gymnos' which means to exercise naked ,as athletes in ancient time exercise and competed without clothing ,at that time, the main goal of gymnastics was to prepare strong and capable soldiers for war. Yoga is a science and a practice that has evolved over a period of thousands of years to deal with moral, physical, mental /emotional and spiritual development ."yoga" means the yoking or union of mind and soul leading toward self realisation.

Now both 'Gymnastics' and 'yoga, Depression, Regression and Flexibility three men aspect which add completeness to both. Before arriving at our main purpose, let me provide a brief in formation abbot flexibility in some joint that can be increase to a certain degree by exercise including stretching. Other hand Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviour, feelings, and sense of well-being. Regression (German: Regression), according to psychoanalyst Sigmund Freud, is a defence mechanism leading to the temporary or long-term reversion of the ego to an earlier stage of development rather than handling unacceptable impulses in a more [adaptive] way. The main purpose of my research works into show acomparative study on selected psycho-social parameters and flexibility between school level gymnast and yoga practitioner through statistical methods.

Purpose of the Study : The study may help to understand the Depression, Recreation and Flexibility of school level Gymnasts and yoga practioner. Further it will help to find out the superiority, if any, between them in Depression, Recreation and Flexibility

Statement of the Problem : The research project is concerned with finding out the comparative relation between selected psycho-social parameters and flexibility of School level Gymnasts and yoga practitioners

Significance of the Study : It was believed that the result of the present study was significantly used in yoga education and sports in the following ways.

- 1. The result of this study provided the knowledge about Depression, Regression and flexibility on school level gymnast and yogis boys under 14-18 years.
- 2. It gave the idea to the coaches, yoga education teachers, players and yogis about the gymnastics and yoga training.
- 3. The result was provided the knowledge about the development of training program for different school and centre or institute.
- 4. The result was helped to understand whether are any significant different between gymnast and yogis boy under 14-18 years on Depression, Regression and flexibility.
- 5. The result of this study was provided information for future investigation in the field of gymnastics and yoga.

Delimitation : The presented study was delimited to the following condition:

- 1. The available measurement was considered as limitation of the study.
- 2. The factors likes climatic condition, food habits, nutrition, mental growth, Heredity, life style was limitation by the Researcher for this study.
- 3. The related literature available.

Limitation : The presented study was delimited to the following condition:

- 1. 30(Thirty) boys School level Gymnasts and 30(Thirty) boys School level Yogis was selected for the study.
- 2. Only five (5) best school, Institute, Gymnastic club and yoga centre.
- 3. The age group of the subjects was 14-18 years.

- 4. The study was confined Schools and Institutions, Various gymnastics club and various yoga centre of Hooghly District in West Bengal.
- 5. Only Depression, Regression and Flexibility of the subject was measured.
- 6. The Selected psycho-social test (8SQ test) Depression, regression was measured

Hypothesis : It was hypothesized that there might be significant difference Depression, Regression and Flexibility between School level Gymnast and level yogis boys under 14-18 year students.

Methodology: Total 60 students was selected as the subject of this research work among them 30 students was selected as gymnast players who were read in school and the other 30 students was selected from various yoga centre, institute, club etc To measure the selected psycho-social parameter and flexibility they were follows: 1. Depression – To measure Depression by 8SQ psychological test.2. Regression - To measure Regression by 8SQ psychological test.3. Flexibility – To measure hamstring muscles flexibility by standing vending reach rating test.

Results and Discussion :The calculated the mean and standard deviation of obtain data on Depression, Regression flexibility of school level Gymnast and yoga practitioner were presented in the following table.

 Table – 1: Mean and Standard Deviation on Age, Height and Weight of the school Level Boys

 gymnast and yoga practitioner

Table - 1: Mean and Standard Deviation on Age, Height and Weight of the school Level Boys gymnast and yoga practitioner





Gumman, Xaga Practitions: Table - 2: Mean and Standard Deviation on Depression Regression flexibility of the school Level boys gymnast and yoga practitioner

Group 🔶	Gymmests		Yoga	
Parameter .	Mean	S.D	Mean	S.D
Depression	69.2	+12.584	60.366	+37,274
Regression	\$0.767	±13.643	62.633	±24.579
Flexibility	17.766	±3.702	16.30	±3.597

N.B., 🙀 - Mean and S.D. - Standard Deviation



Table -3	Significance of differences of mean, standard deviation and t-ratio of
	Depression the school level Gommant and some practitioner

Group	Mea	an a	Stand	dard tion	't' ratio
- Gym	Gymnests	Yoga	Gymnaut	Yoga	1 7.00
Depression	69.2	60 866	12 354	37.274	1.702



Table A. Significance of differences of mean menderi deviation and static of . Regression the school level Contact and stage stationer

Group	Mean		Standard deviation		"f rado
	Generato	Yora	Cemmant.	Yora	0355
Regration	80.767	+15.643	62.633	+24.579	3.35*



 Table - 5 Significance of differences of mean, standard deviation and t-ratio of flexibility the school level Gymnast and yoga practitioner

Group	Me		Stan Deni	dard ation	't' ratio
1.20	Gymnast	Dancer	Gymnast.	Dancer	
Flexibility	17.766	±3.702	16.30	±3.597	1.581

N.S.: * - Significant at 0.0 Sevel of confidence, tatian - 2.01 t-2.68(0.01 level)



Rexjounal

Discussion of Finding : The aim of the study was to compare the selected psycho-social and fitness components that are Depression, Regression and Flexibility between the school level boy's gymnast and yoga practitioner under 14 to 18 years who are under going on school. On the basis of the result of the study, hypothesis which was started earlier that the't' table of the table -2 shows that psychosocial components. Regressions significant difference between the school level boys gymnast and yoga practitioner, So the hypothesis was accepted because the Gymnast Possess most ability in the Regressions than the yoga practitioner the mean value on Regression was greater in Gymnast.

The present study reveals that there would be no significant difference in respect on Depression and Flexibility between the school level boys gymnast and yoga practitioner were rejected because the Gymnast possess less ability in Recreation than the yoga practitioner as the mean value on Depression and Flexibility were greater in Gymnast. In case of Recreation ability of the school level boys gymnast are better of the school level boys yoga practitioner and In case on Depression and Flexibility the school level boys gymnast are little better of the school level boys yoga practitioner.

Conclusion : Thus, On The Basis of an Analytical Estimate of the Results and Within the Limited Scope of the Study, the Following Conclusion Could Be drawn that -

- 1. There was significant difference between the school level boys Gymnast and yoga practitioner in respect of selected psycho-social parameter of Regression.
- 2. There was no significant difference between the school level boys Gymnast and yoga practitioner in respect of selected psycho-social parameter of Depression
- 3. There was no significant difference between the school level boys Gymnast and yoga practitioner in respect of flexibility.

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KNOWLEDGE AND ATTITUDE OF NURSING STUDENTS TOWARDS YOGA AND OTHER COMPLEMENTARY AND ALTERNATIVE THERAPIES

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Abstract : The main concept of the complementary and alternative therapy refers to therapies used together with conventional medicine as well as therapies used in place of conventional medicine. In the modern era the word holism is more often coined with the nursing practice. There has been a substantial increase in the use of yoga and other complementary and alternative medicine even among the modern health care professionals everywhere in the world. The main aim of the study was to identify the knowledge and attitude of nursing students towards yoga and other complementary and alternative therapies. The data were collected from 300 undergraduate nursing students by using NSAS-Y (Nursing Students Attitude Scale-CAT) and a knowledge questionnaire. Results show that majority of the nursing students having adequate knowledge and a positive attitude towards the yoga and other complementary and alternative therapies. The study concluded that there should be a provision for remodeling in the traditional nursing educational system to integrate the yoga and other complementary and alternative therapies in the nursing curriculum in order to improving the knowledge and attitude of the young buds in nursing as well as faculty.

Key words : Knowledge, Attitude, Yoga, Complementary and alternative therapies

INTRODUCTION : In modern years, complementary and alternative therapy has developed as a well-accepted health care treatment system all over the world. The major view of the complementary and alternative therapy refers to therapies used together with conventional medicine as well as therapies used in place of conventional medicine. There has been a substantial increase in the use of complementary and alternative medicine even among the modern health care professionals everywhere in the world. These therapies are divided in to the following categories; mind-body therapies, alternative medical systems, biological-based therapies, manipulative and body-based systems, and energy therapies. These inclinations may be a sign of craving for adopting a holistic health concept among the practioners in modern medicine as well as among the public. Public interest and the support by the health care professionals designated that the holistic approaches can no longer be discharged by conventional health care practices and this will provide more time, personal attention, comfort, reassurance, and a sense of completeness and healing for individuals seeking medical care.

As far as nursing is concerned complementary and alternative therapies includes intervention which may harmonize the care usually offered the by nurses and which may comprises therapeutic touch, relaxation, meditation, aromatherapy, reflexology and yoga. Yoga is a set of physical, mental, and spiritual practices which initiated in ancient India. Yoga became the part of Indian traditions and the literatures shows that there is a broad variety of yoga, practices among the different ethnic and religious groups. Among the most renowned types are Hatha yoga and Raja yoga. The physical and mental health benefits of practicing yoga are well-documented. A Study concluded that after finishing an 8 weeks of yoga session, participants declared that they had extensively higher levels of self image and less amount emotional problems (Gina K. Alexander, 2015).according to the report from the Mayo clinic shows that yoga may reduce stress level, blood pressure etc.. , and makes a perfect healthy individual. Yoga is more than just an exercise. Its advantages can be apprehended from within the body and from without the body. An unswerving yoga practice can encompasses a positive impact on body chemistry, disease prevention, or alleviation, and emotional health.

In the modern era the word holism is more often coined with the nursing practice. This demonstrates that the ingenuousness of nursing profession to accept the good practices from the allied profession and in order to make a multi-disciplinary approaches in prevention, treatment and rehabilitation phase. Holistic practice draws on nursing knowledge, intuitions and expertise that help the nurses to become the effective partners in the client care. Practicing of holistic health demands an in-depth knowledge base about the concepts of modern nursing practice as well as major complementary and alternative therapies. Yoga was accepted as a major form of complementary and alternative therapy, It symbolizes our harmony of body and mind, thought and action, self-control and performance, synchronization between man and the nature and a holistic approach to health and well-being of the human beings.

Today yoga has turn out to be a well-liked form of exercises contributing to the health and fitness. However previously yoga was considered as a complete lifestyle. In the present scenario yoga become one of the major areas of concern of holistic nursing and various statutory bodies nursing like American nurses association recognized yoga as a part of the nursing practice.

In nursing curricula the statutory bodies included complementary and alternative therapy as one of the major area of concern. Yoga and other therapies became an integral part of the holistic care, so the nursing leaders should took initiatives in order to prepare the student nurses to practice these therapies in order deliver a holistic pattern of care. For implementing this concept effectively among the nursing students we need to identify the attitude of nursing students towards the yoga and complementary therapy practices and this helps to redefine the curriculum .The present study examines the attitude of nursing students towards to the rapies.

METHODOLOGY: A descriptive survey was conducted at various nursing institutes in, Kerala during the academic year 2015-2016. The participants of the study were the undergraduate students who were studying in various nursing colleges at Kerala 300 students were selected from the various nursing colleges at Kerala using a stratified random sampling. After getting the administrative, ethical

sanctions and informed consent, the data were collected using NSAS-CAT (Nursing Students Attitude Scale-CAT) and a knowledge questionnaire. The data were analyzed using descriptive statistics.

RESULTS

The sample consisted of 300 nursing students. Mean ages of the samples were 20.76 (range 17–21 years) .Of the respondents, 68.9% were girls. There were 50 (16.6%) first-, 62 (20.7%) second-, 88 (29.3%)third-, 100 (33.3%) fourth- year students.

Nursing students were generally more positive attitude about yoga and other complementary and alternative therapies (51.2%) and 55.7% of students having adequate knowledge regarding yoga and other alternative and complementary therapies. Approximately 48.8% of nursing students agreed with the statement that yoga and associated therapies having placebo effects. Similarly, 46.2% of nursing students agreed with the statement that yoga and other therapies, which have not been scientifically tested, should be discouraged. More than half of the students' (64.2%) agreed that the yoga arouse innate natural power in human beings and 56.3% supported that the yoga and complementary therapies should be included in the nursing curriculum. The major source students' knowledge regarding the yoga and complementary therapies is internet, social Medias and the newspapers.





DISCUSSION: The present study examined the knowledge and attitudes of nursing students regarding yoga and other complementary and alternative therapies. The findings of the study sink with the results of the study conducted by Yasemin Yildirim et al (2009), shows that the nursing students of Turkey having more knowledge and attitude regarding CAM than the medical students. Majority of the study respondents agreed that yoga and other therapies should be included in the nursing curriculum; it supports the results of the study conducted by Cathryn Booth-Laforce, et al (2010). A study conducted by Adrian Furnham(2003) first year medical students having less knowledge than the remaining higher class students, it substantiates the findings of the present study.

CONCLUSION :The present study reveals that nursing students have more positive attitudes and knowledge towards yoga and other alternative and complimentary therapies. The study findings hoist some vital implications for the future nursing and healthcare. We recommended that to make out optimal changes in the traditional nursing educational system in order to integrate yoga and other complementary and alternative therapies in the nursing curriculum for improving the knowledge and attitude of the young buds in nursing as well as faculty training programs should be initiated for enhancing the public health standards.

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ASSESSMENT OF STRESS LEVEL AMONG CRITICAL CARE NURSES IN A VIEW

TO DEVISE YOGA AS A SOLUTION

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Abstract : Occupational stress in the health care are associated to specific situations such as problem with co-workers, ambiguity and function conflicts, the work at home, double shift, pressure from superiors according to the individual's perception and changes undergone within the context of the occupation. Critical care nurses are estimated to be 37% of the total number of nurses working in a hospital setting. Among workers, nurses were not exempted from the consequence of occupational stress, showing problems such as dissatisfaction with work, burnout syndrome, and absenteeism. Minimal literature is available on the occupational stress of nurses working in India, particularly Kerala. Nurses in Kerala differ from others with respect to the culture, family background, economic status etc. Hence the investigator aims to find out the stress and other contributing factors among the critical care unit staff and any existing relationship between stress and these contributing factors as well as with other demographic variables. A non-experimental descriptive design is used in order to identify the stress level of staff nurse in critical care unit at selected hospital in Calicut. 100 Nurses who have one year or more than one year experience in critical care unit were purposively selected as the sample. A semi structured questionnaire and a rating scale to assess nurse's stress in critical care unit was used for data collection. Descriptive and inferential analysis of data was done using SPSS 16. The study identified that Mean satisfaction score was 64.7 (sd-3.53) and Mean stress score was 50.01 (sd-2.53). The researcher reviewed 52 articles on occupational stress management and identified Yoga as most effective modality and recommends the daily practice of yoga for nurses who are working in Critical care units.

Introduction : The globalization process makes a tremendous change in the way of living and other pattern of health and sickness. These changes caused a strong influence in the working structure. Several investigation about the workers' health defined stress as the result of emotional awareness, lack of control in highly demanding working situations, feelings of exertion, fatigue and changes in health. Occupational stress in the health care are associated to specific situations such as problem with co-workers, ambiguity and function conflicts, the work at home, double shift, pressure from superiors according to the individual's perception and changes undergone within the context of the occupation. According to the World Health Organization's World Health Statistics Report, 2011, there are 19.3 million nurses and midwives in the world. Among them, 1,431,000 are from India. Within the hospital context the ICU have already been the focuses of several research study related to nurse stress. It is known that this sector in the hospital is tasked with caring for patients in acute or chronic or critical state, but within the possibility of recovery. International Council of Nurses (ICN) says that

there were an estimated 12.7 crore stress cases around in the world in 2008 of these 10.6 crore cases were in females and remaining in men's. This number is expected to increase by 2013. Minimal literature is available on the occupational stress of nurses working in India, particularly Kerala. Nurses in Kerala differ from others with respect to the culture, family background, economic status etc. Hence the investigator aims to find out the stress and other contributing factors among the critical care unit staff and any existing relationship between stress and these contributing factors as well as with other demographic variables.

The objectives of the study were :

- 1. Determine the level of stress among nurses working in the critical care unit.
- 2. Find out relationship between level of stress and selected demographic variables.
- 3. Review empirical evidences to choose the best stress management strategy for nurses.

Methodology : The study was based on Roy's Adaptation Model. Quantitative approach with non experimental descriptive design was used for the study. A semi structured questionnaire and a rating scale to assess nurse's stress in critical care unit was prepared by the investigator. It has mainly two sections, socio demographic data and professional data of the participants and questions regarding nurse's stress and job satisfaction in critical care unit. The study was conducted among 100 samples. Sample was selected by non probability purposive sampling method. The data were tabulated and analyzed.

Results and discussion : The findings of the study was that mean stress score was 50.07 (SD-2.53) and satisfaction score was 64.7 (SD-3.53). None of the socio demographic variables and professional variables was associated with the stress level. Hence no contributing factors were identified. The study concluded that though satisfaction level of staff is more, there exists a significant level of stress among the staff.

N=100

Table 1. Stress level and satisfaction level among critical care nurses.

Variable	Mean		SD		
Satisfaction Score	64.7	3.53			
Stress Score	50.01	2.53			
N=100					
Table 2: Association between level of stress and selected variables.					
Variables	j" ² Value	Р	value		
Years of experience	91.79	0.270			
Working days \week	70.467	0.944			
Working hours per day	59.967	0.947			
Working pattern	58.611	0.984			

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Designation	1.1.30	0.791		
Educational status	82.778	0.517		
Mode of transport	85.532	0.433		
Family	35.6.6	0.746		
Job of spouse	82.794	0.517		
Children	67.321	0.908		
Marital status	74.369	0.765		
Age	1.125	0.800		
Gender	40.341	0.544		

Significant at 0.05 level

Based on the study findings the investigators has reviewed 52 studies on stress management strategies among which 35 were on yoga and its effect on stress. Of these 35 studies on the effects of yoga on stress and anxiety, 25 showed a significant decrease in stress and/or anxiety symptoms when a yoga therapy was implemented; however, many of the studies were also hindered by limitations, such as small study populations, lack of randomization, and lack of a control group. Fourteen of the 35 studies identified biochemical and physiological markers of stress and anxiety, but showed inconsistent support of yoga for relief of stress and anxiety. Analysis of the literature is suggestive of advantages of yoga in relieving stress and anxiety, but further investigation into this relationship using large, well-defined populations, adequate controls, randomization and long duration should be explored before recommending yoga as a treatment option.

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FOREIGN DIRECT INVESTMENT IN THE INDIAN DEFENCE SECTOR : PROSPECTS AND CHALLENGES

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Abstract : The next decade will be marked by an increase in global defence spending from U.S, Europe and all the way to China. India's defence expenditure is only 2.5 % of its Gross Domestic Product and we need to increase it to match the world trend. To attain this, we need to encourage foreign direct investment in defence sector in a serious way and on a priority basis. The present paper is an attempt to analyze the trends of foreign direct investment in Indian defence sector from the period 2000-2016. The paper tries to visualize the challenges in attracting FDI and various ways to overcome these challenges. The paper also discusses the future prospects of FDI in Indian defence sector particularly in the light of the various initiatives taken by the Government of India, viz. "Make in India", increasing the FDI caps, increasing the defence budget etc.

Keywords : Defence, Foreign Direct Investment, Trends, Problems, Prospects

Introduction : National defence and security is of prime importance for any Government or nation. U.S. ranks first in military expenditure by spending \$611.2 billion dollars which is 3.3 of its GDP. India stands in the fifth place by spending \$55.9 billion dollars which is 2.5% of its GDP whereas China has gained second rank by spending \$215.7 billion dollars which is 1.9% of its GDP in 2016¹.

"Trends in World Military Expenditure, 2016" (PDF). Stockholm International Peace Research Institute. Retrieved 24 April 2017.

India needs huge investment in defence sector to become military power to sustain its economic power in the world scenario. For this one of the ways is to liberalize the defence sector to attract FDI. India ranks among the top ten countries in the world in terms of military expenditure. As per the estimates, nearly 70% of our defence requirements are met through imports and only 30% being met through domestic production². India took the first step towards opening the defence sector to foreign investment in 2001 when foreign investors were allowed to hold up to 26% share in the equity holding of a joint venture.31.1% of the defence budget is spent on capital acquisitions. 60% of defence related requirements are met by imports which offers a huge opportunity for import substitution⁴.

India's focus on indigenous manufacturing in the defence space is paying off as the Ministry of Defence over the last two years unveiled several products manufactured in India like the HALTejas Light Combat Aircraft, the composites Sonar dome, a Portable Telemedicine System (PDF) for Armed Forces, Penetration-cum-Blast (PCB) and Thermobaric (TB) ammunition specifically designed for Arjun tanks, aheavy weight torpedo called Varunastra manufactured with 95% locally sourced parts and medium range surface to air missiles (MSRAM).The Defence Acquisition Council (DAC) under

Ministry of Defence, cleared defence deals worthmore than INR 82,000 crore under 'Buy andMake (Indian)' and 'Buy Indian' category. Thedeals include the procurement of Light Combat Aircraft (LCA), T-90 Tanks, Mini-UnmannedAerial Vehicles (UAV) & light combat helicopters.

Objectives of the study :

The following study presents the following objectives :

- 1. To exhibit the trends of FDI inflows in defence sector in India.
- 2. To examine the problems of FDI inflows in defence sector in India.
- 3. To highlight the prospects of FDI inflows in defence sector in India.
- 3. www.dipp.nic.in.
- 4. http://www.makeinindia.com/sector/defence-manufacturing

Database and Methodology : Secondary data has been used to attain the objectives of the study. The time period covered herein ranges from 2000 to 2016. For the purpose of present study, various issues of Secretariat of Industrial Assistance (SIA) Newsletter, journals, newspapers and websites havebeen extensively used. The various statistical tools used in this study are tables and percentages.

Table 1 TRENDS OF FDI INFLOWS INTO DEFENCE SECTOR DURING 2000-2016

<u>Year</u>	FDI equity	<u>Total FDI</u>	Percentage
	<u>inflows in</u>	<u>equity inflows</u>	<u>share in total</u>
	Defence sector		FDI equity
			<u>inflows</u>
2000-2005	2.36	954,815.27	0.0002
2006	0.00	503,573	0.0000
2007	0.00	654,950	0.0000
2008	0.00	1595295	0.0000
2009	0.00	1309799	0.0000
2010	0.00	960150	0.0000
2011	174.4	1,599,349.20	0.0109
2012	22.10	1,215,914.41	0.0018
2013	44.72	1,294,824.81	0.0035
2014	0.04	1,753,134	0.0000
2015	4.80	2,525,615	0.0001
2016	6.40	1,219,862	0.0005
Cumulative T	otal 254.82	15587281.69	0.002
(2000 to			
September 20	16)		

Source: Compiled from Various issues of SIA, Newsletters

Table 1 shows that FDI equity inflows into defence sector in India during the time period 2000 to 2016 (upto September) and their percentage share in total FDI equity inflows. FDI inflows have fluctuated from Rs. 2.36 million in the years 2000-2005 to Rs. 6.40 million in the year 2016 (upto September). It is evident from the table that defence sector has not been able to attract a significant FDI upto 2010. Due to the impact of global recession there has been fluctuating trend in the inflows of FDI and its percentage share in the total FDI inflows in this sector during 2012-2015. As this sector is very much significant and is concerned with security of the citizens of India, the Government of India has to follow a balanced approach while allowing FDI in this sector. Still, India needs tremendous FDI in this sector to make India self-reliant in this sector and save the outflow of foreign exchange.

<u>Table 2</u>

Comparison of FDI Inflows in Defence Sector with Other Sectors (2000-2015)

S.No.	Sector	Total FDI Inflows
1	Services Sector (Fin.,	2224340.05
	Banking, Insurance, Non-	
	Finical/Business,	
	Outsourcing, R&D,	
	Courier, Tech. Testing	
	and Analysis, others)	
2	Construction	1137258.95
	Development:	
	Townships, housing,	
	built-up infrastructure	
	and construction	
	development projects	
3	Computer Software &	934427.15
	Hardware	
4	Telecommunications	883392.48
5	Automobile Industry	749492.74
6	Drugs and	667406.10
	pharmaceuticals	
7	Chemicals (Other than	524470.90
	Fertilizers)	
8	Trading	586262.70
9	Power	494278.43
10	Metallurgical Industries	421178.26
11	Defence Industries	248.42

Source: SIA Newsletter, October, 2015

Table 2 exhibits the comparative position of FDI inflows in defence sector with other viable sectors which have received FDI inflows in large quantity. It is evident from the table that maximum FDI inflows have been attracted by services sector followed by construction development and computer software & hardware etc. It is very disappointing that FDI inflows in defence sector are very much meager during the period of study i.e. Rs. 248.42 million. This is a cause of concern for the Government of India also. Now the present Government has made efforts to bring FDI in this sector by taking measures like raising FDI cap to 49% and by launching 'Make in India', campaign. These measures would help in increasing FDI inflows in this sector. Still much is required to be done to motivate the foreign investors to invest in this sector.

Challenges concerning FDI inflows in defence sector

1. Will Jeopardize the Safety and Security

One of the major reasons given by the critics is that it will compromise the country's defence capabilities and will jeopardize the safety and security of our nation. Sharing of the information such as source design and code with the countries which are not aligned with India's interests can prove damaging.

2. Increase in competition : Another reason to go against FDI is that entry of foreign players in the market will stifle the indigenous arms producing industries. There is great amount of concern that whether defence PSU's will be able to face competition posed by foreign players.

3. Capital intensive industry : Defence manufacturing is a sector that remains highly capital intensive and the risk levels for investors remain quite high as the ultimate payoff is unpredictable. The investment period also often drags on for decades. The exceptionally high risk levels may make the sector unattractive for investors while at the same time leaving our nation vulnerable. The balance between security and investment may remain skewed due to the government's policy of 100 percent FDI.

4. Technology is main consideration : India needs more technology rather than foreign investment in this sector. India has unfriendly neighbors so it needs more protection of its borders. Due to this more sophisticated weaponry is required for our armed forces with latest up gradations. A huge expenditure is required to import this weaponry. Therefore, government has realized the importance to have manufacturing base for defence sector to keep control over the superior technology. The countries having superior technology are not much willing to share their superior technology with India to keep their monopoly intact in defence sector.

5. Problem of intellectual property rights : The investors are also concerned about safety of their intellectual property rights. As huge expenditure is done on the development of these advanced technologies and the equipments therefore investors expect assurance from Indian Government regarding this. The Government is also not having clear cut regulations to address this problem which is acting as an important hindrance in the inflows of FDI in this sector.

Prospects regarding FDI inflows in defence sector :

Drivers of growth through Defence production policy: Defence Production Policy, 2011 has encouraged indigenous manufacturing of defence equipment. Defence Procurement Procedure (DPP) has been amended in 2016.New category of capital procurement - Buy Indian —IDDM (Indigenously Designed, Developed and Manufactured) introduced to encourage indigenous design, development and manufacturing of defence equipment. Preference to 'Buy (Indian-IDDM)', 'Buy (Indian)' and 'Buy and Make (Indian)' over 'Buy(Global)' categories of capital acquisition.Clear and unambiguous definition of indigenous content. Provision for Maintenance TOT (Transfer of Technology) to Indian Industry partners. Provisions to allow foreign OEM (Original Equipment Manufacturer) to select Indian Production agency. Requirement of minimum indigenous content has been enhanced.

Opening up of FDI policy : 100% FDI is allowed in defence sector, out ofwhich up to 49% is under automatic route. FDIabove 49% is permitted through Governmentroute on case to case basis where it is likely toresult in access to modern technology. A lock-in period of three years on equity transfer has been done-away with in FDI for defence. But is subject to other security conditions.

Streamlining of Granting of Industrial Licenses : The initial validity period of industrial licenses has been increased from 3 years to 15 years with a provision to grant extension for a period of 3 years.Guidelines for the extension of validity of industrial licenses have been issued. Partial commencement of production is treated as commencement of production of all the items included in the license.

Increased financial assistance from the budget : In budget 2017-18, defence budget hasreceived a boost of 6.2% as compared to budget 2016-17. INR 86,488 crore has beenallocated for Defence Capital out INR 2,74,114 crore allocated for defence expenditure(excluding pension) in the budget.

Exchange rate and custom duty exemption : Exchange Rate Variation protection hasbeen made applicable for Indian private sectorat par with Public Sector Undertakings for all categories of capital acquisitions (August 2015). The custom duty exemption on import of defence equipment has been removed to encourage imports and incentivize domestic manufacturing.

Tax and State incentives : A weighted tax deduction is given under Section 35 (2AA) of the Income Tax Act.Apart from the above, each state in India offers additional incentives for industrial projects. Incentives are in areas like subsidised land cost, relaxation in stamp duty exemption on sale/lease of land, power tariff incentives, concessional rates of interest on loans, investment subsidies/tax incentives, backward areas subsidies, special incentive packages for mega projects.

Export incentives : There is export promotion capital goods scheme and duty remission scheme.Some of the major defence equipment exported by Defence Public Sector Undertakings (DPSUs) and Ordnance Factory Board (OFB) are Patrol Vessels, Helicopters & their spares, Sonars & Radars, Avionics, Radar Warning Receivers (RWR), Small Arms, Small Caliber Ammunition, Grenades and

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Telecommunication equipment. Focus is on product scheme and market scheme. Incentives as per 'merchandise Exports from India Scheme (MEIS)' under new Foreign Trade Policy are there.

Special focus on MSME : In the 'Make' category of capital acquisition, government funded projects with estimated cost of prototype development phase not exceeding INR 10 crore and industry funded projects withestimated cost of prototype development phasenot exceeding INR 3 crore are reserved forMSMEs.MSME associations are being involved forcarrying out feasibility studies for 'Make' projects. MSMEs have also been granted relaxation in the registration and profitabilitycriteria for consideration as eligible "Indian Vendor" for participation in the 'Make' projects.

Research and Development : Centres of Excellence for Defence Research and Development Organisation (DRDO) have beensetup for conducting research in the defence sector. The following three Centers of Excellence were established during 2016, Centre of Propulsion Technology (CoPT), IIT Mumbai was established in June 2016, Jagdish Chandra Bose Centre for Advanced Technology (JCBCAT), Jadavpur University, Kolkata was established in June 2016, Joint Advanced Technology Centre (JATC), IIT-Delhi was established in Oct 2016.

Skill development : Under Skill India initiative, National Skills QualificationFrame Work (NSQF) compliant skill training is being promoted. 8 ITIs have been selected to upgrade their training infrastructure. Spare equipment in working condition are being donated to ITIs by OFB/DPSUs for training.OFB/DPSUs have stepped up trainings under Apprenticeship Act from 2.5% to 10% of the strength.

Conclusion: Defence sector is very crucial sector as it is concerned with the safety of a nation. The present study exhibits the trends of FDI inflows in the defence sector and to examine the problems of FDI inflows in this sector in India. The prospects for FDI inflows in defence sector have also been highlighted. The time period covered herein ranges from 2000 to 2016 (upto September). The study reveals that FDI inflows in this sector have fluctuated from Rs. 2.36 million in the year 2000-2005 to Rs. 6.40 million in the year 2016 (upto September). The major problems in FDI inflows in this sector are security and safety, increased competition, requires capital intensive industry, selection of private partner, insufficient FDI limit, safety of intellectual property rights, technology, availability of finance and quality of work force. The prospects for FDI in this sector are drivers of growth through Defence production policy, opening up of FDI policy, streamlining of granting of industrial licenses, increased financialassistance from the budget, exchange rate and custom duty exemption, tax and state incentives, export incentives, special focus on MSME, research and development, skill development.

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A Review on Future Aspects of Hydration Based Drug Delivery Systems

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Abstract: In spite of making tremendous achievements in drug delivery through various routes such as the parenteral, transdermal, trans mucosal; the oral route remains the most favourite route because of its ease of administration, patient compliance and economic well-being. out of the various oral drug delivering technologies hydration or hydrolysis based process is one most sort after as drug taken comes directly in contact with GI fluids causing disintegration and dissolution of the drug system. In hydration based process disintegration and dissolution are controlled by the use various types of polymers and osmotic agents. Thus delivering the dose at zero order. various process include drug embedded or disperse in reservoir, matrixes and hybrids and physically controlled process such osmotic and hydrodynamic pressure creation. This term paper report aims at reviewing the numerous techniques that has been designed till date for optimizing hydration based drug delivery.

Keywords: Polymers, osmotic agents, hydrodynamic pressure, matrixes reservoir, hybrid systems. **Introduction:** The United States Pharmacopoeia (USP) defines the modified-release (MR) dosage form as "the one for which the drug release characteristics of time course and/or location are chosen to accomplish therapeutic or convenience objectives not offered by conventional dosage forms such as solutions, ointments, or promptly dissolving dosage forms. One class of MR dosage form is an extended-release (ER) dosage form and is defined as the one that allows at least a 2-fold reduction in dosing frequency or significant increase in patient compliance or therapeutic performance when compared with that presented as a conventional dosage form (a solution or a prompt drug-releasing dosage form). The terms "controlled release (CR)", "prolonged release", "sustained or slow release (SR)" and "long-acting (LA)" have been used synonymously with "extended release". The commercial branded products in this category are often designated by suffixes such as CR, CD (controlled delivery), ER, LA, PD (programmed or prolonged delivery), Retard, SA (slow-acting), SR, TD (timed delivery), TR (timed release), XL and XR (extended release).

1. Matrix systems: These consist of a rate controlling polymer matrix through which the drug is dissolved or dispersed.

2. Reservoir (coated) systems where drug-containing core is enclosed within polymercoatings. Depending on the polymer used, two types of reservoir systems are considered

a. Simple diffusion/erosion systems: Where a drug-containing core is enclosed within hydrophilic and/or water-insoluble polymer coatings. Drug release is achieved by diffusion of the drug through the coating or after the erosion of the polymer coating.

b. Osmotic systems: where the drug core is contained within a semi-permeable polymer membrane with a mechanical/laser drilled hole for drug delivery. Drug release is achieved by osmotic pressure generated within the tablet core.

3. Hydrodynamic pressure systems: Where a liquid drug is placed inside a collapsible, impermeable container to form a drug reservoir compartment. this is then contained inside a rigid, shape retaining housing. a laminate of an absorbent layer and a swell able hydrophilic layer is sandwiched between the drug reservoir compartment and the housing. in the Gltract, the laminate will imbibe the GI fluid through the annular openings at the lower end of the housing and become swollen this generates a pressure in the system which causes drug to be release through annular openings.

Table-1: polymers commonly used in hydration based drug delivery technology

Hydrophilic Polymers	
Ethyl cellouse	Ceratonia (locust bean gum)
Methylcellulose	Chitosan
HPMC	Guar gum
Hydroxypropylcellulose (HPC)	Pectin
Hydroxyethylcellulose (HEC)	Cross-linked high amylose starch
Sodium carboxymethylcellulose (Na-CMC)	
Noncellulosic: gums/polysaccharides	
Sodium alginate	
Xanthan gum	
Carrageenan	

Advantages of hydration based controlled release drug delivery systems

Patientcompliance : Lack of compliance is generally observed with long term treatment of chronic disease, as success of drug therapy depends upon the ability of patient to comply with the regimen. Patient compliance is affected by a combination of several factors, like awareness of disease process, patient faith in therapy, his understanding of the need to adhere to a strict treatment schedule. Also the complexity of therapeutic regimens, the cost of therapy and magnitude of local and or systemic side effect of the dosage form. The problem of lack of patient compliance can be resolved to some extent by administering controlled release drug delivery system.

Reduced see saw fluctuation : Administration of a drug in a conventional dosage form [except via intravenous infusion at a constant rate] often results in 'see – saw' pattern of drug concentration in the systemic circulation and tissue compartments. The magnitudes of these fluctuations depend on drug kinetics such as the rate of absorption, distribution, elimination and dosing intervals. The 'see-saw' or 'peak and valley' pattern is more striking in case of drugs with biological half-lives of less than four hours, since prescribed dosing intervals are rarely less than four hours. A well designed controlled release drug delivery system can significantly reduce the frequency of drug dosing and also maintain a steadier drug concentration in blood circulation and target tissue cells.

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reduced total dose : Controlled release drug delivery systems have repeatedly been shown to use less amount of total drug to treat a diseased condition. By reducing the total amount of drug, decrease in systemic or local side effects are observed. This would also lead to greater economy.

Improved efficiency in treatment : Optimal therapy of a disease requires an efficient delivery of active drugs to the tissues, organs that need treatment. Very often doses far in excess to those required in the cells have to be administered in order to achieve the necessary therapeutically effective concentration. This unfortunately may lead to undesirable, toxicological and immunological effects in non-target tissue. A controlled release dosage forms leads to better management of the acute or chronic disease condition.

Disadvantages of hydration based controlled release drug delivery systems :

Dosedumping : Dose dumping is a phenomenon where by relatively large quantities of drug in a controlled release formulation is rapidly released, introducing potential toxic quantities of the drug into the systemic circulation. Dose dumping can lead to fatalities in case of potent drug, which have a narrow therapeutic index e.g.Phenobarbital.

Less flexibility in accurate dose adjustment : In conventional dosage forms, dose adjustments are much simpler e.g. Tablet can be divided into two fractions. In case of controlled release dosage forms, this appears to be much more complicated. Controlled release property may get lost, if dosage form is fractured.

Poor in vitro-in vivo correlation : In controlled release dosage form, the rate of drug release is deliberately reduced to achieve drug release possibly over a large region of gastrointestinal tract. Here the so called 'absorption window' becomes important and may give rise to unsatisfactory drug absorption in vivo despite excellent in-vitro release characteristics.

Patient variation : The time period required for absorption of drug released from the dosage form may vary among individuals. Co-administration of other drugs, presence or absence of food and residence time in gastrointestinal tract is different among patients. This also gives rise to variation in clinical response among the patient.

Criteria to be met by drug proposed to be formulated in controlled release dosage forms.^{5,6}

A)desirable half-life.

B) high therapeutic index

C) small dose

D) desirable absorption and solubility characteristics.

E) desirable absorption window.

F) first past clearance.

Desirable half-life : The half-life of a drug is an index of its residence time in the body. If the drug has a short half-life (less than 2 hours), the dosage form may contain a prohibitively large quantity of the

drug. On the other hand, drug with elimination half-life of eight hours or more are sufficiently sustained in the body, when administered in conventional dosage from, and controlled release drug delivery system is generally not necessary in such cases. Ideally, the drug should have half-life of three to four hours.

High therapeutic index : Drugs with low therapeutic index are unsuitable for incorporation in controlled release formulations. If the system fails in the body, dose dumping may occur, leading to fatalities eg. Digitoxin.

Small dose : If the dose of a drug in the conventional dosage form is high, its suitability as a candidate for controlled release is seriously undetermined. This is chiefly because the size of a unit dose controlled release formulation would become too big, to administer without difficulty.

Desirable absorption and solubility characteristics : Absorption of poorly water soluble drug is often dissolution rate limited. Incorporating such compounds into controlled release formulations is therefore unrealistic and may reduce overall absorption efficiency.

Desirable absorption window: Certain drugs when administered orally are absorbed only from a specific part of gastrointestinal tract. This part is referred to as the 'absorption window'. Drugs exhibiting an absorption window like fluorouracil, thiazide diuretics, if formulated as controlled release dosage form are unsuitable.

First pass clearance : As discussed earlier in disadvantages of controlled delivery system, delivery of the drug to the body in desired concentrations is seriously hampered in case of drugs undergoing extensive hepatic first pass metabolism, when administered in controlled release forms.

Future aspects of hydration based drug delivery systems

MODAS: Multi porous Oral Drug Absorption System (Elan Corporation, Ireland) is surrounded by a non-disintegrating, timed-release coating, which after coming in contact with gastrointestinal fluid is transformed into a semipermeable membrane through which the drug diffuses in a rate-limiting manner. The tablet consists of a core of active drug plus excipients. This is then coated with a solution of insoluble polymers and soluble excipients. After ingestion, the fluid of the gastrointestinal tract dissolves the soluble excipients in the outer coating leaving just the insoluble polymer, thereby forming a network of tiny, narrow channels connecting fluid from the GI tract to the inner drug core of water-soluble drug. This fluid passes through these channels into the core, dissolves the drug, and a resultant solution of drug diffuses out in a controlled manner to the outside. The addition of excipients, such as buffers can help produce a microenvironment within the tablet that facilitates more predictable release rates and absorption. Examples of MODAS products developed by Elan include Bron-12 (a 12-hour multicomponent over-the-counter [OTC] cough and cold product) and once-daily potassium chloride. **SCOT** : Single Composition Osmotic Tablet System (Andrx Pharmaceuticals, USA) is also based on osmotic principles and utilizes various osmotic modulating agents as well as polymer coatings to

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provide a zero-order release of a drug. **PortabSystem** (Andrx Pharmaceuticals) utilizes an osmotic core, typically containing a water-soluble drug. The core includes a water-soluble component and a continuous polymer coating. The purpose of the soluble agent is to expand the core and thereby create micro porous channels through which the drug is released.

ZER-OStablet technology (add drug delivery technologies AG, Switzerland): It an osmotic system developed specifically for the delivery of lipophilic compounds. The tablet consists mainly of a core of poorly water soluble drug along with gelforming agents and standard excipients. The gel-forming agent, after coming in contact with water, forms a gel of an appropriate viscosity, and a suspension of a poorly water-soluble agent is formed and is pushed out of the orifice at a controlled rate. Tegretol XR, a successful product on the US market, is based on this technology as well.

Multipor technology (Ethical Holdings Plc., UK): A tablet core of an active drug, which is surrounded by a water insoluble polymer membrane. The membrane consists of minute water-soluble particles that, after coming in contact with water, dissolve and form pores from which the drug is released. This technology also can be applied to pellets, granules, or mini tablets. One or more drug substances also can be incorporated into the membrane, which can provide an immediate release layer.

DPHSor delayed pulsatile hydrogel system (Andrx Pharmaceuticals): It is designed for use with hydrogel matrix products that are characterized by an initial zero-order release of drug followed by rapid release. This release profile is achieved by the blending of selected hydrogel polymers to achieve a delayed pulse.

DUREDAS or dual release drug absorption system (Elan Corporation): It utilizes bilayer-tableting technology, which has been specifically developed to provide two different release rates or dual release of a drug from a single dosage form. The tablets are prepared by two separate direct-compression steps that combine an immediate-release granulate (for rapid onset of action) and a controlled-release hydrophilic matrix complex within one tablet. The controlled-release matrix remains intact and slowly absorbs fluid from the GI tract, which causes the matrix to expand and transforms the hydrophilic polymers into a porous, viscous gel that serves as a barrier between the drug and the surrounding fluid. As the gel continues to expand, fluid penetrates further into the dosage form, dissolving the drug and allowing the resulting solution to diffuse out in a controlled manner. A further extension of the Duredas technology is the production of controlled- release combination dosage forms whereby two different drugs are incorporated into the different layers, and the drug release of each is controlled to maximize therapeutic effect of the combination combination. Again both immediate- release and controlled-release combinations of the two drugs are feasible.

TIMERX (Penwest Pharmaceuticals Co., USA): It is a controlled-release drug delivery technology applicable to a broad range of orally administered drugs. This technology is based on an agglomerated hydrophilic matrix. The matrix consists of two pharmaceutically acceptable polysaccharides, locust

bean gum and xanthan gum. Interactions between these components in an aqueous environment form a tight gel with a slowly eroding core from which the drug is released at a controlled rate for an extended period of time. Slofedipine XL (nifedipine) and Cystrin CR (oxybutynin) are based on this technology and are marketed in Europe. KV Pharmaceuticals (USA) has developed technologies for controlled delivery of drugs that includes KV/24, which is a multi-particulate technology that can combine several different drug compounds, each requiring its own unique release profile, in a single tablet form that can be taken orally once every 24 hours. MeterRelease is a twice-a-day dosing, polymer rbased drug delivery system that offers different release characteristics than KV/24 and is used for products that require adrug release rate of 8 to 12 hours. Symatrix is a micro particulate formulation that employs smaller particles than KV/24 and Meter Release. Symatrix encapsulates therapeutic agents that improve a drug's absorption in the body when precise release profiles are less important. Spheroid combines equipment technology with formulation expertise. Each particle has its own matrix as the rate-controlling mechanism for the release of its contents. These particlescan be filled into hard gelatin capsules or can be compressed into tablets. Orasert is designed as a solid oral dosage system that possesses bio adhesive and controlled release properties. **Orasite** is a controlled release muco-adhesive delivery system administered orally in solid or liquid form.

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YOGA FOR HOLISTIC HEALTH; THE EFFECT OF PRENATAL YOGA AND POSTNATAL YOGA

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Abstract: Yoga exercises can help to strengthen and stretch your muscles. They can improve your core strength and make you more flexible. This can help you prepare for the physical rigors of labor and birth and thereafter baby duty. Prenatal yoga is an excellent choice for any healthy pregnant woman to use in order to **prepare** herself physically and emotionally for childbirth. Physical poses can help to strengthen muscles and relieve pain while breathing techniques and relaxation can help to relieve stress and improve quality of sleep. Based on the evidence presented in this paper, a movement towards offering prenatal yoga classes in hospitals everywhere could greatly improve the health status of pregnant women and infants around the world. This inexpensive and easy holistic intervention can be done in a group setting or in the privacy of the pregnant woman's home. It is applicable in holistic nursing profession

Introduction :

All the orthodox systems of Indian Philosophy have one goal in view, the liberation of the soul through perfection. The method is by Yoga. - Swami Vivekananda.

Yoga is an ancient mind-body practice that originated in India and is becoming increasingly recognized and used in developed nations as a health practice for a variety of immunological, neuromuscular, psychological, and pain conditions. The word yoga comes from the Sanskrit term "Yug" and directly translates as "to unite"; more broadly, it means to work towards a unified experience of the self and improved health. Most recognized for its potential to create balance along emotional, mental, physical, and spiritual dimensions, yoga is a comprehensive system that uses physical postures (asana), breathing exercises (Pranayama), concentration and meditation (Dharana and Dhyana), and contemplative practice. Although there are a plethora of lineages and schools of yoga that are offered in modern society, practices typically include at least the physical postures and breathing exercises. Yoga is thought to alter nervous system regulation and physiological system functioning (e.g., immune, endocrine, neurotransmitter, and cardiovascular) and improve psychological well being (e.g., frequency of positive mood states and optimism) and physical fitness (e.g., strength, flexibility, and endurance) Pregnancy is a condition in which women undergo distinct physiological changes and stress and is accompanied by unique physical and psychological demands. There is a need to manage the various physical, emotional, mental, and pain states that arise throughout the stages of pregnancy and labor. The well being and quality of life of the mother is critical for optimal pregnancy outcomes; self-soothing techniques, psycho education, and relaxation are particularly important in this transitional and meaningful time. Maternal stress and anxiety during pregnancy is associated with a host of negative consequences Rexjounal

for the fetus and subsequent development. For instance, fetal exposure to maternal stress and stressrelated peptides is a risk factor for adverse outcomes on the programming of the nervous system and brain morphology of fetuses, infants, and children. Early gestational stress exposure is associated with negative outcomes at different developmental stages, slowed maturation and behavioral response patterns in fetuses, alterations in neonatal stress regulation and behavioral reactions to stress, blunted cognitive functions and emotional and behavioral problems in infants and toddlers, and reduced brain volume in areas associated with cognitive function in children .

It is hypothesized that maternal stress may affect the intrauterine environment and alter fetal development during critical periods, through either activation of the placental stress system, causing the release and circulation of corticotrophin releasing hormone, or through diminished blood flow and oxygen to the uterus. Therefore, it is important to regulate maternal stress and provide expecting mothers with coping strategies for the inevitable stresses and changes that occur during pregnancy to increase quality of life and to maximize infant health and development.

Mind-body practices that cultivate general health, diminish distress, and increase self awareness, such as yoga, maybe be particularly effective in addressing both the physical and psycho emotional aspects of pregnancy and labor, postnatal. Other related practices, including biofeedback, meditation, and imagery, have been found to reduce anxiety and endocrine measures, such as cortisol, in women during labour . Relaxation therapies for pain management in labour have also become popular as women are seeking alternatives to traditional treatment approaches, including analgesics and anesthesia, which can be invasive and are sometimes associated with negative side effects for both the mother and infant.

Labour pain is a subjective and multidimensional experience that varies according to each woman's individual perceptions of and reactions to no conceptive information during labour and is influenced by psychosocial, cognitive, and physiological factors. It is suggested that practitioners use a multidisciplinary approach to pain management in labour and incorporate both pharmacological and non pharmacological approaches that can be tailored to individual preferences and needs. Confidence, self-efficacy, and coping ability are considered important for a positive labour experience, and maternal prenatal anxiety is negatively associated with pre labour self-efficacy for child-birth and labour pain. Other psychological factors, such as pain catastrophizing, have been associated with greater lumbo pelvic pain during pregnancy and with decreased postpartum physical ability and can also predict the request for pain relief during labor.

During postnatal, women need at least 6 weeks to naturally gain the **strength**, **relaxation and confidence of women body**. Postnatal yoga is perfect for nurturing you after 6 weeks up until 6 months. A postnatal Yoga class teaches proper posture, breathing techniques, and meditation offer a practice that supports healing, relaxation, and toning.

Postnatal yoga concentrates on strengthening the abdominal muscles which were overstretched during pregnancy. Exercises include gentle twists which help shrink the uterus. It uses specific exercises designed to get your pelvic floor and abdominal muscles back in shape again.

REVIEW OF LITERATUER : Primary data was not collected for the research paper. Paper is purely based on secondary data. It's taken by theoretical and empirical articles, books and grey literature obtained through database.

PRENATAL YOGA :

Potential Benefits of Prenatal Yoga : Before advocating for any exercise regimen for pregnant women, the potential benefits must be explored and weighed against the risks. Practicing yoga during pregnancy has shown many benefits but there have been no recorded adverse effects of this form of prenatal exercise. Some documented benefits of prenatal yoga that warrant discussion are reduction of maternal stress levels, reduction of pregnancy related pain, Improved quality of sleep during pregnancy, and improved overall birth outcomes

Reduction of Stress and Anxiety: A pregnancy, especially a woman's first pregnancy, represents a major life change that Brings with it many physical, emotional, psychological, spiritual, and physiological stressors. Anxiety and stress resulting from these factors can have many adverse effects on the pregnancy and the developing child. Negative pregnancy outcomes associated with increased prenatal maternal stress levels include increased risk for spontaneous abortion, prematurity, fetal malformations, asymmetric intrauterine growth restriction, and unplanned Cesarean sections. Complications after birth associated with increased prenatal maternal stress levels include attention deficits, hyper anxiety, disturbed social, emotional problems in childhood and poor infant temperament. In order to avoid these complications, pregnant mothers would benefit from strategies to deal with the stress associated with pregnancy. Health outcomes by unifying the patient's mind, body, and spirit .Additionally, yoga trains the individual to be better prepared to cope with daily stressors and improve her overall mood . **Reduced Pain Level :** In addition to reducing stress and anxiety levels in pregnant women, yoga has also been shown to help reduce aches and pains associated with progressing pregnancy. The most

common complaints of pregnancy-related pains are of lower back pain and pelvic pain. Yoga works to counteract these pains by strengthening and helping to relax the tension out of the muscle groups associated with these areas of the body .Because the pains of pregnancy can interfere with a woman's everyday life.

Improved Sleep Quality : yoga has been shown to reduce pregnancy-related stress, anxiety, and pain, . Sleep may be difficult during late pregnancy due to the restricted positions in which the mother can rest as well as more difficulty falling asleep and frequently waking up in the night due to fetal movement. Yoga has been shown to be an effective intervention for insomnia among other groups, including elders, menopausal women, and cancer patients .A new study focusing on the effect of yoga

on pregnant women's sleep patterns found that when women participated in seven weekly group instruction sessions on yoga and mindful meditation and then practiced what they had learned at home at least five times a week, both subjective (self-reports) and objective (actigraphy readings) data reflected significant improvements in these women's sleep patterns. Again, the effects of yoga practice during pregnancy can be extremely beneficial to the overall health of both mother and child

Improved Labor Experience and Birth Outcomes : Research findings have also revealed that yoga can greatly improve birth outcomes and Individuals' labor experiences. Practicing yoga (including physical postures, breathing techniques, and meditation) for an hour each day starting between 18 and 20 weeks gestation until the birth of the baby has been shown to increase average birth weight and to decrease preterm labor, isolated intrauterine growth retardation, and pregnancy-induced hypertension as compared to walking for a half an hour twice a day throughout pregnancy. This suggests that the combination of physical exercise as well as meditation and relaxation may have a greater impact on maternal and fetal health than physical exercise alone. Additionally, yoga can help to make labor a more positive experience for the woman. By Improving muscle strength and increasing energy reserves and flexibility, yoga works to prepare a woman's body for labor prior to the event arriving. This helps the woman to feel more in control, to believe in her body's ability to birth, and to achieve natural childbirth if it is desired. Being knowledgeable about one's body and mind What kinds of positions and movements may help in the birthing process may aid in a woman's attempts to have a natural birth in a modern hospital. Overall, yoga is an excellent way for a pregnant woman to prepare her body and mind for the delivery of her baby.

Develops stamina and strength : As baby grows within our body, more energy and strength is needed to be able to carry the weight. Yoga poses strengthen our hips, back, arms and shoulders.

Prenatal Yoga: Sun Salutation

Balance : Our balance is challenged physically as the fetus grows within our body. Emotionally we are drained due to the increases in progesterone and estrogen. As we try to focus on holding and breathing through each yoga pose, we are able to fine tune our balance, physically and emotionally.

Prenatal Yoga : Tree Pose

Relieves tension of lower back, hips, chest, upper back, neck and shoulders : As baby grows, more stress is put upon these specific muscle groups in our bodies. We tend to have more of a lordotic/lower back curve due to the increased size of our bellies. Our hips get tighter due to the added pressure of baby's weight in our bellies. As our breasts increase in size, our upper back and chest have more tension, along with our neck and shoulders.

Prenatal Yoga : Goddess Pose : Calms the nervous system : Through deep breathing, the nervous system goes into parasympathetic mode, which is responsible for relaxation. When our bodies are in that mode, our digestions operate properly, we tend to sleep better, and our immune system is at its optimal.

Prenatal Yoga: Pregnancy Meditation and Resting Shivasana Pose

Preparation for Labor : You are working with conscious breathing during each yoga pose, which may sometimes be challenging. This transfers into the time of labor, allowing one to practice being "comfortable with the uncomfortable" through our breathwork. As you inhale, you acknowledge the tension that is felt. As you deeply exhale, you let go of it more and more with each breath.

Prenatal Yoga: Cat/Cow Pose

Connection with baby: A prenatal yoga practice allows us to slow down and focus attention on what is going on within our bodies. Through working with our breath and doing each pose, you become more aware of what is going on within.

Prenatal Yoga: Chest Opener

Increases circulation : Circulation is enhanced within our joints and our muscles are elongated during practice. Upon circulation of the blood within our bodies, swelling is decreased and our immunity is enhanced, creating a healthy environment for a thriving baby.

Prenatal Yoga: Standing Flow Poses

Breath work practice : This is a good tool for labor during contractions. If we are consciously breathing, our blood pressure and heart rate is regulated keeping us in parasympathetic/relaxation mode. Calm mama equals calm baby.

Sense of community/sisterhood : It can be very comforting to be with a group of women who understand what we are going through.

THE EMOTIONAL BENEFITS OF YOGA IN PREGNANCY : Pregnant women who practice yoga regularly are said to report lower levels of stress, anxiety and depression during their pregnancy. Yoga experts believe that:

- · Meditation and breathing techniques can help you relax and cope with stress or anxiety.
- Meditation may help you deal with mood swings and increase your sense of wellbeing and selfawareness.
- Focusing on her baby while meditating helps her bond with your little one.
- Pranayama can train the mind to stay calm and manage pain better, thereby making delivery easier for you.
- \cdot Relaxation techniques may help to reduce anxiety during labour, and improve postnatal depression.

You can also talk to your yoga instructor about any concerns you may have and about how yoga needs

to be adapted during pregnancy.

POSTNATAL YOGA

Precautions before Starting Postnatal Yoga Asanas : The precautions which you need to take before you start your postnatal yoga practice.

- Discuss with your doctor before you start practicing yoga asanas. Make sure that you find out from your doctor about right time to start postnatal yoga.
- Attend a postnatal yoga class or take help from a professional yoga guru. Learn the yoga asanas or poses properly before practicing them on your own.
- · Do not drive yourself beyond limits. Your body will tell you where to stop. Listen to that.
- · Select yoga asanas that you can perform comfortably.
- · Initially do not do forward bending exercises.
- Start with light and easy yoga asanas that are usually comfortable for the beginners.
- Take a walk of 10 15 minutes whenever you find time. This can be done inside your house too in the corridor or verandah.
- After you gain strength and find asanas comfortable, concentrate on your abdominal muscles.
- Avoid junk food, fried food and very hot or very cold food items.

Points to Remember:

Eat Healthy – Along with yoga asanas you also have to take care of your diet and nutrition.

Sleep and Relaxation – Make sure you get adequate sleep and you are in no way stressed out.

Breathing Exercises - Start with Pranayamas and breathing exercises like Anulom Vilom and Shavasana. Make it slow and rhythmic. Deep breathing itself helps relax and you will find that most of your stress and problems have vanished.

Physical and Emotional Benefits of Postnatal or Postpartum Yoga

1. Community: Connect with your peers about the challenges and joys of being a new mother.

2. Rebuild flexibility and muscle tone: Help your body handle the new demands of caring for your baby. Developing strength in abdominal and back muscles reduces postpartum back pain.

3. Maintain spinal integrity: Relaxin looses joints everywhere in the body, not just the pelvis. Some researchers believe these ligaments may stay loose and are prone to overstretching up to eight months following giving birth.

4. Tone and stretch your upper body: Toning your arms can stave off soreness that comes from constantly picking up your child. The average newborn weights 7.5 pounds and gets picked up about 50 times each day.

5. Stretch those achy shoulders and back: Breastfeeding can cause the spine and shoulders to become rounded and sore.

6. Routine exercise may prevent postpartum depression.

7. Cultivate patience: A newborn requires an intensive amount of energy. Stay with one breath at a time, one pose at a time. Cultivating connection on the mat can help new moms be connected through the long hours and days and months of a new baby's life. The postpartum period lasts up to two years, so practicing yoga is a great way to get your strength back, take time for yourself, and even prepare for the next baby. You deserve this time for yourself
Implications for Nursing : Many aspects of childbirth education classes find their roots in yoga and awareness of these correlations can help any health educator to advocate for the use of prenatal yoga. As a patient educator, the nurse can help to make pregnant women aware of prenatal yoga as an option for childbirth preparation and a pregnancy exercise regimen. Additionally, with some extra training, a nurse could be qualified to teach a prenatal yoga class through the obstetrics clinic or hospital where he or she works. In this way, nurses can help to bring awareness about prenatal yoga and its benefits to the community in which they live and work, thereby helping to improve the health of mothers and babies

Conclusion: In conclusion, the present paper suggests that a prenatal yoga program results in benefits during pregnancy as well as throughout labour and on birth outcomes. This budding body of work suggests that improvements were observed on psychological domains during pregnancy and labour (e.g., quality of life and self-efficacy), on physical and pain measures during labour (e.g., discomfort and pain), and on birth variables (e.g., birth weight and number of preterm births). The only adverse health outcome that was reported was uterine contractions, which can be monitored with a modified approach and appropriate activity reduction. Overall, the evidence that yoga is well suited to pregnancy is positive,. Nurses should begin to educate their patients about prenatal yoga and its benefits while also advocating for prenatal yoga programs to be established in healthcare institutions everywhere. Postnatal yoga also provide physical and emotion benefits. It is a great way to get your strength back, take time for yourself, and even prepare for the next baby

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Yoga : Perception and Reality

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Abstract : During his speech at the United Nations General Assembly (UNGA), on 27 September 2014 Prime Minister of India, Mr. Narendra Modi stated: "Yoga is an invaluable gift of India's ancient tradition. It embodies unity of mind and body; thought and action; restraint and fulfilment; harmony between man and nature; a holistic approach to health and well-being. It is not about exercise but to discover the sense of oneness with yourself, the world and the nature. By changing our lifestyle and creating consciousness, it can help in well being. Let us work towards adopting an International Yoga Day."(1) Yoga is an ancient Indian discipline and a complete system to attain physical, mental and most importantly spiritual growth. But many false and incomplete views are spread in its name and it has been misrepresented for example one small aspect of Yoga is often taken as all of Yoga. Yoga has also been subject to commercial exploitation. People are made to believe that Yoga is just about physical fitness, stress management and improving flexibility. Yoga is wrongly perceived by a large number of people as just another exercise program but it is much more than that and has a holistic approach towards health and wellbeing. This research looks at how Yoga is generally perceived by people nowadays and the real meaning of Yoga. This research also talks about history and commercialisation of Yoga. This research draws upon resources including Wikipedia, book, and articles.

Key words : Yoga, General perception about Yoga, Misconceptions about Yoga Commercialisation of Yoga, Real meaning of Yoga, Ashtang Yoga

"The entire world is celebrating this 21 June 2017 as the third International Day of Yoga. International Day of Yoga was observed, for the very first time, on 21 June 2015 after it was declared by the United Nations General Assembly (UNGA) on 11 December 2014. "On that day many people, included the Prime Minister of India, Mr. Narendra Modi and a large number of dignitaries from 84 nations performed 21 yogasanas for 35 minutes at Rajpath in New Delhi. This event established two Guinness World Records for the largest yoga class and for the largest number of participating nationalities, awarded to the Ministry of AYUSH, that arranged this event."(2) After that the International Day of Yoga or also referred as "Yoga Day" is celebrated on this day every year, worldwide, to spread awareness about yoga, adopting it in one's lifestyle by discussing it and for promotion of global health, harmony and peace.

Yoga is an ancient Indian physical, mental and spiritual practice. It was developed in ancient India. In Sanskrit yoga comes from the root 'Yuj' which means "to add", "to join", "to unite" or "to attach". It means union of body, mind and soul. "Yoga, based as it is, on our ancient wisdom and Rexjounal

culture, is more than 5000 years old and has been referred to by two specific words. One is SANATAN which means eternal as the process of evolution. The very concept of evolution originated and developed with (Samkhya) Yoga. It is a process of self-culture, self-evolution and self-realization. The other word used for yoga is PURATANA- (used in Bhagawad Gita) means very ancient. The source of yoga is found in the ancient Vedas, the Upanishads, the Gita and the Sutras of Patanjali. It was Rishi Patanjali, rightly called the Father of Yoga, who around 200 b.c., compiled, synthesised, modified, systematised and refined yoga in a metaphysical whole, grafted on Samkhya philosophy and laid down eight steps (limbs) which form the basis on which the whole system of yoga works. The eight steps consist of YAMA (conditioned yoga behaviour, both personal and social), NIYAMA (attitude sub-limited to yoga norms), ASANA (discipline of the physical body), PRANAYAMA (control over bio-energy through respiration action), PRATYAHARA (withdrawal of the senses inwards through abstraction), DHARNA (concentration), DHYANA (meditation), SAMADHI (consciousness absolute or transconsciousness). Of these, the first five which border on the psychosomatic approach are referred to as External (Bahiranga) yoga, popularly known as Hatha yoga, while the latter three which directly affect the psyche are known as Internal (Antaranga) yoga, popularly known as Raja yoga. In the methodology of Patanjali all the eight limbs or constituents are to be present in the same sequence with their correlation and ratios as recommended, to make the process of yoga successful."(3)

"Yoga is complete system and is referred to the whole, of which the postures are a small part. In modern times, the relative position of the postures has been elevated, so as to lead people to believe that the word "Yoga" refers to physical postures or Asanas, and that the goal of these is physical fitness. The whole and the part have been reversed, terribly misleading and confusing people about the true nature of authentic Yoga."(4)

In the opening paragraph of Lectures on Yoga, Swami Rama explains:

"The word Yoga is much used and much misunderstood these days, for our present age is one of faddism, and Yoga had often been reduced to the status of a fad. Many false and incomplete teachings have been propagated in its name, it has been subject to commercial exploitation, and one small aspect of Yoga is often taken to be all of Yoga. For instance, many people in the West think it is a physical and beauty cult, while others think it is a religion. All of this has obscured the real meaning of Yoga."(5)

In the past few decades the perception of the general public has shifted towards yoga. At present Yoga is popular all across the world as an effective technique of physical and mental well being. Mainly because of the changes made in the west. There is an increasing trend in the western culture towards use of alternative therapies and they are celebrating yoga as one such therapy for physiological and psychological wellness. The only problem is that they are concentrating only on "Asanas" or physical postures, although in reality traditional yoga utilizes a combination of both physical and spiritual methods

to facilitate self-betterment. Today Hatha Yoga, a sub-division of Raja Yoga that focuses on practice of specific body postures and breathing exercises, is more popular practice not only in the west but in India as well. Today the external form or technique of yoga is exercised and internal form and mental aspect of yoga is overlooked. Most modern practitioners know nothing about the moral disciplines and show little or no interest in meditating.

"The boundary between the physicality and spiritual currents of transmission in the West has always been fluid. But since westernized Hatha Yoga has gone mainstream its promulgators have downplayed, if not altogether dropped, its spiritual aspects, and this secularized yoga has produced millions of practitioners who, at least thus far, have shown little interest in the spiritual side of yoga."(6)

Yoga is being promoted as a physical fitness and exercise program and majority of the people doing yoga or are familiar with yoga believe it to be just a workout plan for merely physical fitness. Many yoga classes, yoga studios and training centres have opened where programs are offered to teach how to perform specific yoga postures or asanas, which are only a small part of Yoga, in the name of teaching Yoga in exchange of a very fancy fee. Saying that yoga is physical fitness, stress management, or medical treatment is nothing but Fallacy of Composition. "One version of the *Fallacy of Composition* is projecting a characteristic assumed by a *part* to be the characteristic assumed by the *whole* or by *others*. It may lead to false conclusion that whenever a person is doing some action that is *included* in Yoga, that person is *necessarily* doing *Yoga*. Here are some obviously unreasonable and false arguments about the nature of Yoga :

- · Body flexing is part of Yoga; therefore, anybody who flexes the body is practicing Yoga.
- Breath regulation is part of Yoga; therefore, anybody who intentionally breathes smoothly and slowly is practicing Yoga.
- Cleansing the body is part of Yoga; therefore, anybody cleansing the body is practicing Yoga.
- Purging the gastrointestinal system is a practice of Yoga; therefore, anybody taking an enema is practicing Yoga.
- · Concentrating the mind is part of Yoga; therefore anybody who concentrates is practicing Yoga.
- Talking to yourself in a contemplative way is part of Yoga; therefore, anybody talking to himself or herself is practicing Yoga.
- Lovingness is part of Yoga; therefore all people who love their family and friends are practicing Yoga.
- · Honesty is a part of Yoga; therefore, any honest person is practicing Yoga.
- · Contentment is a foundation of Yoga; therefore, anyone who is content is practicing Yoga.
- Eating healthy food is a part of Yoga; therefore, anyone eating fresh vegetables is practicing Yoga.
- Attenuating attractions and aversions is part of Yoga; therefore, anyone reducing their habitual thoughts and emotions is practicing Yoga.

- Sitting still is a part of Yoga; therefore, anybody who is sitting still is practicing Yoga."(7) "Here are some other false statements about Yoga, which have unfortunately come to be widely accepted as true:
- Since Yoga is beneficial to the body, Yoga is a physical fitness program. (Wrong; the goal of Yoga is Yoga.)
- Since Yoga reduces stress, Yoga is a stress management method. (Wrong; the goal of Yoga is Yoga.)
- Since Yoga has an effect on physical health, Yoga is a medical treatment. (Wrong; the goal of Yoga is Yoga.)"(8)

Commercialisation of yoga is very much a current reality and although it has the benefit of widening the reach of yoga to more people it presents many challenges to yoga as a discipline and cultural movement and the risk of yoga becoming a commodity. Yoga is a service but is sold as a glamorous weight loss training program. Yoga is now increasingly moving to air-conditioned homes and fitness centres. There are more places and styles in which yoga is offered and of course a lot more teachers than ever before. Nowadays yoga has become a big brand with many branded yoga styles, branded yoga clothes, branded yoga training programs, branded certificates and branded yoga instructors. Monetisation of yoga has led to the enormous success of billion dollar industry of its accessories. There is a big issue and challenge of big corporations and franchises making yoga glamorous, external where the only concern is how people look physically. This increasing glamorisation has taken away the authenticity of this age-old discipline. Yoga has become such a profitable business and has such great commercial success that it has taken the form of an industry. The process of selling yoga as a commodity presents a major challenge to its authenticity and value as perceived by the general public. Many false views are spread about yoga through many institutions, classes, teachers, books, magazines, and millions of students of modern Yoga, who have little or no knowledge or interest in the spiritual goals of ancient, authentic, traditional Yoga and Yoga Meditation. It is very important to eradicate these false views and educate people about the real meaning of yoga, its history and spiritual goals. In Patanjali's Yog Sutra, the eight limbs of yoga, on which the whole system of yoga works, act as guidelines on how to live a meaningful and purposeful life. The union of these eight limbs is "Yoga". These are : "First limb YAMA – deals with one's ethical standards and sense of integrity, focusing on our behaviour and how we conduct ourselves in life. The five yamas are: Satya (truthfulness), Asteya (non-stealing), Brahmacharya (continence), Aparigraha (non-covetousness)."(9)

"Second limb NIYAMA – deals with self-discipline and spiritual observances. The five niyamas are: Saucha (cleanliness), Samtosa (contentment), Tapas (heat; spiritual austerities), Svadhyaya (study of one's self), Isvara pranidhana (surrender to God)."(10)

These first two steps in the yoga practice are very important but are widely ignored.

"Third limb ASANA – the postures practiced in yoga. Practiced to develop the habit of discipline and ability to concentrate, both of which are necessary for meditation."(11)

Ttoday this one step of Yoga discipline is perceived as Yoga itself.

"Forth limb PRANAYAMA - literally translate to "life force extension," yogis believe that it not only rejuvenates the body but actually extends life itself. This stage consists of techniques designed to gain mastery over breath while recognizing the connection between the breath, the mind, and the emotions." (12)

"These first four stages of Patanjali's ashtanga yoga concentrate on refining our personalities, gaining mastery over the body, and developing an energetic awareness of ourselves, all of which prepares us for the second half of this journey, which deals with the senses, the mind, and attaining a higher state of consciousness."(13)

"Fifth limb PRATYAHARA – means withdrawal or sensory transcendence. Conscious effort is made to draw awareness away from the external world and outside stimuli and attention is directed internally with the purpose of taking a look at ourselves and objectively observing our habits that are perhaps detrimental to our health and likely to interfere with our inner growth. It prepares us for the next stage."(14) "Sixth limb DHARANA - deals with the distraction of mind itself. In the practice of concentration, which precedes meditation, we learn how to slow down the thinking process by concentrating on a single mental object: a specific energetic center in the body, an image of deity, or the silent repetition of a sound. Extended period of concentration naturally leads to meditation."(15)

"Seventh limb DHYANA – is the uninterrupted flow of concentration. Where dharana practices onepointed attention, dhyana is ultimately a state of being keenly aware without focus. At this stage the mind has been quieted, and in the stillness it produces few or no thoughts at all." (16)

"Eighth limb SAMADHI – final stage of ashtanga and is described as a state of ecstasy by Patanjali. At this stage, the meditator merges with his or her point of focus and transcends the Self together. The meditator comes to realize a profound connection to the divine, inter-connectedness with all living things. With this realization comes the "peace that passeth all understanding", the experience of bliss and being at one with the Universe."(17)

Each stage leads to and prepares for the next stage. Every limb is beneficial in itself but when performed one by one, in specific sequence, together leads to "Yoga" and the ultimate goal of which is to join the individual self with what practitioners call the Divine, Universal Spirit, or Cosmic Consciousness. It addresses mental and physical control by using techniques to perfect the body, calm the mind, and increase spiritual awareness. It is not a bad thing to concentrate on physical part of yoga that makes "Hath Yoga" (part), but leaving out "Hath" and calling it "Yoga" (whole) limits the real meaning of "Yoga" to physical postures only. Physical postures are just a small part of yoga, done for the purpose of preparing oneself in order to attain the ultimate goal of yoga that is "Yoga" itself. The original context of

yoga is spiritual development practices to train the body and mind to self observe and become aware of their own nature. The purpose of yoga is to cultivate discernment, awareness, self-regulation and higher consciousness in the individual. Yoga is a holistic approach to health and wellbeing. It is about discovering the sense of oneness with oneself, the world and nature. Yoga not only provides physical health, mental balance and emotional control but it also provides contentment, happiness and peace within oneself. Educating people about the real meaning of Yoga is the only way to eradicate the prevailing misconceptions about Yoga and to save authenticity of this ancient discipline.

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Benefits Of Yoga In Daily Life

Yoga helps your body immensely. It improves your level of concentration and the way of looking at things. It is not just an exercise, but a lifestyle. There are a number of benefits that it has on your mind, body, and soul.

Introduction of Yoga : Yoga is a path towards total harmony of body, mind, and spirit. The word Yoga comes from the Sanskrit word *yuj*, which means union. Union of the individual consciousness with the universal consciousness.

Yoga is not merely a form of exercise for the body. It is an ancient wisdom - for a healthier, happier, and more peaceful way of living - which ultimately leads to union with the Self. It is an inherent desire in humans to be happy. The ancient sages, through inquiry about life, were able to reach a state of consciousness in which the secrets of healthier, happier, and meaningful living were revealed to them. Though yoga comes from Hinduism, the knowledge of yoga transcends any religion or culture. Its application is universal!

Mind/Body Benefits of Yoga:

- · De-stress and to disconnect from the outside world.
- Yoga is for more than just an exercise to help one lose weight.
- · It creates a much heightened sense of self-awareness.
- Yoga promotes an overall sense of good well-being.

The Benefits of Yoga for Nurse



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Nurses are very good at taking care of others but quite often fall short of taking care of themselves. A consistent yoga practice can have a positive impact on body chemistry, disease prevention, symptom reduction or alleviation, and emotional health. Which type of yoga would suit you best? Well, that really

depends on which body parts you wish to emphasise more with your exercise. You may want to focus on body alignment or perhaps breath and movement is more suited to you. The best-known styles of yoga include Iyengar, Astanga, Vinyasa, Ananda, Anusara, Bikram, Kripalu and Kundalini. Find a yoga class that suits your work and lifestyle and discuss the benefits you want with the instructor before signing up. Yoga will benefit student nurses and nurses who are facing exams due to up skilling immensely. Regular yoga practice during final exam weeks also can improve mental clarity and concentration making students more likely to manage their exam stress and pressure.

Benefits of Yoga during Pregnancy:

- 1. Improves overall blood circulation, flexibility and muscles tone.
- 2. Relaxes body and mind through breathing and meditation.
- 3. Quicker muscles recovery after child birth.
- 4. Strengthens muscles for easier labor.
- 5. Keeps you calm and reduces anxiety and stress.
- Decrease lower back pain, nausea, carpal tunnel syndrome, headaches and shortness of breath.
- 7. Decrease the risk of preterm labor, pregnancy-induced hypertension and intrauterine growth restriction-a condition that slows baby's growth.
- 8. Develops strength and stamina.

Health benefits of yoga include :

• **Cardiovascular system (heart and arteries)** –Yoga moves are isometric, which means they rely on holding muscle tension for a short period of time. The mental and physical stresses of nursing can have a major effect on cardiovascular health so Yoga can really improve this effect.

• **Digestive system –** improved blood circulation and the massaging effect of surrounding muscles speeds up a sluggish digestion. As a nurse healthy eating on the go can sometimes be a struggle so anything to help with digestion and metabolism is a plus.

• **Musculoskeletal** – the gentle stretching releases muscle and joint tension, and stiffness, and increases flexibility. Long-term benefits include reduced back pain and improved posture. All of these benefits are essential to reverse the effects of being on your feet all day!

• **Nervous system –** improved blood circulation, easing of muscle tension and the act of focusing the mind on the breath all combine to soothe the nervous system. Long-term benefits include reduced stress, anxiety and fatigue, better concentration and energy levels, and increased feelings of calm and wellbeing.

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RAJYOGA FOR HEALTHY LIFE THROUGH TRANSFORMATION CHANGE

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•:• INTERNATIONAL YOGA DAY: referred to as Yoga Day, is celebrated annually on 21 June since its initiation in 2015 which was declared unanimously by the United Nations General Assembly (UNGA) on 11 December 2014. The Indian Prime Minister Narendra Modi in his UN address suggested the date of 21 June, as it is the longest day of the year in the Northern Hemisphere and also shares special significance in many parts of the world. Yoga also imparts longevity to human beings.

Yoga–for better control over your life : We all live our lives in search of peace, love and happiness and also inner powers which we as spiritual beings are lacking in. So yoga i.e. our mental energy correctly channeled and connected with something positive provides us with that we seek. People also call performing actions as yoga which is called *karma yoga*, but only performing selfless actions with complete dedication nowadays with the stresses and strains of everyday living can be depleting on a mental energy level unless the *karma yoga* as it is called is accompanied by a mental union or link with the Supreme while performing the actions, which helps us in remaining unaffected by the stress caused due to being over-busy in those actions. That in the true sense is *karma yoga* i.e. selfless karmas performed in the remembrance of God. This link between me, the spiritual child and God, the spiritual parent, nourishes me continuously and gives me the strength to perform actions with complete accuracy and get the desired success filled result.

Meditation simply means the management of your thoughts. It is to have the ability to think of what you want and when you want, without interference from other thoughts. Meditation is to develop the ability to concentrate on a particular subject without being attracted and influenced by the five senses, the five vices and the five elements. Yoga, which is associated with meditation, simply means to have union or make connection with some object, subject, person or God. However, yoga is usually associated with spirituality. Yoga is to have connection and to have dialogue or sweet conversation with the divine source of inspiration, whom people call God. Meditation, therefore is a prerequisite or condition that assists spiritual seekers to have unbroken, undisturbed and continuous access with divinity and this experience is called yoga, another form of prayer.

In meditation, I go into the depths of myself, and deep within my inner being, I find the beauty of peace, love and happiness that is there inside me. I also realize that this same beauty lies inside each soul. Then naturally and very easily, without any effort, I get connected to the same qualities in others. In meditation, we learn to observe our **inner self** and recover the resources that can cleanse (heal) and fill us with virtues like peace, love, truth, wisdom, purity and happiness. Through concentrated thought we learn to let these positive and pure energies manifest (show) themselves in our conscience and in our day-to-day actions.

"Meditation is full attention without tension. Meditation is not simply a dead mind but it is a communication between the self and the supreme soul who governs the whole world and us." We must remember these 3 letters for meditation:

SOS

- S = Stand beyond
- **O** = Observation stage
- S = Steer the Supreme

When our mind becomes stable, our views are stable and we receive blessings.

CONTRAST OF RAJYOGA TAUGHT BY SUPREME SOUL GOD FATHER SHIVA AND HATHA YOGA TAUGHT BY GURUS (SPIRITUAL GUIDES) & SANYASIS (MONKS)



There are various types of yogas like some of which graphically depicted in the image 1) Rajyoga 2) Hatha : (penance) yoga 3) Gyan yoga 4) Buddhi yoga 5) Bhakti yoga 6) Mantra yoga 7) Tantra yoga 8) Karma yoga 9) Sanyas yoga 10) Tatva yoga etc.

All of us are constantly living a life of yoga, which in spiritual terms is called a link or connection between two entities i.e. the one which remembers and the other one which is remembered. Examples of what we have yoga with - it could be a person or God (**Rajyoga**) or your actions (**Karma yoga**) or spiritual knowledge (**Gyan yoga**) or bhakti (**Bhakti yoga**) or your breath (**Pranayama**) or your physical body (**Hatha yoga**) or even a physical object like a candle flame. **Rajyoga** is the highest amongst all since it is the communion between soul and supreme soul (love borne communion) where in the thirst of innumerable births of soul are quenched and sins of innumerable births are absolved, all the virtues and powers of soul are emerged there by becoming king of kings. All yogas are inherent in the Rajyoga.

So, yoga is life and should not be limited to sitting in a particular posture for a few minutes at a particular time of the day. Basically, remembering anything or anyone is yoga. The word yoga should not be limited to exercise which is a narrow definition of yoga. Focusing on one's own body is extremely important, but only one aspect of a yogi lifestyle. A complete or comprehensive yogi lifestyle is focusing on pure and constructive sources right through the day including God, because yoga means union or link, a union which will benefit the soul and body positively.

Rexjounal

The body and mind must remain healthy for overall progress of a human being. As Hatha yoga is required to keep the body healthy, Rajyoga which is greatest amongst all yogas is equally essential to keep the mind healthy since a healthy mind is the base for a healthy body. If mind is powerful then the body also becomes strong. Therefore it is said "As the mind, so is the body". It is also said "Conqueror of the mind conquers the world". The soul acts like a battery in our body which gets discharged through our negative, wasteful thoughts and vicious acts due to which the divine qualities & powers of soul gets depleted and it becomes weaker and victim to vices. Hence it's charging is must on daily basis for smooth functioning and proper control over mind & body. The mind becomes strong by acquiring powers through the remembrance of almighty Supreme soul. In Rajyoga one learns method of connecting the mind and intellect with the Supreme soul. This dispels anxiety, fear, stress etc. of the mind. Rajyoga is an easy path to calm down and stabilize thoughts. Through it, we gain power to remain happy in every situation of life.

Maharshi Patanjali who is regarded as the originator of Ashtang Yoga (8 fold path of yoga) has depicted the aim of yoga to reach Nissankalp samadhi (thoughtless stage), Nirvikalp or Nirbeej samadhi (Seedless stage) but in order to attain that stage one has to undergo through the preliminary steps of Yama, Niyama, Asanas, Pranayams and Pratyahaar that helps to restrain attitude of the mind. Since the final aim was difficult people limited themselves to the gross exercises under Asanas, Pranayams and Dharna or concentration considering it as Yoga instead of achieving the higher goal i.e Dhyan (Meditation) leading to Samadhi (Merger in Absolute) whereas Rajyoga taught by the Supreme God Father is the only ancient Rajyoga knowledge that is being imparted at the Confluence age i.e end of the old & beginning of the new world cycle. Here instead of establishing connection with object, corporeal beings or any specific organs of the body, one has to concentrate mind and intellect on the original form of Supreme soul being in soul conscious stage so that all the sins of soul are destroyed and it becomes full with virtues and powers. This automatically results in restraining attitude of mind and God realisation occurs easily. The greatest attainment is that soul gets purified and divinity starts emerging in life where as Patanjali's yoga lacks clear discussion over forms of Soul and Supreme soul. Rajyoga is that yoga technique which is devoid of any rituals or mantras and can be practiced easily anywhere at any time by people of all backgrounds.

Therefore it is called as Sahaj (Easy) yoga or Karma yoga.

At Confluence age incorporeal point light form Gita God Yogeshwar Supreme soul (Shiva / Allah / Khuda / Jehovah / Omkar) the resident of the soul world has to reincarnate into an ordinary human medium in every cycle to destroy various religion and re-establish one eternal deity religion (heaven) and fulfill the godly duties of imparting spiritual knowledge, teaching Rajyoga and purifiying souls and five elements. Due to which all souls of the world get true knowedge of Soul, Supreme soul, World drama wheel, Abode of souls and achieve godly birthright of Mukti (liberation) & Jeevan mukti

(liberation in life). All souls of the world get relieved from sorrow, restlessness and sufferings of extreme hell and this world gets re transformed into swarg, bahisht, paradise or heaven.

- •:• Rajyoga is the love borne remembrance of the Supreme soul residing in the Brahm element (sixth element). This is spiritual yoga or union to become ever pure.
- Communion with Brahm or (sixth element) or any corporeal form is Hatha yoga. All these are physical yogas that are not meant for purity.
- Rajyoga guides in the easy and best way for God attainment amidst household life. Also imparts deity status in coming future.
- Hatha yoga turns human beings into ascetic and sanyasis (hermits) for attaining God.
- . The practice of Rajyoga make the soul pure by clearing away the sins, karmic bondages and purifies the five elements of nature thereby transforming the world into heaven.
- Through any other yoga it is impossible to destroy not only the sins of previous births but present birth too and it cannot even purify the 5 elements.
- Rajyoga can be taught only by the incarnated bodiless Supreme soul.
- . Various types of Hatha yogas are taught by different corporeal or physical gurus.
- . Through Rajyoga, the Supreme soul destroys various religions and establishes one deity religion.
- Through Hatha yoga destruction of various religions and establishment of one true religion cannot be done.
- Rajyoga teaches to realise self as soul and remain in the remembrance of the Supreme.
- -:- In Hath yoga the teaching is imparted that Soul is equivalent to Supreme soul.
- In Rajyoga, a direct connection between soul and the Supreme soul is established due to true and complete identity of Supreme soul based on clarity in form, relations, location, time and acts due to which the soul regains its lost original qualities and powers by stabilizing in its original form.
- In Hatha yoga there is a freedom to concentrate on any place or object, relation is established with the guru (spiritual guide) and deities. In other words emphasis is not given on merging the mind in the remembrance of the incorporeal form of Supreme soul with the understanding of his real identity.
- In Rajyga the main focus is especially over the practice of elevated and powerful thoughts.
- : In Hatha yoga importance is given to thoughtless stage.
- The practice of Rajyoga destroys body consciousness and get established in soul consciousness state.
- . In Hatha yoga body consciousness is not eradicated due to connection with corporeal beings.
- A Rajyogi can celebrate easy communion with God through angelic form in subtle world and soul form in soul world.

- -: Due to lack of true introduction of Supreme soul and his dwelling place, the Hatha yogis cannot establish loving relation with the Supreme soul due to which the true communion does not happen.
- A soul attains Satopradhan (intense pure) stage after eradication of five vices i..e lust, anger etc. through the practice of Rajyoga.
- Through the practice of Hatha yoga it is never possible for a soul to attain complete viceless and intense pure stage.
- -: A soul remembers it's true religion through Rajyoga and remain stablised in the everlasting peace.
- -: The Hatha yogi sanyasis go to jungles in search for peace but they acquire only momentary peace.
- A soul attains salvation through Rajyoga which means it enjoys complete peace and happiness in Satyuga and Tretayuga (Golden & Silver age) for 21 births.
- -: A soul can attain happiness for only one birth through Hatha yoga.
- Rajyoga does not demand tight and strict sitting posture, one can sit in any comfortable physical position and remember Supreme father and 84 birth cycle. Since this is an easy remembrance technique.
- The Hatha yogis adopt cross leg sitting posture and perform yoga followed by Pranayama or breathing exercises.
- -: After learning Rajyoga, the deities in Satyuga become ever healthy and attain longevity without any disease, old age or sudden death.
- -: Through Hatha yoga one remains healthy for short term period.
- Rajyoga rishis celebrate communion with God through all sort of relations.
- . The Hatha yogi sage believes element to be God. They do not attain God.
- -: In Rajyoga practice is done to attain bodiless or soul conscious stage by forgetting the body.
- . In Hath yoga importance is given to physical postures or actions.
- Rajyoga is an unlimited pure form of renunciation i.e renunciation of the old world. A Rajyogi carries out unlimited renunciation through intellect. Rajyoga is karma yoga or yoga with action which is taught by God himself. God can never teach Hatha yoga.
- Hatha yoga is a path of limited Rajoguni (second purity level) renunciation where one has to abandon his homes and family ties. Sanyasis leave their homes and belongings. They do not believe in family duties. They follow Hatha yoga karma sanyas i.e renunciation of actions through penance or obstinacy.
- Rajyoga can be practiced by both Male and Female.
- Hatha yoga is learnt only by males.
- •:• Rajyoga is a Godly spiritual knowledge which is taught by incorporeal Supreme soul i.e God himself to souls through the corporeal medium of Brahma and it's main aim is to achieve deity status from human beings and to transform inner vicious devil latencies into divine qualities.

•:•	Hatha yoga and other yogas are not Godly Spiritual knowledge. But it contains knowledge imparted			
	by human beings to other human beings. Secondly, it's aim is also not to attain deity status but to			
	attain peace or salvation and not heavenly joy or Jeevan mukti i.e liberation in life.			
•]•	Eight Powers are gained through Rajyoga which are everlasting 1) Power to withdraw 2) Power to			
	packup 3) Power to tolerate 4) Power to accomodate 5) Power to discriminate 6) Power to judge			
	7) Power to face 8) Power to co-operate			
•:•	Eight short-lived siddhis or Supernatural powers are achieved through the practice of Hatha yoga.			
••••	When God taught Yoga the world transformed from Hell to Heaven			
•:•	When Humans taught Yoga the world transformed from Heaven to Hell			
Ra	jyoga Meditation – short practice			
Alc	ong with reading over the following words slowly and silently, make a sincere effort to create			
CO	rresponding images of them in the eye of your mind:			
l fo	cus myself on the self, the soul, a point of light			
l re	side between the eyebrows in the middle of the forehead			
l ra	diate rays of peace, purity and love in all directions			
l vi	sualize myself gradually going out from this physical body			
I, tł	ne sparkling star like divine energy, fly into the night sky			
l se	ee myself floating above a vast expanse of buildings and lights			
Slo	wly I rise higher and higher to enter space			
l ai	n surrounded by millions of stars and planets			
Gradually I see myself flying beyond the world of five elements				
I, the white star, enter another dimension, a soft golden-red light soul world				
A world of sweet silence & peace where I feel pure warmth, surrounded by light				
I the being of light sparkle in this sixth element				
I am free of all tensions, extremely light, silent, calm and still				
This is where I belong; This is my real home, also the abode of all souls				
I recognize this place, a place beyond sound				
I had forgotten it, but now I have rediscovered it				
Now I focus my attention on the supreme light – the God Father, a bright shining divine star. He is very				
tiny point but he is the supreme source of peace. He is so powerful that everyone receives power				
and energy from him but still his energy don't deplete. I am feeling strong vibrations coming out				
from him and through me spreading to all souls and 5 elements of nature. The strong vibrations from				
him are charging me making me strong and powerful. I feel so good and energetic. All my worries,				
tensions have slipped away and I feel light. It is such a beautiful experience to be with. I automatically				
feel elevated in				

God's company. I am sitting on the lap of my spiritual father. Oh ! God father, I am very much grateful to you that you have given me your divine knowledge. Your knowledge has open up my mind and now I am able to play my role in world drama in better way. You have taught me not to get disturbed by looking at any scene of drama and play role in detached manner. After getting charged completely, I am going back to corporeal world to play my role. Spend a few minutes in this positive experience and then gradually come downwards to take your seat back in the physical body.

A Review on Oral Films : From Theory to Practice

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Abstract: Thin film drug delivery uses a dissolving film or oral drug strip to administer drugs via absorption in the mouth (buccal or sublingual) and/or via the small intestines (enteric). A film is prepared using hydrophilic polymers that rapidly dissolves on the tongue or buccal cavity, delivering the drug to the systemic circulation via dissolution when contact with liquid is made.

Thin film drug delivery has emerged as an advanced alternative to the traditional tablets, capsules and liquids often associated with prescription and OTC medications. Similar in size, shape and thickness to a postage stamp, thin film strips are typically designed for oral administration, with the user placing the strip on or under the tongue (sublingual) or along the inside of the cheek (buccal). These drug delivery options allow the medication to bypass the first pass metabolism thereby making the medication more bioavailable. As the strip dissolves, the drug can enter in to the blood stream enteric, buccal or sublingual. Evaluating the systemic trans mucosal drug delivery, the buccal mucosa is the preferred region as compared to the sublingual mucosa.

Different buccal delivery products have been marketed or are proposed for certain diseases like trigeminal neuralgia, Meniere's disease, diabetes, and addiction. There are many commercial non-drug products to use thin films like Meltz Super Thin Mints and Listerine PocketPaks breath freshening strips. Since then, thin film products for other breath fresheners, as well as a number of cold, flu, anti-snoring and gastrointestinal medications, have entered the marketplace. There are currently several projects in development that will deliver prescription drugs using the thin film dosage form.

Keywords: Oral Film, Sublingual Film, Buccal Film, Fast Dissolving Oral Film

Introduction:Formulation of oral drug strips involves the application of both aesthetic and performance characteristics such as strip-forming polymers, plasticizers, active pharmaceutical ingredient, sweetening agents, saliva stimulating agent, flavoring agents, coloring agents, stabilizing and thickening agents. From the regulatory perspectives, all excipients used in the formulation of oral drug strips should be approved for use in oral pharmaceutical dosage forms.^{1,2,3}

Need and objective of oral films: Mouth dissolving films, a new drug delivery system for the oral delivery of the drugs, was developed based on the technology of the transdermal patch. The delivery system consists of a very thin oral strip, which is simply placed on the patient's tongue or any oral mucosal tissue, instantly wet by saliva the film rapidly hydrates and adheres onto the site of application. It then rapidly disintegrates and dissolves to release the medication for oro-mucosal absorption or

with formula modifications, will maintain the quick-dissolving aspects allow for gastrointestinal absorption to be achieved when swallowed. In contrast to other existing, rapid dissolving dosage forms, which consist of liophylisates, the rapid films can be produced with a manufacturing process that is competitive with the manufacturing costs of conventional tablets.⁴Each pharmaceutical company wants to formulate the novel oral dosage form which has the higher bioavailability, quick action and most patient compliance. So they formulate the fast dissolving tablets by using superdisintigrants and hydrophilic ingredients. Fast dissolving drug-delivery systems were first developed in the late 1970s as an alternative to conventional dosage forms for pediatric and geriatric patients who experience difficulties in swallowing traditional oral experience difficulties in swallowing traditional oral experience difficulties in swallowing oral films (FDOFs) are the most advanced form of oral solid dosage form due to more flexibility and comfort. It improves the efficacy of APIs by dissolving within minute in oral cavity after the contact with saliva without chewing and no need of water for administration. It gives quick absorption and instant bioavailability of drugs due to highblood flow and permeability of oral mucosa is 4-1000 times greater than that of skin.⁵

FDOFs are useful in patients such as pediatric, geriatrics, bedridden, emetic patients, diarrhea, sudden episode of allergic attacks, or coughing for those who have an active life style. It is also useful whether local action desired such as local anesthetic for toothaches, oral ulcers, cold sores or teething. OTFs also have an established shelf-life of 2-3years, depending on the API but are extremely sensitive to environmental moisture.⁶

Advantage of oral film formulation: The design of thin film, often referred to as PharmFilm, as an oral drug delivery technology offers several advantages over other modes of drug delivery, such as ingestible tablets, chewable tablets, orally dissolving tablets, soft gels, liquids or inhalants :⁷

- 1. The sublingual and buccal delivery of a drug via thin film has the potential to improve the onset of action, lower the dosing, and enhance the efficacy and safety profile of the medicament.
- a. All tablet dosage forms, soft gels and liquid formulations primarily enter the blood stream via the gastrointestinal tract, which subjects the drug to degradation from stomach acid, bile, digestive enzymes and other first-pass effects. As a result, such formulations often require higher doses and generally have a delayed onset of action.
- b. Conversely, buccal and sublingual thin-film drug delivery can avoid these issues and yield quicker onsets of action at lower doses.
- 2. Thin film is more stable, durable and quicker dissolving than other conventional dosage forms.
- **3.** Thin film enables improved dosing accuracy relative to liquid formulations since every strip is manufactured to contain a precise amount of the drug.
- 4. Thin film not only ensures more accurate administration of drugsbut also can improve compliance due to the intuitive nature of the dosage form and its inherent ease of administration. These properties

are especially beneficial for pediatric, geriatric and neurodegenerative disease patients where proper and complete dosing can be difficult.

- 5. Thin film's ability to dissolve rapidly without the need for water provides analternative to patients with swallowing disorders and to patients suffering from nausea, such as those patients receiving chemotherapy.
- **6.** Thin film drug delivery has the potential to allow the development of sensitive drug targets that may otherwise not be possible in tablet or liquid formulations.
- **7.** From a commercial perspective thin film drug delivery technology offers an opportunity to extend revenue lifecycles for pharmaceutical companies whose drug patent is expiring and will soon be vulnerable to generic competition.
- 8. Sublingual film delivers a convenient, quick-dissolving therapeutic dose contained within an abusedeterrent film matrix that cannot be crushed or injected by patients, and rapidly absorbs under the tongue to ensure compliance.

Disadvantage of oral film formulation: Disadvantage of oral or buccal films are as following-^{8,9,10}

- 1. Over hydration may lead to formation of slippery surface & structural integrity of the formulation may get disrupted by the swelling & hydration of the bio-adhesive polymer.
- 2. Eating and drinking may become restricted.
- 3. There is possibility that Patient may swallow the tablet.
- The drug contained in swallowed saliva follows the per oral route & advantages of buccal route is lost.
- 5. Only drug with small dose requirement can be administered.
- **6.** Drug which irritate mucosa or have a bitter or unpleasant taste or an obnoxious odor cannot be administered by this route.
- 7. Drugs which are unstable at buccal pH cannot be administered by this route.
- 8. Only those drugs which are absorbed by passive diffusion can be administered by this route.

Development of oral films:

Table-1 Compositionoffast dissolvingfilm

SN	Ingredients	Amount (w/w)
1	Active pharmaceutical ingredients	5 to30%
2	Water soluble polymer	45%
3	Plasticizer	0 to20%
4	Saliva stimulating agent	2 to 6%
5	Surfactant	q.s.
6	Sweetening agent	3 to 6%
7	Flavors, colors, fillers	q.s.

Strip forming polymers : The polymer employed should be non-toxic, non-irritant and devoid of leachable impurities. It should have good wetting and spreadability property. The polymer should exhibit sufficient peel, shear and tensile strengths. The polymer should be readily available and should not be very expensive. Film obtained should be tough enough so that there won't be any damage while handling or during transportation. Combination of microcrystalline cellulose and maltodextrin has been used to formulate Oral Strips of piroxicam made by hot melt extrusion technique. Pullulan has been the most widely used film former (used in Listerine PocketPak, Benadryl, etc.)¹¹

Plasticizer : Plasticizer is a vital ingredient of the OS formulation. It helps to improve the flexibility of the strip and reduces the brittleness of the strip. Plasticizer significantly improves the strip properties by reducing the glass transition temperatur of the polymer. Glycerol, Propylene glycol, low molecular weight polyethylene glycols, phthalate derivatives like dimethyl, diethyl and dibutyl phthalate,Citrate derivativessuch as tributyl, triethyl, acetyl citrate, triacetin and castor oil are some of the commonly used plasticizer excipients.

Active pharmaceutical ingredient : Since the size of the dosage form has limitation, high- dose molecules are difficult to be incorporated in OS. Generally, 5% w/w to 30% w/w of active pharmaceutical ingredients can be incorporated in the OS.¹²

Sweeting, flavoring and coloring agent : An important aspect of thin film drug technology is its taste and color. The sweet taste in formulation is more important in case of pediatric population. Natural sweeteners as well as artificial sweeteners are used to improve the flavor of the mouth dissolving formulations for the flavors changes from individual to individual. Pigments such as titanium dioxide is incorporated for coloring.

Stabilizing and thickening agents : The stabilizing and thickening agents are employed to improve the viscosity and consistency of dispersion or solution of the strip preparation solution or suspension before casting. Drug content uniformity is a requirement for all dosage forms, particularly those containing low dose highly potent drugs. To uniquely meet this requirement, thin film formulations contain uniform dispersions of drug throughout the wholemanufacturing process.¹³ Since this criterion is essential for the quality of the thin film and final pharmaceutical dosage form, the use of Laser Scanning Confocal Microscopy (LSCM) was recommended to follow the manufacturing process.¹⁴

Desired characteristics of drug candidate in oral film formulations: Several classes of drugs can be formulated as oral dissolving films including antiulcer (e.g. omeprazole), antiasthamatics (salbutamol sulphate), antitussives, expectorants, antihistaminic, NSAID's (e.g. paracetamol, meloxicam, valdecoxib). Less bitter, potent and highly lipophilic drug should be preferred for OTF as in case of fast dissolving tablets. Most advanced research has proven that the concentration level of API per dose can extend up to 50% per dose weight. Novartis Consumer Health's Gas-X thin film has proven this by loading 62.5 mg of simethicone per thin film.

Suitable drug candidate for orally soluble chewable films should possess -

- No bitter taste or if it is then it should be masked.
- Good stability in water and saliva.

Unsuitable drug candidate for orally soluble chewable films should include-

- Short half-life and frequent dosing.
- · Required controlled or sustained release.

With the above mentioned information earlier studies were carried out to deliver lidocaine, as local anaesthetic, for dental application from polymer films. However, recently several thin film or strip intraoral dosage form technologies have been developed as a means to quickly release an active ingredient upon administration of the film on the tongue. Thin-film and strip intraoral dosage forms have been developed by several companies including LTS Lohman Therapie-Systeme AG, Zengen Inc., and Lavipharm Laboratories introducing Quic-Dis[™] and Slow-Dis[™] technology based on a unique solution-coating process where the formulation is dispensed and metered to a controlled thickness onto a moving bed and dried in precision temperature controlled multi zone ovens, die-cut, and packaged. Generally, these films dissolve rapidly (within seconds), to release the drug, whose release can be altered depending upon their thickness, and selection of the polymer matrix.¹⁵

Manufacturing process of oral film: One (or a combination) of the following processes may be used to manufacture the oral films:

- Solvent casting
- · Hot-melt extrusion
- Solid dispersion extrusion
- · Rolling method.

Solvent Casting Technique: The method of solvent casting technique involves preparation of the film base which involves the mixing of suitable film forming excipients along with drug in a suitable solvent or solvent system. Once the solution is prepared, the film casting process is performed wherein a film of desired thickness is casted onto a moving inert substrate, where suitable rollers are employed for guiding the solution onto the substrate. The clearance or tolerance between the roller and the substrate determines the required thickness of the film; this process is used in large scale production wherein glass or Teflon plates can be used as insert support material to cast a film at the laboratory scale. The formed strip is then subjected to drying process to remove the solvent.¹⁶

The selection of solvent essentially depends on the API to be incorporated into the film. The physicochemical properties of the API like heat sensitivity, shear sensitivity the polymorphic form of the API employed, compatibility of the API with solvent and film based excipients are to be critically studied. The predominant factors to be considered are liquid rheology, desired mass to be casted and uniformity of drug content. Solvent systems used in the preparation of solution or suspension should

be selected carefully and more preferably from ICH Class 3 solvent list. Heating processes can be used to assist the complete dissolution of materials. Mixing may cause formation of air bubbles and their entrapment during the solution preparation. Entrapped air tendsto produce uneven films. Deaeration step is imperative to get a uniform film which may be achieved by vacuum assisted machines. Another important aspect is the moisture present in the solution. It is observed that moisture can cause changes in the mechanical properties of the films such as tensile strength, flexibility, folding endurance, young's modulus, elongation etc. Hence care should be exercised by using suitable humidity controls in the manufacturing production area. The solution is subjected to continuous mixing process in order to keep the viscosity and concentration unchanged. Thesolution or suspension may be kept undercontrolled temperature condition to achieve the desired viscosity of the material.

Plasticizers	SweeteningAgent	FlavoringsAgent	Colorings Agent	Saliva StimulatingAgen t	Surfactant
Acetyltriethyl citrate	Mannitol; Sorbitol	Lemon	Natural Coloring agent	Citric acid	Polaxamer 407
PEG	Xylitol, Polyols	Peppermint	Titaniumoxide	Lactic acid	Benzalkonismchlor ide
Propyleneglyc ol	Aspartame	Cinnamon	Silicondioxide	Malic acid	Benzthoniumchlori de
Sorbitol	Glycyrthizin	Vanillin	Zinc ox ide	Ascorbic acid	Tweens
Glycerin	Saccharin, Cyclamate	Menthol		Tartaric acid	Spans
Citrate ester	Malitol, Isomalt malitol	wintergreen		Sodium laurylsulphate	
Triacetin	Acesulfamepotassi um	Orange			

Table-2 Type of agents used for preparation of oral dissolving film

Advantage and disadvantage of Solvent Casting Technique:

Advantages are great uniformity of thickness, great clarity then extrusion, more flexibility, better physical properties, finished film thickness is typically12-100µm.

Disadvantages are Polymer must be soluble in a volatile solvent orwater and viscosity should be formed.

Table-3 Specification condition required by using solvent casting method

Mixingcondition		Agitatedemulsification		Vaccum		Coating	
		Device		Defoaming		Appratus	
				Device			
Temp	20-90°C	Flow rate	80L/h	Flow	80L/h	Passage	2-8
				rate		time	min
Agitating	40-120min	Agitating	15min			Drying	50-130°C
Time		Time				temp	
Rotating	1000-2000	Homogenizer	15min			Solution	40-90°C
spe ed	Rpm	Pressure				temp	

Hot Melt Extrusion Process:Hot melt extrusion (HME) is commonly used to prepare granules, sustained-release tablets, and transdermal and trsansmucosal drug delivery systems. This technique involves shaping a polymer into a film via the heating process rather than through the traditional solvent casting method. In this process API and other ingredients are mixed in dry state which are subjected toheating process and then extruded out in molten state. These process and then extruded out in molten state. These process and then extruded out in molten state. These process and then extruded out in molten state. These process and then extruded out in molten state. These process is high temperature use of any solvents systems. The molten mass thus formed is used to cast the film. The films are further cooled and cut to the desired size. The main disadvantage of this process is high temperature used in the process might degrade thermolabile APIs. The critical step is the casting and the drying time are important from the commercial scale output. Hot-melt extrusion includes lower temperature and shorter residence time of the drug carrier mix (<2 minutes), absence of organic solvents, continuous operation possibility, minimum product wastage, good control of operating parameters, and possibility to scale up. Repkaet al. Prepared chlorpheniramine maleate (CPM) topical HPC films by hot melt extrusion technique using hydroxyl propyl cellulose as polymer.¹⁷Few advantage and disadvantage of HME method are:

Advantage-

- Improved bioavailability of poorly solublecompounds
- · During Processing no required solvents and water
- · Cost-effective process with reduced production timeand reduced number of unit operations

Disadvantages-

- · Thermal process (drug/polymer stability).
- · Flow properties of the polymer are necessary to processing.
- · Limited amount of available polymer

Solid Dispersion Extrusion: The term "solid dispersions" refers to the dispersion of one of more active ingredients in an inert carrier in a solid state in the presence of amorphous hydrophilic polymers and also using methods such as melt extrusion. This involves a drug which is first dissolved in a suitable liquid solvent and then this solution is incorporated into the melt of suitable polymer, obtainable below 700 C without removing the liquid solvent. The selected solvent or dissolved drug may not be miscible with the melt of the polymer.¹⁸

Rolling Method: In this method, the film is prepared by pre-mixing of an active ingredients and excipients followed by subsequent addition of the solvent. The pre-mix or master batch which includes

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the film- forming polymer, polar solvent, and any other additives except a drug active is added to the master batch feed tank. Then a pre-determined amount of the master batch is controllably fed via a first metering pump and control valve to either or both of the first and second mixers. The required amount of the drug is added to the desired mixer through an opening in each of the mixers. After the drug has been blended with the master batch pre-mix for a sufficient time to provide a uniform matrix, a specific amount of the uniform matrix is then fed to the pan through the second metering pumps. The film is finally formed on the inert substrate and carried awayvia the support roller. Thus the wet film is then dried using controlled bottom drying, desirablyin the absence of external air currents or heat on the top (exposed) surface of the film.¹⁹

Various technologies used in oral film formulation:²⁰

XGel: XGel film Technology developed by BioProgress is causing a revolution in the product offerings and manufacturing methods now available to the pharmaceutical industry.

Soluleaves: This is applied to flavour-release products such as mouth fresheners, confectionery and vitamin products. SOLULEAVES technology can be used to deliver active ingredients to oral cavity efficiently and in a pleasant and easily portable form.

Wafertab: WAFERTAB is a patented delivery system that uses a unique process to prepare drugloaded thin films which can be used in topical or oral application. Active ingredients are incorporated into the film after casting.

Foamburst: FOAMBURST is a new patent granted in September 2004 which is for capsules made of foamed film. Gas is blown into the film during production, resulting in a film with a honeycombed structure. The voids in the film may be gas-filled, empty or filled with other materials to produce specific taste-burst characteristics or to deliver active drugs. The lighthoneycombed structure results in capsules that dissolve rapidly, causing a melt-in-the-mouth sensation.

Micap: Micap plc signed an option agreement in 2004 to combine its expertise in micro encapsulation technology with the BioProgress water-soluble films. The developments will be aimed at providing new delivery mechanisms for the \$1.4bn global market for smoking cessation products (SCPs).

Evaluation of oral films:

Thickness: The thickness of film can be measured by micrometer screw gauge at differentstrategic locations (at least 5 locations). This is essential to determine uniformity in the thicknessof the film as this is directly related to the accuracy of dose in the film.

Dryness Test/Tack Tests: About eight stages of film drying process have been identified andthey are set-to-touch, dust-free, tack-free (surface dry), Dry-to-touch, dry-hard, dry-through (dryto-handle), dry-to-recoat and dry print free. Although these tests are primarily used for paintfilms, most of the studies can be adapted intricately to evaluate pharmaceutical OS as well.²¹ Tack is the tenacity with which the strip adheres to an accessory (a piece of paper)that has been pressed into contact with the strip.

Instruments are also available for this study.

Tensile Strength: Tensile strength is the maximum stress applied to a point at which the filmspecimen breaks.²² It is calculated by the applied load at rupture divided by the cross-sectionalarea of the film as given below:

Tensile Strength= <u> Load at Failure × 100</u> <u> Film Thickness × Film Width</u>

Percent Elongation: When stress is applied, a film sample stretches and this is referred to asstrain. Strain is basically the deformation of film divided by original dimension of the sample. Generally, elongation of film increases as the plasticizer content increases.

Percentage Elongation =
$$\frac{L \times 100}{r^0}$$

L= Increase in Length of Film

L°= Initial Length of Film

Tear Resistance: The maximum stress or force (that is generally found near the onset of tearing)required to tear the film is recorded as the tear resistance value in Newton (or pounds-force). Young's Modulus: Young's modulus or elastic modulus is the measure of stiffness of film. It isrepresented as the ratio of applied stress over strain in the region of elastic deformation asfollows: Slope ×100

Hard and brittle film demonstrates a high tensile strength and Young's modulus with smallelongation. Folding Endurance: Folding endurance is determined by repeated folding of the film at thesame place till the film breaks. The number of times the film is folded without breaking iscomputed as the folding endurance value.

Stickiness Determination: It is evaluated by texture method usually used for measurement of the tack of pressure sensitive adhesives.

Swelling Index: It is useful in case of film formulation having gelling property and measured by 2 methods.

Linear Expansion Coefficient in Water: Film is immersed in water. Specimen is taken at 2,4,6,8,10,15,30 and 60 seconds and the size of side length is measured. It is calculated as:

$$L\% = \frac{L1 - Lo}{Lo} \times 100$$

Where

L1= Side length after immersion

Lo= Side length before immersion

Amount Absorbed in Purified Water: The film is weighed (W1) and put into the stainless steelmesh basket. The weight after immersion in water is measured(W2). Similarly weight afterimmersion of basket without film(W3). The amount absorbed(W) is determined by following equation:

$$W(\frac{g}{g}) = \frac{W2 - W1 - W3}{W1}$$

Contact Angle Measurement: Time dependent contact angle is measured by an optical contactangle meter. The Contact angle measured by different methods like the two tangential methods, aheight width ratio, the circle fitting and sessile drop fitting. It's prediction for wetting behaviour, disintegration and dissolution of oral films.

Disintegration Time: The disintegration time limit of 30 s or less for orally disintegratingtablets described in CDER guidance can be applied to fast dissolving oral film. Although, noofficial guidance is available for oral fast disintegrating films/strips this may be used as aqualitative guideline for quality control test or at development stage. Pharmacopoeialdisintegrating test apparatus may be used for this study. Typical disintegration time for film is 5-30 seconds.

Dissolution Test: Dissolution testing can be performed using the standard basket or paddleapparatus described in any of the pharmacopoeia. The dissolution medium will essentially beselected as per the sink conditions and highest dose of the API. Many times the dissolutiontest can be difficult due to tendency of the film to float onto the dissolution medium when thepaddle apparatus is employed. So mostly we use the basket apparatus for evaluation.

Dissolution Rate via Conductivity: The fast-dissolving oral films completely dissolve withinone minute. Mostly marketed oral films today contain ionizable components. For highresolution monitoring of the dissolution of fast dissolve oral films by measuring conductivity of the dissolution medium.

Assay/Drug Content and Content Uniformity: This is determined by any standard assaymethod described for the particular API in any of the standard pharmacopoeia. Contentuniformity is determined by estimating the API content in individual film. Limit of contentuniformity is 85-115%.

Organoleptic Evaluation: This is essential step in case of most oral formulation due to moreresidence time in the oral cavity. The product should possess the desired features of sweetnessand flavor which is acceptable to a large mass of population. For evaluation of psychophysicalevaluation of the product, special controlled human taste panels are used. In-vitro methods of utilizing taste sensors, specially designed apparatus and drug release by modifiedpharmacopoeial methods are being used for this purpose. Experiments using electronictongue measurements have also been reported to distinguish between the sweetness levels intaste-masking formulation.

Morphology Studies: Scanning electron microscopy (SEM) study refers the differences between upper and lower side of the films. It also helps in determination of the distribution of API. Near-infrared chemical imaging (NIR-CI) study helps in determining the difference between drug distributions in drug loaded films and recrystallization.

Measurement of Disintegration in the Oral Cavity:Films are randomly selected and administered to six healthy male volunteers at one hourintervals. The time required for complete disintegration of film in oral cavity is recorded.

Conclusion: The present review conclude that fast dissolving oral film is most acceptable and accurate oral dosage form which bypass the hepatic system and show more therapeutic response. The oral dissolving films are getting importance in pharmaceutical field. They offer many advantage over other

dosage forms as well as they offer easy production and evaluation technique. Oral films can replace the over-the-counter (OTC) drugs, generic and name brand from market due to lower cost and consumer 's preference. This technology is a good tool for product life cycle management for increasing the patent life of existing products. This review is an effort to combine the knowledge available on oral dissolving films. A lot of research work is going on and will be started in near future on oral dissolving film.

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Role of Digital Library: it's Functions, Responsibilities & Services: an Overview

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-: Abstract : In the digital era library professional are facing new challenges due to unprecedented knowledge explosion of information and its availability in different forms. Theseforms are created keeping in mind individuals need by globalization, privatization and liberalization of every aspect of human life in its ownway. Theyhave emerged IT and its applications in generation, communication and dissemination of information in different ways. To cope up with these problems, the modern librarianship needs to change their role from custodian to information specialist or digital librarian. There has been a paradigm change in the way libraries used to manage as traditional storehouse to access providers and virtual libraries.. Therefore, the present digital environment has brought a lot of changes, not only on the library and information services, but also on the role and expectation of the library professionals to satisfy the patron's information demand.

•:• Keywords: Digital Librarian, Virtual Library, Communication, Library Revolution Information Literacy Program

•: **INTRODUCTION** : In today's world of electronic, librarians cannot just play a role of information providers or the guardians of knowledge. With the massive use of social media and huge online resources with changing technology as web 2.0 which is an challenging phase for librarians that they update themselves with latest technology and the new trends of electronic resources which is more demanded by the users of library.

In present perspective, libraries are changing their status into electronic form being more digital form in providing information to the user in 24X7, information at desktop of the users with the help of computers. The Digital Library and Virtual Library brought a new perceptions to the end user's in the form of digitizing not only printed material but also pictures, maps etc. Digital libraries are digitizes not only physical resources, but also thoughtful organization of electronic collection which can easily accessed. Such organization provides coherence to a massive amount of shared knowledge to the society.

As per the fifth law of library given by Dr Ranganathan, Library is a growing organism, If we see today'slibrary, they are accommodating print as well as digital collection and world fulfils this law as information is growing enormously and changing face of libraries, which is need of individuals, educational professionals or researchers. To cope with huge information growth librarians needs to keep them updated with latest technology, its use and more if we over they have to learn and understand how to use of this technology in smart way. Earlier the role of librarian was as custodian to preserve traditional documents in libraries where the work was carried out manually. But due to the adoption of technology in libraries the services offered in the library are become more computerized so as the role of librarian is drastically changed as Information officer or knowledge manager in digital era.

•: Transformation from Traditional Library toOnline Library : Earlier traditional libraries are the libraries, where the resources and services such as, library catalogue as well as library collections are in print form and it as managed and maintained manually from its acquisition, technical processing, circulation and its maintenance every day. There is substantial differences between maintaining traditional library and online library or electronic library which facilitate Librarians to expand their roles in more proactive way towards end user's to provide more efficiently using the tools and techniques of information literacy programmes among the patrons. An electronic library holds the similar functions and goals as that of traditional library and that the difference lies in 'the digital part of the term indicates merely that the material is stored and accessed digitally.

Digital information is altering the role of librarians significantly. The role of librarian in the new atmosphere is also exponentially growing as the internet and World Wide Web. The ready availability of information on the Internet, and its widespread use, really presents librarians with an opportunity, not a threat. The below table clearly explains the transformation from traditional to digital library

	Traditional Library	Digital Library
Functions	Physically provided	Online or directly on user's desk
Resources	Printed, physical	Digital, Online
Access	Limited as per Library Timings Close Access	Open Access 24X7 & 365 Days on globe with full text can download. Several people can use same resource at same time remotely
Browsing	Manual Catalogue	OPAC, Keywords, web OPAC
Records	Manually present	Present in digital of online form
Space	A dequate space is required	Less physical space required

Shift of Traditionalto Digital Library

WHY REVOLUTION IS NECESSARY

- Revolution is only endless.

* Rise of new trends of technologies in the libraries

- Use of the electronic resources in the libraries.

-: To accentuate continuous literacy skills training and lifelong learning.

: Librarian will motivate greater ICT skills among its patrons.

•:• Altering Role and Responsibility of a Librarian as Digital Librarian The role of Librarian in the new era is exponentially growing as the Internet and World Wide Web is changing. The rise of electronic information is an opportunity to elevate the role of Librarian and leads to the advent role by being proactive and well versed in technology is called digital librarian. In another word a specialist in locating information from the Internet to individual and present it such format that end user's, without any apply it as it .

Batt (1999) observed that there is adiversevariety of information resources from which one has to select the most suitable form of resource, and here librarians must expand their selection processes in order to adopt on the right source for each individual query. The objective in the developing virtual library is 'to develop information systems providing access to a coherent collection of material, more and more of which will be in digital form as time goes on' (Lynch and Garcia-Molina, 1995).

Librarianis a professionally trained person who is responsible for the day to day work and in house activities of a library i.e. selection, processing and organization of resources and the delivery of information, instruction and loan service to meet the needs of its users. At present, increase in electronic era the librarians have to change themselves accordingly as the information specialist to cope up with electronic diversity. Librarian have to Perform various kind of roles of in digital environment – Librarians as Search Intermediary, Librarian as Facilitator, Librarians as End-User Trainer/ Educator, Librarian as Researcher, Librarian as Web Site Builder or Publisher, Librarian as Interface Designer, Librarian as Knowledge Manager/ Professional and Librarian as Sifter of Information Resources.

The information revolution which is now blowing has placed a great responsibility on the Librarian to recognize, accept and handle the new demands on the library for information. Thus librarian has to change himself and acquire more skills and additional roles.

•:• Functions of Digital Librarian : Digital librarians are required to: Manage the digital libraries; Organize digital knowledge and information Disseminate digital information from the computer-held digital information Provide digital reference services and electronic information services Provide knowledge mining from the emerging knowledge warehouses Handle the tasks of massive digitization, digital storage process, and digital preservation Provide universal access and retrieval of digital knowledge, ultimately access to all Catalogue and classify digital documents and digital knowledge.

- **Facilities offered by the Digital librarian :** There are enormous opportunities to provide services to the user in digital environment particularly in Internet and web environment. These are as follows:
- Availability of E-resources: In digital environment, where e-resources are used by several users simultaneously. Those rare and fragile materials are also preserved on digital content for future use.
- Online catalogue (OPAC): Online Public Access Catalogue, this catalogues are available in many leading libraries available in Web based forms it provides access for users of anywhere in the world.
- Virtual Tours: Virtual tours are also created by the Librarians to describe the physical libraries, its resources and service also.
- •• Inter Library Loan Services: Due to the electronic services the communication technology plays an important role in digital library which helps in linking with other libraries.
- Ready Reference Service: Digital Librarians are now available via-e-mail or through a web form for providing reference services to the users anywhere from the world. Many find that this facility is highly useful as it replaces the inflexibility of timings for person - to - person contact.
- •• E-Newsletters: Communicating the news of the library to its users of both physical and virtual collections takes many forms such as electronic newsletters bulletins, etc.
- Web Forms Web forms increasingly allow online provision of services formerly reserved for inside the wall transaction like Inter-library loan form, book and journal requisition form, suggestion form, etc.

•• Skills required to be a Digital Librarian : To play an active and upbeat role in electronic library Librarian must have many skills to be successful digital Librarian in present and in future. Not only the role of librarian is changing in terms of services but also the designation are also being altered as Liaison officer whose working for the patrons by managing resources and providing the right information to the right user on right time.Libraries will change their look and will be accessible 24X7 on user's desk. Shifting from librarian to digital librarian will ultimate more ability to manage massive information and evaluate systems for information access that support end users. However the role of librarians will have more responsibilities. Digital Librarians have to be more aware about legal, ethical and authentic aspects to cater with recent means of information access. To fulfil all these requirements librarians will have to develop their skills. Skills and Knowledge required for being a digital librarian are as follows:

- Skills and Knowledge :

Library Resources (Books, Journals and Web Based Resources)

•:• Technological Facilities and Resources (Computer, Online Catalogues, Websites, LANs File servers etc.)

Technology Related Skills : Librarian has to learn or seek the technical skills related to computers and Networks. It doesn't mean that Librarian has to be a computer technician but he/she should be oriented towards hardware and software knowledge. Below mentioned are some of the technical skills required to possess by today's digital librarian

- Library management system software packages (in-house, commercial and open source), acquaintances with Digital Library Tools
- -: Information Retrieval software for online, and Internet.
- * Web page Development and Content Management
- Database Management Systems including the skills in Bibliographic Database Management Systems.
- •: Word processing, Graphics, Presentations.etc.

Conclusion : Librarians are trained professionals in acquisition, organisation, retrieval, and dissemination of information. The training of librarianship in the digital library not be very different from that in the traditional print-based library. The librarian role will endure to contain selection of suitable resources, providing access to such resources, delivering instruction and assistance to patrons in interpreting resources, and preserving both print and non-print media. Challenges that are new to librarians in the digital library environment are correlated to the new technologies making digital libraries possible, and the techniques necessary to deliver new practises of information resources and services. In providing access to information, the librarian in the virtual library environment must consider the requirements of any digital resources- any hardware or software necessary; the most effective way to refer patrons to the resource, and whether availability is limited to a defined user group.

The digital librarians require two main types of skills - professional skills and personal skills. Professional skills and knowledge in the areas of information resources, information access, technology, management and research and the ability to use these areas of knowledge as a basis for providing library and information services. Personal skill, Includes attitudes and values that enable Librarians to work efficiently, be good communicators.

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Application of Fuzzy Neural Network (AI) On Tiger Conservation Issues

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Abstract : Tigers are important biologically to maintain the overall health of an ecosystem. As a top predator of the food chain, tigers help keep prey populations in check. Tigers also have cultural importance. Tigers have symbolized beauty, power, and fierceness for over 5,000 years. In Asia, tigers have been identified with gods and considered conquerors of evil. Ironically, the belief that tigers hold great power, even in their bones, is leading to their decline. The loss of these symbolic cats could lead to a decline of support in maintaining their ecosystems, and consequently, all of the other plant and animal.

What will take to conserve these big Cats? An Analysis using Fuzzy Neural Network : Fuzzy set theory resembles human reasoning in its use of approximate information and uncertainty to generate decisions. It was specifically designed to mathematically represent uncertainty and vagueness and provide formalized tools for dealing with the imprecision intrinsic to many decision problems in a more natural way. Fuzzy systems and neural networks can approximate each other. This leads to symbiotic relationship in which fuzzy system provide a powerful framework for knowledge representation, while neural network provide learning capabilities and exceptional suitability for computationally efficient hardware implementations. This paper will have four sections. In section one, we just recall the definition of neural networks. Section two is devoted to the description and justification for using it. Section three adapts the neural networks to the problem. In section four we give the conclusion based on our study. **Keywords** : Neural Network, Fuzzy Logic, Tiger conservation , Habitat , and Poaching.

Introduction to Fuzzy Neural Network: In this section we just recall that the notion of neural network is eminently suited for approximating Fuzzy Controllers and other types of Fuzzy Expert Systems. The following features distinguish Fuzzy Neural Networks from their classical counter parts.

- 1. Inputs are Fuzzy numbers.
- 2. Outputs are Fuzzy numbers.
- 3. Weights are Fuzzy numbers.

4. Weighted inputs of each neuron are not aggregated by summation. But by some other aggregation operation.

We just recall the definition of Neural Network for the sake of completeness.

[&]amp;
Definition: Neural Network : A Neural network is a computational structure that is inspired by observed process in natural network of biological neurons in a brain; it consists of simple computational units called Neurons that are highly interconnected. Each interconnection has a strength that is expressed by a number referred as weights.

Neural Networks (NN) are mathematical models that resemble nonlinear regression models, but are also useful to model nonlinearly separable spaces

Neural Networks are used for:

- Pattern recognition (objects in images, voice, medical diagnostics for diseases, etc.)
- exploratory analysis (data mining)
- · predictive models and control

Definition: Bias : The bias defines the value of the weighted sum of inputs around which the output of neuron is most sensitive to changes in the sum. Now we proceed on to define the notion of Neural Network. In Neural Network bias plays an important role. So we take the bias as an input with value - 1 and its corresponding weight is the sum of the average of the other input weights The class of sigmoid function $S_a(a)$, defined by the formula $S_a(a)=(1+exp(-a))^{-1}$

Then the output of neuron is defined by Y= $S_a(\sum_{i=1}^n W_i X_i - \theta)$

Where \hat{a} is a positive constant (steepness parameter), \hat{e} is called the bias of the neuron, since \hat{e} the bias is considered as an input, x_0 =-1 and the associated weight w_0 = \hat{e}

Then the output now is given by

$$Y = S_{\hat{a}} \left(\sum_{i=0}^{n} W_{i} X_{i} \right) ,$$

Where W_i is the weights given by the experts and $S_a(a)=(1+exp(-a))^{-1}$



The output is analogous to the <u>axon</u> of a biological neuron, and its value propagates to input of the next layer, through a synapse. It may also exit the system, possibly as part of an output vector. It has no learning process as such. It cannot decide its own, here weights are calculated and accordingly the threshold value is calculated.

The description and justification : The Tiger, one of the world's most beautiful and revered animals, stands near the brink of extinction. Since the turn of the century, its habitat and numbers have been reduced by up to 95 percent. Tigers compete with expanding populations of human industry for land and food, and are killed by poachers when interfering with the plans of man. If these trends continue, despite many laws and conservation efforts, the wild tiger may soon be doomed to extinction.

Adaptation of the Neural Network to the problem : Here we describe the problem together with the assumed notation and construct the neural network based on the experts opinion on a few factors affecting Tiger conservation.

- X_o Shrinkage of tiger land
- X₁ Poaching of tigers
- X₂ Destruction of prey animals
- X₃ Poisoning for protection of cattle
- X₄ Management failure
- X₅ Breeding

Each input X_0, X_1, \dots, X_4 are associated with real numbers called weights , namely W_0 , W_1, \dots, W_4 whose value lie in the interval [0,1].

X₀- Shrinkage of tiger land

The WWF and other wildlife conservation organizations, believe that shrinkage in habitat is the single largest factor threatening tiger populations. Tiger habitats are constantly shrinking due to agricultural expansion, livestock rearing in their habitats, exploitation of forest products, forest fires, development projects and other human activities.

The preservation of carnivores becomes an important consideration in conservation biology. Tigers are important carnivores occupying topmost position in the ecological Pyramid, a symbol of wilderness and well being of the ecosystem being a significant keystone species and conservation of tigers can provide a means for conserving native biodiversity as they are the first to suffer when the ecosystem around them starts to erode. The tiger once had the widest geographical distributions of any cat.

Distribution of the tiger once spanned Asia, from eastern Turkey to the sea of Okhotsk. Over the last 50 years, its range has been greatly reduced, but tigers are still found in a broad variety of forest types, including dry deciduous, moist deciduous, semi evergreen, wet evergreen, reverine, swamp and mangrove. The 8 distinctive sub-species of the tiger in the world are now critically endangered with a report of extinction of 3 sub species and a fourth is close to extinction in the wild. All populations are under severe pressure from the loss of habitat. Over the last century the tiger's landscape has changed dramatically. An expanding human population has put increased pressure on the tiger's habitat. Forest and grasslands have been lost, degraded and fragmented and ungulate populations have declined precipitously, both in abundance and distribution. Tiger numbers have also declined, and almost all remaining populations are now small and isolated. In the last 25 years, these changes have accelerated threatening the existence of the tiger.

X₁- Poaching of tigers : Recently, it has been established that the trade in tiger bones, destined for use in Oriental medicine outside India's borders, is posing a threat as large, if not larger, than habitat loss. Having decimated their own sources, Asian traditional medicine manufacturers are now targeting

India for their supply of tiger bones. Poaching of tigers for the Traditional Chinese Medicine (TCM) industry started in northern India in mid-1980 and this is reflected in the census trends.

Tigers are regarded with respect and awe in several Asian cultures. Their parts are demanded for trophies, cosmetics, ornaments, medicines and various other uses. Indeed, in Traditional Chinese Medicine (TCM), almost all parts of the tiger are used to cure a variety of diseases. While tiger bones are particularly demanded, the fat is used to cure rheumatism, eyes for cataract, blood for virility and so on. Further, the demand for tiger skin is quite significant and most of the demand for medicinal purposes comes from China and South-East Asia. A tiger in the international market can fetch as much as Rs. 50,000,000,

The impact of poaching is not limited to the loss of the actual animal killed. If it is a female, she is likely to have cubs, which may be unable to fend for themselves, in which case the real loss may be three or four tigers, without counting the loss of the tigress's breeding potential. When a male is killed, the result may be an intensive struggle among other males to take over the territory during which cubs get killed and breeding is disrupted for a lengthy period, possibly for several years.

 X_2 - Destruction of prey animals : One more reason which affects the tiger population is destruction of prey animals. The animals on which the tiger survives is also seen to be killed by hunters for money as a result of which tigers are not getting enough food.

 X_3 = Poisoning for protection of cattle : Like other big cats, the tiger probably has little future outside protected areas because of the danger to livestock and human life. Tigers which stray out of reserves and attack livestock are often poisoned by local people.

X4= Management failure : In many forests there are too few guards, if any. Prevailing conservation efforts are not geared towards, nor have they adequately addressed, the new threats with new protection strategies ie. better law enforcement, training and support. Excellent new tiger protection measures (such as the recommendations of the (Subramanian Committee for the Prevention of Illegal Trade in Wildlife, 1994 and Tiger Task Force, 2005) have been proposed but not implemented or little effective action has been taken in the field. Few of the tiger reserves have an established intelligence network and most of our tiger reserves do not have an armed strike force or basic infrastructure and equipment to combat poaching. The forest guards are often out-gunned and out-manned by poachers. Several cases of murder and serious assault on forest guards on duty have been reported recently.

 X_5 = Breeding : Most tiger populations today consist of fewer than 100 individuals and only about 40 per cent of them constitute the breeding population. Inbreeding is inevitable and father-daughter and mother-son matings have been recorded. The balance of the sexes may be distorted by an excess of males or females surviving to maturity, thus increasing the impact of inbreeding. A loss of variability and genetic deterioration follow, with lowered cub production and survival, which may not be apparent until they have reached a level that, threatens the population.

	W ₀	W1	W ₂	W ₃	W_4	W ₅
Expert 1	.35	.99	.40	.50	.60	.60
Expert 2	.70	.80	.45	.30	.60	.30
Expert 3	.80	.90	.20	.40	.70	.20
Expert 4	.60	.70	.30	.15	.90	.15
Expert 5	.45	.85	.70	.65	.80	.50
Expert 6	.60	.80	.40	.25	.60	.40

We have obtained 5 experts opinions, the corresponding weights are as tabulated below

Expert 1- Mr Nitin L Wasnik (Zoology Professor- Ruparel College, also part of National park)

Expert 2- Mr Paresh Pimple (NGO-Ecofolks (Working for Tiger conservation))

Expert 3 – Mr Aditya (Zoology Professor-SIES College (Done research on Tigers)

Expert 4- Mr Sujit Narowade (Scientific officer in BNHS)

Expert 5- Mr Sanjay Karkare (Education officer-Tiger cell BNHS (Tadoba)-Amaravati)

Expert 6- Mrs Charlotte Braganza (Professor-Somaiya college)

In general using this neural network we can extend to 5 numbers of experts say E_0 , E_1 ,... E_4 and their corresponding output is given by the formula $Y_k = S_a(\sum_{i=0}^n W_i X_i)$ (1.1)

Where S_a is a sigmoid function for some chosen value of the steepness parameter \hat{a} . Since symbols W_i and X_i in equation 1.1 designate fuzzy numbers, the sum A_k = must be calculated by fuzzy arithmetic. The output of the neuron, $Y_k = S_a(A_k)$ is then determined by using $S_a(A_k) ==(1+exp(-A_k))^{-1}$ So we get the output from the following table.: $\frac{Y_0 - Y_1 - Y_2}{0.803 - 0.68 - 0.67 - 0.70 - 0.73 - 0.70}$

From the output we see that overall all the opinion of experts regarding the **Deciphering Issues of Tiger conservation** happen to be > 0.5. All factors contribute equally responsible for **Deciphering Issues of Tiger conservation**, but out of which Y_0 stands maximum that is Shrinking of Tiger Land which dominates the other factors. The problems are given by Y_4 , Y_3 , Y_5 , Y_1 and Y_2 .

Conclusion : The survival of the tiger in the wild is inextricably dependant on the survival of the ecosystem it lives in. Looking at the situation from purely an economic standpoint, the inhabitants of most tiger populated regions stand to gain subsistence from exploiting the forests. The Government's conservation policy is overwhelmed by the economic needs of the people who live in and around the tiger's habitat and cannot save the wild tiger from extinction by merely putting guards in place. Added to this is the economic incentive offered by poaching. The current policy of putting in place guns and guards cannot protect the ecosystem. Local communities need to be involved in the conservation effort on a sustained basis. The conservation policy should mitigate the economic forces at play against the tiger and the forests at their causality rather than suppressing their manifestation.

The Government has had limited effectiveness in doing the latter. It is imperative now that it attempts the former approach, which has been adopted by other nations with varying degrees of success. Despite all these problems, India still holds the best chance for saving the tiger in the wild. Tigers occur in 17 States within the Republic of India, with 7 States reportedly having populations in excess of 100 tigers. There are still areas with relatively large tiger populations and extensive tracts of protected habitat. Adequate funding and international pressure will help. But probably the most effective way to implement tiger conservation action in India today is to enhance NGO participation. There are a number of dedicated organisations that are effectively involved in hands-on tiger conservation. They keep the issue energized on a national level and tenaciously try to increase political will to secure the tiger's future. The Indian conservation and scientific community is now a proven force. It needs to be strengthened.

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Social Reform Movements in 19th Century India

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Abstract : The 19th cenutry India was a period when the eight-century-long Islamic domination of Indian political life had come to a decisive end and British rule had planted firm roots. It was also a time when due to several historical factors social and religious thoughts were undergoing profound changes. There was confusion and diverse opinions about what 'Hinduism' meant and how indigenous religions– both Vedic and non-Vedic–could be interpreted: at around the same time Western liberal ideas were inspiring new outlook and aspiration. The spirit of rational enquiry had begun to develop in the minds of a section of Indians who began questioning outdated rituals and practices then prevalent in society. The situation was ripe for the emergence of a religious reform movements resembling the millenarium, which had earlier taken place in other parts of the world.

First of all, in 1814 Rammohan founded the Atmiya Sabha through which he initiated a crusade, against social ills. Atmiya Sabha attracted a substantial section of the Bengal aristocracy, including the Tagore family. Rammohan's objective was to awaken the people from their deep slumber and "dream of error" by applying human reason and a rational approach especially towards women.

During the same time, William Adam, a Baptist missionary, converted to the Unitarian Concept of Rammohan Roy and joined hands with him in starting a small Unitarian congregation in Calcutta. In 1828 the works and activities of the Atmiva Sabha were made more broad-based and renamed as Brahmo Sabha. Two years later, it was renamed Brahmo Samaj. The rest, as they say, is history, with the Brahmo Samaj bringing about many far-reaching changes in the country's socio-political ideas and thoughts. The Brahmo Samaj stood for the "adoration of the Eternal Unsearchable and Immutable Being who is the author or preserver of the universe". It admitted no image or statue and stood for the promotion of benevolence, charity, morality and virtue. Rammohan conceived it mainly as a common platform for the different religious groups of India. Devendra Nath who joined the Brahmo Samaj in 1843 provided it with solid organizational machinery, his experience as founder of the Tattwabodhini Sabha (1839) (with the aim of disseminating information and correct knowledge of Brahma as defined in the Vedanta and which had been able to attract the cream of the then Bengali intelligentsia, including Ishwar Chandra Vidyasagar, Rajnarayan Bose and Ramtanu Lahiri) helping him immensely.

In the year 1857, Keshab Chandra Sen, joined the Samaj. While Devendra Nath was a conservative reformist and tried to keep the Samaj free from disruptive foreign influences, Keshab Chandra was imbued with the romantic spirit of liberalism. His radical ideas that included inter-caste

marriage, widow remarriage and change in the rites of worship were not encouraged by Devendra Nath and finally in 1866 a split occurred, dividing the Samaj into two factions.

While Devendra Nath remained deeply attached to the Adi Brahmo Samaj, Keshab Chandra with his broad and universal approach started the Bharatbashiya Brahmo Samaj. However, the latter was destined to split again and Keshab Chandra, the great apostle of religious unity, could not prevent it. A large section of his followers disagreed with him on some socio-religious issues and broke away in 1878 under the leadership of Sivanath Sastri. This brought into existence the more democratic Sadharan Brahmo Samaj, which even got the blessings of Devendranath Tagore and Rajnarayan Bose.

Ishwar Chandra Vidyasagar was another great social reformer who sought to improve the condition of widows by legalizing widow remarriages. Since he felt that his own life should set an example for others to follow, he took a pledge that he would allow his daughters to study, and married all his daughters after they were 16 years of age. He also pledged that if any of his daughters were widowed and they wanted to get remarried, he would allow them to do so. He was also against the prevalent custom of polygamy.

Justice Mahadev Govind Ranade was instrumental in laying down the foundation of an all Indian organization to carry on the struggle for social reform—the Indian National Social Conference. This organization was the first national institution to carry on collectively, in an organized way, and on a national scale the social reform movement. He took up the problems of widow remarriages and was an active member of a society, which worked for widow, remarriages. In fact, the Shankaracharya had excommunicated him for attending the first widow remarriage in 1869. Ranade worked toward educating women. He and his wife started a school for girls in 1884.

Maharishi Karve showed great concern for the plight of widows and the problem of widow remarriages. He revived the Widow Remarriage Association and started the Hindu Widow's Home Karve also made efforts to improve the education levels of girls as well as widows. He created the Kane Women's University. His efforts in the movement to liberate the Indian women are of great significance, and the extensive and successful work brought about a change in the attitudes of people towards widows. In order to set an example for others, he married a widow after the death of his first wife. As a result of the social reform movement, a number of institutions and organizations were established. The institutions started by the reformers covered the whole country with their activities. Arya Samaj founded by Swami Dayanand Saraswati in 1875, started crusade against social evils and established Kanya Gurkuls at various places in India. Widow remarriage was very much on the agenda along with education to girls. Various institutions established during 19th century played vital the role in the emancipation of work.

The Gujarat Vernacular Society : This social institute was established in 1848. The aim of this institute was to decrease the large-scale illiteracy and superstitious beliefs that was a feature of the Gujarati society. It was associated with all social reform activities concerning women in Gujarat.

The society worked for the cause of women through education. It started a number of co-educational schools. It published literature on women's issues in the vernacular press. It tried to organize elocution competitions and provide a platform for women to talk about their issues and problems.

The Deccan Education Society : This society was formed in 1884. The society started girls' schools and encouraged education of women in Maharashtra.

The Ramakrishna Mission : The Ramakrishna Mission was established in 1897. It set up homes for widows and schools for girls. It also gave refuge to invalid and destitute women, ante- and post-natal care for women, and provided training for women to become midwives.

The Arya Samaj : Though started as a revivalist organization, the Arya Samaj emphasized women's education. Girls received instructions in home science and domestic affairs. Fine arts were also included in the curriculum for girls. It also included instructions in religion and religious ceremonies for women. It provided shelter to distressed women in times of difficulty.

The Hingne Women's Education Institute : This institute was started in 1896 to meet the demand of women, whether married, unmarried or widowed. By imparting training to young unmarried girls in various fields, it tried to prevent early marriages. It tried to impart skills and education to married women to enable them to carry on domestic life efficiently and economically. It also gave training to widows to make them economically independent.

S.N.D.T. Women's University : This university was established to meet the needs for higher education for women in such a manner that women's requirements were satisfied. It provided education in the mother tongue. It was established exclusively for the education of women.

The Seva Sadan : Seva Sadan was started in 1908, with a view to bringing together enlightened women of different communities who desired to work for the upliftment of backward women. Its main activity was to provide social and medical aid to women and children of the poor classes, irrespective of their caste or creed. It also established a home for destitute and distressed women and children.

It also provided training to poor women in domestic crafts to enable them to earn a livelihood. The Seva Sadan in Poona was established to educate women in religious, literary, medical, and industrial subjects. It also emphasized on all round development of a woman's personality. It stressed on economic self-sufficiency of women.

The Indian National Social Conference : Some of the activities taken up by this organization were– to deal with disabilities of child marriages, sale of young girls, the practice of polygamy, and the issue of widow remarriages. It also took up the problem of access to education for women.

All India Women's Conference : The primary focus of this organization was women's education as well as social reforms. Its aim was to work actively for the general progress and welfare of women and children. It passed various resolutions in different sessions in order to elevate the status of women.

It also dealt with the evils of early marriages, polygamy, and prohibition of divorce. It advocated complete equality for women in property matters. It sought to improve working conditions for women. It also agitated against immoral traffic in women and children, and against the inhuman custom of Devadas.

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Assessmentof physico-chemical parameters of ground water pollution in vkl industrial area Jaipur

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Abstract : ground water is a very important source for surviving the life of livings. it plays an important role same in urban as well as rural areas. The demand of water is increasing day by day as population increases. Industrial waste material absorbed by humans, animals or plants. Increase in population increases solid domestic and industrial waste pollution. The surface and ground water are polluted due to industrial and agricultural activities from different places of Jaipur ground water samples were collected. The analysis were carried out for parameters such as PH,temperature, total hardness, BOD,COD,Sodium, potassium,calcium,magnesium, chloride, fluoride, TS,TDS. Polluted water is the main cause of diseases.

Key words: Ground water samples, human health, physic- chemical parameters.

Introduction:water is used for drinking,cooking,transportation, growing crops,as a source of energy for producing electricity and many more utilities. It is a colorless, tasteless, and odorless liquid. Nearly three- fourths of the surface of the earth is covered with water. Jaipur is one of the fastest growing cities in the country and is undergoing rapid urbanization and industrialization.many chemical are discharged from industry ammonia, arsenic, phenol, cyanide, thiocyanide, carbonate, copper, zinc, chromium etc.ground water quality of Jaipur VKI area degradation due to rapid urbanization and industrialization.major causes of aquatic pollution include the discharge of sewage,industrial and agricultural waste, organic, and inorganic, agricultural waste,mining,cement production,fertilizer and pesticides.washed off the land by rain, radioactivity acid and irrigation.

Research methods and materials:water samples were collected from different tube-well, handpumps,tanks, ponds and house tapes and from various sources at covering extensively populated area, industrial, commercial,agricultural and residential colonies various depths according to the standard method of collecting sample.APHA procedure ground water samples collected from VKI industrial area of Jaipur was analyzed during pre as well as post monsoon season. Only high pure (Anal R grade) chemicals and double distilled water was used for preparing solutions for the analysis. Physical parameters like PH, TDS,and EC were determined at the site with the help of digital portable water,analyzer kit. For rest of the analysis, water samples as per standard methods. Thesamples collected were analyzed for major cations like calcium (mg2+) by flame photometer. Different physical parameter PH, HC, TDS determined at the site with the help of the digital portable water analyzer kit. All respective value result are compared with standard limit recommended by the bureau of Indian standard (BSI) and WHO

Samples preservation

S.NO.	Parameters	WHO:2003	BIS 1999	IQMR 1975
01	TDS	600	2000	500
02	PH	6.5-9.5	6.5-8.5	7.0-8.5
03	Na⁺	-	-	-
04	K⁺	-	-	-
05	Ca ²⁺	100	200	200
06	Mg ²⁺	150	100	200
07	Co3 ²⁻	-	-	-
08	Hco ₃	-	-	-
09	So ₄ ²⁻	250	400	200
10	No ₃	20	100	50
11	TH	500	600	600

Total dissolved solid (TDS): Total dissolved solid is an important parameter for drinking water and water to be used. Maximum permissible limit if TDS is 500 mg/L (ICMR). The total dissolved solids in water are represented by the weight of residue left when a water sample has been evaporated to dryness.

PH: all biological and chemical reaction are directly dependent upon the PH of water system. Lower PH value may cause tuberculation and corrosion while higher may cause incrustation.

Chloride (cl⁻) : it is anions and trouble for irrigation water. Chloride contents water largely influenced by evaporation and precipitation.

Fluoride (F-): it is important in human nutrition for development of bones high concentration of fluoride in ground water may develop molting of teeth, skeletal, fluorosis, and deformation in knee joint.

Sulphate(so₄^{2−}): sulphate is one of the major anions occurring in natural water. High value of sulphate may cause intenstinal disorder.

Nitrate (No₃-): high concentration of nitrate in water, infants, less than six month old are suffering from methamoglobinemia or BLU baby disease. Nitrate value varied from 40 to 360 mg/L. Total hardness **(TH):** in most water nearly all the hardness is due to calcium and magnesium. all the metallic cations besides the alkali metals also cause hardness. Total hardness is varying from 40.04 to 845.64 mg/l. Sodium absorption ration

(SAR): SAR is an important parameter for determination of suitability of irrigation water. The sodium hazard is typically expressed as the sodium adsorption ratio (SAR). SAR= (Na⁺m $_{eq/l}$) /[(ca²⁺ m $_{eq/l}$)+ mg²⁺ m $_{eq/l}$)/2

Result and discussion: Physico-chemical parameters of effluent samples collected from VKI industrial area Jaipur, Rajasthan

S.No.	Parameters	Engineering industry VKI Area
1	PH	7.02±0.01
2	Temp ^{0c}	33.8
3	EC s/m	50.1
4	DO mg/lit	3
5	COD mg/lit	580
6	Alkalinity mg/lit	1710.8
7	Hardness PPm	385.4
8	TS mg/lit	605
9	TDS mg/lit	178
10	TSS mg/lit	150
11		86

The experimental data on physiochemical properties of water samples collected from different industrial region of Jaipur is represented above in table.

Temperature of waste water emerging from industrial area may affect soil texture, if directly thrown on to the land. it may increase the microbial activity and may decrease fertility of soil. if waste water pollutants are directly emitted to water it may harm to water living organisms and their health.PH is the measure of acidity or alkalinity of water. Determination of PH of water is helpful in treatment of waste water by chemically adjusting PH, removal of toxic metal can be carried out.

Conclusion:from the observation, it may concluded that all most all parameters like PH, sodium, potassium, carbonate, bicarbonate, chloride are with in the permissible limits prescribed by WHO but calcium, magnesium and nitrate values were exceeding the limits. On the other hand most of the sampling station considered suitable for irrigation uses according to EC, SAR, % Na and RSC values. **Acknowledgement:** -one of the authors (Dinesh Kumar) is thankful to the head, department of chemistry university of Rajasthan, Jaipur for providing and also thankful to the CSIR newDelhi) for the award of a

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Sustainable Growth of Sports through proper use of Yoga and Secured Governance

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Abstract : In early India, sports were very much concerned about the development of the physique and for the art of offence and defence. Fortunately India has a rich heritage of these activities as can be found in the archaeological excavations of Mohenjadaro and Harappa, the Vedic literature. The Ramayana and Mahabharata, the Puranas, the literary works of Kautilya, Kalidasa, Painini and Dandin as well as whole lot of Buddhist and Jain literatures. Boosting participation in sport can generate a variety of socio-economic benefits. Sport can, and does, make a profound and positive impact on individuals, communities and wider society. Boosting participation in sport can generate a variety of socio-economic benefits. Health, physical fitness and emotional stability are the objectives which bring yoga and physical education on a common platform for the benefit of the human individual. Besides sport can, and does, make a profound and positive impact on individuals, communities and wider society. India is among the largest sports goods manufacturers in Asia after countries like China and Japan. The sports HUB development through secured governance concept not only promotes the sport facilities but also makes these projects selfsustaining approach towards the health, recreational, social and economic benefits. Yoga and meditation were designed to go together: the yoga helps strengthen the body for long meditation sessons; the meditation helps the mind get into the body for yoga.

Key Words: Sports History of India, Sports Economy and Industry, Yoga, Secured Governance. **Sports**: The history of sports in India goes back to the Vedic era. Physical culture in ancient India was fed by a powerful fuel—religious rites. There were some well-defined values like the mantra in the Atharva-Veda, saying," Duty is in my right hand and the fruits of victory in my left". In terms of an ideal, these words hold the same sentiments as the traditional Olympic oath". The founders of the Olympic idea had India very much in mind when they were deciding on the various disciplines. There is a fascinating link between Greece and India which stretches back to 975 B.C. The zest for chariot-racing and wrestling was common to both the countries. Sports in India, dehvada or the body-way is defined as "one of the ways to full realisation." In the day and age of the Rig-Veda, Ramayana and Mahabharata men of stature and circumstance were expected to be competent in chariot-racing, archery, horsemanship, military tactics, wrestling, weight-lifting, swimming and hunting. The guru-shishya (teacher-pupil) relationship has always been an integral part of Indian sport from time immemorial. Indian sport reached a peak of excellence when Buddhism held sway here. In Villas Mani Majra, Tiruvedacharya describes many fascinating games, namely,

archery, equitation, hammer-throwing and chariot-racing. In Manas Olhas (1135 A.D.), Someshwar writes about bhrashram (weight-lifting), bhramanshram (walking) and also about Mall-Stambha (wrestling). It is more than likely that many of today's Olympic disciplines are sophisticated versions of the games of strength and speed that flourished in ancient India and Greece. Chess, wrestling, polo, archery and hockey (possibly a fall-out from polo) are some of the games believed to have originated in India. Hockey, in which India has an impressive record with eight Olympic gold medals, is officially the national sport. Other popular games are football, cricket, basketball, volleyball and badminton. Cricket has become a very popular game in India. After the IX Asian Games in New Delhi in 1982, the capital city now has modem sports facilities. Such facilities are also being developed in other parts of the country. Besides sports and games included in the international sporting agenda, there are many which have developed indigenously. Among these are wrestling and several traditional systems of martial arts. In early India, games and sports were very much concerned about the development of the physique and for the art of offence and defense. Also games were considered a kind of recreation, which played a vital role in the development of a man's personality. Important of them included indoor games, music, fishing and boating, singing and dancing, water sports, etc.

India has a rich heritage of these activities as can be found in the archaeological excavations of Mohenjadaro and Harappa, the Vedic literature, The Ramayana and the Mahabharata, the Puranas, the literary works of Kautilya, Kalidasa, Panini and Dandin as well as a whole lot of Buddhist and Jain literatures. Various archaeological evidences like coins, inscriptions and monumental carvings support them. Several games now familiar across the world owe their origins in India, particularly, the games of chess, ludo (including ladders and snake), and playing cards. The famous epic Mahabharata narrates an incidence where a game called Chaturanga was played between two groups of warring cousins. The age when epic Mahabharata was written is variously dated around 800 BC to 1000 BC. In some form or the other, the game continued till it evolved into chess.

Yoga has been practiced for around 5,000 years. The earliest signs of yoga appear in ancient Shamanism Evidence of yoga postures were found on artifacts that date back to 3000 B.C. Evidence of yoga is found in the oldest-existing text, Rig-Veda. Rig-Veda is a composition of hymns. Topics of the Rig-Veda include prayer, divine harmony, and greater being.

Economic Benefits of Sports :

The sports industry sector may include several different segments such as sports tourism, sporting goods (in manufacturing and retail), sporting garments, and the available opportunities in sporting management and sponsorship. It is seen across the globe that sports as a full-fledged industry can and may contribute about 1% to 5% of the country's GDP. The global sports sector is estimated to be worth between US\$480-US\$620 billion.

Now, sport is going to be the next big industry in India. In developed countries, sports contribute around 2% to 4% of total employment. It includes a variety of career profiles such as athletes, coaches, trainers, event managers, public relation officers, Coordinator of sport organizations, Marketing Consultant, Program and Facility Manager, Professional Sport Promoter, Sport equipment and product sales, Sport Event Planner and Manager and Sport Sponsorship Specialist. Today, sport's contribution to India's total employment is just .05%. The great initiatives such as Indian Premier League (Cricket), Hockey India League, Indian Badminton League, Prokabbadi, Indian Super League (Football) and professionalization of Heritage sports events such as Goti, Gilli Danda, Lagori, Kilithatt, Gatta Gusthi are changing the old face of Indian sports. Once, we believed that only cricket will succeed in India. But the above mentioned initiatives have shown Indians, a world of sports beyond cricket. These initiatives prove that sports have a future in India as a business.

Sports Goods Industry in India : The sports goods industry in India is nearly a century old and has flourished due to the skills of its workforce. Being labour-intensive in nature, the industry provides employment to more than 500,000 people. The nucleus of this industry in India is in and around the states of Punjab and Uttar Pradesh.

Jalandhar in the state of Punjab and Meerut in the state of Uttar Pradesh account for nearly 75% of total production; Together, the two towns house more than 3,000 manufacturing units and 130 exporters; The Indian sports goods industry also has a presence in the cities of Mumbai, Kolkata and Chennai, albeit at a lower scale.

Exports – A Momentous Growth : India's share of the global sports goods export market is expected to grow manifold, with the country establishing the credibility of its goods in the international market. Indian sporting goods are well known around the world and have made a mark in the global sports goods market. The industry exports nearly 60% of its total output to sports-loving people the world over.

µ The sports goods market in India was valued at US\$2 billion in 2012-13. The market is growing as 34.2% a year and is expected to reach US\$3.6 billion by 2015 and US\$15.68 billion by 2020. The growth is expected on account of increasing awareness about health and fitness in the country.

μ Total export for sports equipments stood at US\$225.61million in 2016-17.

The major items to be exported that includes inflatable balls, cricket bats general exercise equipments, sports nets and protective equipment for cricket.

The most interesting factor is that the land of Sports Engineering, United Kingdom is the major importer of Indian sports goods. It shows India's ability to grow as a sporting super power.

Innovation in Sports Infrastructure Development : Asset planning, development of multi – purpose stadia and innovative revenue generation streams are common methods for determining high future revenue generating potential of infrastructure and ROI. In addition to this, stadia developers are looking at technology to create experiences that ensure that fans keep coming back. They are resorting to technological advancements such as:

Powerful wireless networks : Connectivity has become a top priority for ensuring fan interaction. Offering fast, reliable and secure connectivity can lead more revenue from additional food, beverage and merchandise purchases.

Leading mobile apps : These apps are becoming an efficient and profitable way to engage the audience at live events. By offering services such as finding parking spots, locating seats, ordering food etc. these apps add to a smooth customer experience.

Mobile Point Service (POS): Mobile POS systems enable fast, secure concessions and merchandise sales by delivering right to the seats. Hence, waiting in line is not required and space, manpower and time used can be reduced.

Beacons: Beacon implementation allows teams to exclusive, stadium only promotions to their fans devices.

Digital touch screen kiosks : These Self – service kiosks can be used for viewing venue maps, finding restrooms, placing food and merchandise orders, etc.

Giant HD video screens: Via these, fans can watch HD live streams of the event, even when they leave their seats.

High speed cameras: These high speed cameras are making it easier for fans to take selfies and pictures and hence enhancing their experience. The cameras can take up to one million pictures during every game and fans can download them at their convenience.

Customer Data Platforms (CDPs): CDPs allow sports teams to gather useful information about their fans and send them personalized content to sell tickets, merchandise, etc.

Targeted in-stadium ads: Denver Broncos' Sports Authority Field created a powerful marketing platform by installing 1,200 displays that are 55 inches or larger for compelling high-definition experiences and high-impact partner content. Using these to display customized ads and offers, Broncos saw a 50% increase in partner sponsorship revenue.

Go Pro video streaming: Using Go Pro video streaming gives fans a feel of what it is like to see through the eyes of an NFL player. These stunning visuals create a lot of buzz in the venue.

Secured Governance for Sports : Secured Governance for Sports as a Sector is a strategy that relates to the develop a relationship between development of sports facilities and infrastructures to various other sectors developing together along with various private bodies as partners and government as governing body to foster, coordinate and create an defined "Smart

Sports HUB". Sports HUBs will be developed as cluster/s on strategically defined locations that improves and develops the cluster as a whole through regional strategies, technology and interdependency among various sectors of growth.

Now since most of the developmental work comes under other public infrastructure and services the banks may be in a position to fund such projects. Value and Valuation of the allied projects will make it a self-sustaining mechanism while bringing unprecedented growth and development for the region. This valuation of infrastructure, which grows many folds need to be shared by Ajanta Group to support infrastructure development, ensuring balanced growth. Today we find the valuation due to infrastructure growth is not channelized towards infrastructure development and results in inequalities.

Yoga

The concepts and practices of Yoga originated in India about several thousand years ago. Its founders were great Saints and Sages. The great Yogis presented rational interpretation of their experiences of Yoga and brought about a practical and scientifically sound method within every one's reach. Yoga today, is no longer restricted to hermits, saints, and sages; it has entered into our everyday lives and has aroused a worldwide awakening and acceptance in the last few decades. The science of Yoga and its techniques have now been reoriented to suit modern sociological needs and lifestyles. Experts of various branches of medicine including modern medical sciences are realizing the role of these techniques in the prevention and mitigation of diseases and promotion of health.

Yoga is one of the six systems of Vedic philosophy. Maharishi Patanjali, rightly called "The Father of Yoga" compiled and refined various aspects of Yoga systematically in his "Yoga Sutras" (aphorisms). He advocated the eight folds path of Yoga, popularly known as "Ashtanga Yoga" for all-round development of human beings. They are:- Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi. These components advocate certain restraints and observances, physical discipline, breath regulations, restraining the sense organs, contemplation, meditation and samadhi. These steps are believed to have a potential for improvement of physical health by enhancing circulation of oxygenated blood in the body, retraining the sense organs thereby inducing tranquility and serenity of mind. The practice of Yoga prevents psychosomatic disorders and improves an individual's resistance and ability to endure stressful situations. It has both preventive and therapeutic benefits and offers both physical and mental benefits to the body and the mind. **Conclusion :** Health, physical fitness and emotional stability are the objectives which bring yoga

and physical education on a common platform for the benefit of the human individual. Health is a more general and comprehensive term conveying the 'feeling of well-being', while physical fitness is a more specific term. Physical fitness is the capacity of an individual to perform a given task at

a particular time. Health and physical fitness are not static. They are always changing they follow the law can be maintained only by carefully selected physical activities which are called 'exercise'. The utility of the particular exercise program can be evaluated only in the forms of the effects that one obtained in promoting a particular factor of physical fitness. Yoga originally focused on applying and understanding the world. "The traditional purpose of Yoga, however, has always been to bring about a profound transformation in the person through the transcendence of the ego." Yoga is more than mastering postures and increasing flexibility and strength of a person those who practicing.

Feminist Voices In Urdu Writings with Special Reference To Tare LarazRaheHai & Utran

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Abstract: This paper deals with concept of feminism as it originated in the west and charters its journey in Asian sub –continent and particularly in India delineating how feminism in India is different than its western counterpart. While studying and understanding concept of feminism in India, I came across certain Urdu fiction writers who might not have staked their claim to mainstream feminism but are strong contenders for being considered as feminists. Their themes are bold in the sense as they portray issues faced by women in 1960s and 1970s and their protagonists were able to find an identity of their own in the face of many odds pertaining to feudal system, denial of rights to women and their economic and social exploitation. Though it was not possible to focus on all leading writers, I have chosen for this study two short stories which are particularly appealing because of their content and treatment.

Keywords: feminism-a movement to ensure equal rights for women, patriarchy- social system ensuring father's supremacy over clan/ family, subjugation- to bring under control or make submissive, subaltern- a person holding a subordinate position.

Introduction: The term feminism refers to diverse variety of beliefs, ideas, movements and agenda for action. The most basic definition for feminism is the belief that women should be equal to men and the action organized to promote women's right to move towards equality with men. It takes into account economic, social, political and cultural disparities of power and rights. In simple words feminism is a movement to end sexism, sexist exploitation and oppression, which according to Bell books can be attained only by raising feminist consciousness which necessitates to understand the concept of 'Patriarchy'-system, centre of power and it's institutionalization which worked towards male domination. **According to Wikipedia :** Feminism is a range of political movements, ideologies and social movements that share a common goal to define, establish and achieve political, economic, personal and social rights for women. This also includes seeking equal opportunities for women in education

and employment-equal rights within marriage, right to property, fair wages or equal pay. Feminists have also promoted bodily autonomy and integrity, and to protect women from rape, sexual harassment and domestic violence.¹

As is evident from this definition, feminists are seeking equality for women in all spheres be it economic, social, political or within family which gives importance patriarchy. Their agenda is clear about protecting women from all kinds of exploitation, giving them right to their anatomy and protecting them against all sorts of torture, harassment, violence and victimization. Though this agenda sets out to put things straight and provide women equality with men in all spheres and in every conceivable Rex Journal Volume 4 Issue 1, 2017 Page 414

way, reality is very dark and stark, women face harassment and differentiation in the form of gender bias in family, society as well as at work places. This seems to be a long and arduous journey for women to get their rightful status and opportunity to educate and work in a society which still regards women as 'other' second to men.

Another definition of feminism is offered by NahalChamanwhich is very appropriate as it targets the attitude of servitude responsible for long subjugation of women to men under patriarchy. He states, I define feminism as mode of existence in which women is free of dependence syndrome whether it is husband, father, the community or a religious group. When women will free themselves of dependence syndrome and lead a normal life, my idea of feminism materializes.2 I find this definition of feminism different from the rest as it addresses the issue where it lies, sometimes dominant or dormant i.e. in the psyche of men women and institutions. Feminism in its literal sense refers to an intense awareness of identity as a woman and interest in feminine problems. As Janet Richard puts it, The essence of feminism has a strong fundamental case intended to mean only that there are excellent reasons for thinking that women suffer from systematic social injustice because of their sex, the proposition is to be regarded as constituting feminism.3

Third world feminism is different from its counterpart in west as situation of women in third world countries is different their problems and agendas are different. In this regard a critic has stated ,**third world feminism is not a mindless mimicking of western agenda in one clear and simple sense. Indian feminism is clearly a response to the issues related to Indian women.4**but one of the simplest definition of feminism is offered by Simone de Beauvoir in her book Second sex, **one is not born women one becomes one.4**This definition indicates to the fact that one is not born as women but it is a process of socialization which makes them women and feminists target this whole process of socialization which causes victimization of women.

The recent form of feminism that came into existence in 1960s has become an evolving socio-political movement, it aims to understand the power structures in society, male domination, social institution and practices which are instrumental in assigning a marginalized position to women. While feminist theories devise strategies to transform social structures which can help in emancipation of women. In 1980s feminism focussed on transforming individual fields and in 1990s it started with a major move in directing academic focus on the concerns of so called 'otherness', differences and questions of marginality. Margret Homans has pointed out that the, **concept of feminism raises fundamental queries about reading, writing and the teaching of feminist literature. It operates as an interdisciplinary tool for social and cultural analysis and as a political practice.5 Feminism in Indian society has not sprung suddenly but it has developed slowly and steadily. Forerunners of feminism in India were Rabindranath Tagore, SharatchandraChatterjee, BankimchandraChattopadhaya ,Jitendra Kumar who created remarkable portraits of women in Indian Literature.**

In the end discussion, I would state that feminism is a tool for social change thereby bringing about qualitative change in the lives of women- ensuring economic, political rights and bringing educational and health rights within its focus. Similar thoughts are being expressed by Eisenstein. In my understanding of the term 'feminist' then I see an element of visionary futurist thoughts. This encompasses a concept of social transformation that as part of the eventualliberation of women will change all human relationships for better. Although centrally about women, their experience and condition. Feminism is also fundamentally about men and social change.⁶This definition is complete and futuristic as it takes into account the men who are likely to play a very important role in the process of social change of granting equal rights to women. The whole concept and need of feminism is best expressed by leading feminist writer ShashiDeshpande in an interview to Rati, Reporter of Eve's weekly in 1990: If others see something feminist in my writing, I must say that it is not consciously done, it is because the world for wemen is like that I am mirroring the world.⁷These utterances express that feminism has arrived of an age and from here this movement is just going to march ahead.

In Urdu language, too, IsmatChugtai,Rashidlqlam, wajidaTabbassum, RajiasajjadZaheer and Siddiqua Begum Sevhari were working with feminist themes, confronting patriarchy, inequality of rights and caste system. Their writings were avantgarde in thematic presentation and treatment of women's issues. They explored female sexuality inorder to establish an identity of their own and I dare say that Urdu writers were no different, they have contributed significantly towards building abody of work which was essentially feminist in nature and content.

These are the stories written by authors who lived in an age of feudal system and witnessed many atrocities and injustices being committed to subalterns who were helpless, powerless and disposed. These childhood experiences have served as theme for as many of their works whether it is WajidaTabassum'sUtran or Rashid Jahan'sVoh or RajiaSajjadJaheer'sNeech. In the same league we have another story by Siddiqua Begum Sevhari's Tare LarajRaheHai. For my presentation, I am going to review Utran& Tare LarajRaheHai.

These stories make us realize that there are categories not only outside the system but there are categories not only outside but there are categories within the same caste, gender or within the family. This is what makes these stories classic, themes transcending boundaries of age and time and are relevant even today. Both these stories selected are strong feminist expressions in the sense that their protagonists are female and they grapple with the problems and issues confronted by women in those times.

Tare LarazRaheHaiis a story dealing with issues of inequality and injustice with reference to denial of education to themain protagonist. When she persists for educating herself, she is quickly snubbed by her husband and mother in law because she is married and thus an 'other' even among the females.

Education here is not accessible to them as a matter of right rather a societal compulsion till the young maidens attain nebulous age. For a few days bhabhi'seducation became quite a topic in the house. The whole day they argued over it....." what will you do with it?" Bhaiya asked "will you get a job?"Bhabhi retorted, are you educating Safie for a job?Safie oh Safie is a different matter. Why do you compare yourself to her?"

But issue is not as simple as it appears, this is only one form of victimization and deprivation as the story moves, we come to realize that deprivation from an opportunity to education does not emerge merely from the fact that she is a female but she is the 'other' even among other females in the family as she is married and her sister in laws are not hence they are allowed to pursue academic interests as per their interest. It provides us a sneak preview of the contemporary Indian society and the dual attitude society adopted towards the issue of female education.

Another significant issue which comes out vividly from the text is the fact that the mother in law who belonged to the older generation is highly critical about her daughter in law's education while both the sister in laws support her wholeheartedly- which is right in keeping with latest theory of feminist criticism i. e. Kristeva's theory of female bonding wherein she stresses that women understand each other better thus forge strong ties. In the present story,too, both the sister in law support the protagonist strongly in her pursuit for education and when they are unsuccessful in their efforts in the face of strong opposition by their brother and mother who are in power position- the elder one Birji expresses solidarity with her sister in lax and takes it upon herself to educate her bhabhi- the protagonist.

The biggest irony of the lady is that her husband is a well acclaimed teacher, the environment at home is highly academic, the portraits of Tagore and Iqubal adorn the walls of the room, there are volumes of books on the book shelf yet she is denied a chance to education just she being a woman and married whereby she loses her individuality and identity, hence, no name for her she is referred throughout as bhabhi whereas other too ladies are addressed by their names. The story leaves a big question mark about the whole issue of female education and seems to justify that their role is confined to child bearing, rearing and looking after house hold chores as the mother in law sarcastically remarks:

That's how it is, 'daughter' mother put in "The moment a girl is married- she may be only twelve- she is no longer young. These glowing cheeks last only a few days. Then when something stirs in the belly it is allup.⁸

In the end when Birji- the elder sister in law speaks out in utter frustration, she seems to be echoing the feelings of the author who feels that the roots of social injustice run very deep in our society and it is very difficult to overcome such thinking: I feel as if I had stumbled against a stone, what does it mean? Safi is another matter, Birji is another matter. Did bhabhi commit a crime by marrying? Is that why she alone is not another matter ⁹This suggests that there is close affinity between Birji and her bhabhi'which is not limited toemotional solidarity alone but is also reflected in their physical

proximity suggesting subtle overtones of lesbianism as can be seen in the following quote: **Bhabhi smiled**, **then clasped me in mad embrace**, **Safi flashed across my mind**, **bhabhi hugging her with all her might and Safi her breath coming fast saying**, **Oh Lord! Let go. What an awful habit holding me likethis- all my bones are shaken**.¹⁰ This not only provesprotagonist's strong desire to assert herself, when she couldn't achieve that in her marriage, she is not hesitant to reorient her sexuality.

Utran is another remarkable story written by wajidaTabassum against the backdrop of political history of Hyderabad state. The story was first published in 1977. Quite afew of her stories are critique of decadent aristocratic system of that region which has given rise to class struggle a recurring theme in many of her works. The story is woven around the lives of two young girls who grew up playing together- but their class was different one belonged to aristocratic class while the other was a proletariat, the nursemaid's daughter, even their names are suggestive of class and status difference while one is named Bi-Pasha- the other is named simply Chamki- a very insignificant name. though Chamki is well cared for by the family, she was constantly reminded that her identity and class is different than that of bi-Pasha, as she always received the cast offs of Bi-pasha-clothes, toys, jewellery and other fineries and this constantly pricked her conscience and made her very uncomfortable about her whole existence, leaving an indelible mark on her personality. As a child she was puzzled about the fact that why Bi- Pasha would get preferential treatment and when she addressed her guery to her mother, Ammi, I am far prettier than Bi-pasha, am I not? Then why shouldn't she wear my clothes...... If you ever say such a thing again, be warned- you will have to wear the young mistress's castoff clothes all your life. You understand, you donkey's child.¹²This seals her lips for that moment but lava kept smouldering within her. It was with this psyche that the girl grew up, her only desire was to merge her identity and class difference with Bi-Pasha as is evident in the following utterance, Pasha I was thinking that if only I and you become sisters by exchanging our dupattas as adopted sisters do-13 a suggestion which was mocked by the mistress. On growing up she developed a dual personality- asoft and sober exterior who could take up everything, other a rebel who would not succumb to any wrong or injustice. Here we also come across one very significant issue that Chamki's mother is very complacent with her subaltern status-for her survival is of crucial importance and she was

sure that all her needs can be taken care of in this house and she seemed to be willing to make any sacrifice for it even if it meant total annihilation of Chamki's personality as is evident from following utterances, **But Pasha this whore, she is just, she is a fool.....don't play with her, don't talk to her just spit on her name forget her existence,**¹⁴this coming from her own mother silenced Chamki,s voice of protest but only temporarily.

Chamki, s cherished possession was an orange cotton suit which was gifted to her by the lady of the house when she completed the first reading of holy Quran, it was the only dresss which didn't make her feel small and humiliated. Throughout the narrative we found constant attacks being made by Shahzadi Pasha (who is the representative of aristocratic class) to humiliate Chamki but there comes a time when Chamki couldn't tolerate such insinuating remarks any longer. It was the occasion of wedding ceremony of Bi- Pasha – her friends were applying henna on her feet, in the middle of song, music and laughter somebody asked Chamki when would she get married and before she could reply, Bi- Pasha in her usual sarcastic tone which was highly contemptuous retorted that Chamki would get married only when she would discard all her wedding gifts and would give them to Chamki as part of the dowry- this shattered all the dreams of young Chamki and she realized that she is slotted in this class for life and even marriage won't change her status. It prompted her to do something drastic and she decided to take revenge. Dressed in her only dress orange shalwarkammez and flower tucked in her hair, she heads straight to the bridegrooms room with a box of sweets .Sweets for you. We kept vigil last night, you know. Without a rapier she pierced him to the core and glanced at him from the corners of her tilted eyes. He was floored..... sweets for you..... she smiled. I don't believe in sweets when I have to sweeten my mouth. I...... you know what. And he bent forward......and Chamki melted in his. To be looted herself and loot him.¹⁴

In the end Chamki emerged victorious. She felt in this way she had become victorious and had become one with the class of Bi- Pasha. The revelation of womanhood dawned upon Chamki which she used to the hilt to assert herself and use her womanhood and its charm to achieve her objective i.e. to settle scores with Bi- Pasha. This symptomizes her strong desire to be treated at par with Bi- Pasha. In the end she remarked, **something I have used... you will also- for the rest of your life-**¹⁵she used the power of sex as the ultimate weapon to win over Bi –Pasha and overcome class differences between the two.

Conclusion: After having interpreted these two stories, I have come to the conclusion that these stories contain strong points pertaining to female identity crisis. Women face various atrocities under feudal system, they were treated as subalterns, deprived from education and were treated as second in the marriage , denied rights at par with men as society adopted double standards with relation to females. We also come across violence at psychological level leading to suppression of their identity and individuality. Towards the end in order to assert themselves as individual and women they resort to power of sex and create a niche for themselves.

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A study of Promotion Practices by Leading Brands-An Analytical Hierarchy Approach (AHP)

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Abstract:-The present paper deals with the effective tools and vehicles the companies use for promotion of their brands. The present paper is a part of my thesis dealing with the promotion and distribution practices amongst leading brands. The idea is to prioritize the various tools of promotion and in essence bring out what some (if not all) of the leading companies are using. With the growing integration of world markets and instant availability of information, it is essential that we choose an appropriate method to promote the products that enter stores or the distribution system. The intention is to use AHP to prioritize the promotion methods. The study was exploratory in nature and 30 teachers and professionals of Advertising and Promotion were asked to give priority to the promotion tools. The data obtained from every individual was analysed separately using AHP through excel. The findings as emerged are that some promotional tools are better than the others for the leading brands.

Key words: Product promotion, Promotion mix, Leading Brands, AHP

Introduction : The marketing department of any company is involved in establishing effective communication between consumers/end users through the use of Integrated Marketing Communication (IMC). "Integrated Marketing Communication involves coordinating the various promotional elements and other marketing activities that communicate with a firm's customers" (Adrienne Ward, 1993). The American Association of Advertising Agencies (the 4A's) defines Integrated Marketing Communication (IMC) as " a concept of marketing communications planning that recognizes the added value of a comprehensive plan that evaluates the strategic roles of a variety of communication disciplines- for example general advertising, direct response, sales promotion and public relations- and combines these disciplines to provide clarity, consistency and maximum communications impact." (Don Shultz, 1993). Hence IMC is a new approach used by companies to develop, maintain, and retain customers. A successful IMC programme therefore requires finding the right kind of communication tools and techniques, define their role and extent of reach and use them as a potent tool for promoting coordination between buyer and seller.

IMC's basic tool is the "Promotion". Promotion has been defined as the "coordination of all seller-initiated efforts to set up channels of information and persuasion in order to sell goods and services or promote an idea." (Michael Ray, 1982). The Promotional mix are the basic tools used to obtain the objective of achieving the "communication" for the company. The Promotion Mix comprises of 1) Advertising 2) Direct Marketing 3) Interactive/Internet Marketing 4) Sales Promotion 5) Publicity/ Public Relations (PR) 6) Personal Selling/

Advertising –"is defined as any paid form of nonpersonal communication about an organization, product, service, or idea by an identified sponsor". (Ralph Alexander 1965). The advertising may itself be classified as "advertising to customers" through a) National Advertising b) Retail/Local Advertising c) Primary versus selective Demand Advertising. The other is "Advertising to Business and Professional Markets such as a) Business to Business Advertising b) Professional Advertising c) Trade Advertising.

Direct Marketing – involves direct communication with consumers to generate, interest and response hence sales. It involves direct mail and mail-order catalogues. It also involves direct-response advertising whereby the advertisement urges the customer for direct purchase from the company.

Interactive/Internet Marketing- This is the biggest revolution taking place with the growth of internet. This type of advertising forms the basis of two-way communication allowing information to flow back and forth from the marketer to the customer and vice-versa.

Sales Promotion- These are generally defined as the activities that provide impetus to the sales force either by value or incentive. These are generally "Customer Oriented Sales Promotion" comprising of couponing, sampling, premiums, rebates, contests, sweepstakes and point of purchase material. The other kind is "Trade Oriented sales promotion" directed towards wholesalers and retailers in the form of merchandising allowances, price deals, sales contests and trade shows etc.

Publicity/Public Relations- This usually comes in the form of product news stories, editorial, or announcements about the organization and its products. This is usually nonpersonal communication not directly paid for by identified sponsorer. Public relations on the other hand tries to maintain a fair and healthy image of the company.

Personal Selling- it is a form of individual to individual communication wherein the seller persuades the prospective buyer for sale of product or idea.

Companies:-The companies that have been chosen for research are 1) Mercedes 2) Pepsi 3) Bata 4) Lifebuoy 5) Parker 6) Asian Paints 7) Safola 8) Uncle Chips 10) Pizza-Hut. These companies are called leading brands because they are either 1) famous as brands 2) popular amongst the masses 3) high in market share 4) High on Turnover or a combination of these. These brands in India are a household name and virtually all of the people know or heard about themin almost all households. The brands use a mixture of Promotion practices to reach out to their target audience.

How to Develop a Promotion Mix : Consumer buying behaviour is surely affected by promotion message. Selection of a good promotion model is key to realizing long term and short-term marketing goals. The promotion mix is largely affected by 1) Budget 2) Consumer Type 3) Geographic Distribution of consumers 4) Competition 5) Product Type.

The general idea behind the promotion mix is to generate into the customer 1) Act/Initiation 2) Interest/ Desire and delight 3) Attention and Consideration The research chooses the following three methods of promotion 1) Sale Promotion 2) Personal Selling 3) Joint Advertisement. In developing a promotion mix the companies follow a process and this procedure is called hierarchy of reactions and has several models.



Fig 1 Model for AHP

Results

AHP: Analytical Hierarchy Process is the multi criterion decision making process innovated by Thomas L.Saati in 1970. This process uses pairwise comparisons amongst criteria's and choice to arrive at weights. A hierarchy of weights can be developed to show the most appropriate choice. This involves a series of steps: -

Model Building : A model of what is to be evaluated is first made. On the first level is the objective of the study which in this case is to find the appropriate Promotion Mix. The second level is the components of the Promotion mix that are being evaluated and in the present case it is 1) Act/Initiation 2) Interest/ Desire and delight 3) Attention and Consideration. In the third and last level, we keep the choice available for Promotion Mix which are 1) Sale Promotion 2) Personal Selling 3) Advertisement.

Comparisons : A pair wise comparison is made between the level two elements in the model and then for each count of level two; each element of level three is compared in pairs.

Calculations : we multiply the matrix to obtain weights and prioritize the options of the decisions.

Check Consistency Ratio : Since the pairwise comparisons made by the individual may vary hence the calculations obtained by matrix multiplication in AHP may be inconsistent. We therefore calculate a consistency ratio which should be less than 0.1 else the entire process will have to be repeated.

Research Method : The primary objective of the research was to prioritize the promotion methods for leading brands. A group of thirty individuals was chosen comprising of Faculty members involved in teaching Marketing and Promotion mix and executives involved in Advertising. They were explained the concept behind the study which was to find their perception regarding which Promotion tool was better for the leading brands. A questionnaire was given to them to make pairwise comparisons. The results were obtained and calculation for weights were averaged.

	ACT	INTEREST	ATTENTION		WEIGHTS	Rank			
ACT	1	0.33	3		0.258	2			
INTEREST	3	1	5		0.637	1			
ATTENTION	0.33	0.2	1		0.105	3			
CALCULATING C	CALCULATING CONSISTENCY								
	ACT	INTEREST	ATTENTION	WEIGHTS	RATIO	λμαχ			
ACT	1	0.33	3	0.258	0.785	3.039			
INTEREST	3	1	5	0.637	1.935	3.039			
ATTENTION	0.33	0.2	1	0.105	0.318	3.039			
					MEAN	3.039			
CONSISTENCY INDEX 0.0									
CONSISTENCY RATIO									
SINCE CONSISTENCY RATIO IS LESS THAN 0.1 HENCE MATRIX IS CONSISTENT									

Table 1 Desired Results of Promotion

The results showed that for the advertisers soliciting Interest/Desire and delight was the top priority followed by Act/Initiation and then Attention and Consideration

FOR A	CT					
	SP	PS	JA		WEIGHTS	8 Rank
SP	1.00	3.00	5.00		0.637	1
PS	0.33	1.00	3.00		0.258	
JA	0.20	0.33	1.00		0.105	3
CALCULATING CONSISTENCY						
	SP	PS	JA	WEIGHTS	RATIO	λμαχ
SP	1.00	3.00	5.00	0.637	1.935	3.039
PS	0.33	1.00	3.00	0.258	0.785	3.039
JA	0.20	0.33	1.00	0.105	0.318	3.039
					MEAN	3.039
	CONSISTENCY INDEX				X	0.019
CONSISTENCY RATIO 0.033						0.033
SINCE CONS	CONSISTENCY ISTENT	RATIO	IS LESS	6 THAN 0.1	HENCE M	IATRIX IS

SP :- Sales Promotion, PS:- Personal Selling, JA:- Advertising/ Joint Advertising

Table 2 Results of Promotion Tools for Act/Initiation

The results showed that when the advertisers had Act/Initiation in his mind then Sales Promotion was the best followed by Personal Selling and then Advertising

INTEREST							
	SP		PS	JA		WEIGHTS	Rank
SP	1.00		3.00	1.00		0.443	1
PS	0.33		1.00	0.50		0.169	3
JA	1.00		2.00	1.00		0.387	2
	SP		PS	JA	WEIGHTS	RATIO	λ _{ΜΑΧ}
SP	1.00		3.00	1.00	0.443	1.338	3.018
PS	0.33		1.00	0.50	0.169	0.511	3.018
JA	1.00		2.00	1.00	0.387	1.169	3.018
						MEAN	3.018
					CONSISTE	NCY INDEX	0.009
					CONSISTE	NCY RATIO	0.016
SINCE CONSISTENCY RATIO IS LESS THAN 0.1 HENCE MATRIX IS CONSISTENT							

SP :- Sales Promotion, PS:- Personal Selling, JA:- Advertising/ Joint Advertising

Table 3 Results of Promotion Tools for Interest/ Desire

The results showed that when the advertisers soliciting Interest/Desire and delight then Sales Promotion was the top priority followed by Joint Advertising and then Sales Promotion.

ATTENTION						
	SP	PS	JA	WEIGHTS	Rank	
SP	1.00	3.00	0.33	0.258	2	
PS	0.33	1.00	0.20	0.105	3	
JA	3.00	5.00	1.00	0.637	1	
CALCULATING CONS	SISTENCY					
	SP	PS	JA	WEIGHTS	RATIO	λ_{MAX}
SP	1.00	3.00	0.33	0.258	0.785	3.039
PS	0.33	1.00	0.20	0.105	0.318	3.039
JA	3.00	5.00	1.00	0.637	1.935	3.039
					MEAN	3.039
				CONSISTENCY	INDEX	0.019
				CONSISTENCY	' RATIO	0.033
SINCE CONSISTENCY RATIO IS LESS THAN 0.1 HENCE MATRIX IS CONSISTENT						

SP :- Sales Promotion, PS:- Personal Selling, JA:- Advertising/ Joint Advertising

The results showed that when the advertisers were seeking Attention and Consideration then, Advertising was the best followed by Sales Promotion and Personal Selling.

	ACT	INTEREST	ATTENTION					RANK
SP	0.637	0.443	0.258	ACT	0.258	SP	0.474	1
PS	0.258	0.169	0.105	INTEREST	0.637	PS	0.185	3
JA	0.105	0.387	0.637	ATTENTION	0.105	JA	0.341	2

SP :- Sales Promotion, PS:- Personal Selling, JA:- Advertising/ Joint Advertising

The final result as shown above shows that Sales Promotion leaded other promotion tools and was followed by Joint advertising and Personal Selling. Implications and Restriction

The research tends to focus on the promotion tools used by leading brands in order to establish them as "leading brands". The study was conducted from the view point of the advertisers and eminent scholars who teach this subject in their own domain. The findings are as stated in the results above. The brands can now keep these in mind when trying to decide the promotion mix. One of the important limitations on which the researcher is working is to get the advertisers of all the leading brands to verify the results obtained. Some of the retail outlets of the leading brands were approached who have given almost the same result as obtained by the academicians. Another important shortcoming is for AHP itself which is subject to large scale variation in weights and that is why we resorted to averaging the results above for 30 academicians and advertisers.

This research is one of its kind that attempts to prioritize promotion methods among leading brands. The researcher has faced problems such as administering the paired comparison method

while sitting with the respondents concerned. The respondents and in this case academicians were themselves not aware of AHP which led to confounding the problem of getting to the data. The result also face the natural inadequacy of researches based on questionnaire and AHP technique that can effect generalization of the result.

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V.S. NAIPAUL: A REALIST

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Abstract : Most of V.S. Naipaul's books on travelogues convey the confusion or the disillusionment of what the writer had in the mind and what is on the ground. On his first visit to his ancestral land (India) in the early sixties, he brought out a book: *An area of Darkness* (1964). It had all criticisms on India and his visits to four non-Arab countries, Pakistan, Afghanistan, Malaysia and Iran, produced two books: *Among the Believers: An Islamic Journey* (1981) and *Beyond Belief: Islamic Excursions* (1998) which branded him Anti-Islamic. This research paper focuses on Naipaul's few statements which he has referred and acclaimed lots of criticism from all corners of the world. Here an attempt has been made to see whether what he said was right or wrong. If right, are the statements relevant to the present day society and do we still have the same problems as said or changed its color, or have we got rid of them, and an attempt is also made disprove that Naipaul is a pessimist, anti-Islamic, narrow minded and to prove that he is realist on the said statements.

KEY WORDS: Defecating, Conversion, War, Poverty, Criticism, Sense of insecurity, Ground reality. No writings of V.S. Naipaul seem to have been written with the idea of something to teach to the world or make the world conscious or to criticize the communities or to learn something from the world as such. His works place him in a unique position to seek out what prevailed or existed during his life time and journey he underwent. Naipaul is more impersonal in his writings (except autobiographical elements), whether they are fictional, non-fictional, or travelogues. Every community or society or country is identified by its color, or flag of its own. It is ironical to color V.S. Naipaul who was born in a particular community, brought up in a particular society and identified by a particular country and also as belonging to Brahmin community as his ancestral were from India. It is also strange to color him that he is Trinidad historic Guy, for revealing the plight of the colonialism of the post independence period. It is also very much awkward to color him as an English Guy who escaped to England to get rid of the existing colonialism and to live happy life. In my opinion, what had happened with him is, "Time and Situation" was the Master.

What one has to observe in his writing is his self-consciousness that is manifested in all his writings in a very peculiar way irrespective of caste or creed or country or gender which surrounded him during his life and his vast reading knowledge. A set of critics have also tried to explore the other levels of the self-consciousness from their perspective point of view. The greatness of Naipaul, sir, is looking at things in a very crystal clear of life that existed around him and comments based on his knowledge. He is more like an onion having many layers and has scope for peeling to the very end of the seed, but as he said himself on one occasion: *We cannot understand all the traits we have inherited. Sometimes we can be strangers to ourselves.*¹ His books speak or refer beyond themselves and offer him the openness:

To a non selective vision and the determination to admire.²

In his fictions and non fictions and other writings things and events appear like the rainbow after the flood; the pillar of cloud through the desert; the shekinah hovering over the Ark of the Covenant; the writing on the wall at Belshazzar's Feast; the darkness at noon; the cloud enveloping Christ's body at his ascension. His vast vessel that traveled during the pre-colonialism and post colonialism to countries like India, West Indies, South America and parts of Africa , Iran, Indonesia, Malaysia, Pakistan, and the United States and added to his own experience of Caribbean islands (birth place) is like a flowing river, appearing differently to different onlookers of the river. Here, an attempt is made to explore him as a realist. What is a realist? According to Webster Dictionary: *the quality of a person who understands what is real and possible in a particular situation and is able to deal with problems in an effective and practical way.*³ V.S. Naipaul had to carry a lot of criticism on his shoulder because he is more a realist than most of the Brands that critics had given. His first book on India: *An Area of Darkness* (1964) got into criticism the way he described India. His book was seen similar to Katherine Mayo's *Mother India* and Beverley Nichol's *Verdict on India*. If one read these books today, it clearly shows that they hadn't had any sense of purpose to change India or to bring awareness among people. They were merely mirror reflection of those prevailing times.

Let us see from Naipaul's point of view: It was the first visit to India, we all know he was born and brought up in a Caribbean Hindu Brahmin community having a miniature Hindu philosophical touch and British living style and acquired knowledge of rich Indian culture through books. His coming to India was like that of a Kindergarten school going boy who is very much happy with his new dress, new shoes, and new bag, not knowing exactly where is he going to land and what situation is he going to face? Naipaul's position and reactions were just like the said Kindergarten boy what he had heard and read, is on contrary to the experience and true reality he faced on ground . He is shocked by the bureaucracy, the paper work, the poverty, the corruption, the way society lives ,the horrors of untouchable , the rigidities of the caste system, the filth and squalor and the utter disregard of any civic norms pointing to the complete self-centeredness and self absorption of people. At one point of his book he says:

I am at once too close and too far.4

He comments on beggars: *they have a secure position within the society*⁵. It is an inseparable element of India. Beggary has its "function", because every act of *giving to the beggar* is seen as *the automatic act of charity, which is an automatic reverence to God.*⁵ (*Darkness*).

His comment on latrines and toilets that Indians defecating in an open air asserts: Indians defecate everywhere. They defecate, mostly, beside the railway tracks. But they also defecate on the beaches;

they defecate on the hills; they defecate on the riverbanks; they defecate on the streets; they never look for cover. [...] These squatting figures [...] are never spoken of; they are never written about; they are not mentioned in novels or stories; they do not appear in feature films or documentaries. [...] The truth is that Indians do not see these squatters and might even, with complete sincerity, deny that they exist.⁶ (Darkness)

Is it not a harsh reality of India? Don't we find beggars' begging? Is it not a profession for many in India? A big Mafia works now, we all have been watching in movies and TV shows and news, how it works? No Temple, Church and Mosque can be free from beggars. On the other hand even today if one travels in a train in the early hours of the day, one can see people defecating on the hills, riverbanks, streets etc, etc, or if we take a car and make a journey around 7 pm or 8pm, the entry and exit points of the village road sides, we see people defecating. In what way can we blame V.S. Naipaul? In what way can we call him narrow minded?

Ezekiel thinks Naipaul's India: *is peopled, packed with a kind of life which is death, a negation, distortion and degradation from which he is gladly finally to escape.*⁷ (qtd. In Rai 9)

It seems that Naipaul never tried to escape as Ezekiel thinks, his life was not a bed of roses, he knows how was the alien life? (as a migrant) so he was honest in what he was saying.

Today, on one hand, India is growing at a fast pace, with 4G internet, able to make record by sending satellite to Mars (at a price of rupees seven per kilometer as stated by PM), and 104 satellites at one take off, and on the other hand our present prime minister, Shri Narendra Modi, on the eve of India's 69th Independence Day, spoke about "Clean India", "Importance of Toilet", "Sab ka Saath, Sab ka Vikas", It clearly tell us what is India and what it should be in the future. Nearly after 54 year of Naipaul comments on toilet; is it not strange to hear the phrases / words like "clear India" "toilet" from the mouth of Prime Minister and its urgent requirements. Even a movie is going to get released on 11th August 2017, titled "Toilet", with Akshay Kumar as hero. It clearly shows, the problem "defecating in an open air" is very real. And many more statements of Naipaul in the book are true facts which exist and can't be denied even today.

His view on two books: Among the Believers: An Islamic Journey (1981) and Beyond Belief: Islamic *Excursions* (1998) were the outcome of his visits to Pakistan, Afghanistan, Malaysia and Iran. His views and comments such as: Islam is in its origins an Arab religion. Everyone not an Arab who is a *Muslim is a convert. Islam is not simply a matter of conscience or private belief. It makes imperial demands. A convert's worldview alters. His holy places are in Arab lands; his sacred language is Arabic. His idea of history alters. He rejects his own; he becomes, whether he likes it or not, a part of the Arab story. The convert has to turn away from everything that is his.⁸*

A few critics have commended Naipaul for his "moral integrity" "fearless truth telling" and loyalty to the "proof of evidence". On par a few described his two books as promising "new levels of understanding

about Islam". On contrary a few critics are of the opinion that he is "incapable of restraining his loathing for the Islamic world and its people" and called him "V.S. Nightfall" (Derek Walcott) and etc.... If we see from Naipaul's' point of view, during 1980s all the four countries which were politically not very strong, economically weak, poverty stricken, added to it Islamic fundamentalists prevailing everywhere, made the writer to speak the words.

Naipaul says in *Beyond Belief* that Islam is a religion of looting and plundering; it devastated India. Is it not true? For instance, History proves that conversion was a part of religion, irrespective of region. The Koran plainly stated: the duty of a ruler was to convert infidels or unbelievers, ⁹ whereas, Sultans who invaded or ruled used violence, social pressure and missionaries to try to force the people to convert. During 986 B.C Mohammad Ghazani raided India seventeen times and plunders and destroyed temple and shrines. Changis Khan was known as a destroyer and looter. Slogans often heard from the Ministers of the Sultan ; Hindus who refuse to convert should be killed, or reduced to poverty and force them to convert .¹⁰ A few may not agree with the above statement and brush aside stating as ruler of ancient times, no concrete evidence. Why then even today "Ramjanama Boomi", has become sentiment of political issue?(in India) To prove the above statement once again, I would like to give another example of Taliban destroying two monumental Buddha statues in Taliban occupied Afghanistan area in 2000s. The whole world viewed live on television. If we go one step back into history, Pope Urban II called a council in 1095 to meet in Clermont where he urged the thousands of knights present to take up the cross¹¹ and become crusaders, a word that means, marked with the cross.¹² As a reward for driving the Muslim out of the Holy land, the pope promised the crusaders forgiveness of their sins. Here also a few may not agree with the above statement and brush aside stating that it is of ancient times, only history. Very recently, around 2006/7, when conversion was going on here and there across India, particular Orissa, there was a protest by RSS and Hinduvatas. During the same period of time Pope John Paul visited India and in a mass gathering, he said "conversion should go on, and must not stop.¹³ (ZEE News) Present day Government (BJP) passed a law on "Cow Slaughtering" as a crime as Hindus considered cow as Divine. Is it political game to gain laurels or to show what fundamentally India stands for?

As Islam and Christianity are born in the Middle East, and Buddhism in India, have spread with word and sword, no one can deny this, and the only word which suits is "conversion" If one sees Buddhism, its birth place is India, it crossed the boundaries and now we could see it as a major religion is East Asia. Untouchable predominated the Indian society for centuries and thousands suffered in the hand of upper caste, one such person was Dr Bimrao Ambedekar, a freedom fighter and the father of Indian Constitution, under his guidance thousands of low caste people got converted to Buddhism. Here, we are not talking whether conversion is right or wrong, the point is, conversion had been taking place then and now, how it happened and why it happened is history, but why is it also
happening now?(based on news heard) Certain facts say, "A sense of insecurity", "poverty", "migration" and etc, have become major problems subjected to conversion all over the world. Time has changed, Situations have changed yet things are going on in different forms like old wine in a new bottle.

For instance, recently Trump Government dropped "a mother of all bombs" in Afghanistan on Taliban camp and killed dozens. In the same month he visited Vatican City and discussed about peace and tranquility with the Pope. What do the above said actions tell us?

Trump even visited Middle East, and addressed it as "the land of Holy" and sold 110 billion of US dollars "beautiful weapons", the so called Holy land, peace lover, purchased it. Is it not strange to hear? Yes, the "Mimic" behavior of the new world; ISIS terrorist activities, War in Syria, Israel- Palestine conflict, now Arab-Arab war also, etc, etc, these are all the ripen facts of yesterdays.

No Arab country will allow Indian Muslim, Pakistan Muslim and any other Asian country Muslim or African Muslim to be their mother in law or father in law or wife or brother or sister, Arab Muslim are marrying or making better relation only within Middle East as they think they are the pure Muslim. If at all, there is any matrimonial relation with other nationality, it is only for temporary relation, on which "Divorce" is an easy way to get out.(lots of Muslim girls get married in India on contract based with Arab Muslims) is one example. One accepts it or not, Asian or African or other Muslims (not Arab) will ever remain as they are (Muslims), but second only to Arab. All terrorist activity are found in Afghanistan, Pakistan, Asia and Africa, the brand goes without saying Muslim, who feel insecure and has to prove they are Muslim in the name of Jihad.(funded by Arab Nations) And in the name of Big Brother or Half brother (America and European countries) are involved in arms race.

When Naipaul had spoken about India and its behavior or conversion, he has simply given the fact that he had studied and saw on the ground, whether one agrees or not, he is true realist. Calling him anti-Islamic, knotting with Hindu ideologist, pessimist, narrow minded, not having any knowledge of reality of history, all these can be proved wrong as right now his life partner (second wife) is a Pakistani journalist, Nadira Naipaul, living without any controversy. Is it not real?

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A gathering of Arab leaders many years ago defined an Arab in these words: 'Whoever lives in our country, speaks our language, is brought up in our culture and takes pride in our glory is one of us/ We may compare with this a definition from a well-qualified Western source, Sir Hamilton Gibb: 'All those are Arabs for whom the central fact of history is the mission of Muhammad and the memory of the Arab Empire and who in addition cherish the Arabic tongue and its cultural heritage as their common possession.' Neither definition, it will be noted, is purely linguistic. Both add a cultural, one at least a religious, qualification. Both must be interpreted historically, for it is only through the history of the peoples called Arab that we can hope to understand the meaning of the term from its primitive restricted use in ancient times to its vast but vaguely delimited extent of meaning today.

MASS MEDIA AND EDUCATION

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Abstract : The development of mass media and the progress of education are intimately related in many ways. The mass media not only provide information and entertainment but they also provide directly as well as indirectly many opportunities for the children as well as the citizens to be better educated. It has been noted how for about 2500 years the epics and the 'puranas' in India have provided opportunities to the children as well as the adults to participate in the cultural activities and have access to culture, even though the vast majoiryt were, and continue to be even today, illiterate. It is hoped to show the influence of radio and television as teaching aids at home and in the school and college. It is our aim to indicate the way in which the technological developments in the twentieth century have led to the development of audio-visual aids in the classroom. Another important feature of the educational mass media is that the same lessons are used not only all over the region or the country but in many cases all over the world. The use of radio and television in classroom learning with effectiveness depends upon adequate research both at the stage of production and at the state of presentation. The use of the mass media in the classroom can be accepted and promoted only if they are efficient in promoting learning.

Key words : Mass Media, Radio, Television, Classroom learning, Education

INTRODUCTION: All-round development of a man is possible only through education. It is an endless processing of internal growth and development of a human being. Human thinking, reasoning and intelligence etc. are developed due to education. There are two fundamental aspects of education that are – Teaching and Learning. Human life has been centralized through the communication. Sharing of feelings, aspirations and evolution of a social order have all gone together from simple to complex. Mass aspirations have always been formed by the mass society and to fulfill the approach, mass media is the best explanation. The meaning of education is not limited to only academic purpose but also for facilitating group of people by transforming to other people, learning in all spheres of life through other medium like- discussions, awareness programmes, quiz, story-listening etc. Now-a-days human life has been changed due to the exposition of new scientific techniques and technologies. All India Radio and Doordarshan are audio and audio-visual wings of Prasar Bharati, which is having a mandate of Public Service Broadcasting. They have three objectives of their own viz. :

- 1) To inform
- 2) To educate
- 3) To entertain

AIM AND OBJECTIVES : Social conditions and ideals of life are the greatest determinants of the aim of education. In ancient India we find that our forefathers stressed upon the ideal of self-realization and self-purification through knowledge. The educational system of ancient India reflected these ideals.

The spread of democratic ideals at the present time has come to emphasize the training of the individuals for co-operative and mutually helpful living in a democratic society. In this way the aim of education varies from age to age and country to country.

Thus we find that this ideal of education is an antithesis of the ideal of individual development. While Dewey advocated the importance of the society; Nunn upheld the importance of the individual. But it may be said that in reality there is no such separation between the individual and the society. We should not emphasize individuality to the extent of ignoring the interests of the society. Every individual develops in terms of his own nature which is as truly social as self-regarding. Cut off from the society the individual cannot realize his own self. Every human being is social by nature and he is capable of reaching his fullest development only in the society.

On the other hand we should not emphasize the claim of the society too much by neglecting or ignoring the innate abilities and potentialities of an individual. Society should provide ample scope for the development of the powers and capacities of the individual. Similarly every individual should try to contribute towards the welfare of the society. In other words, education should aim at developing some social individuals.

The social problems like illiteracy, unemployment, backwardness have gripped the people living in under-developed countries. Their economic regeneration and reconstruction has not been possible because of very poor role of saving and lower growth of Gross Domestic Product.

We are on the threshold of a new era in which expanding human imagination and advanced technology will free us from many of the physical boundaries which impeded the reach. In such scenario the effective public service broadcasting will enable the under privileged people of the country to ameliorate the economic and social conditions and cast off the age old bonds of economy slavery.

The aim is to arrive at a programme mix- a top quality service, both technically and editorially. We have to create an audience and keep it for a programme service that is intended for everybody. The technological development during the recent times has enormously increased the reach of electronic media.

Usha Chandar and Ramesh Sharma (2003) statically told about the consumption of print media and listening of radio and television. Authors informed that people receive information upon domestic and global events which influences their lives. They explained that by some changes in slotting, duration, format, programming, style, themes and contents, educational radio will be more useful for the people living in and around Coimbatore and provide useful test-ground for educational and broadcast content development. Sohanvir Chaudhary and Suresh Garg (2010) informed about the Right to Education bill for universalization of elementary education in the age group of 6-14 years which is passed in the Indian Parliament. Authors also informed about the efforts being taken by Government of India, Ministry of Human Resources and Development towards quality education by using capabilities of satellite

based teaching-learning. They informed about the EduSat which was launched in 2004 to provide face to face and open flexible learning.

B.K.Ravi (2012) discussed about the need of comprehensive policy for mass media education in his paper Media and Social Responsibility: A critical Perspective with Special Reference to Television. Teachers and academicians who are involved in teaching, journalism and mass communication should be involved in policy making. Media education should be equally weighed with media criticism, analysis and consultancy. Discussed at length regarding the need of media education. Sushanta Kumar Roul (2014) discussed about the utility of audio-visual programmes in his article Language Development of the preschool children : The effects of an Audio-visual intervention program in Delhi, if its contents reached to the teachers well in time, it will be more effective for them as well as for children. The researcher suggested that policy makers should allocate additional funds for such programmes to strengthen the non-formal preschool education. The findings may be useful for the teachers, children, teacher training institutions and for the policy makers. In absence of printed text books, the content of the audio visual programmes can be printed for the teachers so that they can prepare themselves to conduct activities. Payel Das (2015) discussed that the gender problems and injustices can be solved with the role of mass media. Based on the assessment of opinion of women, a true representation have been given through the media. Media has promoted gender awareness as well as socio-cultural life of the masses. Media has also enhanced education in male and female child. Mass media has spread the message for use of contraceptive and family planning, increase in the marriage age of the girl child, health, child care, nurturing etc. Media has reduced the gap of masculine and feminine gender thus remove the gender discrimination.

Various programmes of the television exposed the gender issues. Through advertisement, serials, shows etc. awareness of removing gender discrimination has been increased. Rather than books, children are exposed to gender issue through television

IMPORTANCE OF THE STUDY: The progression of development which was came across in the former decades in respect of restrictions of time and distance has been overcome by the Modern Communication Technologies. This technology has reached to the far-flung vicinity and the disadvantaged section of the society. Various education commissions and plans have tinted the magnitude of utilizing the media for education purpose. The Sixth Five Year Plan recommended that this modern technologies should be used at length to elaborate education for all segment of the society simultaneously improvement of quality of education. Many scientific discoveries and technological advancements have not only altered the prototype of human being's life but also the traditional education system.

Education helps us in the progression of learning and knowing apart from the school textbooks. Regular happenings of events around us also educate us time to time. Without education, the existence of human being is futile. Education guides us to take the right moves in our life. Education has the ability to change the world.

Education makes us a worthy and responsible citizen. It expands the horizon of human being to enable us to understand the duties and make us to pursue them. Education imparts good moral values in the human being to create a good society. Education leads us on relaying ourselves for taking right decision in the life.

Education makes us in removing darkness of ignorance and leads to do everything to achieve success in life. An illiterate person can never be able to plan and achieve success as education imparts the knowledge by various means to achieve the goals. Education is futuristic in nature by providing good education values to secure the future. By the right training and education, one gets the new skills and talents to become a success human being.

Awareness is an asset in itself and lack of attentiveness is lamented everywhere. Education helps in dispersion of awareness, informs and teaches us about the right and wrong and the services that we can entrée. Many a times, we fade in recognizing right and wrong, but the right education helps to cater true answer. Hence, one of the utter most motives of education is to spread awareness in the human being.

OBJECTIVE :

The overall objective of the research is to find the role and responsibility of All India Radio.

The specific objectives are:

- 1. To evaluate the role of Broadcasting
- 2. To recognize the significance of All India Radio & Doordarshan.

GROWTH OF RADIO STATIONS DURING THE LAST FIVE YEARS



The graph shows the growth of Radio station during the last five years from 2010-11 to 2014-15. In 2010-11, 116 regional centres, 86 Local Radio Stations, 31 Relay Centres and 5 Community Radio stations were in existence, which enhanced to 127 regional centres, 86 Local Radio Station, 196 Relay Centre and 5 Community Radio centres up to 2014-15.

PROGRAMME FORMAT OF AIR AND DOORDARSHAN:

Programme Composition of All India Radio: The programmes composition of All India radio for Primary channel have 42% weightage given to Music, 6% to Spoken Words, 2% weightage of programmes for Drama & Documentaries, 19% to Special Audience Programme, 1.7% weightage to school broadcast programmes, 0.03% to Career Counseling, 18% programmes on News & Current Affairs and 11% programmes for other categories. This is the overall programme percentage pattern for Primary Channel of All India Radio. **Programme Composition of Doordarshan :**

Doordarshan National



Ministry of Information & Broadcasting granted permission for 404 News & Current Affairs TV channels which is 49% and 417 Non-news & Current Affairs TV channels which is 51%.

DD National channel programmes on information comprises of News and current affairs are mostly prepared in house. 92% population and 81% terrain area of the entire nation is covered by DD National. It has largest terrestrial network. It provides the viewers knowledge, education and information on population control, conservation of surroundings, family welfare, environmental stability besides attempts for women and children prosperity etc. DD National services are available in the terrestrial from 5.30 am till midnight and satellite medium is accessible 24 hours.

DD News : A bilingual news channel DD News telecast 24x7 news and current affairs programme. This channel was started in 2003 covering politics, international news, science and technology, health, culture, crime, parliament proceedings and calamities etc. Hourly headline in bilingual telecast through this channel. Weekly programme "Vishesh" on contemporary issues telecast for 30 minutes. Half hour programme for discussion on the issues, life, challenges and success of inspirational women telecast named as 'Tejaswini'. A half hour discussed programme named 'Wide Angle' telecast on the issues of defence, diplomacy and strategic issues. This programme is telecast from Monday to Friday. During the year 2014-15, programme on 'Taki Behti Rahe Ganga' serial based on the river Ganga telecast having six episode raising issues on social and cultural aspects and highlighting clean Ganga. Live telecast on the success story on Jan Dhan Yojana of Prime Minister through discussion telecast during 2014-15.

CONCLUSION : On reviewing the various programmes on education on Doordarshan for primary schools of rural area, it is found that the programmes are related to the urban environment and programme contents were for viewers of urban related to the language, and other concepts which are being taught on Doordarshan. This cause is due to the spot of the programme production centres and limited resources. Since the producers of programme put on view the socio and cultural backdrop of the urban children, it fails to completely deal with the rural children and they found that the programmes are immaterial to the environment which they belongs. This occurrence is unfavorable to the utility of programmes on ETV in rural areas where it is still found un-useful.

Moreover, the Indira Gandhi National Open University provides the text in printed form and several times organize live contact sessions with the students. It also provides the course context in audio video format for utilization at study centres of IGNOU and also sells the material for study at home. To maximum use of these audio and video contents, IGNOU telecasts these programmes three days in a week for half an hour from 6.30 a.m. to 7.00 a.m. on alternate days of a week starting from Mondays, so that the students who could not get chance to watch the programmes on earlier occasions.

Almost all the programmes of IGNOU also accommodate the audio video content in the form of printed text, which is always remain a master medium for learning and furnish these programmes to the explicit learners group. These programmes are also viewed by the un-targeted public and they are also getting benefits of these IGNOU programmes.

Radio and Television are contributing to the total educational process at many points today; but there can be few areas in which its potential, direct and indirect, is demonstrated more strikingly than in the colleges of education. Here, the camera offers completely new dimensions to the quality of training that students can be given in their own professional skills; here, too, familiarity with the electronic tools of their trade can gradually build up in a new generation of teachers the fresh attitudes that are necessary if television and radio are to be accepted as quite normal indeed basic, means of instruction.

In schools, in universities, and in adult education generally, one could reasonably say that what matters most is the nature of the teaching material conveyed by television; the end-product and its effect are the things that interest us. The college of education, however, must nowadays be concerned not merely with the best ways of teaching students through television, but with offering instruction in the actual techniques of television itself.

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Law Relating to Protection of Human & Environment of Rural Area Management

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INTRODUCTION : Energy is a critical input for economic growth and sustaining development processes. Over one-third of the world's population, largely consisting of the poor in rural areas of developing countries does not have access to electricity. It is estimated that a new power plant would need to be added every two days to meet the increasing global energy demand. This, however, is clearly an unsustainable proposition, and only emphasizes the urgent necessity for developing energy technologies that are environmentally sound, socially acceptable, and economically viable. Lack of access to affordable energy is an important factor contributing to the relatively poor quality of life in rural areas of developing countries. The potential markets of the rural poor are characterized by a high demand for energy for purposes such as lighting, cooking, space heating in the domestic sector; water lifting and transportation in agriculture; and small and medium enterprises.

3.1 EVOLUTION OF RURAL ENERGY INDIA

3.1.1 Introduction : Biomass energy is the local energy available for meeting the minimum rural needs of cooking. Though the contribution of biomass sources in the overall energy scenario is gradually decreasing, it still contributes over 40% of the energy supply in the country. Sixty-five per cent of the biomass energy in the rural areas is apportioned to fuelwood, 20% to agricultural waste and 15% to cow dung. With the increasing use of commercial sources of energy there has recently been a substantial shift towards commercial sources. As such, the future projections for energy in India do not show a proportionate increase in thefuelwood consumption with the rising population. It is difficult at this stage to predict

Environmental laws :-In the Constitution of India it is clearly stated that it is the duty of the state to 'protect and improve the environment and to safeguard the forests and wildlife of the country'. It imposes a duty on every citizen 'to protect and improve the natural environment including forests, lakes, rivers, and wildlife'. Reference to the environment has also been made in the Directive Principles of State Policy as well as the Fundamental Rights. The Department of Environment was established in India in 1980 to ensure a healthy environment for the country. This later became the Ministry of Environment and Forests in 1985.

The constitutional provisions are backed by a number of laws – acts, rules, and notifications. The EPA (Environment Protection Act), 1986 came into force soon after the Bhopal Gas Tragedy and is considered an umbrella legislation as it fills many gaps in the existing laws. Thereafter a large number of laws came into existence as the problems began arising, for example, Handling and Management of Hazardous Waste Rules in 1989.

What are the key policies relating to the environment in India?

There are three key policies relating to environmental protection in India. They are:

- The National Forest Policy, 1988
- · Policy statement for Abatement of Pollution, 1992
- National Conservation Strategy and Policy Statement on Environment and Development, 1992

How is 'Environment' defined under Indian Law?

According to Section 2(a) of the Environmental Protection Act, 1986, 'Environment' includes a)Water,airandland

b)Theinter-relationshiwhichexistsamongandbetween,

i)water,air,land,and

ii) human beings, other living creatures, plants, microorganisms and property

What is the difference between the laws enacted before and after independence with respect to environmental protection in India?

There are about two hundred laws dealing with environmental protection both before and after independence in India. However, the pre-independence laws have not dealt with environmental protection exclusively. For example, the Indian Penal Code (IPC), 1860, had a chapter (chapter XIV) which dealt with offences affecting public health, safety and convenience, which covered aspects like water, air and noise pollution, whereas the post-independence laws mentioned above deal exclusively with environmental protection.

What are the provisions in the Indian Penal Code for environmental protection?

The Indian Penal Code has a chapter on offences affecting Public Health, Safety, Convenience (Chapter XIV). Sec. 268 provides that "a person is guilty of a public nuisance who does any act or is guilty of an illegal omission which causes any common injury, danger or annoyance to the public or to the people in general who dwell or occupy property in the vicinity, or which must necessarily cause injury, obstruction, danger, or annoyance to persons who may have occasion to use any public right." The section further explains that a common nuisance is not excusable on the ground that it causes some convenience or advantage. Other concerned provisions are: a "negligent act likely to spread infection or disease dangerous to life" (Sec. 269 IPC.), a "malignant act likely to spread infection or disease dangerous to life" (Sec. 270 IPC.), "making atmosphere noxious to health" (Sec. 278 IPC.).

But the essential requirement of the provision to punish a man is the guilty intention of the accused, i.e. either the act of the accused should be negligent, malignant or voluntary, which vitiates the atmosphere. In case of public nuisance, the Penal Code provides for fines up to Rs. 200/- by way of punishment (Sec. 290 IPC.) and for making the atmosphere noxious to health Rs. 500/- only (Sec.78 IPC.).

The punishments are too meagre to meet the objectives. With these penal provisions, it is not possible

to check environmental pollution.

Solar energy for Rural Area:-Historically, lighting was the driver for electricity systems. Edisonlit up Manhattan, New York. But now, with solar panels and a variety of LED fixtures, from nightlights to lawn lights, street lamps to traffic lights to ceilings bulbs (if we may call them that), illumination at night, even for the poor, is largely a solved problem. And the grid is optional; local electricity networks will do. For example, Nancy Wimmer's book, Green Energy for a Billion Poor, describes how Grameen Shakti, using Solar Home Systems (SHS) addressed Bangladesh's illumination problem. Light for everyone at will — this is an accomplishment of the order of eradicating smallpox. In the inaccessible parts of the campus of the Indian Institute of Management Kozhikode (IIM K), where I was faculty, we lit up steep walkways on hills with roughly 8-watt LED lights, solar panels, and batteries. The walkways, hitherto seen as unsafe due to sightings of snakes and scorpions on them, are usable at night now.For increasing the world's welfare to the next level, two solar-powered electricity applications appear critical, a) clean cooking, b) charging e-bikes, e-motorcycles, and EVs. Why? Done right, solar systems designed for cooking, as well as for transport, will drive the virtuous cycle of more numerous and more powerful solar deployments, which will bring in its wake more access to lighting, fans, phone and tablet charging, laptop use, Internet access, refrigerators, and more. With solar electric cooking, to extend the disease eradication analogy, we address tuberculosis.

CONCLUSION : In most developing countries, the largest contribution to the establishment of the national energy infrastructure comes from governments, either through national funds themselves or through international loans. Donor inputs normally contribute significantly in the preinvestment phases, critically influencing the design of the projects and programmes. It is clear that many opportunities for co-operation exist in the rural energy sector, and it is also apparent that communications gaps are all too common.

References : Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

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2. Two authors: both authors' names and the year of publication;

3. Three or more authors: first author's name followed by "et al." and the year of publication.

Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically.

Examples: "as demonstrated (Allan, 1996a, 1996b, 1999; Allan and Jones, 1995). Kramer et al. (2000) have recently shown"

List: References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication.

Examples:

Reference to a journal publication:

Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2000. The art of writing a scientific article. J. Sci. Commun. 163, 51-59.

Reference to a book:

Strunk Jr., W., White, E.B., 1979. The Elements of Style, third ed. Macmillan, New York. Reference to a chapter in an edited book:

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जैन धर्म की रोगचर्या द्वारा विश्व शांति और सद्भाव

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धर्म का अर्थ है जिसे हम धारण करते है अथवा जिसे हम जीवन में अपनाते हैं वही धर्म है। विश्व के सभी मानव अपने—अपने जीवन में जो मार्ग अपनाते है वही उनका धर्म है। अब प्रश्न यह उठता है कि आज विश्व शांति और सद्भाव की आवश्यकता क्यों हुई? क्या दुनियां के इंसानों की जीवनचर्या जो उन्होंने अपनाई हुई है वह अशांति और वैरभाव को जन्म देती है? क्या आज के मानव की जीवनचर्या से हिंसा और प्रति हिंसा को बल मिल रहा है?

क्या हमने अर्थ (धन—दौलत) को ही जीवन में धर्म मान लिया हैं क्योंकि आज चारो— ओर अर्थ और शक्ति—सत्ता का ही बोलबाला है। मेक्स वेबर ने विश्व के 6 धर्मों का अध्ययन करने के बाद बताया कि 'धर्म ही समाज की आर्थिक क्रियाओं और व्यवहारों का आधार होता है। (1) उनकी प्रसिद्ध कृति The Protestant Ethics and The Spirit Capitalism' इसी बात को सिद्ध करती है। क्या हमने अर्थ के लिए जो जीवनचर्या अपनाई है वो अशांति हिंसा—वैरभाव के स्थान पर शांति—अहिंसा—सद्भाव युक्त हो सकती है? हाँ हो सकती है तो कैसे? इसी का जवाब है जैन धर्म की जीवनचर्या द्वारा विश्वशांति और

सद्भाव। जैन धर्म द्वारा अंहिसा के मार्ग से सबका उद्य सबका विकास संभव है।

"आचार में अंहिसा, विचार में अनेकांत, वाद में स्यादवाद तथा समाज में अपरिग्रह ये चार स्तम्भ है जिन पर जैन धर्म का सर्वोदयी प्रासाद खड़ा है।⁽²⁾ अपरिग्रह जैन धर्म की प्रमुख शिक्षा है जिससे संसार में शांति एवं सदभाव लाया जा सकता है। क्योंकि जब लोगों में संग्रह करने की प्रवृति नहीं होगी तो प्रकृति के सभी संसाधनों पर सबका हक होगा और लोग अपनी वर्तमान आवश्यकता के अनुरूप वस्तुओं का उपयोग करेंगे। जिससे वैरभाव और द्वेश उत्पन्न नहीं होगा तो शांति स्वतः ही नज़र आयेगी और शांतिपूर्ण वातावरण में लोग सद्भाव पूर्वक जीवन यापन कर सकेंगे।

कभी—कभी जातिवाद और साम्प्रदायिकता के कारण समाज में अशांति और दुश्मनी पैदा हो जाती है। इस बात के लिए जैन धर्म का योगदान अद्वितीय रहा है। क्योंकि जैन न तो कोई जाति है और न ही सम्प्रदाय है। जिनेन्द्र देव के सिद्वान्तों के अनुसार आचरण करने वाला प्रत्येक व्यक्ति जैन है। जैन मतानुसार जन्म से कोई ब्राहमण, क्षत्रिय आदि नहीं होता है। जाति तथा सम्प्रदाय का निर्माण जन्म से नहीं कर्म से है। जैन धर्म कर्म की सत्ता को ही स्वीकार करता है।⁽³⁾ अतः जब विश्व में सभी अपनी—अपनी मेहनत की रोटी खायेंगे तो स्वतः ही चारो ओर षांति और सदभाव का वातावरण दिखाई देगा।

आज विश्व में पर्यावरण का व्यापक संकट है। जिसमें इंसान की स्वार्थी और लालची प्रवृति के कारण अनेकों जीव नष्ट होने के कगार पर है। जिससे जैव विविधता में क्षरण हो रहा है। इसे रोकना बेहद जरूरी है। अगर इस पर लगाम नहीं लगी तो मानव जीवन का अस्तित्व खुद—ब—खुद खतरे में पड़ जायेगा। 75 प्रतिशत मछलियों का दोहन, 80 प्रतिशत जैव विविधता में कमी आवासीय नुकसान से, 240 एकड प्राकृतिक अवास हर 60 मिनट में बर्बादी की कगार पर, 27000 पशुधन का एक साल में नुकसान हो रहा है।⁴

ऐसे में जैन धर्म की जीव दया की अवधारणा और अंहिसा का संदेश सम्पूर्ण विश्व में सभी जीवों के शांतिपूर्ण सह अस्तित्व की वकालात करता है। शांतिपूर्ण जीवन के लिए सबको स्वच्छ पर्यावरण चाहिए। परन्तु ग्लोबल वार्मिंग, शुद्ध पेयजल का अभाव, ध्वनि प्रदूषण, वायु प्रदूषण की अनेक समस्याएें हैं। अमरीकी—भू—भौतिक विज्ञानियों ने नई तकनीक पेरिडोटाइप के विश्लेषण के आधार पर बताया है कि धरती का आवरण (मेंटल) अभी तक के अनुमानों से 60 डिग्री सेल्सियस ज्यादा गर्म है। पूर्व के तमाम अनुमानों के विपरीत पृथ्वी के आवरण का तापमान 1350 डिग्री सेल्सियस के बजाया 1410 डिग्री सेल्सियस पाया गया हैं।⁽⁵⁾

जैन दर्शन पर्यावरण संतुलन की और विशेष ध्यान देता है। जैन दर्शनानुसार न केवल श्रमण अपितु श्रावक भी स्वच्छ वातावरण में रहना पंसद करते है। जैन जीवनचर्या जल, वायु, वनस्पति, पृथ्वी, अग्नि में जीवन की सत्ता मानता है तथा अंहिसा व्रत के अन्तर्गत इनकी हिंसा का निषेध करता है।[©] इसलिए सम्पूर्ण विश्व में जैन मार्ग द्वारा ही विश्वशांति एवं सद्भाव की स्थापना संभव है। इसके लिए सभी व्यक्तियों को जैन धर्म की जीवनचर्या को आत्मसात करना चाहिए।

जैन धर्म के त्रिरत्न हैं– आचरण। सत में विश्वास को ही शंकाविहीन तथा वास्तविक ज्ञान सुख–दुःख के प्रमि समभाव सम्यक आचरण पर अत्यधिक बल दिया हैं जिन्हें पंचव्रत कहा जाता है– 1. या झूठ ना बोलना। 3. अचौर्य या अर्जित नहीं करना। 5. ब्रह्मर्य या से चले आ रहे थे, महावीर स्वामी ने अहिंसा या किसी प्राणी को न सताने है।⁽⁸⁾



सम्यक दर्शन, सम्यक ज्ञान, तथा सम्यक सम्यक दर्शन कहा गया है। सद्रुप का सम्यक ज्ञान है। सांसरिक विषयों में उत्पन्न आचरण है। त्रिरत्न के अनुशीलन में गया है।⁽⁷⁾ जैन धर्म के पांच प्रमुख सिद्वांत अहिंसा या हिंसा नहीं करना। 2. अमृषा चौरी न करना। 4. अपरिग्रह या संपत्ति इन्द्रिय निग्रह करना। इनमें चार व्रत पहले केवल पांचवां व्रत जोड़ा। जैन धर्म में के व्रत को सबसे अधिक महत्व दिया गया

इस प्रकार योग में यम—नियम द्वारा अपनी इंद्रियों और मन पर नियंत्रण रखते हुए समाधि की अवस्था को प्राप्त कर परम शांति की प्राप्ति की जाती है तो जैन धर्म के उक्त पंच महाव्रतों एवं सात्विक आहार—विहार एवं प्रभावी दिनचर्या को ही योगचर्या बनाकर विश्व में शांति एवं सद्भाव की स्थापना की जा सकती है।

आतंकवाद, युद्ध, गृह क्लेश, अतिक्रमण, लड़ाई—झगड़े, मार—काट, लूट—पाट, जीव हत्या, द्वेश, ईर्ष्या, अहंकार आदि सभी वैश्विक समस्याओं का समाधान जैन धर्म की जीवनचर्या में विद्यमान है। जैन धर्म की जीवनचर्या को अपना कर विश्वशांति एवं सद्भाव का संदेश विश्व के कोने—कोने में फैलाया जा सकता है।

> सद्भाव के लिए– (जीओ ओर जीने दो) विश्व शांति के लिए– (अहिंसा परमो धर्म)

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जैन धर्म में शैक्षिक और सांस्कृतिक मूल्य सुमन चौधरी शोद्यार्थी (इतिहास विभाग) राजस्थान विश्वविद्यालय, जयुपर डॉ. जुबेदा मिर्जा एसोसिएट प्रोफेसर (इतिहास विभाग) राजस्थान विश्वविद्यालय, जयपुर

जैन धर्म एक स्वतंत्र धर्म है। जैन धर्मानुसार जो जिन को माने वह जैन कहलाता है। अर्थात् जो जिनेन्द्र भगवान को माने वह जैन है। जिनेन्द्र भगवान से तात्पर्य जिसने इन्द्रियों को जीत लिया। जिसने विषय कषायों पर विजय प्राप्त कर ली जो सर्वज्ञ और वीत रागी हो गए, वही भगवान हैं। जैन धर्म हिन्दू धर्म से सर्वथा भिन्न धर्म है। जैन धर्म मंदिर, जैन प्रतिमा, जैन ग्रंथ, जैन पर्व, जैन रीति–रिवाज, हिन्दू धर्म से सर्वथा भिन्न है। सबसे बडी भिन्नता तो यही है कि जैन धर्म अकर्तावादी धर्म है। जैन धर्म में ईश्वर कर्ता नहीं है। जबकी हिन्दु धर्म के अनुसार ईश्वर ही सृष्टि का रचयिता एवं कर्ता–धर्ता है। ईश्वर की मर्जी के बिना एक पत्ता भी नहीं हिल सकता है।⁽¹⁾

इस आधार पर हम शिक्षा में कर्मठता का मूल्य विकसित कर सकते हैं। जिससे विद्यार्थी भाग्यवादी न बने, सिर्फ भगवान भरोसे जीवन यापन न करें, आलसी न बने, वह अनमोल मानव जीवन में श्रेष्ट कर्मों द्वारा अपना एवं सांस्कृतिक जगत का भी कल्याण करें।

सांस्कृतिक मूल्य वे हैं जिन्हें हम अपने परिवेश में खान—पान, रहन—सहन, पहनावा, व्रत—उपवास, उत्सव—त्योहार, विश्वास मान्यताएँ, आदर्श आदि के द्वारा व्यवहार में प्रदर्शित करते हैं। Man made Part of Environment is Culture अर्थात वातावरण या पर्यावरण का मानव निर्मित भाग संस्कृति है।⁽²⁾ **(हरस्कोविद्स)**

मानवशास्त्री डोरेथी संस्क ति को—Ideas or rules Behind behaviours कहते है |³⁾ और ठीक इसी प्रकार के विचार रूथ बनेडिक्ट ने संस्कृति के विषय में बताये है— ''विचार व क्रिया का बहुत कुछ सुस्थिर प्रतिमान संस्कृति है ।''⁽⁴⁾

संस्कृति अर्थात् मनुष्य के विचार, भाव, क्रिया, नियम आदि से ही सांस्कृतिक मूल्यों का निर्माण होता है। अतः जैन धर्म में जो विचार, मान्यताएँ, शिक्षाएँ, आदर्श, विश्वास है– उन्ही के आधार पर सांस्कृतिक एवं शैक्षिक मूल्यों की स्थापना की जा सकती है।

जैन धर्म का नमोकार महामंत्र जो निम्न प्रकार है:--

णमो अरिहंताणं– अर्थात सभी अरिहंतो को नमस्कार है।

णमो सिद्धाणं – अर्थात सभी सिद्धों को नमस्कार है। णमो आयरियाणं – अर्थात सभी आचार्यों को नमस्कार है। णमो उवज्झायाणं – अर्थात सभी उपाध्यायों को नमस्कार है। णमो लोए सव्वसाहुणं – अर्थात् लोक में सभी साधुओं को नमस्कार है।

इस प्रकार हम शैक्षिक मूल्यों के अन्तर्गत अपने विद्यार्थियों में शिक्षकों के प्रति आदर भाव का विकास कर उन्हें (विद्यार्थियों) स्थायी एवं प्रभावी अधिगम करवा सकते हैं। जिससे वे अपने जीवन में इस मूल्य को उतार सकें आने वाली पीढियों को समझा सकें। धीरे—धीरे ये मूल्य संपूर्ण सांस्कृतिक वातावरण का हिस्सा बन जायेंगे। इस प्रकार सांस्कृतिक मूल्य स्वतः ही विचार और क्रिया में परिणत हो जायेंगे। जैन धर्म में मोक्ष प्राप्ति के लिए गृहस्थ धर्म (श्रावक धर्म) व मुनि धर्म (श्रमण मुनि या यति / संयासी) दोनों का वर्णन है। श्रावक धर्म मर्यादित प्रवृति का निर्देश है और श्रमण धर्म में पूर्ण निवृति की बात की गयी है।

इस आधार पर हम शैक्षिक एवं सांस्कृतिक मूल्य के रूप में मानव में अपने पारिवारिक जीवन में 'मर्यादा' का मूल्य विकसित कर उसके जीवन को उन्नत बना सकते हैं। वही निवृति के मूल्य से इंसान स्वयं के साथ–साथ राष्ट्र एवं समाज और सम्पूर्ण जीव–जगत का कल्याण कर सकता है।

जैन धर्म में पाँच पापों को दुख का कारण बताया गया है। जो इस प्रकार हैं।

1. हिंसा 2. झूठ 3. चोरी 4. कुषील 5. परिग्रह

इन पापों के कारण ही मनुष्य को अशुभ कार्मों का बंध होता है, जिसके कारण दुःख ही दुःख झेलने पड़ते हैं। अतः जैन धर्म में इन पापों से दूर रहने की शिक्षा दी जाती हैं।

वर्तमान युग की सबसे बड़ी समस्या आतंकवाद जो घोर हिंसा का जधन्य कृत्य है। ऐसे में जैन धर्म की अंहिसा की भावना सम्पूर्ण विश्व में मानव को शांति एवं सद्भावना के साथ भाईचारे की भावना का पाठ पढाती है।

प्रथम विश्व युद्ध (1914—1918) द्वितीय विश्व युद्ध (1939—1945) और अब तृतीय विश्व युद्ध की ओर सभी राष्ट्र अग्रसर है। निश्चित तौर पर जैन धर्म की अंहिसा की विचार धारा के अलावा मानव जीवन को युद्धों की यातना से बचाने का कोई स्थायी कारगर उपाय नज़र नहीं आता है। इसलिए कहते है— अंहिसा परमो धर्मः। और ये अंहिसा का मूल्य ही हमें अपने शैक्षिक और सांस्कृतिक जीवन मूल्यों में आत्मसात करना होगा। जिससे सबको साथ लेकर, सबका विकास, शांति एवं सद्भाव के साथ हो सकें। झुठ, चोरी, कुशील (मन में कृविचारों का आना) और परिग्रह (संग्रह करने की प्रवृति) के कारण

झूठ, चारा, कुशाल (मन म कुपिचारा की आना) आर परिग्रह (संग्रह करन की प्रयृति) के कारण ही सम्पूर्ण विश्व में आज असंतोष, भय, अविश्वास, भुखमरी, महिला उत्पीडन, बाल अपराध, मंहगाई, आर्थिक मंदि आदि सभी व्यापक से व्यापक होते जा रहे है और मानव जीवन संकटग्रस्त हो रहा है। इसलिए जैन धर्म की इन पाँचो पापों की शिक्षा को ध्यान में रखकर जीवन यापन किया जाये तो बच्चे,

महिला, पुरूष, घर, परिवार, देश, समाज सभी में अमन—चैन होगा। जैन धर्म में इन पांचों पापों का संकल्प पूर्वक एक देश (स्थूल रूप से) त्याग करना अणुव्रत कहलाता है।⁽⁵⁾ 1. अहिंसाणुव्रत 2. सत्याणुव्रत 3. अचौर्याणुव्रत 4. ब्रह्मचर्याणुव्रत 5. परिग्रहपरिमाणुव्रत इसी के साथ हमें विद्यार्थियों में जैन धर्म के पाँच इन्द्रिय निरोध के मूल्य भी विकसित करने चाहिए। स्पर्श, रसना, घ्राण, चक्षु और कर्ण पाँचों इंद्रियों को वश में करने से जीवन मे कुछ भी अप्राप्य नहीं हो सकता।⁽⁶⁾ न्यायमूर्ति एन. के. जैन ने जैन धर्म की मूल्य परकता पर कहा— ''आत्मा के परम पुरूषार्थ का पोषक मानवीय जीवन मूल्यों का प्रतिष्ठापक जैन धर्म एक लोक मंगल विधायक प्राचीन धर्म है।⁽⁷⁾

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रोग और मूल्य आधारित शिक्षा की तार्किक मीमांसा

महेश कुमार आर्य शोधार्थी जे.आर.एफ. (शिक्षा विभाग) राजस्थान विश्वविद्यालय, जयपुर डॉ. कल्पना पारीक (शिक्षा विभाग), एसोसिएट प्रोफेसर, पारीक पी.जी. कॉलेज, जयपुर

विषय के तार्किक पक्ष की ओर ध्यान दें तो 'सेव द चिल्ड्रेन' की ''अविकसित बचपन, बचपन का खात्मा'' रिपोर्ट 2017 के अनुसार भारत में 39 प्रतिशत बच्चे कुपोषण के शिकार पाये गये हैं। यह आँकड़ा केन्या में 26 प्रतिशत यूगांड़ा में 34 प्रतिशत, मलावी में 37 प्रतिशत, यमन में 39 प्रतिष्शत, कांगो में 43 प्रतिशत ,पाकिस्तान में 45 प्रतिशत, यमन में 47 प्रतिशत आदि है। भारत में 4.8 करोड़ बच्चों को पूरा

> आहार नहीं मिल पाता है। वही पूरी दुनिया में 15.08 करोड कुपोषित बच्चे हैं।⁽¹⁾ वहीं दूसरी और देखे तो दुनियां की लगभग पचास प्रतिशत आबादी तक इंटरनेट पहुंच गया है। यूरोप और मध्य एशिया में 65 करोड़ द. पूर्व एशिया, एशिया प्रशांत में 150 करोड़, उत्तर दक्षिण अमेरिका में 61 करोड़, और अफ्रीका में 41 करोड़ लोगों के पास

इंटरनेट सुविधा है।(2)

उक्त दोनों संदर्भो को ध्यान से देखें तो पता चलता है कि हमारे बच्चे भुखे और कुपोषित हैं। परन्तु हाथ में

दुनियां की खोखली जानकारी के लिए मोबाईल इन्टरनेट है। ऐसे संदर्भो में कैसे योग ओर मूल्य आधारित शिक्षा बच्चों को दी जाऐ? ऐसे विरोधाभासी समय में उन्नत एवं गुणवत्ता युक्त जीवन के लिए योग और मूल्य आधारित शिक्षा की इन्टरनेट से कहीं अधि

ाक आवश्यकता है।

आजकल की लाइफ स्टाइल (जीवन शैली) से एक तिहाई युवा जीवनशैली संबंधित रोगों के शिकार है। 30 साल से अधिक की उम्र के 33 प्रतिशत जीवन शैली से संबंधित बीमारियों जैसे डाइबिटीज, हाई कालेस्ट्राल, ब्लड प्रेशर और कैंसर से पीड़ित हैं। 31.3 प्रतिशत लोग जरूरी नींद नहीं ले पाते हैं।

6.72 घंटे ही औसत नींद लेते है भारतीय, जबकि स्वास्थ्य के लिए औसत 7–9 घंटे प्रतिदिन नींद लेनी चाहिए।⁽³⁾

ऐसी जीवन शैली में योग और कसरत के अभाव के साथ ही जीवन मूल्यों का भी पतन हो रहा है। जिससे जीवन के सभी क्षेत्रों में कुप्रभाव देखने को मिलते है। साइक्लोजिकल एसोसिएशन की रिपोर्ट के मुताबिक 90 प्रतिशत मामलों में तनाव बढने की वजह लगातार ईमेल, मैसेज और सोशल मीडिया का इस्तेमाल है।





65 प्रतिशत लोगों का मानना है कि मानसिक स्वास्थ्य के लिए डिजिटल वर्ल्ड से दूर रहना चाहिए।



जबकि 28 प्रतिशत लोग ही कामयाब हो पाते है डिजिटल वर्ल्ड से दूर होने में। 95 प्रतिशत अभिभावक अपने बच्चों को इलेक्ट्रानिक उपकरणों से दूर रखने की कोशिश करते है। 58 प्रतिशत लोगों को लगता है कि सोशल मीडिया के इस्तेमाल से बच्चे चिड़चिड़े हो रहे हैं और सबसे अधिक पारिवारिक मूल्यों का विघटन भी तकनीकी के कारण ही हो रहा है। 45 प्रतिशत अभिभावक परिवारों में दूरी की वजह सोशल मीडिया को ही मानते हैं।⁴

इन सभी परिस्थितियों में योग और मूल्य आधारित शिक्षा ही एकमात्र उपाय नज़र आता है। ''भारत में स्वास्थ्य सेवाएं अधिकतर क्षेत्रों में तकरीबन मरणासन स्थिति में हैं।''⁽⁵⁾ **(के. श्रीनाथ रेड्डी)**

हाल के वर्षो में कुछ स्थितियों में सुधार जरूर हुआ है परन्तु वह पर्याप्त नहीं है। राष्ट्रीय परिवार स्वास्थ्य सर्वे 2015–16 की रिपोर्ट के अनुसार 23 साल में शिशु मृत्यु दर 79 से घटकर 41 पर आ गई

है भारत में। जबकी यह बांग्लादेश में 31 तो नेपाल में 29 (1 साल तक की शिशु मृत्यू दर), 5 साल के बच्चों की मृत्यू दर बांग्लादेश 38, नेपाल 36 है।[©]

मृत्यु दर), 5 साल के बय्या का मृत्यु दर बाग्लादश 38, नपाल 36 हाल इसलिए गर्भावस्था के समय एवं जन्म के बाद माता एवं नवजात के पोषण एवं देखभाल की विशेष आवश्यकता है। इसके लिए योग एवं मूल्य आधारित शिक्षा

रामबाण सिद्ध होगी। बच्चों का टीकाकरण भी करवाना चाहिए क्योंकि 5 लाख बच्चों की हर साल मृत्यु हो जाती है टीकाकरण के अभाव में। टीकाकरण का राष्ट्रीय औसत फिलहाल 62 प्रतिशत है।^{(7).}

निश्चित तौर पर वर्तमान में मूल्य आधारित शिक्षा पर ध्यान देने की सबसे अधिक जरूरत है। अपनी पुस्तक भारत 2020 में डॉ. एपीजे अब्दुला कलाम ने मूल्य आधारित शिक्षा पर

बल देते हुआ लिखा है ''मूल्य प्रणाली के साथ शिक्षा को इस तरह डिजाइन किया जाना चाहिए कि बच्चों के मन में नेकी की भावना का विकास हो।''[®]

(डॉ. एपीजे अब्दुल कलाम)

अहमदाबाद.रविवार

30.04.2017

कम बच्चों का टीकाकरण

वेश्व टीकाकरण सप्ताह.

गुजरात में सबसे 🕚 50,4% 📾

sunday

योग एक चिकित्सा पद्वति होने के साथ—साथ स्वस्थ जीवन जीने की कला और विज्ञान भी है जो रोग एवं स्वास्थ्य दोनों अवस्थाओं में व्यक्ति के शारीरिक, मानसिक, भावनात्मक, नैतिक सामाजिक तथा आध्यात्मिक सभी पहुलओं के लिए लाभकारी है। जिससे जीवन में एक नई आशा का संचार होता है और हम स्वस्थ, सुखपूर्ण और चिंतारहित जीवन सद्भावपूर्ण व्यतीत करते है।



भारत के प्रधानमंत्री श्री नरेन्द्र मोदी जी ने 27 सितम्बर, 2014 को संयुक्त राष्ट्र महासभा के 69 वें सत्र के समय अपने उद्बोधन में कहा था।

''योग प्राचीन भारतीय परम्परा एवं संस्कृति की अमूल्य देन है।''⁽⁹⁾

(प्रधानमंत्री श्री नरेन्द्र मोदी)

योग के प्रति प्रधानमंत्री जी मोदी के लगाव तथा प्रेरणा से संयुक्त राष्ट्र संघ द्वारा 21 जून को अन्तर्राष्ट्रीय योग दिवस घोषित किया गया। उल्लेखनीय है कि 75 दिन के रिकार्ड समय के भीतर यह प्रस्ताव पारित हो गया जिसमें 177 देश सह प्रायोजक है।

योग का प्रादुर्भाव आज से लगभग हजारों वर्ष पूर्व का माना जाता है। सिंधु घाटी सभ्यता में योग साधना करती हुई अनेक आकृतियों के साथ ढेरों मुहर एवं जीवाश्म अवशेष इस बात का प्रमाण है कि प्राचीन भारत में योग का अस्तिव था महर्षि पतंजलि ने अपने 'पातंजल योगसूत्र' ग्रंथ में क्रमबद्ध रूप में व्यवस्थित किया और बाबा रामदेव जैसे अनेको योगियों ने इसका प्रचार प्रसार किया। आज योग प्रत्येक व्यक्ति की जीवन शैली की अहम आवश्यकता बन गया है।

मानव जीवन के चार पुरूषार्थ हैं– धर्म, अर्थ, काम और मोक्ष। ये सभी योग एवं मूल्य आधारित शिक्षा द्वारा संभव हैं। महर्षि पंतजलि ने योग के विभिन्न पक्षों को परिष्कृत करते हुए मानव जीवन के सर्वांगीण विकास के लिए योग के आठ अंगो का प्रतिपादन किया जो अष्टांग योग के नाम से जाना जाता है। ये है– यम (आत्म संयम), नियम (आत्मशोधन के नियमों का पालन), प्रत्याहार (इंद्रियो को उनके विषय से रोकना), धारणा (चितंन), ध्यान (तल्लीनता) और समाधि (पूर्ण आत्मतन्मयता)।

अब प्रश्न यह उठता है कि इन योग नियमों को शिक्षा में कैसे लागू करें? जिससे मूल्य आधारित शिक्षा का विकास हो। शिक्षा का मूल उद्देश्य बालक का सर्वांगीण विकास करना है। और बिना उक्त नियमों के सर्वांगीण विकास संभव नहीं है। अतः इसके लिए स्कूल, कॉलेज और विश्वविद्यालय स्तर पर योग एवं मूल्य आधारित शिक्षा को ध्यान में रखकर पाठ्यक्रम बनाये जाये। योग को मूल्यांकन पद्धति में व्यावहारिक रूप में आंका जाए जो विद्यार्थी के व्यवहार में नजर आता है। प्रार्थना सभा में नियमित अभ्यास करवाया जाये। अभिभावकों को भी योग के प्रति जागरूक किया जाये जिससे परिवार में योग का वातावरण बन सके। प्रत्येक संस्था में योग अभ्यास से ही दिन का प्रारम्भ होना चाहिए। उत्तम आचरण, चरित्र और स्वास्थ्य का राष्ट्रीय स्तर पर सम्मान हो।

प्रत्येक संस्था में एक योग, प्रशिक्षक की नियुक्ति होनी चाहिए। अस्पतालों में रोग उपचार के साथ—साथ योग अभ्यास भी करवाया जायें। योग को खेलों में सम्मिलित किया जाये। योग के प्रचार—प्रसार का कार्य केन्द्र सरकार को करना चाहिए। योग केवल व्यवसाय नहीं है, बल्कि स्वयं के साथ, विश्व और प्रकृति के साथ एकत्व खोजने का भाव है। जैसे संत कबीर का योग आत्मा—परमात्मा की मिलनावस्था है। सुरति समाणीं निरत मैं, अजपा कौह जाप। लोक समाणां अलेख मैं, यू आपा माहें आप।।(11)

परन्तु संत कबीर ढोंगी पंड़ितों, कठमुल्लाओं और धर्म के ठेकेदारों को फटकार लगाते है जिनका आचरण अशुद्ध है जिनके जीवन मैं यम, नियम नहीं है।, हिन्दू बरत एकादशी साधे दूध सिंघाड़ा सेती।

अन्न को त्यागे मन को न हटकै पारण करै सगौती।।(12)

रोजा के बाद अखाद्य ग्रहण करने वाले मुस्लिमों को भी कहा-

दिन को रोजा रहत है, राति हनत हैं गाय।, यहां खून व बदंगी, क्यों कर खुशी खोदाय।।⁽¹³⁾ योग से जीवन में भौतिक एवं आध्यात्मिक उन्नति प्राप्त होती है इसमें कोई संदेह नहीं है। इसलिए योग के स्थूल अर्थ के साथ इसके सूक्ष्म भाव को भी मूल्य आधारित शिक्षा का मुख्य आधार बनाना होगा। तभी सर्वे संतु सुखीन, सर्वे संतु निरामया अर्थात् सभी सुखी और सभी निरोग होंगे। संदर्भ:—

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शैक्षिक और सांस्कृति मूल्यों के यर्थाथ स्वरूप का अध्ययन

महेश कुमार आर्य शोधार्थी जे.आर.एफ. (शिक्षा विभाग) राजस्थान विश्वविद्यालय, जयपुर डॉ. कल्पना पारीक (शिक्षा विभाग), एसोसिएट प्रोफेसर, पारीक पी.जी. कॉलेज, जयपुर

मूल्य का संबंध मनुष्य के विश्वास से है–

मूल्य मनुष्य के विचार, विश्वास, मान्यता, आदर्श को प्रकट करते है। (राधा कमल मुखर्जी) नोटः– स्रोत स्मृर्ति आधारित

आज जिस गति से जीवन के परिदृष्य परिवर्तित हो रहे हैं, उन्हें देखकर वैयक्तिक, पारिवारिक, सामाजिक, सामुदायिक, क्षेत्रीय, राष्ट्रीय, अन्तर्राष्ट्रीय, संस्थागत, सरकारी अथवा गैरसरकारी, आदि सभी स्तरों पर शैक्षिक और सांस्कृतिक मूल्यों का अवमूल्यन हम सभी भोग रहे हैं।

इस बात को सहजता से स्वीकृति दी जा सकती है कि आदर्श, मान्यताएं, विश्वास, मूल्य एवं जीवन शैली समय—समय पर आवश्यकताओं के अनुरूप बदलते रहे हैं और बदलते भी रहने चाहिए, क्योंकि परिवर्तन प्रकृति का शाश्वत मूल्य है। परन्तु इस कदर ही बदल जाये की प्रत्येक 10 में से चार लोगों को रिश्वत देनी पड़ती है।⁽¹⁾ अपने जायज काम करवाने के लिए तो फिर हमने शिक्षा के द्वारा कैसे कामगार तैयार किये? जो डॉक्टर अभियंता, अभिनेता, राजनेता, सामाजिक कार्यकर्ता और खास तौर से शिक्षक जो इन सभी व्यवसायों का जनक है इस जनक पर भी रावण जैसा प्रश्न चिहन है। पुलिस और

न्याय प्रक्रिया तो इस मामले में कड़वा सच है जिसे जताने की जरूरत नहीं है। सरकार ने अभी हाल ही में (8 नवम्बर, 2016) 1000, 500 के नोटो पर प्रतिबंध लगाया और 2000 का नया नोट जारी कर दिया।⁽²⁾ क्या अंधेर नगरी है,' टके सेर भाजी, टके सेर खाजा।

इन तमाम झलकियों से एक तस्वीर स्पष्ट नज़र आती है कि जीवन में शैक्षिक और सांस्कृतिक मूल्यों का स्थान घट रहा है जो निश्चित तौर पर वर्तमान और भावी पीढ़ियों के लिए मनोवैज्ञानिक स्तर पर मानसिक कैंसर जैसा होगा। जिसमें ओरओर......ओर........पाने की कामना जीवन को सुखी बनाने का प्रयास ही इंसान को दुख.......दुख.......और दुख ही देगा।

क्योंकि भारतीय संस्कृति का परम मूल्य संतोष परम सुखम है। यह संतोष का 'मूल्य' भारतीय संस्कृति में वैदिक युग से लेकर बौद्ध, जैन, नाथ सिद्धों से गुजरते हुये भक्तिकाल में संत कबीर की वाणी से फूट पड़ा—



(आलपोर्ट)

सांई इतना दीजिए, जामे कुटुम्ब समाय मैं भी भुखा ना रहुं, कोई साधु न भुखा जाय।⁽³⁾

(साखी ग्रंथ : संत कबीर)

क्यों नहीं है वर्तमान जीवन शैली में संतोष परम सुखम का मूल्य?

भारतीय समाज में अनादि काल से 'वसुधैवकुटुम्बकम का मूल्य अनवरत रहा है फिर क्यों आज वैश्वीकरण (ग्लोबलाईजेशन) उदारीकरण और निजीकरण (एलपीजी) के जुमलों में मुंह में राम बगल में छुरी लिये जी रहे हैं हम।

सारी वसुधा की बात छोड़ो आज एक कुटुम्ब (परिवार) ही एक कुटुम्ब नहीं है। एक मॉ के दो बेटे दोनों अलग–अलग और एक कुटुम्ब में खींची तलवार सी दीवार क्या सरहद की दुश्मनी से कम है?

भाई—भाई लड़ रहा है, परिवार लड रहे हैं, राज्य—राज्य लड रहे हैं (जल विवाद, भाषा विवाद, धार्मिक विवाद आदि) देश—देश शडयंत्र रच रहे हैं (भारत—पाक—चीन, रूस—अमेरिका, उ. कोरिया—द. कोरिया आदि) देश अपनी आन्तरिक ज्वालाओं जैसे माओवादी, आरक्षण, आन्दोलन आदि में जुलस रहा है। कैसा है ये हिन्दु, मुस्लिम, सीख, ईसाई, आपस में हम भाई—भाई?

'अतिथि देवो भवः' का सांस्कृतिक मूल्य, अब 'अतिथि तुम कब जाओगे' में क्यों बदल गया? क्यों आज भी विदेशों में भारतीय विद्यार्थी होने के नाम पर हत्याऐं कर दी जाती है? चाहे वह आस्ट्रेलिया हो अमेरिका या फिर भारत सभी के दामन पर दाग लगे हैं।

क्यों बराक ओबामा अमेरिकी छात्रों को आगाह करते है पढ़ों नहीं तो भारतीय आजायेंगे? डोनाल्ड ट्रंप ने तो वीजा नियमों को सख्त करके अतिथि आने के रास्ते ही बंद कर डाले। कैसी है ये विदेश नीति जो आप—आप चरे, मनुष्यता के लिए कुछ न करें? ये कैसे सांस्कृतिक मूल्य है? जो सम्पूर्ण संसाधनों का दोहन करके अपशिष्ट पदार्थ और दुष्परिणाम सम्पूर्ण मानव जाति को भोगने के लिए विवश करता है। कार्बन उत्सर्जन में अमेरिका, चीन और भारत का नाम प्रमुख है परन्तु अमेरिका का रूख रूखा और नकचड़ा है जो अभी हाल ही में पर्यावरण सम्मेलन में देखने को मिला है।

अत्यधिक तकनीक, मशीनीकरण, शहरीकरण, खनिजों का अत्यधिक दोहन, बाजारीकरण, ऐश्वर्य, वैभव और भोग—विलास ने पृथ्वी को रहने के लायक नहीं छोड़ा है। आखिर मानव रहेगा कहाँ? पृथ्वी आाग का गोला बन गई है। (अलवर का तापमान 51c° ओडिशा में गर्मी से 40 लोगो की मौत)⁴

ये सब सांस्कृतिक मूल्यों में अंधानुकरण और हास का परिणाम है। गांधी जी ने कहा था— ''प्रकृति के पास सभी मनुष्यों की आवश्यकताओं की पूर्ति की शक्ति है परन्तु प्रकृति किसी एक मनुष्य के लालच को पूरा नहीं कर सकती है।'' बचपन से कहानियों में पढते रहे हैं कि लालच बुरी बला है, फिर भी हम क्यों नहीं इस लालच को छोड़ पायें? यर्थाथ में लालच वर्तमान में सभी को खा रहा है। लालच छोड़ो सुख से जीओ आज व्यवहार में नज़र नहीं आता है। चारों और काला धन—काला

धन का शोर हो रहा है। क्या धन काला और सफेद होता है? जो लोग बेईमान और लालची और हरामखोर है उनका धन काला है। (2007 के रू. 5.3 लाख करोड़ काला धन विदेश भेजा गया 2012 में 1200 पेज की सरकार की कालेधन की रिपोर्ट)⁽⁵⁾

जहां मेहनत, सच्चाई और ईमानदारी है वहां धन 'धन'-ही है ना सफेद ना काला।

सांस्कृतिक मूल्यों में हम अपनी परम्पराओं रीति–रिवाजों, मान्यताओं, खान–पान, पहनावें, उत्सवों,

और त्योहारों का ऐतिहासिक संदर्भ और वर्तमान उपयोगिता नहीं देकर वाहट्सप, फेसबुक, (6.9 करोड़ यूजर्स), ट्वीटर (2. इंस्टाग्राम (1.6 करोड़), यूट्यूब (6 करोड़), (46 करोड भारतीय तक) के मेसेज तक ही सिमट गये हैं।⁽⁶⁾ चौगान, चौपाल, के नुक्कड नाटक, मण्डली, रामलीला, अब मोबाईल की की बंद दीवारों में सिमट गये। आनलाईन, शाब्दिक हिंसा से असहिष्णुता और विश्वास जैसे मूल्य में कमी होती है जा रही क्राईम बढ़ रहा है। सच क्या है? हम सब जानते है, आओ सब अपनी जड़ो की ओर लोटे। सांस्कृतिक मूल्यों में आज जो विकट संकट है वो है– खान–पान और पहनावा। घर का भोजन आज बेस्वाद लगता हे परन्तु रेस्टोरेन्ट में चाईनीज,



की ओर ध्यान 2 करोड यूजर्स) नेट यूजर्स 2016 गली, मोहल्ले स्कीन पर घर समाज में बढती है और साईबर मिलकर हम सबसे अधिक पका सादा इटलीयन डीश

जायेकदार लगती है जिसका प्रभाव स्पष्ट तौर पर मोटापा, मधुमेह, कैंसर, तनाव, उच्च रक्त चाप, हदय आघात आदि रूपों में देखा जा सकता है।

पहनावा तो पूछो मत— ऑन लाईन शांपिंग से शापिंग मॉल तक केवल और केवल दिखावा और देह की नुमाईश से प्रभावित करने का माध्यम बन गया है। जबकि सच यह है कि—पहनाव केवल शरीर ढकने का माध्यम नहीं बल्की इससे हमारे स्वभाव एवं चरित्र का भी पता चलता है।

गांधी जी ने कुछ नहीं पहना—नंग्गे फकीर बनकर देष को आजादी दिलाई। जबकी आज मंहगे ब्रांड के लिए लोन लेकर कपड़े खरीदे जाते है और विदेषी ब्रांड को अधिक अच्छा मानते हैं। देषी और स्थानीय उत्पाद का मतलब अशिक्षित, गंवार और बेकार। ये कैसे मूल्य हमने (शैक्षिक) और सांस्कृतिक परिवेश में घोल दिये। इनका रंग कैसे छुटेगा? माता—पिता, बच्चे सभी तो ऑनलाईन है, धरती पर कौन है? जबकि सच यह है कि मिट्टी का तन मिट्टी में मिलना है। अंतिम सच एक मुट्टी राख है। ये मूल्य क्यों नहीं समझा हमने—इससे बढकर कौनसी ब्रांड वेल्यू है?

ये कैसे शैक्षिक मूल्य है कि आज हर ओर गला काट प्रतिस्पर्धा नजर आती है। प्रतियोगी परिक्षाओं में घोटाले, (व्यापम–मध्य प्रदेश, शिक्षक भर्ती हरियाणा) प्रश्न पत्रों का लीक होना, राज्य लोक सेवा आयोगों, कर्मचारी चयन आयोग और अन्य भर्ती र्बोड़ो पर आये दिन रिट लगती हैं। प्रश्न पत्र लगत, का व्यवसाय हो गया है? क्यों नहीं व्यहारिक ज्ञान को परखा जाता है? क्या पुस्तकीय ज्ञान ही शैक्षिक मूल्य बन गया? क्या अच्छे अंक ही कुशलता का पर्याय है?

मेरे कुछ साथियों को परीक्षा में अच्छे अंक मिले और मैं अच्छे अंक पाने में असफल रहा। आज मेरे वो साथी जिस कम्पनी में उच्च पदों पर है मैं उस कम्पनी का मालिक हूँ।''

(बिल गेट्स)

सच में संत कबीर ने ठीक कहा है-

तु कहता कागद की देखी

मैं कहता अंखियन की देखी। (7)

(साखी ग्रंथः कबीर)

अब समय आ गया हमें भी शैक्षिक वातावरण को व्यवहारिक रूप में कुशल एवं समर्थ बनाना है। जिससे प्रत्येक शिक्षार्थी उत्पादक हो, केवल उपभोगी नहीं।

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आयुर्वेदानुसार आरोग्य के उपस्तम्भ (आहार, भायन एवं ब्रह्मचर्य) पवन कुमार, रिसर्च स्कॉलर जेजेटी यूनिवर्सिटी, झुंझनू

आयुर्वेद में वात, पित्त और कफ को शरीर की समस्त क्रियाओं का आधार माना गया है। ये तीनों तत्त्व शरीर में व्याप्त रहते हैं। तीनों की साम्यावस्था आरोग्य का आधार है तथा तीनों में से किसी एक अथवा सभी का असन्तुलन रोगों का कारण माना जाता है। इन तीनों को आयुर्वेद में आरोग्य के महास्तम्भ के रूप में जाना जाता है। शरीर को रोगों से बचाने के लिए इन तीनों की साम्यावस्था आवश्यक होती है। अतः प्रत्येक मानव का यह कर्तव्य हो जाता है कि वह उचित पदार्थों के सेवन, उचित आचार–विचार एवं उचित आहार–विहार के द्वारा इनमें साम्यावस्था बनाए रखने का प्रयास करें।

आचार्य चरक के अनुसार जगत् में प्राणियों की स्थिति के लिए आत्मा, मन व शरीर त्रिदण्ड के समान हैं।¹ इन तीनों के कारण ही जीवन की प्रतिष्ठा है। जिस प्रकार वात, पित्त और कफ शरीर के तीन स्तम्भ हैं उसीप्रकार शरीर के तीन उपस्तम्भ हैं—आहार, स्वप्न और ब्रह्मचर्य।² इन तीनों के युक्तियुक्त सेवन से शरीर में स्थिरता आती है और वह शक्ति, वर्ण एवं वृद्धि को प्राप्त करता है। आचार्य वाग्भट्ट भी शरीर के तीन उपस्तम्भ स्वीकार करते हैं। उनके अनुसार—आहार, शयन और ब्रह्मचर्य का यदि युक्तिपूर्वक उपयोग किया जाए तो शरीर उसी प्रकार स्थिर रहता है जिस प्रकार खम्भों पर टिका कोई मकान स्थिर रहता है।³

आहार : आहार शरीर का प्रथम उपस्तम्भ है। शरीर के उचित पोषण एवं रोगनिवारण के लिए सम्यक् आहार आवश्यक है।⁴ शरीर एवं मन के लिए प्रिय व हितकर आहार को 'पथ्य' तथा अप्रिय व अहितकर आहार को 'अपथ्य' कहा जाता है।⁵ आहार की पथ्यता अथवा अपथ्यता नियत नहीं होती है अपितु मात्रा, काल, भूमि, क्रिया, देह तथा दोष —इन छः अवस्थाओं को प्राप्तकर पथ्य आहार अपथ्य और अपथ्य आहार पथ्य हो जाता है।⁶ यही कारण है कि प्रत्येक व्यक्ति को आहार की पथ्यता का निर्धारण स्वयं करना चाहिए।

हमारा शरीर पृथ्वी, अग्नि, जल, वायु और आकाश इन भूतों से मिलकर बना है और इसी प्रकार भोज्य पदार्थ भी इन्हीं भूतों से निर्मित हैं। अतः आहार के माध्यम से शरीर के विभिन्न अवयवों की सम्पुष्टि होती है और पथ्य आहार शरीर के दोष एवं धातुओं को पुष्ट करके उनमें सन्तुलन बनाए रखता है और इस प्रकार यह हमारे शारीरिक विकास का आधार बनता है। अपथ्य आहार की स्थिति इससे भिन्न होती है। हमें आहार में अनावश्यक स्वादलोलुपता से बचना चाहिए। आहार सरल, सुपाच्य, विविधता सम्पन्न, सरस तथा नियत मात्रा में होना चाहिए। ISSN 2321-1067

Rexjounal

शरीर के लिए आवश्यक तत्त्वों की पूर्ति के लिए आहार का रसों (स्वादों) से युक्त होना आवश्यक है। आयुर्वेद में रसों की संख्या छः मानी गयी है – स्वादु (मधुर), अम्ल (खट्टा), लवण (नमकीन), तिक्त (तीखा), कटु (कड़वा) और कषाय (कसैला)।⁷

मधुर रस — मधुर रस का ज्ञान स्नेहन, प्रीणन, आह्लाद, मष्दुता आदि से प्राप्त होता है। मुख में स्थित मधुर रस शीघ्र ही फैल जाता है और लेह की तरह प्रतीत होता है।⁸ प्रकृति के अनुकूल होने के कारण मधुर रस धातुवर्धक, आयुवर्धक, बल, वर्ण, इन्द्रिय, त्वचा, केश व कण्ठ के लिए उपयोगी, बलकारक, स्थिरता प्रदान करने वाला, दूध को बढ़ाने वाला, पित्त एवं कफ का नाशक होता है। यदि मधुर रस का आहार में अधिक प्रयोग किया जाए तो शरीर में स्थूलता, अग्निमंदता, गुरुता, अतिनिद्रा, श्वास संबंधी, गले से संबंधित तथा उदर रोग उत्पन्न होते हैं।⁹ घी, शहद, गुड़, अखरोट, केला, दूध, गन्ना, गोखरु, मुनक्का, खजूर आदि मधुर रस प्रधान पदार्थ हैं।

अग्ल रस – अम्ल रस खाए जाने पर दांतों को खट्टा कर देता है, मुख में लार का स्राव कराता है, पसीना लाता है। मुख और कण्ठ में दाह उत्पन्न करता है।¹⁰ अम्ल रस अग्निवर्धक, स्निग्ध, हृदय के लिए हितकर, शीध्र पाचक, रोचक, स्पर्श में शीतल और तृप्तिकारक होता है। यह कफ, पित्त और रक्त वर्धक है। यदि अम्ल रस का आहार में अधिक सेवन किया जाए तो शरीर में शिथिलता, नेत्ररोग, पाण्डुरोग, प्यास, सूजन, ज्वर रोग उत्पन्न होते हैं। आंवला, नींबू, इमली, दही, लस्सी, खट्टा आम, खट्टा अनार, कैथ, अम्लवेत आदि अम्ल रस प्रधान पदार्थ हैं।

लवण रस – खाने के बाद शीघ्र मुख में गीलापन, लार स्राव, मुख में मधुरता और कण्ठ में उत्पन्न दाह से लवण रस का ज्ञान होता है।¹¹ लवण रस के सेवन से जकड़न तथा मल मूत्र की रूकावट दूर होती है। इससे जठराग्नि बढ़ती है। यह स्नेहक, स्वेदक, तीक्ष्ण गंध युक्त, रुचिकर, मांस छेदक तथा मल भेदक होता है। यदि लवण रस का अधिक सेवन किया जाए तो शरीर में वात रक्त, खलित एवं पलित नामक कपाल रोग, झुर्रियां, प्यास, कुष्ठ विष तथा विसर्प रोग उत्पन्न होते हैं। लवण रस का अधिक मात्रा में प्रयोग बल को क्षीण करता है। सेन्धा नमक, सोंचर नमक, काला नमक, विड लवण, समुद्री नमक आदि लवण रस प्रधान पदार्थ हैं।

तिक्त रस – तिक्त रस जिह्वा के सम्पर्क में आते ही जिह्वा के लिए अप्रिय, जिह्वा की शक्ति को नष्ट करने वाला, मुख में विशदता, शोष आदि उत्पन्न करने वाला होता है। ¹² अरुचिकर होने पर भी तिक्त रस ज्वर आदि के कारण उत्पन्न अरुचि को दूर करता है और कृमि रोग, तृष्णा विष, कुष्ठ, मूर्च्छा, ज्वर, जी मिचलाना, जलन, पित्त तथा कफ से उत्पन्न होने वाले विकारों को नष्ट करता है। यह क्लेद, मेद, वसा एवं पुरीष को सुखाता है। तिक्त रस का यदि अधिक मात्रा में सेवन किया जाए तो धातु में क्षीणता आती है और वात संबंधी व्याधियां उत्पन्न होती हैं। चन्दन, चिरायता, नीम, हल्दी, दारुहल्दी, अपामार्ग, लौह धातु आदि तिक्त रस प्रधान पदार्थ हैं।

कटु रस – कटु रस स्पर्श मात्र से ही जिह्वा में उद्विग्नता, शरीर में सूई चुभने सी वेदना तथा मुख, नासिका व नेत्र में जलन उत्पन्न कराते हुए जल का स्राव करने वाला होता है।¹³ कटु रस कफनाशक, लघु, उष्ण और तीक्ष्ण होता है। यह स्थूलता, कृमि, मुखरोग जनक, कुष्ठ विनाशक, घाव भरने में बाधक, स्नेह व क्लेद का शोषक, रोचक, पाचक, दीपक, शोधक होता है। यह इन्द्रियों को विकसित करता है। यदि कटु रस का अधिक मात्रा में सेवन किया जाए तो तृष्णा, मद, मूच्छा, दाह, मोह, शिथिलता, कंपन, चक्कर, थूक की कमी, अत्यधिक कमजोरी तथा हाथ, पैर, पार्श्व, पीठ आदि में वात का प्रकोप उत्पन्न हो जाता है। सोंठ, मूली, सरसों, लहसून, प्याज, इलायची, हींग, काली मिर्च आदि कटु रस प्रधान पदार्थ हैं। कठााय रस – कशाय रस जिहवा में विशदता, स्तम्भ और जड़ता उत्पन्न करता है और इसके सेवन से कण्ठ बंधा सा प्रतीत होता है। कषाय रस गुरु व रुक्ष होता है। यह पित्त और कफ को शान्त करता है, रक्त को शुद्ध करता है। यह शीतवीर्य, सड़न और मेद धातु को सुखाता है, आमदोष को रोकता है, मल को बाँधता है तथा त्वचा को स्वच्छ रखता है। यदि कषाय रस का अधिक मात्रा में सेवन किया जाए तो

अफारा, हृदय में पीड़ा, प्यास, कमजोरी, शुक्र धातु का नाश, स्रोतों में रुकावट उत्पन्न होती है। हरड़, गूलर, कच्चा खजूर, बबूल कीकर, जामुन और आम की गुठली, कच्चा कैथ आदि कषाय रस प्रधान पदार्थ हैं।

हमारे आहार में उपर्युक्त रसों का उचित मात्रा में उपयोग होना चाहिए।

आहार विधान :- उष्ण, स्निग्ध, मात्रा के अनुरूप, पिछला भोजन पच जाने के बाद, वीर्य के अविरुद्ध, मन के अनुकूल स्थान पर, अनुकूल सामग्रियों के साथ आहार को न अधिक जल्दी, न अधिक देर से, न बोलते हुए, न हँसते हुए आत्मा का विचार कर करना चाहिए। ¹⁴

- (1) हमें गर्म भोजन करना चाहिए। गर्म भोजन करने से भोजन के रस का ज्ञान होता है, उदरानल तीव्र होती है, भोजन शीघ्र पच जाता है, वात अनुलोमन होती है, कफ का शोषण हो जाता है।¹⁵
- (2) हमें स्निग्ध भोजन करना चाहिए। स्निग्ध भोजन करने से वह स्वादिष्ट लगता है, उदरानल तीव्र होती है, भोजन शीघ्र पच जाता है, वात अनुलोमन होती है। भोजन शरीर की वृद्धि करता है, इन्द्रियों को दृढ़ करता है, बल को बढ़ाता है और वर्ण को स्वच्छ करता है।¹⁶
- (3) हमें मात्रा के अनुसार भोजन करना चाहिए। मात्रा के अनुसार करने से भोजन वात, पित्त और कफ को पीड़ित नहीं करता, आयु को बढ़ाता है, उदरानल को नष्ट नहीं करता, सरलता से पच जाता है और मल निष्कासन के लिए गुदा तक पहुँच जाता है।¹⁷
- (4) पहले किए गए भोजन के पच जाने के बाद ही भोजन करना चाहिए। ऐसा करने से पूर्व पर भोजन के रस परस्पर मिलते नहीं हैं जिससे शरीर की धातु दूषित नहीं होती और भोजन कर्ता की आयु बढ़ती है।¹⁸
- (5) वीर्या विरुद्ध भोजन करना चाहिए। परस्पर विरोधी आहार द्रव्य शरीर में विकार उत्पन्न कर देते हैं।¹⁹

- (6) मन के अनुकूल स्थान पर और मन के अनुकूल सामग्रियों के साथ भोजन करना चाहिए। ऐसा करने से अप्रिय स्थान पर और अप्रिय साधनों से भोजन करने पर होने वाले मनोविकारों से बचा जा सकता है।20
- (7) अति शीघ्रता से भोजन नहीं करना चाहिए। अति शीघ्रता से करने पर भोजन उन्मार्ग में (श्वास नली) में जा सकता है तथा आमाशय में ठीक प्रकार से नहीं पहुँच पाता, जिससे शरीर को भोजन का पूरा लाभ नहीं मिल पाता।²¹
- (8) अति विलम्ब करके भोजन नहीं करना चाहिए। ऐसा करने से भोजन ठण्डा हो जाता है, तर्षप्त नहीं हो पाती तथा पाचन क्रिया कमजोर हो जाती है।
- (9) अपनी और भोजन की प्रकृति का विचार करते हुए भोजन करना चाहिए। हानिप्रद आहार का त्याग और लाभप्रद आहार का ग्रहण हितकर होता है। ²²

महर्षि सुश्रुत ने आहार के बारह विभागों का उल्लेख किया है – शीत, उष्ण, स्निग्ध, रूक्ष, द्रव, शुष्क, एककालिक, द्विकालिक, औषधयुक्त, मात्राहीन, प्रशमनकारक एवं वृत्त्यर्थ।²³

र्शीत आहार – शीत आहार में पुराने चावल, गेहूं, सांठी चावल, मूंग दाल, दूध, संतरा, सेब, आंवला, केला, अनार, किशमिश, फल तथा शतावर, मूसली, गिलोय आदि औषधिया सम्मिलित हैं। तृष्णा, उष्णता, मद अथवा दाह से पीड़ित, रक्तपित्त ग्रस्त, विष खाए हुए, मूर्च्छा ग्रस्त तथा क्षीण यौन शक्ति वाले व्यक्तियों के लिए शीत आहार लाभप्रद होता है।²⁴

उष्ण आहार – उष्ण आहार में बाजरा, चना, उड़द अरहर दाल, भैंस का दूध, बादाम, मुनक्का, अखरोट, चिलगोजा, मूंगफली, आम, ककड़ी, बैंगन, आलू, रतालू, सोंठ, पीपल, काली मिर्च, चव्य, चित्रक, असगंध, समस्त आसव व अरिष्ट सम्मिलित हैं। कफ एवं वात रोग से पीड़ित, विरेचन करने वाले, स्नेह पान करने वाले अथवा क्लेद युक्त व्यक्तियों के लिए उष्ण आहार लाभप्रद होता है।²⁵

रिनग्ध आहार – स्निग्ध आहार में गेहूं, उड़द, घी, तैल, वसा, बादाम, गोला, तिल, मूंगफली आदि सम्मिलित हैं। वात रोग से पीड़ित, रूक्ष शरीर वाले, दुर्बल तथा कठोर श्रम करने वाले व्यक्तियों के लिए स्निग्ध आहार लाभप्रद होता है।²⁶

रूक्ष आहार – रूक्ष आहार में चना, बाजरा, जौ, शिलाजीत, त्रिफला चूर्ण, हरिद्रा चूर्ण, जलमिश्रित शहद आदि सम्मिलित हैं। बढ़ी हुई चर्बी वाले, स्निग्ध शरीर वाले, प्रमेह पीड़ित तथा बढ़े हुए कफ वाले व्यक्तियों के लिए रूक्ष आहार लाभप्रद होता है।²⁷

द्रव आहार – द्रव आहार में मूंग दाल, पतला दलिया, खीर, मांस रस, शाक सब्जियों का पतला यूष आदि सम्मिलित है। शुष्क देह वाले, अधिक प्यास लगने वाले तथा दुर्बल रति वाले व्यक्तियों के लिए द्रव आहार लाभप्रद होता है।²⁸ शुष्क आहार – शुष्क आहार में चना, जौ, मोठ, बाजरा, घी–तैल रहित पदार्थ सम्मिलित हैं। विभिन्न शरीर वाले तथा व्रण प्रमेय आदि रोगों से पीड़ित व्यक्तियों के लिए शुष्क आहार लाभप्रद होता है।²⁹ एक काल आहार – दुर्बल पाचनशक्ति वाले व्यक्तियों को एक समय आहार लेना लाभप्रद होता है। दिकाल आहार – सम पाचनशक्ति वाले व्यक्तियों को दिन में दो समय आहार लेना लाभप्रद होता है। औराधयुक्त आहार – रोग ग्रस्त होने पर औषधि लेने में अनिच्छा रखने वाले व्यक्तियों को औषधि आहार में मिलाकर दी जाती है।

मात्राहीन आहार – कमजोर पाचनशक्ति वाले व्यक्तियों को सामान्य से कम मात्रा में आहार दिया जाता है |³¹

प्रशमनकारक आहार – ऋतु के अनुसार ग्रहण किया जाने वाला आहार प्रशमानकारक आहार कहलाता हे।³²

वृत्त्यर्थ आहार – स्वस्थ व्यक्तियों के लिए उपरि वर्णित आहार को अनदेखा करके सब प्रकार का उचित आहार देना वृत्त्यर्थ आहार कहलाता है।³³

आहार संबंधी प्रमाद के कारण ही रोग उत्पन्न होते हैं तथा रोग उत्पन्न होने के बाद की गई उपेक्षा रोग को फैलने में सहयोग करती है। इसीलिए हमें आहार के सन्दर्भ में विवेक और संयम का परिचय देना चाहिए।

निद्रा –

महर्षि चरक के अनुसार – जब कार्य करते करते मन एवं इन्द्रियाँ थक जाती हैं और थकान से युक्त अपने–अपने विषयों से अलग हो जाती हैं, उस समय निद्रा आती है।³⁴ वाकाट्ट के अनुसार – कफ द्वारा स्रोतों के अवरुद्ध हो जाते हैं और इन्द्रियाँ कर्म करती रहती हैं। श्रम के कारण थक जाने से अपने–अपने विषयों से इन्द्रियां हट जाती हैं, तब निद्रा आती है। ³⁵ **महर्षि सुश्रुत के अनुसार** – मनुष्यों की चेतना का स्थान हृदय जब तम से आक्रान्त होता है, तब मनुष्यों को तन्द्रा आती है। निद्रा का कारण तम है और जागरण में सत्त्वगुण कारण है।³⁶

महर्षि चरक ने निद्रा के छः भेद स्वीकार किए गए हैं—तमोभवा, श्लेष्म समुद्भवा, मनः शरीर श्रमसम्भवा, आगन्तुकी, व्याध्यनुवर्तिनी और रात्रिस्वभावप्रभवा। इनमें से तमोभुवा निद्रा तमोगुण अथवा प्रमाद की अधिकता के कारण आती है तथा पाप का मूल कहलाती है। श्लेष्मसमुद्भवा निद्रा शरीर में कफ की मात्रा की अधिकता के कारण आती है। मन तथा शरीर के द्वारा परिश्रम के बाद थकान के कारण आने वाली निद्रा मनः शरीरश्रमसम्भवा कहलाती है। आलस्यवश निष्क्रियता की स्थिति की निद्रा आगन्तुकी होती है। किसी रोग के होने पर अथवा औषधि के प्रभाव से होने वाली निद्रा व्याध्यनुवर्तिनी कहलाती है। रात्रिस्वभावप्रभवा निद्रा को प्राणियों को धारण करने वाली माना जाता है। रात्रि काल में जो स्वाभाविक निद्रा आती है वह सर्वोत्तम है। यदि रात्रि में निद्रा न आये तो वात वृद्धि होती है तथा दिन के समय सोने से कफ की वृद्धि होती है। अतः दिन के समय सोने से बचना चाहिए। यदि सोना ही हो तो बैठे–बैठे सोना ही हितकर होता है।³⁷

रात्रि काल में निद्रा के नाश के निम्न कारण हो सकते हैं –

कार्य — जब व्यक्ति किसी विशेष कार्य में लगा हुआ होता है तो कार्य की गम्भीरता और मन की तल्लीनता के कारण निद्रा नहीं आती।

काल — कोई व्यक्ति किसी समय शयन के लिए अभ्यस्त नहीं है तो उसे उस समय निद्रा नहीं आती। विकार — सन्निपात ज्वर, उन्माद, रक्तचाप अथवा उद्विग्नता, पित्त की वर्षद्ध आदि विकारों के कारण निद्रा नहीं आती।

प्रकृति – वात एवं पित्त प्रकृति के व्यक्तियों में भी निद्रा का अभाव होता है।³⁸ जिन व्यक्तियों को निद्रा नहीं आती उन्हें शारीरिक एवं मानसिक रोग, दुःख, विकलता, धातु विषमता, इन्द्रियों की विषयों में अप्रवृत्ति होती है। परन्तु सुखपूर्वक निद्रा से शरीर में आरोग्य रहता है। शरीर का भली–भाँति पोषण होता है।

किसी रोग अथवा विशेष कारण से अनिद्रा से ग्रस्त व्यक्तियों के लिए निम्न रूप में चिकित्सा का प्रावधान आयुर्वेद में किया गया है – अभ्यंग अथवा उबटन लगाना चाहिए, स्नान कर लेना चाहिए, दही के साथ भात खाना चाहिए, दूध व घृत आदि का सेवन करना चाहिए, सुखकर एवं मन के अनुकूल गंध को सूँघना चाहिए तथा शब्दों को सुनना चाहिए, अपने शरीर को किसी अन्य के द्वारा दबवाना चाहिए, नेत्रों का तर्पण करना चाहिए, सिर तथा मुख पर शीतल द्रव्यों का लेप लगवाना चाहिए, सुन्दर, स्वच्छ व मन के अनुकूल बिस्तर युक्त शय्या पर सोना चाहिए, अपने घर को यथासंभव सुन्दर बनाना चाहिए और व्यक्ति जिस समय सोने का अभ्यस्त हो उसी समय पर सोना चाहिए।³⁹

इस प्रकार उत्तम स्वास्थ्य के लिए निद्रा आवश्यक एवं महत्त्वपूर्ण तत्त्व है। यदि उचित समय पर स्वाभाविक निद्रा का सेवन किया जाए तो स्वस्थ दीर्घ जीवन की प्राप्ति होती है। महर्षि चरक ने सत्याबुद्धि से निद्रा की तुलना कर यह स्पष्ट कर दिया कि सम्यक् रूप से सेवित निद्रा से शारीरिक आरोग्य के साथ—साथ मानसिक आरोग्यता भी प्राप्त होती है।

ब्रह्मचर्य — ब्रह्म का अर्थ है — ज्ञान, वेद, ईश्वर, वीर्य आदि और चर्य का अर्थ है — उपार्जन, अध्ययन, चिन्तन, रक्षण आदि। इस प्रकार ब्रह्मचर्य का अर्थ होता है — ज्ञानोपार्जन, वेदाध्ययन, ईश्वरचिन्तन, वीर्य रक्षण आदि। महर्षि व्यास के अनुसार गुप्तेन्द्रिय का संयम ही ब्रह्मचर्य है।⁴⁰ आश्रम व्यवस्था के अनुसार 100 वर्षीय मानव जीवन के समान चार चरणों में से प्रथम चरण ब्रह्मचर्याश्रम है। महर्षि वाण्भट्ट के अनुसार — ब्रह्मचर्य पालन में रति रखने वाले व्यक्ति का मन सहवास से विरक्त तथा सन्तोष से तष्द रहता है। उसकी निद्रा कभी समय का अतिक्रमण नहीं करती।⁴¹

गृहस्थ जीवन के भी सुखपूर्वक निर्वहन के लिए व्यक्ति को ब्रह्मचर्य का पालन करना चाहिए। ब्रह्मचर्य मानव चरित्र का प्राण और परब्रह्म प्राप्ति का कारण होता है। महर्षि पतञ्जलि के अनुसार—जब व्यक्ति ब्रह्मचर्य अनुशीलन में दृढ़ हो जाता है तब कोई भी मनोविकार उसे विचलित नहीं कर सकता है और उसके मन, बुद्धि, इन्द्रियाँ और शरीर में अपूर्व शक्ति का विस्तार होता है।

इन उपस्तम्भों के युक्तिपूर्वक सेवन करने से मानव शरीर जब तक अहित वस्तुओं का सेवन न कर संस्कारित रहता है तब तक वह बल, वर्ण और वृद्धि को प्राप्त करता है।

वर्तमान में आरोग्य के ये उपस्तम्भ असुरक्षित हैं। हमारा आहार बिगड़ा हुआ है जो स्वास्थ्य के लिए अनुकूल नहीं है। हम पेप्सी, कोक, बर्गर, पिजा, आईस क्रीम, मदिरा, मांस आदि को अति मात्रा में ग्रहण कर रहे हैं। हमारा शयन अनियमित हो रहा है, समय पर न सोना, देर से सोना व देर से उठना हमारी आदत हो रही है। जब आहार और निद्रा ही ठीक नहीं हैं तो ब्रह्मचर्य की कल्पना करना भी व्यर्थ है। अश्लील चित्र, चलचित्र व साहित्य ब्रह्मचर्य की राह में प्रमुख रोड़ा है।

अन्ततः विचारणीय है कि यदि आरोग्य के उपस्तम्भन्नय जर्जरित हैं तो शारीरिक व मानसिक स्वास्थ्य कैसे सम्भव है। वास्तविक धरातल पर जीवन यापन हेतु आयुर्वेद का पंचकर्म शारीरिक शोधन और हठयोग की क्रियाएं शरीर को स्वस्थ रख सकती हैं तथा योग के तत्त्व यम, नियम आदि के द्वारा जीवन को सफल बनाया जा सकता है।

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उषा देवी

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भूमंडलीकरण वह प्रक्रिया है जिसके द्वारा विश्व की विभिन्न अर्थव्यवस्थाओं का समन्वय किया जाता है , जिससे वस्तुओं और सेवाओं, प्रौद्योगिकी, पूंजी तथा श्रम का इनके मध्य प्रवाह हो सके अर्थात राष्ट्रीय घरेलू अर्थव्यवस्थाओं का विश्व अर्थव्यवस्था के साथ जुड़ना ही भूमंडलीकरण है। भूमंडलीकरण के लिए अनेक शब्दों का प्रयोग किया जाता है जैसे:--वैश्वीकरण, विश्वायन, विश्वीकरण, जगतीकरण, ग्लोबलाइजेशन, नव-उदारवाद, नव-साम्राज्यवाद, नव-उपनिवेशवाद आदि। आज का युग संचार एवं प्रौद्यौगिकी का युग है। इस युग में उदारीकरण, निजीकरण और भूमंडलीकरण की हवा तेजी से बह रही है। भूमंडलीकरण तो पूरी सक्रियता के साथ सम्पूर्ण विश्व में फैलता जा रहा है। इसके कारण हम राजनीतिक, सामाजिक, आर्थिक, व्यापारिक, शैक्षिक, सांस्कृतिक आदि सभी क्षेत्रों में एक–दूसरे से परिचित हुए हैं और इसी परिचय के कारण हमारी परस्पर निर्भरता बढ़ी है। इससे अंतर्राष्ट्रीय सहयोग और विदेशी व्यापार को प्रोत्साहन मिला है। भूमंडलीकरण के कारण विभिन्न राष्ट्र एक-दूसरे के इतना निकट आ गए कि पूरा विश्व एक छोटा-सा गाँव नजर आता है। विभिन्न देशों के लोगों के बीच विचार-विनिमय बढ़ा है। इसने अंतर्राष्ट्रीय व्यापार के लिए राष्ट्रीय सीमाओं को खोल दिया है, जिससे वैश्विक प्रतिस्पर्धा को बढ़ावा मिला है और मानव के विकास की अपार संभावनाएँ उभर कर सामने आई है। परंतु इस सुनहरी पटकथा का एक चिन्ता जनक पहलू भी है। जहाँ इसके अनेक सकारात्मक प्रभाव हुए हैं वहीं नकारात्मक प्रभाव भी देखने को मिले हैं जैसे :-- पूँजीवाद, बाजारवाद, निजीकरण, औद्योगिकरण, उपभोक्तावादी संस्कृति, प्रतिभा पलायन आदि। भूमंडलीकरण ने हमारे आर्थिक, सामाजिक, राजनीतिक और साँस्कृतिक व धार्मिक परिवेश को प्रभावित किया है। किसी भी देश का साहित्य युगीन परिवेश से प्रभावित हुए बिना नहीं रह सकता कविता भी इसका अपवाद नहीं है। हिंदी कविता ने भूमंडलीकरण के प्रभाव को बड़े सरल व सहज ढंग से चित्रित किया है। केदारनाथ सिंह के शब्दों में– "मौसम चाहे जितना खराब हो/उम्मीद नहीं छोड़ती कविताएँ।"(1) आज विश्व गाँव की परिकल्पना साकार हो उठी है। भूमंडलीकरण का प्रभाव जब आम आदमी पर पड़ रहा है तो मनुष्य सापेक्ष साहित्य कैसे तटस्थ रह सकता है। ऐसे में साहित्य की चुनौतियाँ और भी अधिक बढ़ जाती हैं। आज कविता की सबसे बड़ी आवश्यकता मानवता के पक्ष में खड़े होने की है और इसमें कोई संदेह नहीं कि कविता अपनी इस जिम्मेदारी को बखूबी निभा रही है। भूमंडलीकरण ने मानव जीवन के प्रत्येक पहलू को अपनी गिरफ्त में ले लिया है। दिनकर कुमार की कविता में इसी बात को स्पष्ट किया गया है – "हमारे रसोईघर में भी रहने लगा है/भूमंडलीकरण/अनाजों के साथ अदष्थ्य रूप में लिपटा हुआ/आयातित गेहूँ और दाल और दूसरी तमाम चीजें / कराती हैं अहसास / उसकी उपस्थिति का / परचून की दुकान पर रंग–बिरंगे पैकटों में / मुस्कराता रहता है भूमंडलीकरण / मायूस होकर दुकानदार मूल्यवर्षद्ध की सूचना देता है / हमारे साथ कंधे से कंधा मिलाकर / भीड़ में भी चलता रहता है भूमंडलीकरण / हमारे लोकाचारों में हमारे संबंधों में / हमारे वार्तालाप में हमारी खामोशी में / हमारे प्रेम में हमारी घष्णा में / हर पल दखल देता रहता है भूमंडलीकरण।"

(2) भूमंडलीकरण अनेक पैरों वाला एवं जहरीले डंक वाला एक ऐसा कनखजूरा है, जिसके प्रहार से वर्तमान जीवन का कोई पहलू, और कोई कोना अछूता नहीं है। आलोचक कमला प्रसाद की मान्यता है—"पिछले वर्षों में भूमंडलीकरण की मनुष्य विरोधी नृशंसता और बाजार का सर्वग्रासी रूप हमारे घरों और हमारी चेतना में, हमारे सौंदर्यबोध में हर जगह काली छायाओं-से पसरते चले गए हैं।" (3) नब्बे के दशक में उदारीकरण, बाजारीकरण और भूमंडलीकरण की प्रक्रिया ने भारत में प्रवेश किया। यह अपने साथ संचार क्रांति लेकर आई या यूँ कहें कि संचार माध्यमों के रथ पर चढ़कर

ही भूमंडलीकरण ने भारत में अपने पाँव फैलाए। भूमंडलीकृत भारत संक्रमण के दौर से गुजर रहा है। परिणामस्वरूप जीवन मूल्यों, संस्कारों एवं सरोकारों में तेजी से बदलाव आ रहा है, जिसका आम आदमी पर गहरा प्रभाव पड़ रहा है। "इस भूमंडलीकृत युग में जिस अनुपात में सत्ता की अमानुषिकता बढ़ी है, साम्राज्यवादी शक्तियों ने मानव मस्तिष्क को अनुकूलित करना शुरू कर दिया है, तब से अन्याय के विरुद्ध संघर्ष करने वाली जनचेतना की धार कुंद होने लगी है, लेकिन हिंदी कविता इन दुरभिसंधियों को अनावृत करती हुई एक पहरूए की तरह आत्मकेन्द्रित होते समय में भी जन—सरोकारों के साथ मजबूती से खडी है।"

(4) कविता प्रतिरोध का सांस्कृतिक औजार है और नाउम्मीदी के इस दौर में उम्मीद से भरी रोशनी भी। नोबेल पुरस्कार विजेता रोमानिया के कवि मारिन सोरेसक्यू ने अपने 'कविगण और कविता' शीर्षक वक्तव्य में कहा है – "मुझे कविता में वह पहली जमीन दिखाई देती है जहाँ कोई व्यक्ति सच कह सकता है, सिर्फ कविता ही पूरी सटीकता के साथ हमको अभिव्यक्त कर सकती है, एक इसी माध्यम से हम स्वयं तक वापिस लौट सकते हैं, अपना पुनर्निमाण कर सकते हैं, ठीक उस मकड़े की तरह जो पत्तियों पर छोड़े अपने स्त्राव के सहारे अपने रास्ते का निर्माण करता है।" (5) इस बात को सब जान चुके हैं कि वैश्वीकरण का तंत्र बाजार केन्द्रित है और बाजार मुनाफा केन्द्रित। नौंवे दशक में शुरू हुए भूमंडलीकरण और आर्थिक उदारीकरण के साथ निरंतर फैलते विश्व बाजार में नई, क्रूर और मनुष्य विरोधी स्थितियाँ सामने आई हैं। इनका प्रभाव हिंदी कविता पर भी पड़ा, लेकिन कुछ महत्त्वपूर्ण कवि लोक अनुभवों, स्मृतियों व लोकजीवन के रंगीन दृश्यों के माध्यम से जड़ों से जोड़ने, उजड़ते हुए को बसाने और छीने जाने के विरुद्ध प्रतियों दर्ज कहते हैं – "कितना डरपोक हूँ/कविता में प्रश्न पूछता हूँ वे प्रश्न/जो हल करने हैं मुझे/जीवन में/मुझे लौटा दो/आदमी के अदम्य साहस में/खोया भरोसा लौटा दो।" (6) भूमंडलीकृत भारत मानव के बेहतर विकास की दिशा में पूर्णतया सफल नहीं हो सका है। मनुष्य विरोधी, क्रूर और कठिन समय में विजेन्द्र कहते हैं – "कितना डरपोक हूँ/कविता में प्रश्न पूछता हूँ वे प्रश्न/जो हल करने हैं मुझे/जीवन में/मुझे लौटा दो/आदमी के अदम्य साहस में/खोया भरोसा लौटा दो।" (6) भूमंडलीकृत भारत मानव के बेहतर विकास की दिशा में पूर्णतया सफल नहीं हो सका है। मनुष्य विरोधी, क्रूर और कठिन समय में विजेन्द्र कहते हैं – "मेरे पास गाने को कोई गीत नहीं है/पर अशुभ समय को/कहने के लिए त्रासदी का सच है।" (7) लेकिन कवि को पूरी की पुरा ने होगी "भोर की रश्मियाँ/अँह तो होगी "भेर की रश्मियाँ/अँह तो हो मी र स्वी है गी तराशा भरी रात के बाद नई उम्मीदों की सुबह तो होगी "भेर की रश्मियाँ/अँह ते लिए त्रासदी का सच है।" (7) लेकिन कवि को पूरी उम्मीद है कि निराशा भरी रात के बाद नई उम्मीदों की सुबह तो होगी "भेर की रश्मियाँ/अँह ता लो को बहा न ही होगी "भोर की रश्मियाँ/अँह ता त्र हो त्र ने कहते है – "वेकेन कवि को पूर्व को तरा हो ने र स्वे हो लोत नही है गरा नही

ोरे के मर्म को/मेद रही हैं/ घबराओ मत/ दृढ़ होकर प्रकाश की तरफ / बढ़े चलो।" (8) भूमंडलीकरण से विकासशील देशों की बजाए विकसित देशों को अधिक फायदा हो रहा है। विकसित देश उदारीकरण के नाम पर अपनी बात हम पर थोप रहे हैं। उदारीकरण के नाम पर भारत जैसे देश को बाजार में तबदील किया जा रहा है , जिससे हमारे कुटीर व लघु उद्योग समाप्त होते जा रहे हैं, स्वावलंबन घट रहा है और बेरोजगारी बढ़ रही है, हमारी स्वदेशी कंपनियाँ विदेशी कंपनियों के आगे आत्मसमर्पण कर रही हैं। स्वरोजगार करने वाले व्यक्ति मजदूर बनने को मजबूर हैं। वे धंधे की तलाश में शहर की ओर पलायन कर रहे हैं। कविता की एक आकांक्षा बराबर रही है कि समाज में व्यक्ति को श्रम के उचित मूल्य के साथ–साथ उचित मर्यादा और सम्मान भी मिले, किन्तु स्थिति इसके बिल्कुल विपरीत रही है। इस समय की दो विशेष प्रवृत्तियाँ रही हें– श्रम का चरम शोषण और मुनाफा कमाने की बढ़ती लिप्सा। प्रतिरोध के युद्धों को हर संभव तोड़ने या कमजोर करने के सारे उपाय इस व्यवस्था ने तलाश लिए हैं। कवि शंकरानंद अपनी कविता 'कारीगरी' में कहते हैं – "अगर उनके हाथ लगती यह पृथ्वी/तो वे खूब सजाते इसे/ इतना कि यह पृथ्वी सबको सुंदर लगती/ फिर भी एक बात तो होती ही/कि सबकुछ उजाड़ने वाले कहाँ/चैन से बेठे रह सकते थे।" (9) एक तरफ अंघाधुंध शहरीकरण तथा औद्योगिकरण नदियों, पहाड़ों, जंगलों, गाँवों को तेजी से लीलते जा रहे हैं वहीं दूसरी ओर लगातार फैलते विश्व बाजार की संवेदनहीनता और बंर्बरता ने संवेदनशील व्यक्ति को अकेला कर दिया। इस अकेलेपन और अजनबीपन को व्यक्त करते हुए कवि कहता है – "दोस्त चार हजार नौ सौ सतासी थे/पर अकेलापन भी कम न था/वहीं खड़ा था साथ में।" (10) उदारीकरण और वैश्वीकरण ने मनुष्य की सामाजिकता को सबसे पहले चुनौती दी है और उसे बहुत अकेला कर दिया है तथा उसके संगठित होने के सभी विकल्पों को भी नष्ट करने का काम किया है। उसने मनुष्य को अकेला करके स्वयं को सुरक्षित कर लिया है और हमारे देखते ही देखते सामाज की जगह बाजार ने ले ली है। इस त्रासदी को संतोष चतुर्वेदी ने अपनी कविता में बखूबी उजागर किया है। वे कहते हैं – "वे हमें इस तरह कोरा कर देना चाहते हैं कि/जब वे लिखता चाहें मौत/उन्हें तनिक भी असुविधा न हो/उन्हें रोकने–टोकने वाला न हो/और हम लाख चाहने के बावजूद न लिख पाएँ/अपना मनपसंद शब्द जीवन।" (11) उपभोक्तावादी संस्कृति और बाजारवाद के प्रकोप के परिणामस्वरूप सामाजिक जीवन की संपूर्ण संरचना पर कुप्रभाव पड़ने लगा है। सुविख्यात समीक्षक डॉ० मैनेजर पांडेय का मत है – "मुक्त बाजार अब धीरे-धीरे लोगों के दैनिक जीवन में प्रवेश कर रहा है, उससे सामाजिक जीवन का ताना-बाना प्रभावित हो रहा है और मानवीय संबंधों की दुनिया पर उसका दबाव बढ़ रहा है। xxx मुक्त बाजार की मनमानी व्यवस्था या अव्यवस्था का असर अब दिखाई देने लगा है। एक ओर कुछ लोग रातों-रात कुबेर बनने की कोशिश कर रहे है, तो दूसरी ओर आम जनता का जीवन दूभर होता जा रहा है।" (12)

भूमंडलीकरण लूट-खसोट और पूँजीवाद के एकछत्र साम्राज्य की स्थापना का नाम है। आज के कठिन दौर में पूंजी के ताकतवर खिलाड़ियों ने विश्व बाजार, जनसंचार और पूँजी बाजार पर कब्जा कर लिया। इनके बीच के शैतानी गठबंध ान को हरे प्रकाश उपाध्याय गहराई से महसूस करते हैं और अपनी 'खबरें छप रही हैं' कविता में कहते हैं – "चाँद चढ़ रहा है/और खबरें छप रही हैंकृकृकृ/खबरों में जो हमारा बहता हुआ खून है/कृकृकृ और यह जो अँधेरा है

इक्कीसवीं सदी का/बढ़े हुए धन का/बढ़े हुए मन का/छुपाया जा रहा है काली स्याही रात में।" (13) भूमंडलीकरण ने उपभोक्तावादी संस्कृति को जन्म दिया है। इसके कारण आज हर वस्तु बाजारु बन गई है। यह बाजारी तर्कों को संचालित करने वाली व्यवस्था है, जो प्रत्येक व्यक्ति को उपभोक्ता की नजर से देखती है। सब जगह बाजारी तर्कों को संचालित करने वाली व्यवस्था है, जो प्रत्येक व्यक्ति को उपभोक्ता की नजर से देखती है। सब जगह बाजारीकरण है। इस बाजारीकरण के चलते बहुराष्ट्रीय कंपनियों के जंगल उग आए है। जहाँ देखो वहाँ देश, समाज, संस्कृति आदि सब का मोल-भाव हो रहा है। इन कंपनियों ने काम करने वाले कर्मचारियों को ऊँची पगार देकर उन्हें उनकी जाति, धर्म, संस्कृति से बिल्कुल परे कर दिया है और उनके दिलों में अनास्था का विष भर दिया है – "मल्टीनेशनल कम्पनी में बहुत मोटी पगाार वाली नौकरी/मिलने पर उसने उड़ेली अपनी अनास्थाएँ/पूरे जोर-शोर से/मैं जाति, धर्म, साँस्कर्षतेक वैशिष्ट्य/राष्ट्रीयता/वगैरह को नहीं मानताकृकृकृमेरा संयम झुरझुराता लगा मुझे।" (14) भूमंडलीकरण के कारण हमारे पारिवारिक परिवेश में भी बदलाव आया है, जिसके कारण हमारे आत्मीय संबंध सबसे अधिक प्रभावित हुए है। जीवन में सुख की चाह और भागदौड़ के चलते आत्मीयता तो जैसे समाप्त ही हो गई है। वैश्वीकरण की चमक-दमक में व्यक्ति अपने परिवेश संस्कृति से विमुख होता जा रहा है।

भूमंडलीकरण ने औद्योगिकरण को बढ़ावा दिया है। सरकार औद्योगिकरण की सनक में कृषि योग्य भूमि पूंजीपतियों को आबंटित कर रही है। औद्योगिकरण के कारण हमारी उपजाऊ भूमि उद्योगों के लिए बिक रही है। विदेशी निवेशकों को किसानों की जमीन कोड़ी के दाम पर दी जा रही है। Special economic zone अर्थात् 'देशी जमीन पर विदेशी टापू' के नाम पर गाँवों को उजाड़ा जा रहा है। नई अर्थव्यवस्था की मार किसान पर सबसे अधिक पड़ी है। वे किसान जिन्हें खेती के अतिरिक्त कोई ओर काम नहीं आता और जो परम्परागत रूप से इसे ही अपनी जीविका से जोड़कर देखते हैं वे इस तथाकथित उदार व्यवस्था में मौत के मुँह में खड़े हैं। साहित्य सम्राट मुंशी प्रेमचंद के उपन्यास 'गोदान' का एक ग्रामीण पात्र खेती की दुर्दशा के बारे में कहता है – "खेती से क्या मिलता है? एक आने नफरी की मजूरी भी तो नहीं पड़तीकृकृ लेकिन खेती छोड़ दे तो और करें क्या? नौकरी कहाँ मिलती है? फिर मरजाद भी पालना ही पड़ता है।" (15) किसान चाहे कितनी मेहनत करे, कितनी अच्छी पैदावार करे उसका फायदा तो महाजन को होता है। राष्ट्र कवि मैथिलीशरण गुप्त अपनी किसान नामक कविता में कहते हैं – "हो जाए अच्छी फसल, पर लाभ कष्पकों को कहाँ / खाते, खवाई, बीज, ऋण से हैं रंगे रक्खे जहाँ / आता महाजन के यहाँ वह अन्न सारा अंत में / अधपेट खाकर फिर उन्हें है काँपना हेमंत में। " (16) किसान इस तथाकथित व्यवस्था में मौत के मुँह में खड़े हैं। सरकार के पास इनके लिए राहत के नाम पर कर्ज का फंदा है जिसमें अंततः वह और भी उलझ कर रह जाता है। कई बार तो वह इस कर्ज की वजह से आत्महत्या करने के लिए विवश दिखाई देता है। हिंदी कविता का कोई मुकम्मल दस्तावेज किसान की इस त्रासदी से गुजरे बिना नहीं रह सकता। संवेदनशील कविता इस दर्द से अछूती नहीं रह सकती। सुरेश सेन निशांत कहते हैं – "वह मरा/जब फसल कटने के दिन थे/वह मरा जब बादलों को बरसना था / फूल खिले हुए थे / खुशी की बयार से झूम रहा था सेंसेक्स।" इस उदार अर्थव्यवस्था में किसान की मौत पर ऑसू बहाने वाला कोई नहीं। भूमंडलीकरण में विकास की वर्तमान प्रणाली 'केबल सेवा' और 'उद्योग क्षेत्र' के विकास पर अपनी समस्त ऊर्जा और संसाधन झोंक देती है और कृषि के प्रति उदासीन है। यही कारण है कि इंडिया लगातार समष्द्व होता जा रहा है और भारत कंगाल। भूमंडलीकरण के कारण हमारा पर्यावरण लगातार विषैला होता जा रहा है। विकास के नाम पर प्रकृति का शोषण किया जा रहा है। गंगा जैसी पवित्र और जीवनदायनी नदियाँ भी ग्लोबलाइजेशन का शिकार होती जा रही हैं। औद्योगिकरण के कारण जंगल काटे जा रहे हैं जिसकी वजह से जानवर विलुप्त होते जा रहे हैं। कविता भी इस विषय पर मौन नहीं है–"जब नहीं था/इंसान/धरती पर थे जंगल/जंगली जानवर परिंदे / इन्हीं सबके बीच उतरा / इंसान / और घटने लगे जंगल / जंगली जानवर, परिंदे ।" (17) इंसानों की इन हरकतों को देखकर लग रहा है कि उन्हें जीने के लिए पैसे और उद्योग के अतिरिक्त किसी अन्य चीज की जरूरत ही नहीं है।

आज कविता मानव को भूमंडलीकरण और उपभोक्तावाद के चंगुल से बचाने का भरपूर प्रयास कर रही है। कविता का शिखर आज भी इन दोनों महाप्रभुओं के लिए अलंध्य ही बना हुआ है। कविता मानवता के विकास की वकालत पहले भी कर रही थी और आज भी कर रही है। कविता के इस दुर्ग को पुनरुत्थानवादी प्रलय अगर नहीं लील पाया तो उपभोक्तावाद एवं बाजारवाद का छल—छद्म और पाखंडी तिलिस्म उसे बिल्कुल नष्ट नहीं कर पाएगा। दरअसल कविता तो आज इस भूमंडलीकरण और उपभोक्तावादी संस्कृति की क्रूरता, हिंसा व छलपूर्ण प्रकृति के विरुद्ध एक सार्थक हस्तक्षेप बनकर सामने तनी खड़ी है। हिंदी कविता ने भूमंडलीकरण के समय में भी अपनी लोकानुरागी छवि को बनाए रखा है। इस कविता ने उपभोक्तावादी संस्कृति से समाज को बचाए रखने के लिए पूरी कोशिश की है जिसके कारण मानवीय संवेदना की सरिता सूखने नहीं पाई है। कवियों और साहित्यकारों ने देश की भलाई और समाज की भलाई को सदैव सर्वोपरि माना है। वैश्वीकरण या भूमंडलीकरण को परिभाषित करती कविता की ये पंक्तियाँ कितनी सटीक जान पड़ती हैं — "वैश्वीकरण की आँधी आई / कमर तोड़ रही महंगाई / रसेज' की नीति नवीन है / किसानों से छिन रही जमीन है... / 'विनिवेश'का यह तूफान / आत्महत्या कर रहे किसान / साम्राज्यवाद की रणभूमि में / हारा फिर से हिंदुस्तान....।" (18)

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भारतीय साहित्य में नारी के विविध दारित्वक रूप

शोधार्थी नामः- राजेश कुमार

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लेखसार : भारतीय की साहित्यक पष्ष्ठभुमि में नारी को कई प्रकार के पात्रों के अभिनय के रूप में अपना अभिनय किया हैं। हिन्दी साहित्य और भारतीय समाज में नारी के कई शाश्वत के साथ अनेक प्रकार के दायित्व मिलते हैं जो पारिवारिक रूपों में अपने कर्त्तव्य और दायित्व का निर्वाह करती है। शाश्वत रूपों में नारी के देवी, माता, पत्नी, प्रेमिका, सपत्नी, बहन, पुत्री, सास, बहू और नव वधू के रूप हैं जो शाश्वत है जिनके कारण समाज में इन रूपों की अपनी शाश्वतता है और ये सम्बन्ध हमेशा बने रहने वाले हैं। इस प्रकार नारी के ओर भी रूप में ननद भाभी, देवरानी जेठानी आदि भी कई तरह के दायित्व का वहन करना नारी के लिए समान जनक बात होती है।

नारी के सामाजिक रूप :-

देवी :- भारतीय समाज में नारी को प्राचीन से ही पूज्य माना है। इस प्रकार वैदिक काल से नारी को देवी मान कर उसको उच्च समान दिया है और उसके प्रति श्रद्धा अर्पित की है इस लिए आर्यों ने भी कई देवियों की कल्पना करके उसे प्रकर्षते का रहस्यमय, रमणीय व्यापार के कारण भावनाओं और गूणों को जीवन की सहायक तथा आर्थिक परिस्थितियों को लक्ष्मी के रूप में अर्चना का आधार माना है। हालांकि मध्य युग में स्थिति कुछ शोचनीय हो गई थी फिर भी नारी के प्रति श्रद्धा कम नहीं हुई। नारी को इसी महान प्रतिष्ठा के कारण असाधारण गुणों से सम्पन्न नारी को देवी का पद दिया जाता है और उसकी पूजा एवं अर्चना की जाती है। इस यूग में नारी को विलक्षण सौन्दर्य, विलक्षण ज्ञान शक्ति से सम्पन्न नारी को देवी का अवतार मानकर सरल हष्दय भारतीय सांस्कषति का प्रतिक नारी को अपनी श्रद्धा का पात्र बनाया। सीता और पार्वती इसके पौराणिक उदाहरण हैं। भारतीय हिन्दी साहित्य में भी नारी के देवी का रूप मिलता है इस प्रकार आज की परिस्थितियों में नारी को देवी न मानकर मानवी की संज्ञा से नवाजा है। सामाजिक परिवेश में नारी को पुरूष के समान महत्वपूर्ण बनाने का प्रयास होने लगा है। हजारी प्रसाद द्विवेदी के उपन्यास 'बाण भट्ट की आत्मकथा' में हर्ष कालीन भारतीय जीवन का चित्रण है। बाणभट्ट की आत्मकथा में नारी के देवी रूप में निपुणिका वर्णन करते हुए कहती है ''अब तक तुमने नारी में जो देव मन्दिर का आभास पाया वह तुम्हारे भोले मन की कल्पना थी। आज मैं तुम्हें सचमुच देव मन्दिर दिखाऊँगी परन्तु उसके लिए तुम्हें छोटे राज कूल में मेरी सखी बन कर प्रवेश करना होगा और कीचड़ में धंसे उस मन्दिर का उदार करना होगा।"

माता - माता का पद नारी के लिए वो गौरव और प्रतिष्ठा का जिसे नारी युगों युगों से इसे पाने के लिए लालायित रहती है। इस प्रकार नारी के सभी रूपों में गौरवमयी रूप 'माता' का है। माता सृष्टि की प्रथम इकाई है। धरती के समान वह संतान अथवा बच्चे को जन्म देती है और उसका पालन करती है साथ

में सन्तान के सदैव सुखी रहने की कामना करती है। सामाजिक दृष्टि से भी नारी का मातृ रूप उसका अत्यन्त उपयोगी तथा आवश्यक रूप है। साहित्य में नारी का मातष् रूप अत्यन्त विशिष्ट एवं महत्व पूर्ण माना गया है। रीति कालीन साहित्य में माता का रूप चित्रण की उपेक्षा हो गयी थी आधुनिक साहित्य में पुनः इसका चित्रण होने लगा है। मातृत्व संजीवनी शक्ति है, यही नारी जीवन को गति मय बनाती है। जीवन के निराश क्षणों में जब आशा उसके समस्त पहलुओं से रूठ चुकी होती है, आपतियों की शिलायें उस पर टूटती हैं, जीने की साध समाप्त हो चुकी होती है, जब उसकी कोख में पलते हुए जीवन की कल्पना से ही उसे जीवन दान देती है, ''नन्हा सा मुन्ना होगा, मेरी गोद का लाल घुटनों के बल कमरे में दौड़ता फिरेगा, हँसेगा, किलकारियों से धर को जगाए गा, छाति से लिपट जाए गा, चुकुर चुकुर मेरे अन्तर का स्तन पान करेगा।'' नारी की मातष्त्व की साध विलक्षण होती है। संसार से घष्णा, अपमान, अनादर आदि सब कुछ बटोर कर भी वह मातृ पद से वंचित नहीं होना चाहती- "थूके मुझ पर त्रलोक्य भले ही थुके, जो कोई जो कह सके कहे क्यों चुके। छीनने मातष् पद किन्तु भरत का मुझसे।'' हिन्दी साहित्य में माता के साथ विमाता का वर्णन भी देखने को मिलता है। सही प्रकार से साहित्य में विमाता के विकृत रूप का परिष्कार 'साकेत' में मिलता है। वही कैकयी 'रामचरितमानस' में राम को वनवास का कठोर दण्ड देती है। प्रसाद के 'अजातशत्रु' नाटक में नाटक में भी विमाता के आदर्श रूप की झाँकी मिलती है। अजातशत्रु नाटक में रानी वासवी का का कुणीक पर अपने बेटे जैसा ही रनेह है, वह सदैव उसके कल्याण की इच्छुक है तथा स्वपन में भी उसके अनिष्ट का चिन्तन नहीं करती। अजातशत्रु उसे कारावास की यातना भी देता है पर वह अंत में भी अपने दायित्व का स्मरण करते हुए प्रसेनजित के बन्दी गष्ह से उसे मुक्त कराती है। तभी अजातशत्रु अचानक कह उठता है ''कौन, विमाता ! नहीं, तुम मेरी माँ हो। माँ। इतनी ठण्डी गोद तो मेरी माँ की भी नहीं है। आज मैंने जननी की शीतलता का अनुभव किया है।'' इस प्रकार विमाता होने पर भी वासवी में मातृत्व सुलभ वात्सल्य है और यहाँ वह आदर्श जननी के आसन पर आसीन हो जाती है। यहीं उसका दायित्व और सात्विक रूप है। कभी कभी विमाता अपने अंतः करण को पूर्ण शुद्ध करके भी विमातृ पुत्र की सेवा करती है तब भी लोक उसे गर्हित भावना से ही देखता है। तब उसका हृदय क्षुब्ध हो उठता है और वह कह उठती है ''विमाता का नाम ही बुरा होता है, अपनी माँ विष भी खिलाए तो अमृत है, मैं अमृत भी पिलाऊँ तो विष हो जायेगा।" पत्नी :- हिन्दी साहित्य में नारी के रूप में पत्नी का स्थान भी उच्च कोटि का रहा है। हिन्दी की कोई भी विधा को हम देखते हैं तो नारी के पात्र के रूप में पत्नी का किरदार हमें देखने को मिलता है। चाहे

ना पिया को हम दखत है तो नारा के पश्चि के रूप में परिना को किरदार हम दखन को निलता है। यह वह विधा पाठ्य हो या दख्य हो दोनों के रूप में नारी का अभिनय जो पत्नी के किरदार में भारतीय संस्कर्षते की झलक मिल ही जाती है। पत्नी सम्बन्धी कई कविताओं में उसके त्याग, सहिष्णुता, सेवा परायणता का गुणगान किया गया है तथा कई कवियों ने प्राचीन आदर्शों के रंगों द्वारा उसके चित्र प्रस्तुत किये हैं। उसके उत्सर्ग के लिए उसे देवी कह कर सम्बोधित भी किया गया है ''उत्सर्ग आपको तु आप कर चुकी है हे देवी, घर हमारे मन्दिर बने तुझी से।'' भारतीय समाज में पाश्चात्य नारी से अलग ही सम्मान दिया गया है। नारी पुरूष की पूरक है प्रकृति ने नारी को पुरूष के पूरक के रूप में बनाया। पुरूष के बिना स्त्री और स्त्री के बिना पुरूष का व्यक्तित्व अधूरा रहता है और दोनों मिलकर एक पूर्ण व्यक्तित्व का निर्माण करते हैं। भारतीय संस्कृति में नारी को पत्नी हमेशा पुरूष की सहधर्मिणी अर्द्धागिनी होती है। दोनों के परस्पर सहयोग के कारण ही उनका जीवन रूपी पहिया अथार्त दाम्पत्य जीवन आगे बढ़ता है। प्राचीन काल से ही पत्नी के धर्म और मूल्यों को आंका जाता रहा है। हिन्दी साहित्य में संस्कृति का अनुठा सम्बन्ध होने के कारण इसमें नारी के पत्नीत्व पर भी बहुत कुछ आदर्श विचारों का होना भी इस साहित्य को मजबूत करते है। एक आदर्श पत्नी अटल पति व्रता, सुख दुख की सहभागिनी, पति को दोषों के प्रति सहिष्णु तथा भटके हुए पति को सत्यपथ पर लाने की चेष्टा करती है और अपने जीवन को सफल बनाती है। इसी कारण वह अपने व्यक्तित्व तथा रूप को पहचानती है।

प्रेनिका :- हिन्दी साहित्य में नारी को एक प्रेमिका के रूप में देख जाता है। पुरूष ने नारी के चरम विकसित रूप, मातप्त्व के चरणों में तो श्रद्धा सुमन अर्पित किये है किन्तु उसके अन्दर की सह पिपासा नारी के प्रेयसी रूप से ही शांत हुई है। प्रेयसी या प्रेमिका शब्द प्रेम शब्द से अभिन्न सम्बन्ध रखते है और उनमें भी प्रेम के समान आनन्द एवं तर्षप्त देने का गुण प्रधान होता है। यद्यपि शब्द कोष में प्रेयसी का अर्थ पत्नी, प्रेमिका आदि ही प्राप्त होता है फिर भी प्रेयसी या प्रेमिका से पत्नी का अन्तर सामाजिक धरातल पर बहुत स्पष्ट हो जाता है। इस प्रकार इन समस्त सम्बन्धों के मूल में प्रेम भाव का ही प्राधान्य रहता है, किन्तु भाव एवं अर्थ समान होने के कारण भी समाज और परिवार में इसके अर्थ और महत्व अलग अलग है। अतः कहा जा सकता कि साधारण और एक ही नारी प्रेयसी एवं प्रेमिका दोनों ही होती हैं, क्योंकि दोनों ओर प्रेम पलने वाले सिद्धान्त के अनुसार वह प्रेयसी रूप में अपने प्रिय के प्रेम का आलम्बन भी होता है और प्रेमिका रूप में प्रिय के प्रति प्रेम को व्यक्त भी करती है। इस प्रकार भारतीय रचनाकारों ने नारी के इस पक्ष को हिन्दी साहित्य में अनन्य प्रेम, पवित्रता और अलौकिता का चित्रण बड़ी ही तन्मयता के साथ किया है। प्रसाद ने भी नारी को प्रेम दर्शन में आदान प्रदान की भावना न होकर उसके प्रेमत्व के उज्ज्वल पक्ष को ही स्थान दिया है। इस प्रकार प्रसाद के साहित्य में प्रेमिका नारी में प्रेम का यही गुण पाया जाता है। इसके अतिरिक्त प्रसाद मर्यादित प्रेम के पोषक हैं और इसके अतिरिक्त प्रेम करना उसकी दृष्टि में अपराघ है।

सपत्नी :- हिन्दी साहित्य की विधाओं में पत्नी के साथ सपत्नी का वर्णन भी देखने में आता है। वैसे भारतीय संस्कर्षते और परम्परागत समाज में तो एक पत्नी की ही मान्यता रही है। लकिन उच्च कूल में बहु पत्नी को भी मान्यता बराबर बनी रही है। आधुनिकता के बाद ही नियमन एक पत्नी को महत्व दिया गया है। इस लिए हमारे समाज में यह प्रथा जोरो पर प्रचलित रही है कि बहु पत्नियों की प्रथा ने एक नये नारी सम्बन्ध को जन्म दिया है। यदि सपत्नियों का व्यवहार आपस में अच्छा हो तो घर में शांति

रहती है। अन्यथा वातावरण नर्क के समान हो जाता है। प्रेमचन्द का उपन्यास 'कायाकल्प' में बहु पत्नी का ही वर्णन है। यहाँ कुंवर साहब के तीन पत्नियों की चर्चा है इनमें से एक शान्त स्वभाव की है परन्तु दो हमेशा ही उग्र रहती है। इस प्रकार हिन्दी साहित्य में सपत्नी का चरित्र दोनों रूपों में देखने को मिलता है। वर्तमान काल में सपत्नी के बारे बहूत कम वर्णन प्राप्त होता है। इस लिए हिन्दी साहित्य में सपत्नी के रूप में दायित्व निर्वाह का सम्मान प्राप्त है।

बहत :- भारतीय साहित्य और समाज में नारी को माता रूप के बाद अगर सम्मान प्राप्त है तो वह बहन का रूप हो सकता है। बहन का स्थान उच्च स्थान माना जाता है और इससे पवित्र रिश्ता भी किसी रिश्ते को नहीं माना जाता। नारी को अपने नारीत्व पर अभिमान है तो वह बहन का पद है। इस प्रकार बहन शैशव सरिता की सह प्रवाहिनी, स्नेह सजला बहन का जीवन में एक विशेष स्थान है। वात्सल्य के प्रांगण की अनेक अशु हासमयी क्रीड़ाओं की मृदुल संगिनी बहन का साथ चाहे थोडा ही क्यों न हो तो भी वह संवेदना के सूत्रों से सदा के लिए गुंथ जाता है। बहन छोटी हो, तो भाई का अमित स्नेह पाने की अधिकारणी होती ही है और बड़ी हो तो स्नेह के साथ आदर भी पाती है। इस प्रकार भारतीय साहित्य में भाई और बहन का सम्बन्ध गंगा जल सा पुनीत, चाँदनी सा शीतल एवं शिशु के अबोध हृदय सा निश्छल है। एक कविता 'पुरस्कार कैसा' में सुभद्रा कुमारी चौहान भाई को रक्त बहाकर भी माँ के मस्तक पर लाल टिका लगाने की प्रेरणा देती है तथा देश की स्वाधीनता के लिए बहन अपना दायित्व का निर्वाह करते हुए भाई को संघर्षस्त रहने का पक्ष सुन्दर तो है ही जिसकी झलक 'निरूपमा', दो बहनें' आदि में भी बहनों के सुन्दर चरित्र हैं।

सास बहू :- भारतीय समाज में सास बहू का सम्बन्ध भी बहुत कुटिल और जटिल रूप में देखा जाता है। सास और बहू दोनों ही एक नारी हाते हुए भी नारी नारी में अन्तर इस भारतीय समाज में दिखाई देता है। इसी कारण सास को अपने पुत्र की पत्नी के लिए साक्षात संकट अवतार माना जाता है। यहाँ इस बात पर ध्यान नहीं दिया जाता की सास भी इस घर की बहू ही तो है और बहू भी इस घर की सास होने वाली है। यह तो कारण है कि बहू के मन में भी वैसी प्रतिक्रिया सास के प्रति रहती है जिसका असर उसके व्यवहार पर पड़ता है। अगर परिवार में एक व्यक्ति भी विवके से कार्य करे तो यह रिश्ता भी अपने में मधुरता ला सकता हैं। इस प्रकार एक बेटा विवके और समझ से काम ले तो सास बहू में कटुता आनी मुश्किल हैं क्योंकि वह एक पुत्र है तो दूसरी का पति इस लिए वह दोनों को प्रिय है। इस प्रकार हिन्दी साहित्य में सास बहू का चित्रण दोनों रूपों में ही समान हुआ है।

पुत्री :- हिन्दी साहित्य और उसका दर्पण भारतीय समाज में माता, बहन के बाद नारी के लिए कोई समान जनक गौरवमयी पद है तो वह पुत्री का ही हो सकता है। इस प्रकार साहित्य में चित्रित नारी के विभिन्न रूप हैं उनमें पुत्री या कन्या रूप कई दृष्टि कोणों में विशेष महत्वपूर्ण है। नारी जाति की प्रतिष्ठा एवं निन्दा ही पक्षों की उत्पत्ति कन्या रूप में देखी जाती है। एक ओर समाज उसके चरण कदमों में अपनी मुकुट मणियों को बिछा देता है, इस कारण कन्या या पुत्री सर्वाधिक पूज्य मानी जाती है तथा वह देवी की महीमा से मंडित होती है। दूसरी ओर उसके जन्म लेते ही माता पिता चिन्ता ग्रस्त हो जाते हैं, यहाँ यह भी देखने की बात है कि पुत्री या कन्या को गौरवशाली पद दे कर भी उसे पुत्र के समान प्यार नहीं मिलता तथा जीवन को सुखी एवं समृद्धमय बनाने वाले अन्य साधनों से वंचित हो जाती है। नारी जीवन में चांचल्य सुकुमार सौन्दर्य तथा उदात्त गुणों की भूमिका का निर्माण उसके कन्या रूप में ही होता है। इन साहित्य कारों के अनुसार केवल पुत्र ही संसार को गतिशील बनाने में समर्थ नहीं है बल्कि पुत्री का भी सहयोग आवश्यक है। सही में पुत्री के सदृश प्रेम का उज्ज्वल प्रतीक नहीं बल्कि सृष्टिसागर की वही पतवार है। सामाजिक विकृतियों के प्रति जो विद्रोह की भावनाएँ जागरूक हैं, उन से कन्या जीवन के पूर्ण विकास की आशा की जाती है। आज विवाह और देहज के प्रति सबकी दृष्टि है। इनके बन्धनों के दूटने पर ही कन्या के नारी जीवन का प्रथम स्वरूप उन्मुक्त वातावरण प्राप्त कर सकेगा। आधुनिक

हिन्दी साहित्य में चित्रित कन्या रूप में उपर्युक्त सभी तथ्यों का वर्णन निकटता से हुआ है। **लेख उद्देश :-** इस प्रकार से नारी जाति का अवलोकन करके समाज के सामने उसके समान्न जनक पहलु को दर्शाना और नारी को उसके रूप को प्रदर्शित करने के साथ हिन्दी साहित्य कारों का प्रथम काम रहा है। अतः नारी का विविध विधाओं में उपर्लिखित वर्णन प्राप्त है।

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भूमि उपयोग का परिवर्तित स्वरूप नीमकाथाना तहसील (सीकर)के परिप्रक्षय में

भूपेन्द्र कुमार जांगिड़

श्री जगदीश प्रसाद झाबरमल टिबङेवाला विश्वविद्यालय, झुंझुनूं (राज.)

भूमि–उपयोग की अवधारणा पुरातन काल से निरन्तर गतिशील है। किसी भी क्षेत्र में भूमि उपयोग ऐसा होना चाहिए, जिससे कि उस भौगोलिक क्षेत्र का प्राकृतिक सन्तुलन बना रहे। इस हेतु भूमि उपयोग की वैज्ञानिक अवधारणा को उपयोग में लिया जाना चाहिए। वैश्विक स्तर पर देखा जाये तो भूमि उपयोग मानव की सामाजिक–आर्थिक गतिविधियों का प्रतिफल है। आज वैश्विक स्तर पर नगरीयकरण एवं औधोगिकीकरण की बढ़ती गति ने भूमि–उपयोग के स्वरूप को अत्यधिक प्रभावित किया है। किसी भी क्षेत्र के भूमि उपयोग में कृषि, जल संसाधन, वन संसाधन, निर्माण क्षेत्र आदि की महत्वपूर्ण भूमिका होती है। वर्तमान में बदलता भूमि उपयोग मानव की संसाधनों तक अधिक पहुँच बना रहा है। तो दूसरी ओर पारिस्थितिकी का सन्तुलन बनाये रखने की क्षमता कम हो जाती है। प्रस्तुत शोध प्रपत्र में नीमकाथाना तहसील में भूमि–उपयोग के बदलते प्रारूप का अध्ययन किया गया है। प्रस्तुत शोध अध्ययन के लिए राजस्थान राज्य के सीकर जिलें की ''नीमकाथाना तहसील'' का चयन किया गया है। जो कि सीकर जिले के उत्तरी-पूर्वी भाग में अवस्थित है। तहसील में जनसंख्या वृद्धि, नगरीयकरण की प्रवृति, बढते औधोगिकीकरण, राजमार्गों का विकास, कृषि का बदलता प्रतिरूप इत्यादि कारणों सें भूमि उपयोग तीव्र गति से बदल रहा है। वनावरण घटता जा रहा है और इस भूमि को कृषि, परिवहन तथा आवासीय भवनों के निर्माण में उपयोग किया जा रहा है। प्राकृतिक अपवाह क्षेत्रों में मानव बसाव की गतिविधियों में वृद्धि हुई है। इस शोध प्रपत्र में मानव एवं कृषि संसाधन के साथ ही तहसील में भूमि उपयोग के वर्तमान स्वरूप के इसकी बदलती प्रवृति का विश्लेषण किया गया है। विकास एवं विस्तार जैसे मुद्दों के साथ-साथ पर्यावरण अवक्रमण को भी ध्यान में रखा गया है ताकि भूमि उपयोग के नकारात्मक प्रभावों से बचा जा सके।

भूमि उपयोग शब्द के लिए अंग्रेजी भाषा में Land Use अथवा Land Utilization शब्द का प्रयोग होता है। भूमि प्रयोग शब्द से धरातल के स्वाभाविक लक्षण का बोध होता है। जिस भू—भाग का उपयोग प्राकृतिक तरिके से हो रहा है, तो उस भू—भाग के लिए ''भूमि—प्रयोग''(Land Use) का उपयोग करना उचित होगा। भूमि प्रयोग में धरातल मानवीय प्रभावों से हमेशा रहित रहता है। जब भूमि का प्रयोग मानव अपनी आवश्यकता के अनुसार करता है तो उस भू—भाग के लिए ''भूमि—उपयोग''(Land Utilization) शब्द को व्यवहार में लाया जाता है। भूमि उपयोग में भू—भाग का प्राकृतिक स्वरूप नष्ट हो जाता है। और मानवीय क्रियाओं का हस्तक्षेप बढ़ जाता है। इस प्रकार स्पष्ट है कि निश्चित प्रयोजन एवं उद्देश्य से भूमि का किसी भी रूप में उपयोग ही ''भूमि—उपयोग'' कहा जा सकता है लेकिन विभिन्न सामाजिक विज्ञानों

में इसका उपयोग विभिन्न आशय के साथ जोड़ा जाता है। जन साधारण के लिए भूमि एक मैदान जिस पर वह रहता है, एक मिट्टी के रूप में, जिस पर वह खेती करता है व एक पृथ्वी (earth) मानव के घर के रूप में हो सकता है लेकिन अर्थशास्त्री इसे भू–सम्पति (land Property) के रूप में मानता है। परन्तु एक भूगोलवेता भूमि को एक संसाधन के रूप में मानता है, जिसके अनेक प्रयोजन हो सकते है। इस प्रकार भूमि उपयोग, भूमि की एक शोषणकारी प्रक्रिया है जिसमें भूमि का व्यावहारिक उपयोग मानव द्वारा किसी निश्चित उद्देश्य की प्राप्ति के लिए किया जाता है।

भूमि उपयोग भौगोलिक अध्ययन का एक प्रमुख अंग माना जाता है क्योंकि भूमि (Land) और उपयोग (Use) दोनों ही अपने आप में अलग—अलग बातें हैं। एक भूगोलवेता दोनों ही तरह से भूमि और उपयोग शब्दों से जुड़ा है। भूमि शब्द के साथ ही भूगोल की विचारधारा जुड़ी हुई है। भूमि पर मानव द्वारा विभिन्न प्रकार के क्रिया—कलाप किए जाते है। मानव भूमि को एक संसाधन मानता है और इसका उपयोग अपने विभिन्न उद्देश्यों के आधार पर अनेक रूपों में करता है। भूमि का उपयोग मानव आदिकाल से ही अपनी मूलभूत आवश्यकता रोटी, कपड़ा और मकान की पूर्ति करने के लिए करता आ रहा है। मानव सभ्यता से आधूनिक मानव सभ्यता के विकास की गतिशीलता भूमि उपयोग का इतिहास ही कहा जा सकता है। भूमि उपयोग का अर्थ मानवीय रूप से है जिनका उपयोग मानव अपने हित में करता है। इसलिए भूमि उपयोग का अर्थ उन सभी प्रकार की भूमियों से लिया जाता है जो चाहे कृषि, औधोगिक, शहरी अथवा ग्रामीण क्षेत्रों में हो। भारत में पृथ्वी के धरती माँ कहा जाता है, जिसका अर्थ यह है कि धरती हमें सभी कुछ प्रदान करती है अर्थात् यह मानव की माँ के समान है जिस पर हमारा जन्म ही नहीं होता है, बल्कि वह जीवन यापन व भरण—पोषण के लिये सभी प्रकार के साधन भी प्रदान करती है, जो हमारे विकास व उन्नति के लिए आवश्यक होते है।

भू—उपयोग के जिस तरिके से मानव की अधिकतम आवश्यकताओं व उद्देश्यों की पूर्ति होती है, वह भूमि उपयोग अधिक उपयोगी, उचित व तर्क संगत होता है। भूमि उपयोग के अन्तर्गत, वन क्षेत्र, चारागाह, पड़ती, बंजर व ऊसर भूमि, कृषि कार्य, वानिकी व उघोगों व अन्य सांस्कृतिक भू—दृश्यों के निर्माण को सम्मिलित किया जाता है। भूमि उपयोग द्वारा ही किसी प्रदेश के कृषि नियोजन का निर्धारण होता है ओर कृषि विकास के स्तर की जानकारी मिलती है। कृषि विकास के लिए विकास योजनाओं को साकार रूप मिलता है।

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नीमकाथाना तहसील के संर्दभ में कृषि उत्पादन एवं मृदा पर कृषि आधुनिकीकरण के प्रभाव

भूपेन्द्र कुमार जांगिड़

श्री जगदीश प्रसाद झाबरमल टिबङेवाला विश्वविद्यालय, झुंझुनूं (राज.)

प्रस्तुत शोध अध्ययन के लिए राजस्थान राज्य के सीकर जिलें की "नीमकाथाना तहसील" का चयन किया गया है। जो कि सीकर जिले के उत्तरी—पूर्वी भाग में अवस्थित है। तहसील 27°30' उतरी अक्षांश से 27°73' उत्तरी अक्षांश तथा 75°07' पूर्वी देशान्तर से 75°25' पूर्वी देशान्तरों के मध्य विस्तृत है। तहसील का फैलाव कुल 43 मिनट अक्षांशों तथा 18 मिनट देशान्तरों में है। यह उत्तर—दक्षिण तथा पूर्व—पश्चिम में कुल 40 से 50 वर्ग कि.मी. की लम्बाई—चौड़ाई में विस्तृत है। नीमकाथाना तहसील का कुल भौगोलिक क्षेत्रफल 1188.22 वर्ग कि.मी है। यह राजस्थान राज्य का 0.347 प्रतिशत तथा सीकर जिले का 15.367 प्रतिशत भू—भाग है। क्षेत्रफल की दृष्टि से क्रमशः सीकर, श्रीमाधोपुर, लक्ष्मणगढ़ के बाद 5 वें स्थान पर नीमकाथाना तहसील आती है। 2011 की जनगणना के आघार पर तहसील में कुल 399911 जनंसख्या निवास करती है। जनसंख्या की दृष्टि से जिलें की चौथी बड़ी तहसील है।

नीमकाथाना एक कृषि आधारित तहसील है। जहाँ की 82 प्रतिशत जनसंख्या कृषि कार्यों द्वारा ही अपना जीवन यापन करती है। तहसील कृषि की मुख्य विशेषताओं में मिश्रित कृषि पद्धति का प्रयोग भी है। अर्थात् यहाँ की जनता कृषि कार्यों के साथ पशुपालन भी करती है। यहीं मिश्रित कृषि पद्धति कहलती है। कृषि कार्यों के साथ पशुपालन तहसील अर्थवयवस्था को सुदष्ढ़ बनाने में महत्वपूर्ण है क्योंकि तहसील का लगभग 2/3 क्षेत्र शुष्क एवं रेतीला है, जहाँ कृषि कार्य पर्याप्त मात्रा में नहीं हो पाती है, अतः तहसील के अर्द्धशुष्क व पहाड़ी भागों में अधिकांश जनसंख्या के लिए पशुपालन जीविकोपार्जन का एक प्रमुख साधन बन गया है। पशुपालन कृषि कार्यों के साथ घनिष्ठता से सम्बन्धित है और तहसील की ग्रामीण अर्थव्यवस्था में रोजगार एवं पारिवारिक आय को स्थिरता प्रदान करने में महत्वपूर्ण भूमिका अदा करता है। पशुपालन का सीमांत, उप सीमांत तथा भूमिहीन कृषकों को लाभप्रद रोजगार उपलब्ध कराने में महत्वपूर्ण भूमिका अदा करता है। पशुधन उत्पादन, दुग्ध, माँस, ऊन व अण्डे आदि के उत्पादन में वृद्धि किसानों की आर्थिक एवं सामाजिक स्थिति सुधारने तथा तहसील के सकल घरेलू आय को योगदान प्रदान करने में सहायक है। पशुधन उत्पाद, श्रम प्रधान गतिविधियाँ है, जिनमें महिलाओं की भागीदारी का प्रतिशत अधिक है। तहसील में वृद्धिशील जनसंख्याा की खाद्यान्न माँग व आवश्यकताओं की आपूर्ति के लिए कृषि क्षेत्र में कषषे आधुनिकीकरण व यंत्रीकीकरण को अपनाया गया है। अध्ययन क्षेत्र में कृषि आधुनिकीकरण व यंत्रीकीकरण के अध्ययन से स्पष्ट होता है कि इसका उद्देश्य तहसील में जनसंख्या की तीव्र वृद्धि व आर्थिक विकास के लिए कृषि भूमि विस्तार व कृषि उत्पादन में वृद्धि करना है। इस लक्ष्य की प्राप्ति के लिए के लिए विभिन्न कार्यक्रमों के द्वारा कृषकों को प्रेरित व

जागरूक किया गया है। कृषकों को कृषि उपज में वृद्धि करने के लिए सभी प्रकार के आधुनिक कृषि उपकरण, उन्नत किस्म के बीज, रासायनिक उर्वरक व कीटनाशक दवाइयाँ आदि राज्य सरकार व स्थानीय प्रशासन तथा कृषि विभाग द्वारा उपलब्ध कराये गये है। फलतः तहसील में कृषि भूमि विस्तार हुआ और उत्पादन में भी आशानुरूप वृद्धि हुई। अर्थात् तहसील में कषषि आधुनिकीकरण पूर्णतः सफल हुआ है। अध्ययन क्षेत्र में वैज्ञानिक कृषि अर्थात् कृषि आधुनिकीकरण के सकारात्मक प्रभावों के साथ—साथ कुछ ऐसे भी प्रभाव स्पष्ट नजर आते है जिनसे लाभ के स्थान पर हानि अधिक होती है। अतः तहसील में कृषि आधुनिकीकरण के प्रभावों को मुख्य रूप से दो भागों में विभक्त किया गया है। यथा— सकारात्मक प्रभाव:–

- तहसील में आधुनिक कृषि को अपनाने से गहन कृषि प्रणाली का विकास हुआ। जिससे कृषि उत्पादन में भारी वृद्धि हुई। इसी के कारण यहाँ कृषि में आत्मनिर्भरता के लक्ष्य को प्राप्त किया जा सका है।
- तहसील में कृषि आधुनिकीकरण के फलस्वरूप ही जीवन निर्वाहक कृषि के स्थान पर व्यापारिक कृषि को बढ़ावा मिला है।
- तहसील के कृषि सेक्टर में रोजगार के अवसरों में वृद्धि हुई है।
- आधुनिक कृषि के कारण ही तहसील में कृषि आधारित उधोगों को मजबूती प्राप्त हुई है।
- आधुनिक व वैज्ञानिक कृषि को अपनाने से ही कम से कम भूमि पर अधिकतम उत्पादन कर अधिक आर्थिक लाभ प्राप्त किया जा सकता है जिससे तहसील में कृषि भूमि पर बढ़ते जनसंख्या भार को सहन कर लिया गया है।
- तहसील में अनुपजाऊ, ऊबङ–खाबङ भूमि को कषषि योग्य बनाकर कृषि उत्पादन प्राप्त किया जा सका है।
- सिंचाई की नवीन प्रविधियों ने मृदा रक्षण को नियन्त्रित किया व जल संरक्षण को बढ़ावा दिया है।
 तकारात्मक प्रभाव :-
- तहसील में रासायनिक ऊर्वरको व कीटनाशकों का प्रयोग बढ़ता जा रहा है। इनका अधिक मात्रा में उपयोग होने से कृषि भूमि की प्राकृतिक उत्पादन क्षमता घटती जा रही है।
- फुंव्वारा सिंचाई हवा की गति अधिक रहने पर नहीं की जा सकती है तथा फसलों को पर्याप्त मात्रा में पानी की पूर्ति भी नहीं हो पाती है। इससे सिंचाई करने पर रोग एवं रोग जनको का प्रसार अधिक होता है।
- रासायनिक ऊर्वरक का अधिक उपयोग होने से अनाज की गुणवता नष्ट हो गयी है।
- आधुनिक किस्म का बीज, रासायनिक खाद के उपयोग से फसल की जल की माँग बढ़ जाती है।
 अतः जल का दोहन अधिक हो रहा है।

अध्ययन क्षेत्र में उपर्युक्त कृषि आधुनिकीकरण का अध्ययन करने से स्पष्ट होता है कि कुछ दोषों के बावजूद भी कृषि उत्पादन में वृद्धि हुई है। कृषि कार्य पहले की अपेक्षा सरल व सुगम बन गया है। कृषि के स्वरूप में परिवर्तन आया है। एक विशाल कषषि क्षेत्र में कटाई, जुताई–बुवाई, सिंचाई, अनाज निकालना व बाजार तक पहुँचाना आधुनिक कृषि यंत्रों के कारण ही सम्भव हुआ है। इस प्रकार नीमकाथाना तहसील में कृषि यंत्रीकरण व आधुनिकीकरण की क्रिया ने यहाँ की कृषि को विकसित बनाया है। वैज्ञानिक कृषि ने तहसील में व्यापारीक कृषि को बढ़ावा दिया है।

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बीकानेर राज्य में नगरीकरण की प्रक्रिया एवं उत्तरदायी कारक–एक अध्ययन

प्रभात कुमार, शोधार्थी

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बीकानेर राज्य का मरूस्थलीय वातावरण एवं उसकी भौगोलिक पृष्ठभूमि ने उसके पारगमन व्यापार के रूप में स्थापित किया। पारगमन व्यापार में व्यापारियों ने अपनी प्रतिष्ठता प्राप्त की उन्होंने उन स्थानों में निवास किया उन्हें व्यापार केन्द्र के रूप में प्रसिद्धि दिलवाई थी।

15वीं शताब्दी में राठौड़ राजवंश के राव बीका के द्वारा नवीन राज्य स्थापना से पूर्व एवं पश्चात् इस क्षेत्र में नगरीकरण की प्रक्रिया सतत् एवं निरन्तर अपने बदलाव में रही थी। 16वीं—17वीं शताब्दी में मुगल शासकों की सेवा के लिए बीकानेर के राठौड़ शासक सेनानायक के रूप में मुगल सूबों एवं प्रदेशों में अपनी सेवाऐं प्रदान करते थे अतः इस दौरान राज्य के शासक अपने राज्य से अनुपस्थित रहे और उनका अधिकांश समय मुगल दरबार में एवं मुगलों की सैनिक सेवा में व्यतीत हुआ जिसके परिणामस्वरूप राजस्थान के विभिन्न केन्द्रों पर मुगलों की प्रशासनिक व्यवस्था एवं नीतियों का गहरा प्रभाव पड़ा।

1707 ई. औरंगजेब की मृत्यु के पश्चात् मुगल साम्राज्य का तेजी से विघटन प्रारम्भ हो गया था। औरंगजेब के बाद जो भी मुगल सम्राट हुए ने इतने योग्य नहीं थे कि मुगल साम्राज्य के विघटन को रोक पाते। इसके परिणामस्वरूप नादिरशाह, अहमदशाह अब्दाली आदि विदेशी आक्रमणकारियों के पंजाब के मार्ग से उत्तर भारत पर एक के बाद एक आक्रमण प्रारम्भ हो गये। अफगानों द्वारा पंजाब में बड़े पैमाने पर लूटमार की जाने लगी थी जिसके परिणामस्वरूप मध्य एशिया, काबुल, कंधार से पंजाब होकर उत्तर भारत जाने वाला व्यापारिक मार्ग पूर्णतः असुरक्षित हो गया। अतः इन प्रदेशों के व्यापारियों ने इस मार्ग को छोड़कर सिंध—मुल्तान के मार्ग से उत्तर—भारत जाना प्रारम्भ किया जिसके फलस्वरूप बीकानेर राज्य में अनूपगढ़, राजगढ़, पूगल, चूरू, राजलदेसर, सूरतगढ़, रतनगढ़, सुजानगढ़ और लूणकरणसर आदि नगरीय केन्द्रों का विकास हुआ।

राजनीतिक एवं प्रशासनिक कारक : नगरीय केन्द्रों के स्थापना एवं विकास में शासकों की नीतियों एवं कार्यों का प्रभाव पड़ता हैं। शासकों के द्वारा अपनी राजधानी निर्माण, प्रशासनिक केन्द्रों की स्थापना करने में स्थान, कस्बों एवं नगरों के रूप में तब्दील हो जाते थे। मध्यकालीन राजस्थान के सभी शासकों के द्वारा राजधानी के रूप में नवीन नगरों की स्थापना करके उन्हें वैभव स्वरूप प्रदान किया जिसको उनके उत्तराधिकारियों द्वारा और वैभवता एवं आधुनिक बनाने का कार्य किया। स्थापत्य एवं जीवन शैली के लिए मध्यकालीन नगर अपने को आधुनिक स्वरूप ढाल लगे। जिसको औपनैवेशिक शासन ने प्रभावित किया। मध्यकालीन राजस्थान में राजनैतिक परिदृश्य में व्यापक बदलाव हुये थे। पूर्व मध्यकालीन राजस्थान में प्रतिहार, चौहान, परमार एवं गुहिल राजवंशों का शासन था उस दौरान के कस्बों, नगरों की जानकारी जैन ग्रंथों, अभिलेखों एवं पुरातात्विक साक्ष्यों से जानकारी मिलती है।

राठौड़ वंश के राव जोधा ने 1459 ई. में जोधपुर, 1559 ई. में उदयपुर की स्थापना सिसोदिया वंश के उदयसिंह, कछवाहा वंश के सवाई जयसिंह ने 1727 ई. में जयपुर एवं कोटा के माधोसिंह ने 1631 ई. में कोटा की स्थापना की थी। इसी कड़ी में 219 जोधा के पुत्र राव बीका ने 1488 ई. में बीकानेर की नींव रखी थी। परवर्ती शासकों ने बीकानेर नगर का विस्तार, भवनों, आधुनिक सुविधाओं एवं सौन्दर्यता प्रदान करने का प्रयास किया। बीकानेर में दुर्ग का निर्माण रायसिंह के समय किया गया। दुर्ग निर्माण के साथ ही राजभवनों से सुसज्जित किया गया। बीकानेर में बाजार, टकसाल एवं चुंगी घर की स्थापना की थी। 19वीं शताब्दी के अन्त एवं 20वीं शताब्दी के पूर्वार्द्ध में बीकानेर को रेलवे लाईन से अन्य महत्वपूर्ण केन्द्रों से जोड़ा गया।

राज्य की प्रशासनिक एवं राजस्व इकाइयों के लिए कस्बों का विकास होता था। सरकार, परगनें, निजामत एवं जकात चौकियों की स्थापना से कुछ स्थानों का नगरीय केन्द्र के रूप में स्थापना हुई थी। राज्य में राजगढ़, पूगल, अनूपगढ़, चूरू, महाजन, बीदासर, राजदेसर एवं लूणकरणसर प्रमुख जगात मण्डियों एवं चौकियों के रूप में जानी जाती थी। शासकों की ही भाँति जागीरदारों एवं ठिकानेदारों की भी कस्बों के विकास में महत्वपूर्ण भूमिका रही। उनके द्वारा जिस कस्बे से ठिकाने का शासन संचालन होता था उस कस्बे की ठिकाने के रूप में पहचान बन जाती थी। वहाँ ठिकानेदार द्वारा गढ़ का निर्माण करवाया जाता था। उसके साथ व्यापारियों, सेठ–साहूकारों को बसाया जाता था। कभी–कभी सांमतों की अन्यायपूर्ण एवं अत्याचारी नीतियों के कारण व्यापारियों द्वारा सामूहिक निष्कमण कर लेते थे। चूरू के सांमत की दमनकारी नीतियों से परेशान होकर चूरू के पोददार सेठों का परिवार सीकर ठिकाने में चला गया वहाँ उन्होंने नवीन कस्बे रामगढ़ को बसाया जो सेठाना के नाम से प्रसिद्ध हुआ। बीकानेर के महाराजा सूरतसिंह पोदार सेठों को पुनः चूरू में बसाने के विशेष प्रयास किये थे।

शासकों की भ्रूमिका : मध्यकालीन बीकानेर के राठौड़ शासकों ने नगरीकरण में सदैव अपनी भूमिका निभाई | 1488 ई. बीकानेर की नींव रखने के पश्चात् उसको उत्तरोत्तर वैभवता प्रदान की एवं नवीन करबों एवं नगरों की स्थापना की थी | बीकानेर के राठौड़ शासकों ने नगरीय केन्द्रों का सांस्कृतिक एवं वाणिज्यिक रूप से संगठित करने के सदैव प्रयास किये थे | राजधानी नगर को वैभव रूप प्रदान करने के लिए राजप्रसादों एवं विभिन्न इमारतों का समय–समय पर निर्माण करवाते थे | अतः ये मध्ययुगीन नगर की सांस्कृतिक विरासत के द्योतक बन गये | बीकानेर की स्थापना 1488 ई. से 1947 ई. तक प्रत्येक महाराजा ने अपनी आवश्यकताओं एवं क्षमताओं के अनुसार राजप्रसादों का निर्माण करवाया तथा समयानुसार उनमें बदलाव होता रहा | जूनागढ़ दुर्ग में रामनिवास, फूलमहल, चन्द्रमहल, बादलमहल, अनूपमहल, सुजानमहल, सरदार निवास, गंगा निवास आदि सुन्दर एवं रमणीय महल है बाद में दुर्ग के बाहर आध ानिक भवन बनवाये जिनका निर्माण महाराजा गंगासिंह के समय हुआ उसमे विक्टोरिया मेमोरियल, गोल्डन जुबली म्युजियम, इर्विन असेंबली हॉल एवं लाल पत्थर निर्मित लालगढ़ महल अत्यंत सुन्दर है ।

शासकों के द्वारा अपने राज्य के कस्बों एवं नगरों को व्यापारिक केन्द्र के रूप में स्थापित करने के लिए व्यापारियों, दस्तकारों एवं कारीगरों को व्यापारिक एवं व्यावसायिक गतिविधियों के संचालन करने के लिए प्रोत्साहित करने की नीति अपनाई थी। इस नीति में करों में छूट, दुकान एवं भवन के लिए मुफ्त भूमि एवं समय—समय पर विशेष राजकीय सम्मान प्रदान किये जाना शामिल थे।

बीकानेर के महाराजा सूरत के विभिन्न परवानें एवं रूक्कों से स्पष्ट होता है जो लोक संस्कृति शोध संस्थान नगर—श्री चूरू के पोद्दार संग्रह में उपलबध है कि रामगढ़ शेखावाटी में चूरू से निष्क्रमित पोद्दार सेठों को पुनः चूरू में बसाने हेतु विभिन्न करों में छूट एवं विशेषाधिकार प्रदान किये थे। 1827 ई. में महाराजा सूरतसिंह ने चूरू के प्रसिद्ध सेठ मिर्जामल पोद्दार को सिरपेच, मोतियों की कंठी, मोतियों का चौकड़ा एवं दुशाला उपहार स्वरूप भेट कर सम्मानित किया था।

रेलवे विकास का प्रभाव : परिवहन व यातायात के साधनों का व्यापारिक मार्गों एवं नगरीकरण पर गहरा प्रभाव पड़ता है। 19वीं मध्य में भारत में रेल्वे का प्रारम्भ हुआ, 1853 ई. में भारत में बम्बई व थाना के बीच पहली रेलवे लाइन के बाद आर्थिक विकास में परिवर्तन हुआ। एक ओर इन रेलवे मार्गों से परम्परागत व्यापारिक मार्ग महत्वहीन होने से कुछ कस्बें एवं नगर अपना महत्व खोने लगे वहीं दूसरी ओर नवीन कस्बों का महत्व बढ़ा एवं नवीन नगरों एवं कस्बों की स्थापना होने लगी। राजपूताना में सर्वप्रथम रेलवे लाइन दिल्ली मालवा की थी। यह अहमदाबाद को राजपूताना में प्रवेश करके बांदीकुंई से एक शाखा के रूप में दिल्ली व दूसरी शाखा के रूप में आगरा तक जाती थी। 1885 ई. से यह रेलवे लाइन बम्बई बड़ौदा एण्ड सेन्ट्रल इंडिया रेलवे नामक कम्पनी द्वारा संचालित की जाती थी। बीकानेर राज्य मरूस्थलीय भूमि में स्थित था अतः रेलवे व्यवस्था करना दुष्कर कार्य था। महाराजा गंगासिंह का राज्यकाल (1887–1943 ई.) राज्य के विकास और आय के नवीन स्रोतों के वर्णन से परिपूर्ण रहा। महाराजा गंगासिंह जी ने अनुभव किया कि राज्य का भविष्य व नगर विकास रेलवे के विकास पर निर्भर करता है। जोधपुर राज्य के तकनीक ज्ञान का लाभ के लिए बीकानेर–जोधपुर राज्य से समझौता हुआ जिसके तहत जोधपुर से मेड़ता 108 किमी. तथा नागौर से बीकानेर 76 किमी. रेलवे मार्ग व माल ढोने के लिए खोलकर बीकानेर से सीधा सम्पर्क स्थापित कर दिया। 1911 में डेगाना–हिसार रेलवे लाइन का काम पूर्ण हो गया। बीकानेर–रतनगढ़ रेलवे लाइन, बीकानेर–हनुमानगढ़, बीकानेर से कोलायत रेलवे लाइन, हनुमानगढ़ से नोहर रेलवे लाइन आदि से राज्य में एक रेलवे लाइन का अच्छा सम्पर्क जाल बिछ गया जिससे आर्थिक एवं व्यापारिक गतिविधियों को प्रभावित किया। जिसका प्रभाव से परम्परागत कस्बों का पतन हुआ तो कुछ नवीन कस्बों का उदय एवं विकास हुआ।

19वीं शताब्दी के अन्तिम चरण में राजस्थान में रेल लाईन के निर्माण से बीकानेर के पारगमन व्यापार एवं व्यापारिक मार्गों पर प्रतिकुल प्रभाव पड़े बिना नहीं रह सका। प्रारम्भ में अंग्रेज सरकार ने उन्हीं रेल मार्गों के निर्माण को प्राथमिकता प्रदान की जिनसे भारतीय राज्यों का कच्चा माल निर्यात करने में सहायता मिल सके। उदाहरण के लिए राजस्थान में राजपूताना—मालवा रेलवे का विस्तार इसी उद्देश्य से किया गया था। अंग्रेजी सरकार का मालवा के अफीम व्यापार पर आंशिक तथा राजस्थान के सांभर नमक व्यापार पर पूर्ण रूप नियन्त्रण पूर्व से कायम हो चुका था।

1881 ई. तक इन दोनों क्षेत्रों को राजपूताना—मालवा लाइन के माध्यम से पूरी तरह जोड़ दिया गया। 20वीं शताब्दी के आरम्भ से भारत के प्रमुख बंदरगाहों व व्यापारिक नगरों का सम्बन्ध रेल मार्ग से जुड़ गया था। रेलवे लाइन ने नवीन व्यापारिक मार्गों ने नए व्यापारिक केन्द्रों को भी जन्म दिया। ये नए केन्द्र सरदार शहर गंगानगर, डूंगरपुर, नोखा, सूरतगढ़, सरदारगढ़ आदि थे। जिसमें कृषि मंडियों के रूप में भी प्रसिद्ध हुये।

सन्दर्भ

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बीकानेर राज्य के प्रमुख नगरीय केन्द्र

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बीकानेर राज्य की स्थापना से पूर्व इस जांगल क्षेत्र में प्राचीन एवं पूर्व मध्यकालीन नगर एवं कस्बें विद्यमान थे जिनके पास या उनको नवीन तरीकें से बसाकर शासकों ने नवीन कस्बों की नींव डाली। उन नगरीय केन्द्रों को समायानुसार एवं आवश्यकतानुसार आकार एवं स्वरूप प्रदान किया। बीकानेर के शासकों के द्वारा 18–19वीं शताब्दी में इस प्रकार के कई नवीन कस्बों को बसाया था। वह अपने पारगमन व्यापार के लिए राजपूताना में ही नहीं पूरे भारतवर्ष में अपनी प्रसिद्धि रखते थे।

गाँवों, कस्बों एवे नगरों के रूप में त्रिस्तरीय संरचना विद्यमान थी। यह आपस में उपाश्रित एवं निर्भर थे। गाँवों में जागीरदारों द्वारा खेती के विस्तार के प्रयासों के फलस्वरूप राजस्व की अभिवृद्धि से वह गाँव से कस्बे का रूप ले लेते थे। कस्बें वाणिज्यिक गतिविधियों औद्योगिक उत्पादन एवं प्रशासनिक आवश्यकताओं के कारण विस्तार होने पर नगर में तब्दील हो जाते थे।1 बीकानेर राज्य के कस्बों एवं गाँवों का आपस में सम्बन्ध था। प्रत्येक छोटे कस्बे में कृषिगत उत्पादन होती थी जिससे कुछ कस्बे कृषिगत उत्पादन के केन्द्र के रूप में पहचान बनाये हुए थे। राज्य के सूरतगढ़, गंगानगर, नोखा आदि कस्बे इसी श्रेणी में गिने जा सकते है। कस्बों के व्यापारी गाँवों की आवश्यकताओं

की पूर्ति करते थे। फेरीवाल व्यापारी गाँवों में किराणा सामान — गुड़, नमक, अनाज को बेचने जाते थे। बीकानेर की स्थापना राव बीका ने 1488 ई. में की थी। कालान्तर में परवर्ती शासकों ने राजधानी को अपने—अपने अनुसार नवीन रूप प्रदान करते रहे अतः राज्य की राजधानी होने की वजह से यह शान—शौकत एवं परिचायक थी। जो राजाओं के निवास स्थान (महलों) मन्दिरों, बाग—बगीचों, कुंओं, जलीय कुण्ड एवं सामाजिक मौहल्लों का आवरण से आबाद्ध थी। राज्य का क्षेत्र प्राचीन कालीन जांगल क्षेत्र में स्थित था जहाँ कई ऐतिहासिक नगर एवं कस्बे स्थित थे जैसे कालीबंगा, रंगमहल, रीणी, नोहर, भटनेर आदि सैंधव सभ्यता, कुषाण काल, एवं राजपूत काल का प्रतिनिधित्व करते है। इने निकट राज्य के शासकों ने कई नवीन नगरीय केन्द्रों की स्थापना की थी।

बीकानेर राज्य के प्रमुख नगरीय केन्द्र

बीकानेर : बीकानेर नगर की स्थापना 1488 ई. राव बीका द्वारा की गई थी। राज्य की राजधानी होने की वजह से शासकों के वैभव का प्रतीक था अतः व्यापारिक महत्व के साथ सांस्कृतिक महत्व भी बराबर बना रहा था। राज्य का मुख्य नगर 'बीकानेर' राज्य के दक्षिण–पश्चिमी हिस्से कुछ ऊँची भूमि पर समुद्र की सतह से 736 फुट की ऊँचाई पर बसा हुआ है। किसी–किसी स्थान से देखने पर यह नगर बहुत भव्य और विशाल दिखाई पड़ता है। मॉनस्टर्अ एल्फिन्स्टन के साथियों को जो 1808 ई. (वि. सं. 1865) में बीकानेर आये थे इस नगर को देखकर यह निर्णय करना कठिन हो गया था कि दिल्ली और बीकानेर में कौन अधिक विस्तृत है। नगर के चारों और शहरपनाह है जो घेरे में साढ़े चार मील है और पत्थर की बनी है। इसकी चौड़ाई 6 फुट और ऊँचाई अधिक से अधिक तीस फुट है। इसमें पाँच दरवाजे है जिनके नाम क्रमशः कोट, जस्सूसर, नत्थूसर, सीतला और गोगा हैं तथा आठ खिड़कियें भी बनी है। बीकानेर उत्तर–पश्चिमी राजस्थान में एक महत्वपूर्ण वाणिज्यिक केन्द्र के रूप में था, जिससे महत्वपूर्ण व्यापारिक मार्ग होकर गुजरते थे। मुल्तान से दिल्ली और जयपुर, थट्टा–सिंध से दिल्ली और जयपुर, भिवानी–मारवाड़ व्यापारिक मार्ग बीकानेर से गुजरते थे, जिससे बीकानेर की व्यापारिक महत्ता का विकास हुआ। बीकानेर राजस्थान के अन्य व्यापारिक केन्द्रों कोटा, जयपुर, जैसलमेर आदि से व्यापारिक मार्गों द्वारा घनिष्ठ रूप से जुड़ा था। बीकानेर का स्थानीय एवं विदेशी व्यापार उन्नत अवस्था में था, बीकानेर राज्य में राजगढ़, चूरू, नोहर, अनूपगढ़, राजगढ़, सुजानगढ़, महाजन, पूगल, हनुमानगढ़ और भादरा प्रमुख वाणिज्यिक केन्द्रों के रूप में विकसित हुए।

चूरू : चूरू बीकानेर राज्य का प्रमुख वाणिज्यिक कस्बा था। जिसे 1620 ई. में चूहरू नाम के जाट ने बसाया था। व्यापारिक मार्गों पर स्थित था। अतः उसकी विशेष महत्ता बढ़ी। माउण्ट स्टुअर्ड एलाफिन्टन के अनुसार दिल्ली–काबुल व्यापारिक मार्ग चूरू होकर जाता था। पाउलेट के अनुसार दिल्ली, हिसार, गुड़गाँव एवं बीकानेर, जोधपुर के व्यापारिक रास्ते चूरू में मिलते थे।90 उत्तरी राजस्थान का प्रमुख वृहद वाणिज्यिक केन्द्र चूरू मुल्तान और सिंध से जयपुर और दिल्ली तक जाने वाले व्यापारिक मार्ग पर स्थित था।

राजगढ़ : राजगढ़ बीकानेर राज्य का एक महत्वपूर्ण वाणिज्यिक कस्बा था। राजगढ़ कस्बे से दिल्ली से पाली और बीकानेर से अमृतसर—कश्मीर आदि को जाने वाले महत्वपूर्ण व्यापारिक मार्ग गुजरते थे। इसी कारण राजगढ़ का व्यापार—वाणिज्य समृद्ध अवस्था में था। देश के विभिन्न भागों के कारवां यहाँ आकर रूकते थे। पंजाब—कश्मीर से हांसी—हिसार होते हुए रेशम, सुन्दर कपड़े, नील, चीनी, लोहा, तम्बाकू आदि लेकर आते थे। हाड़ौती, मालवा से नील, चीनी, लोहा, तम्बाकू आदि लेकर आते थे। हाड़ौती, मालवा से अफीम, सिंध, मुल्तान—शिकारपुर से गेहूँ, चावल, सूखा मेवा, पाली से मसाले, टिन, दवाईयाँ, नारियल और हाथी दाँत आयात किये जाते थे और सांभर से नमक मँगाया जाता था। इन वस्तुओं को यहाँ से देश के अन्य भागों में भेजा जाता था। विनिमय व्यापार से परिवहन शुल्क से भारी राजस्व प्राप्त होता था।

जोहर : नोहर वर्तमान में हनुमानगढ़ जिले में स्थित है, जो 29011' उत्तरी अक्षांश और 74047' पूर्वी देशान्तर के मध् य स्थित है। रियासत काल में नोहर रेणी निजामत के अधीन था जो बीकानेर से 129 मील पूर्वोत्तर और हिसार से 157 मील पश्चिम में स्थित है। यह कश्मीर, अमृतसर, सिरसा, हिसार, मुल्तान, मारवाड़ को आपस में जोड़ने वाले

व्यापारिक भागों पर स्थित था। कश्मीर से जोधपुर आने वाला व्यापारिक मार्ग नोहर से ही होकर गुजरता था। **पूगल:** बीकानेर राज्य का एक सीमावर्ती व्यापारिक केन्द्र था। सिन्ध, मुल्तान, बहावलपुर से आने वाले व्यापारिक मार्ग जब बीकानेर राजय में प्रवेश करते थे तो सर्वप्रथम पुगल चौकी ही स्थित थी। राज्य में मुल्तान से आने वाले व्यापारियों की सुरक्षा पर विशेष ध्यान रखा जाता था। सावा मण्डी सदर बही नं. 4 एवं 8 से जानकारी मिलती है कि राज्य में समय–समय पर पूगल चौकी पर सुरक्षा के वास्ते सैनिकों को नियुक्त किया था।

रतनगढ़ : बीकानेर से 80 मील पूर्व में शेखावाटी क्षेत्र के निकट स्थित रतनगढ़ का 18वीं शताब्दी में व्यापारिक दृष्टि से महत्वपूर्ण स्थान रहा। रतनगढ़ वर्तमान में चूरू जिले में स्थित है। रतनगढ़ को बीकानेर के महाराजा सूरतसिंह (1787–1828 ई.) ने अपने पुत्र रतनसिंह के नाम पर बसाया था। पहले यह एक कोलासर नाम का छोटा गाँव था, परन्तु सूरतसिंह ने अपने पुत्र रतनसिंह को यह स्थान प्रदान किया था। उसने यहाँ हजारों आदमियों को बसाकर इसे एक बड़े कस्बे के रूप में परिवर्तित कर दिया जो कालान्तर में रतनगढ़ के नाम से प्रसिद्ध हुआ। रियासत काल में रतनगढ़ सूरतगढ़ निजामत के अधीन था। 38 बीकानेर से जयपुर, कोटा एवं जोधपुर जाने वाले व्यापारिक मार्ग रतनगढ़ से ही गुजरते थे।

सुजानगढ़ : सुजानगढ़ वर्तमान में चूरू जिले में स्थित है, जो 27042' उत्तरी अक्षांश और 74028' पूर्वी देशान्तर के मध्य स्थित है। यह मारवाड़ की सीमा पर स्थित व्यापारिक केन्द्र था। यह दिल्ली—पाली व्यापारिक मार्ग पर स्थित था। इसका पुराना नाम खरबूजी का कोटा था। इस स्थान को महाराजा सूरतसिंह ने अपने समय में महत्ता दी और सुजानसिंह के नाम पर इस स्थान का नाम सुजानगढ़ रखा गया। यहाँ 27 मन्दिर, 2 मस्जिदें एवं धर्मशालाएँ है।

राजलदेसर : राजलदेसर बीकानेर का प्रमुख व्यापारिक केन्द्र था। यहाँ से बाजरी, मोठ, गुड़, नमक, चावल एवं ऊन बड़ी मात्रा में रतनगढ़, फतेहपुर, चूरू, रामगढ़, जैतपुर आदि स्थानों को भेजा जाता था।50 इस प्रकार नागौर से बर्तन, कपड़ा, गोटा, आल आदि वस्तुएँ मंगवायी जाती थी, जिसका जगात बही नं. 4, वि.सं. 1805 में उल्लेख मिलता है। ऊन व मिश्री आदि वस्तुओं का मुल्तान की ओर जाने का विस्तृत उल्लेख मिलता है।51 जगात बही नं. 64 से ज्ञात होता है कि 1800 ई. में राजलदेसर महत्वपूर्ण जगात चौकी थी। यहाँ से गुड़, कम्बल, कपड़ा, ऊन, गेहूँ, तम्बाकू आदि वस्तुओं को मंगवाने व भिजवाने पर जगात वसूली जाती थी। जिससे राज्य की आय में वृद्धि हुई।

सूरतगढ़ को बाहर से तम्बाकू, गेहूँ, गुड़, साजी व बादाम आदि वस्तुऐं मंगवाये जाने का उल्लेख है। साथ ही सूरतगढ़

से धान, नमक, घृत, गुड़, किराना आदि वस्तुऐं ले जाने व उन पर लगने वाली जगात का उल्लेख मिलता है। अबूपगढ़ : यह बीकानेर से 82 मील उत्तर में स्थित था। महाराज अनूपसिंह ने 1668 में यहाँ एक किले का निर्माण करवाया। अनूपगढ़ का अपने समय में व्यापारिक केन्द्र के रूप में इसकी प्रसिद्धि का मुख्य कारण इसका मुल्तान से दिल्ली व मुल्तान से जयपुर जाने वाले व्यापारिक मार्गो पर स्थित होना था। अतः यह महत्वपूर्ण जगात चौकी थी। अनूपगढ़ पारगमन व्यापार के लिए प्रसिद्ध था। सिन्ध व मुल्तान से यहाँ तम्बाकू, शक्कर, गुड़, घृत, लकड़ी, एवं घोड़े आदि आते थे।

रेणी : बीकानेर राज्य में रेणी प्राचीन नगरों में से एक हैं इसके निकट आधुनिक नगर के रूप में तारानगर स्थित हैं। 12वीं शताब्दी में दिल्ली से पाली जाने वाला व्यापारिक मार्ग रेणी से होकर गुजरता था। यहाँ से राजस्थान के विभिन्न हिस्सों में ऊँट एवं बलद निर्यात होते थे। रेणी की जगात चौकी पर इस निर्यात पर विशेष चूंगी लगती थी।

कोलायत : बीकानेर से करीब 30 मील दक्षिण—पश्चिम में स्थित कोलायत है। कोलायत में इसी नाम का प्रसिद्ध किला हैं। जिसके किनारे कपिल मुनि का आश्रम माना जाता हैं। प्रतिवर्ष कार्तिक शुक्ला पूर्णिमा को यहाँ मेला भरता है जिसमें नेपाल आदि बड़ी दूर—दूर से लोग कपित मुनि के आश्रम के दर्शानार्थ आते है। कोलायत का मेला अपने व्यापार के लिए प्रसिद्ध हैं। बीकानेर रै तालकै रो जमा जोड संवत 1840 (1783 ई.) नं. 43 में उल्लेख मिलता हैं कि कोलायत के मेलों में देश—विदेश के व्यापारी अपना विलायती माल बेचने के लिये आते थे।

लूणकरणसर : लूणकरणसर में नमक की झील थी। लूणकरणसर के जगात—री—बही से ज्ञात होता हैं कि यहाँ से नमक राजगढ़, भादरा, महाजन और जैतपुर आदि स्थानों पर भेजा जाता था जहाँ से अन्य स्थानों पर निर्यात किया जाता था। लूणकरणसर से नमक के अलावा ऊन, तेल, घी एवं गुड़ आदि वस्तुओं का पड़ौसी क्षेत्रों को निर्यात किया जाता था। छापर : यह बीकानेर से 70 मील पूर्व में बसा है और ऐतिहासिक दृष्टि से बड़े महत्व का है। यह मोहिलों की दो प्राचीन राजधानियों में से एक थी। उनकी दूसरी राजधानी द्रोणपुर थी। मोहिल चौहानों की ही एक शाखा थी जिसके स्वामियों ने राणा रा विरूद्ध धारणकर उम्र स्थानों के आस—पास के प्रदेश पर वि.सं. की 16वीं शताब्दी के प्रारम्भ तक राज्य किया था। **हनुमानजढ़** : हनुमानगढ़ का प्राचीन नाम भटनेर था। जहाँ पर भटनेर नाम का ही प्रसिद्ध किला स्थित है। महाराजा सूरतसिंह ने 1805 ई. में जाबात खाँ भट्टी से मंगलवार के दिन जीता और यहाँ पर एक हनुमानजी मंदिर बनाया जिससे इसका नाम हनुमानगढ़ रखा गया। इस प्रकार भटनेर का आधुनिक नाम हनुमानगढ़ पड़ गया। भटनेर का किला अपने आप में अद्भूत है। 52 बीघे भूमि में फैला हुआ है। **गंगानगर** : राज्य का सबसे परवर्ती में बसाया हुआ आधुनिक नगर 'गंगानगर' है। महाराजा गंगासिंह राज्य के आधुनिक निर्माता थे उन्होंने आधुनिकरण के लिए कई कदम उठाये जिसमें 1927 में महाराजा ने पंजाब जिले के फिरोजपुर से राज्य में गंगनहर लाने का भागीरथी प्रयास प्रारम्भ किया उस समय व्यापार के लिए एक मंडी के रूप में गंगानगर की स्थापना की थी।

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