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## Editorial.....

You will be happy to know that we have entered the fifth year of publication of IJMER, since its inception in April 2012. Focusing on many interdisciplinary subjects, the published papers are spreading the knowledge with fervent hope of upholding the holistic approach. With all my heart, I reiterate to echo my sincere feelings and express my profound thanks to each and every valued contributor. This journal continues to nurture and enhance the capabilities of one and all associated with it.

We as a team with relentless efforts are committed to inspire the readers and achieve further progress. Aim is to sustain the tempo and improve. We acknowledge with pleasure that our readers are enjoying the publications of Sucharitha Publishers. We solicit to receive ideas and comments for future improvements in its content and quality. Editor –in-Chief explicitly conveys his gratitude to all the Editorial Board members. Your support is our motivation. Best wishes to everyone.

**Dr.K.Victor Babu**  
**Editor-in-Chief**

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## **PROBLEMS OF RESPONDENT AND LOANEEES OF LIC OF INDIA HOUSING FINANCE AND SBI HOUSING FINANCE**

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### **INTRODUCTION**

House is a central place in which the man satisfies his basic needs of life and witnesses all important events in life of human beings. Hence, his happiness is directly related to the house in which he lives. The provision of housing as a social goal has been challenging task, owing to a massive need of investment, especially under the circumstances of underdeveloped financial system and the limited public investment on the part of the Government.

A house, like food and clothing, is a fundamental need of human beings. The equilibrium and well-being of society, it is reported, directly depend on the housing conditions of its inhabitants. "If human welfare is our objective", observed Pandit Nehru, "it is bound up with houses". For the progress of nation, it is essential that a confirming habitat in proper surrounding with minimum basic needs like drinking water and sewage are made available to every citizen. The researcher has made attempt to present the problems encountered by the sample respondent loanees while raising the loans with the select housing finance institutions viz., LIC of India housing finance and SBI housing finance. Problem faced by any entity or individual hinders the growth and development of the organization and individual. The problems that usually encountered by the respondent loanees are charging abnormal rates of interest, delay in processing loan applications, arranging surety



and security, stringent rules and regulations, inadequate loan sanctioning miscellaneous charges and the like.

## **STATEMENT OF THE PROBLEM**

The performance of the housing finance companies can be measured in quantitative terms rather than in qualitative terms. Qualitative and quantitative achievements in this sector can be measured in the form of effective service production and delivery.

Finance plays a pivotal role in the construction of house though, investments in housing do not generate any substantial returns to the investor and it remains dead capital. Lending institutions also have to wait for longer duration of time to recover the amount lent to the borrowers of housing loans as against agricultural and industrial financing where the recovery of loans will be completed much earlier. Financial institutions constantly avoid involvement in the provision of housing finance especially for the poor and middle class due to their lack of collateral security and steady income, involving high default risk and high transaction costs. So, housing finance in India is at nascent stage and passing the teething problems have to be sorted out to make investment in this sector more attractive. At this juncture, it is significant to assess the performance of housing finance system in India.

## **OBJECTIVES OF THE STUDY**

The specific objectives of the present study are:

1. To present the problems encountered by the sample respondent loanees while raising the loans with the select housing finance institutions viz., LIC of India housing finance and SBI housing finance institutions in Chittoor district..
2. To analyse the Problem faced by any entity or individual hinders the growth and development of the organization and individual.



3. To suggest the perceptions of loanees of LIC of India Housing Finance and SBI Housing Finance in Chittoor district.

## **METHODOLOGY**

The study is based on primary data. The primary data are elicited from the sample respondents through a Questionnaire designed for an exclusive purpose by personal interview method. In addition, personal interviews have also been held with the officials and non-officials of both LIC of India Housing Finance and SBI Housing Finance to elicit the relevant information.

## **SAMPLE DESIGN**

Simple random sampling procedure has been adopted for the present study. The official records of LIC of India housing finance and SBI housing finance were referred to a prepared list of loanees who were sanctioned loans during 2013-14 and 2014-2015 from both the housing finance institutions viz., LIC of India Housing Finance and SBI Housing Finance. As per the list obtained from LIC of India housing finance, it is understood that there are around 2250 loanees was sanctioned loans in Chittoor District. Of which 10 per cent of the loanees come to 225 are taken as sample for the present study. In the case of SBI Housing Finance for the same period 750 loanees were sanctioned housing finance loans and it comes to 75 and taken as sample for the present study. By clubbing both the samples together it comes to 300.

## **TOOLS FOR ANALYSIS**

Appropriate statistical tools like Percentages, averages and Chi-square test have been used at appropriate places.



**Table 1** Distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over the housing finance institutions and the problems encountered by the respondents

Name of the Housing Finance Institutions	Select sample Loanees	Abnormal rate of interest	Delay in Processing Loan applications	Arranging surety/Secururity	Stringent rules and regulations	Inadequate loan sanctioning	Miscellaneous charges	Avg. No. of Problems faced by each loanee
LIC	225(100)	210(93.33)	215(95.56)	205(91.11)	217(96.44)	193(85.78)	170(75.56)	5.38
SBI	75(100)	59(78.67)	64(85.33)	71(94.67)	73(97.33)	69(92.00)	68(90.67)	5.39
Total	300(100)	279(93.00)	279(93.00)	276(98.92)	290(96.67)	262(87.33)	238(79.33)	5.41

**Source:** Field Survey Data

**Note:** Figures in parentheses represent percentage to total.





Table 1 portrays the distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over the housing finance institutions and the problem encountered by the respondents while raising housing loans from the housing finance institutions. It is understood from the table that the problem faced the respondent loanees of select housing finance institutions have expressed multiple problems.

217 respondents who have applied for housing loans to LIC of India housing finance have expressed that the officials of LIC of India housing finance have insisted upon the loanees that they should follow invariably the stringent rules and regulations formulated by the officials of LIC of India housing finance followed by 215 respondents have encountered the problem of delay in processing their loan applications, 210 respondents have expressed that they have faced problem relating to levying of abnormal of rates of interest on the housing loans that they raised from LIC of India housing finance.

205 respondents have revealed that they faced the problem in arranging surety and security in getting the loans, 193 respondents have expressed the problem that they could not get adequate finance needed for the construction of their houses and 170 respondents have expressed that they faced the problem because they were compelled to meet certain miscellaneous expenses while raising housing loans with LIC of India housing finance.

73 respondents of SBI housing finance have expressed that they encountered some kind of problems because they could not arrange surety and security insisted upon them by the officials of SBI housing finance followed by 71 respondents have a problem of arranging surety and security, 69 respondents have expressed a problem that they could not get adequate finance, 68 respondents have expressed that they had a problem because they were compelled to meet certain incidental



charges, 64 respondents have revealed that they had a problem in dealing with the officials of the bank because the officials of SBI housing finance have made inordinate delay in the process of the loan applications of the respondents and 59 respondents have expressed that they had a problem because the officials of housing finance have compelled them to spend a sizable amount of miscellaneous expenses. If the respondents of both the housing finance institutions are put together 219 respondents had a problems of stringent rules and regulations, 279 respondents of each have problem of levying abnormal rates of interest and delay in the processing loan applications respectively 276 respondents have a problem of arranging surety and security, 267 respondents have a problem of inadequate sanction of loan and 238 respondents have a problem of incurring miscellaneous charges. On an average each of the respondents is facing 5.41 problems while acquiring the housing loans from the housing finance institution.

From the foregoing analysis it can be concluded that the severe problem for majority of the respondents of both the housing finance institutions is to follow stringent rules and regulations formulated and implemented by the housing finance institutions. The other two major problems that are encountered by the respondent loanees are abnormal rates of interest and delaying in the process of loan applications.



**Table 2**

Distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over housing finance institutions and the security problems encountered by the respondents

Name of the Housing Finance Institutions	Problems relating to security and surety encountered by respondents			Total	Loanees not facing the problem	Sample loanees
	Title deeds	Arranging guarantors	Collateral security			
LIC	31(13.78)	57(25.33)	117(52.0)	205(91.11)	20(8.89)	225(100)
SBI	19(25.33)	21(28.0)	31(41.33)	71(94.67)	4(5.33)	75(100)
<b>Total</b>	50(16.67)	78(26.0)	148(49.33)	276(98.92)	24(1.08)	300(100)

**Source:** Field Survey Data

**Note:** Figures in parentheses represent percentage to total

Table 2 depicts the distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over housing finance institutions and the security problems encountered by the respondents and the respondents who did not face any problem while raising housing loans from the housing finance institutions. It is understood from the table that 276 respondents of select sample housing finance institutions have been facing problems while acquiring housing loans where as 24 respondents have expressed that they are not facing any problem. 148 respondents of 276 have been facing a problem relating to collateral security followed by 78 respondents have been facing a problem relating to arranging guarantors and 50 respondents have been facing a problem relating to title deeds. Around



14 percent of the respondents have faced the problem of title deeds, 41 per cent of the respondents of those who have faced the problem while raising housing loan with the SBI housing finance have stated that they have faced the problem of collateral security and 25 per cent of the respondents have faced the problem of title deeds.

117 respondents of 205 of those who have raised housing loans with LIC of India housing finance have expressed that they are facing a problem relating to collateral security followed by 57 respondents have a problem of arranging guarantors and 31 respondents have expressed that they are facing a problem of title deed.

31 respondents of those who have raised housing loans with SBI housing finance have revealed that they are facing a problem relating to collateral security followed by 21 respondents have disclosed that they are facing a problem of arranging guarantors and 19 respondents facing a problem of title deeds. Only four respondents stated that they did not face any problem.

From the foregoing analysis one can conclude that 99 per cent of the respondents of both the housing finance institutions have faced some kind of problems. Only one per cent of the total respondents did not face any problem and 91 per cent of the respondents of those who have raised housing loans with LIC of India housing finance have faced problems while raising housing loans and only nine percent of the respondents did not face any problem. Around 95 per cent of the respondents of those who have raised housing loans with SBI housing finance have faced some kind of problems. Only five per cent of the respondents did not face any problem. 52 per cent of the respondents of those who have faced problem while raising housing loans with LIC of India housing finance have stated that they have faced collateral security problem, around 14 per cent of the respondents have faced the problem of title deeds while 41 per cent of the respondents of those who



have faced the problem while raising housing loan with the SBI housing finance have stated that they have faced the problem of collateral security and 25 per cent of the respondents have faced the problem of title deeds.

**Table 3**

Distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over housing finance institutions and the problems relating to time constraints encountered by the respondents

Name of the Housing Finance Institutions	Problems relating to time constraints faced by the respondents			Total
	Below 15 days	15-30 days	Above 1 month	
LIC	38(16.89)	47(20.89)	140(62.22)	225(100)
SBI	11(14.67)	29(38.67)	35(46.66)	75(100)
<b>Total</b>	49(16.33)	76(25.33)	175(58.34)	300(100)

**Source:** Field Survey Data

**Note:** Figures in parentheses represent percentage to total.

Table 3 depicts the distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over the housing finance institutions and the problems relating to time constraints faced by the respondents who have raised housing loans with the housing finance institutions. It is understood from the table that 225 respondent loanees of LIC of India and 75 respondents of SBI housing finance have raised housing loans with LIC of India housing finance and SBI housing finance respectively.



175, 76 and 49 respondents of both the housing finance institutions have spent more than a month, 15-30 days and fewer than 15 days respectively for procuring housing finance from their respective housing finance organizations.

140 respondents out of 225 of those who have raised housing loans in the LIC of India housing finance have spent more than one month to procure housing finance loans, followed by 47 respondents have spent a period ranging from 15-30 days and 38 respondents have spent fewer than 15 days to procure loans from the housing finance institutions with which they approached. 35 respondents of 75 of those who have raised housing loans with SBI housing finance have spent more than a month to procure housing loan from LIC of India housing finance followed by 29 respondents have spent a significant period of time ranging from 15-30 days and 11 respondents have spent fewer than 15 days. Figure 6.3 also presents the problems encountered by the respondents due time constraints.

From the foregoing analysis one can conclude that more than 58 per cent of the respondents of both the housing finance institutions have stated that they were compelled to forego their valuable time period of more than a month to procure housing finance from their respective housing finance institution. More than 62 per cent of respondents of those who have raised housing finance loans with LIC of India housing finance have spent more than a month to procure housing loans and around 13 per cent of the respondents of the same housing finance institution have spent fewer than 15 days. Around 47 per cent of the respondents of those who have raised housing loans with SBI housing finance were constrained to spend more than a month for procuring housing loans from SBI housing finance and around 15 per cent of the respondents of the same institution have spent fewer than 15 days for the same purpose.



**Table 4**

Distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over housing finance institutions and the problems relating to incurring of incidental expenses encountered by respondents for raising their housing loans

Name of the Housing Finance Institutions	Problems encountered by the respondents due to Incidental Expenses			Total	Loanees not facing the problem	Sample loanees
	Upto 1	1-2	Above 2			
<b>LIC</b>	84(37.34)	59(26.22)	27(12)	170(75.56)	55(24.44)	225(100)
<b>SBI</b>	39(52.0)	18(24.0)	11(14.67)	68(90.67)	7(9.33)	75(100)
<b>Total</b>	123(41.0)	77(25.67)	38(12.67)	238(79.34)	62(20.66)	300(100)

**Source:** Field Survey Data

**Note:** Figures in parentheses represent percentage to total.

Table 6.4 reveals the distribution of respondents of LIC of India housing finance and SBI housing finance over the housing finance institutions and problems of respondents relating to incidental expenses. It is understood from the table that 238 out of 300 have stated that they have encountered some problems whereas 62 respondents have stated that they have not encountered any problems. 84 respondents of those who have raised housing loans with LIC of India housing finance have stated that they have incurred up to one per cent of the loan sanctioned towards incidental expenses, followed by 59 respondents have incurred incidental expenses ranging from 1-2 per cent of loan sanctioned and 27 respondents have incurred incidental expenses over and above two per cent of loans sanctioned.



55 respondents of those who have raised housing loans with LIC of India did not encountered any problem. 39 respondents of those who have raised housing loans with SBI housing finance have complained that they are meeting incidental charges to the extent of one per cent of loan sanctioned followed 18 respondents have stated that they have been facing a problem relating to payment of incidental charges to the extent ranging from 1-2 per cent of the loan sanctioned and 11 respondents are incurring to the tune of over and above two per cent. The problems relating to incurring of incidental expenses encountered by respondents while raising their housing loans.

From the foregoing analysis it can be concluded that around 37 respondents have incurred incidental expenses up to one per cent and 12 per cent of respondents of those who have raised housing loans with LIC of India have incurred incidental charges to the tune of above two per cent and 52 per cent of the respondents of those who have raised housing loans with the SBI housing finance have stated that they have incurred incidental charges to the tune of one per cent and around 15 per cent of the respondents have incurred incidental expenses to the tune of over and above two per cent.





**Table 5**

Distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over housing finance institutions and the problems faced by the respondents relating to rules and regulations.

Name of the Housing Finance Institutions	Problems encountered by the sample respondents relating to rules and regulations				Total	Loanees not facing the problem	Sample loanees
	Cost of the plot not financed	Repayment schedule	Non-Consideration of future/other income	Plinth area criteria			
LIC	40 (17.78)	89 (39.56)	35 (15.56)	53 (23.56)	217 (96.44)	08 (3.56)	225 (100)
SBI	11 (14.67)	27 (36.0)	19 (25.33)	16 (21.33)	73 (97.33)	02 (2.67)	75 (100)
<b>Total</b>	51 (17.0)	116 (38.67)	54 (18)	69 (23)	290 (96.67)	10 (3.33)	300 (100)

*Source: Field Survey Data*

*Note: Figures in parentheses represent percentage to total*



Table 5 reveals the Distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over housing finance institutions and the problems relating to rules and regulations. It is understood from the table that 290 respondents have faced problems while acquiring the loans from the housing finance institutions but only ten respondents have stated that they have not encountered any problem.

116 respondents of those who have encountered the problems relating to rules and regulations have disclosed that they are facing problems with regard to repayment schedule followed by 54 respondents have revealed that they faced problem pertaining to non-consideration of future /other income. And 51 respondents have expressed that they encountered a problem because of the housing finance institutions did not consider the cost of the plot while sanctioning the loan for the construction of house.

89 respondents of those who have raised housing loans with LIC of India housing finance have stated that they faced problem with repayment schedule set by the housing finance institutions followed by 53 respondents have encountered the problem of plinth area criteria, 40 respondents have encountered the problem because the officials of LIC of India housing finance have not considered the cost of the plot while sanctioning the housing loan and 35 respondents have expressed that they have faced a problem because the officials of the LIC of India housing finance have not considered the future income while sanctioning housing loans and only eight respondents of those who have raised housing loans with LIC of India had not faced any problem.

27 respondents of those who have raised having loans with SBI housing finance have stated that the repayment schedule fixed by the bank officials has created a problem for them because the SBI housing finance has not considered the future income of the respondent loanees



while sanctioning housing loans, 16 respondents have expressed that they faced problem because the bank officials have adopted a plinth area criteria and 11 respondents have expressed that they have faced a problem because the officials of SBI housing finance have not considered the cost of plot while sanctioning the housing loans only two respondents have expressed that they have not faced any problem.

From the foregoing analysis one can conclude that more than 96 per cent of the respondents of both the housing finance institutions have encountered some kind of problems whereas three per cent of the respondents did not encounter any kind of problem while raising housing loans with both the housing finance institutions. Around 40 per cent of the respondents of those who have raised housing loans with the LIC of India housing finance have stated that the repayment schedule is the problem for them. Around 16 per cent of the respondents who raised housing finance with the same housing finance institution have revealed that the problem for them is the non-consideration of the future / other come. 36 per cent of the respondents of those who have raised housing loans with SBI housing finance have stated that the problem for them is the repayment schedule.



**Table 6**

Distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over the housing finance institutions and the problem relating to inadequacy of loan sanctioning

Name of the Housing Finance Institutions	Low cost estimate	Future and other income not considered	Plinth area criteria	Others	Total	Loanees not facing the problem	Sample loanees
LIC	38 (16.89)	91 (40.44)	43 (19.11)	21 (9.34)	193 (85.78)	32 (14.22)	225 (100)
SBI	19 (25.33)	30 (40.0)	16 (21.33)	4 (5.34)	69 (92.00)	06 (8.00)	75 (100)
Total	57 (19.0)	121 (40.33)	59 (19.67)	25 (8.33)	262 (87.33)	38 (12.67)	300 (100)

**Source:** Field Survey Data

**Note:** Figures in parentheses represent percentage to total

Table 6 shows the distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over housing finance institutions and problems encountered by the respondents who have raised housing loans with the housing finance institutions. It is understood from the above table that 262 respondents have responded that they had encountered some kind of problems pertaining to inadequacy of loan sanctioning while raising housing loans with housing finance institutions. Only 38 respondents revealed that they had not faced any kind of problem while raising housing loans with housing finance institutions.

91 respondents of LIC of India housing finance have encountered some kind of problem due to Inadequacy of loan



sanctioning have expressed that the officials of LIC of India housing finance have not considered their future income while sanctioning housing loans, followed by 43 respondents have faced a problem of plinth area criteria,. 38 respondents have faced the problem of low cost estimate and 21 respondents have encountered the other problems.

30 respondents of those who have experienced some kind of problems due to inadequacy loan sanctioning while raising housing finance loans with the SBI housing finance have revealed that they faced problem because the officials of SBI housing finance have not considered their future/other income followed by 19 respondents have encountered the problem of low cost estimate, 16 respondents have faced the problem of plinth area criteria and only four respondents have faced other problems.

From the foregoing analysis one can infer that 262 respondents have encountered the problems relating to inadequacy of loan sanctioning and 38 respondents did not face any problem. Majority of the respondents (91 out of 193) of those who have mobilized housing finance loans from LIC of India housing finance have responded that their future/other income is not considered for sanctioning housing finance loans. Therefore, they faced the problem of loan inadequacy. Relatively less number of respondents (21 of 193) of the same housing finance institution has responded that they have encountered the problem of inadequacy of loan sanctioning due to some other problems. Majority of the respondents (30 out 69) of those who have approached the SBI housing finance have encountered the problem of inadequacy of loan sanctioned due to non-consideration of their future and other income while sanctioning housing finance loans. Relatively very less number of respondents (4 out of 69) has responded that they have faced a problem of inadequacy of loan sanctioning due to certain other reasons.



**Table 7**

Suggestions given by sample loanees to overcome their problems

Name of the Housing Finance Institutions	Suggestion of the loanees to over come the problems					Total sample loanees
	Purchase cost of plot should be financed by housing finance institutions	Surety can be waived off	Salary deduction	Waiving off penal charge on delay repayments	Others*	
LIC	27(12.0)	39(17.34)	95(42.22)	41(18.22)	23(10.22)	225(100)
SBI	11(14.67)	16(21.33)	24(32.0)	15(20.00)	09(12.00)	75(100)
<b>Total</b>	(38(12.67)	55(18.33)	119(39.67)	56(18.67)	32(10.66)	300(100)

**Source:** Field Survey Data

**Note:** Figures in parentheses represent percentage to total

\*: Others include waiving of penal interest, introducing quarterly installments, minimizing number of documents to be filled and quick sanction.

Table 7 reveals the distribution of select sample respondent loanees of LIC of India housing finance and SBI housing finance over housing finance institutions and the suggestive opinions of the respondents to overcome the problems encountered by them. It is understood from the table that 225 respondents have raised housing loans with LIC of India and 75 respondents have approached SBI housing finance to raise housing finance loans.

It is understood from the table that 119 respondent loanees of both the housing finance institutions are under the opinion that the problems encountered by the respondents could overcome by deducting



the loan installment from the monthly salaries of the respondents. Followed by 56 respondents have suggested that the problems they can be minimized by waiving of penal charges on delay repayments, 55 respondents have given opinions that the problem can be minimized by waiving the stipulation of arranging the surety, 38 respondents have advocated a suggestive opinion that the problems encountered by them could be solved by sanctioning the purchase cost of the plot also while sanctioning the loan, and 32 respondents have suggested that their problems could be solved by waiving penal interest, by introducing quarterly installment and the like.

From the foregoing analysis it can be concluded that majority of the respondents (119 out of 300) of both the housing finance institutions have suggested that their problems could be solved by deducting the periodical loan installment repayable by them from their salaries and the least number of respondents (32 out of 300) of both the housing finance institutions have suggested that their problem could be solved by means of seeking advices from friends, approaching housing finance institutions and the like.

## **FINDINGS**

- Majority of the respondents (264 out of 300) of both the housing finance institutions together have expressed that the repayment schedule designed by their respective housing finance institutions is acceptable for them, whereas for 36 respondents the repayment schedule designed by their respective housing finance institutions is not acceptable.
- Large number of respondents (262 out of 300) have expressed that they faced severe problem of short funds where as less number of respondents of both the housing finance institutions together have expressed that they never faced the problem of shortage funds.



- 203 respondent loanees of LIC of India housing finance, 67 respondent loanees of SBI housing finance have agreed that they are well aware of the criteria adopted by the housing finance institutions and 22 respondents of LIC of India housing finance and eight respondents of SBI housing finance have expressed that they are not aware of the criteria adopted by the financial institutions for fixing the loan installment amount.

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## SCENARIO OF RAINFED DRY LAND AGRICULTURE WITH SPECIAL REFERENCE TO GROUNDNUT CULTIVATION: A STUDY OF PENUKONDA AREA OF ANANTAURAMU DISTRICT OF ANDHRA PRADESH

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### Abstract

India is a land of villages. The primary occupation is agriculture of nearly seventy percent of Indias rural population. Agriculture sector provides 29 percent to the GDP of India. Rainfed farming is largely practised in Indian agriculture. As on today, the rainfed cultivated area is an account for nearly 63 percent in the gross cropped area. The contribution of dryland agriculture in the total production of cereals, pulses, oil seeds and cotton is phenomenal. Due to larger constraint of irrigation water and poor agricultural growth, severe problems were created for the people who mainly depend on rainfed cultivation for their livelihood. Proper land and water management practices will be developed simultaneously along with all other needy aspects with the aim of providing consistent growth.

### Introduction

Indian agriculture began by 9000 BC. India has had a large number of rivers and majority of them are depended on rainfall for their streams. So that majority of our agricultural lands were depended on monsoons. Because of global warming the irregularity of monsoons happened over the years. As a result more than 65 percent of the cropped area is under rainfed cultivation.



With regard to the basis of major source of moisture for crops, the farming can be classified as irrigated and rainfed. Rainfed farming is further classified on the basis of sufficiency of soil moisture during cropping season into dryland and wetland farming.

### **Facts & Issues-Extent of problem of Rainfed Agriculture**

India had about more than 65 percent of total net sown area of land which comes under rainfed. The following are the major problems in rainfed cultivation.

- Farmer suicides in Rainfed areas
- Green Revolution–Utilization and Availability of Groundwater
- Green Revolution: Changes in Cropping patterns
- Decreasing in Groundwater level
- Dry Land Agriculture

### **Statement of the Problem**

In Ananthapuramu district Groundnut is major crop under rainfed cultivation. The agro-ecologically marginal conditions existing in Ananthapuramu district supports for the farming of rainfed groundnut. Though, the farmers have to continue to adopt groundnut-based cropping systems

### **Objectives of the Study**

1. To analyze the impact of dry land farming on the livelihood of the people in the study area.
2. To study and assess different aspects and problems of dry land farming including agro-climatic conditions and its impact on groundnut cultivation in the study area.



## Methodology

The present study is essentially descriptive in nature. Therefore, the data for the study were collected both from the primary and secondary data. Primary data were collected by administering a well structured interview schedule.

## Study Area and Sampling

For the present study Penukonda revenue division was taken and then two Mandals and 4 villages were selected on the basis of highest and lowest acreage of groundnut cultivation.

**Table-1**

Revenue Division	Mandal	Village	No. of Sample Farmers
Penukonda	Roddam	1.Kandukuripalli	30
		2.Turakalapatnam	30
	Puttaparthi	1.Guvvalagutta palli	30
		2.Venkatagaripalli	30
<b>TOTAL</b>	<b>2</b>	<b>4</b>	<b>120</b>

## Review of Literature

Roy B. C., and Shiyani R. L., (2000) made an attempt to identify and prioritize production constraints in rainfed groundnut production system and to explore major researchable issues. Intelligent management of water resource will be particularly critical for the sustainability, productivity and dependability of crop production in decades ahead.



Ravichandra K., (2015) conducted a field experiment on groundnut for two kharif seasons during 2009 and 2010 at crop research farm of SHIATS, Allahabad to find out the effect of foliar spray of boron in combination of rhizobium inoculation on growth and yield of groundnut. Excess spray of boron foliar nutrition led to decrease in the above mentioned parameters.

### **The present status of Oilseeds & Groundnut in India, A.P. and Anantapuramu**

Nine oilseeds are the major source of vegetable oil in the country. Among these, soybean (39%), groundnut (26%), Rapeseed & Mustard (24%) contributes >88% of total oilseeds production in the country. However, in terms of vegetable oil production mustard, soybean and groundnut contributes >31%, 26% and 25% respectively.

State wise area, production and yield of groundnut are given in following Tables.



**Table-2-State Wise Area, Production and Yield of Groundnut**

States	Area (Lakh ha)			Production (Lakh tonnes)			Yield (kg/ha)		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
AP	13.07	13.45	13.86	8.44	11.09	12.34	646	825	890
Gujarat	16.86	12.94	18.42	27.17	7.58	49.18	1612	586	2670
Karnataka	6.77	6.48	7.25	4.85	4.12	6.58	716	636	908
MP	2.13	2.06	2.00	3.45	3.12	1.98	1620	1515	990
Maharashtra	3.03	2.24	2.67	3.51	2.46	3.25	1158	1098	1217
Odisha	0.66	0.66	0.58	0.79	0.81	0.8	1197	1227	1379
Rajasthan	4.18	4.02	4.66	8.05	6.22	9.06	1926	1547	1944
Tamil Nadu	3.86	3.86	3.42	10.61	8.64	9.62	2749	2238	2813
UP	0.92	0.94	0.96	0.92	0.94	0.86	1000	1000	896
West Bengal	0.54	0.68	0.79	1.06	1.71	2.02	1963	2515	2557
Others	0.62	0.33	0.66	0.79	0.80	1.04	1274	2424	1576
<b>All India</b>	<b>52.64</b>	<b>47.66</b>	<b>55.27</b>	<b>69.64</b>	<b>47.49</b>	<b>96.73</b>	<b>1323</b>	<b>996</b>	<b>1750</b>

Source: Oilseeds Division Department of Agriculture & Cooperation Ministry of Agriculture Govt. of India.



**Table-3-Area under Groundnut in Andhra Pradesh**

(Area-Thousand Hectares) (Pro-Thousand Tonnes)

Year	Area	Growth Rate	Total Production	Growth Rate
2003-04	1493	-	-	-
2004-05	1841	23.30	986	-
2005-06	1876	1.87	1639	66.23
2006-07	1334	-28.86	1366	-16.66
2007-08	1795	34.56	743	-45.61
2008-09	1766	-1.61	2604	250.47
2009-10	1301	-26.34	973	-62.63
2010-11	1622	24.66	1007	3.49
2011-12	1307	-19.42	1457	44.69
2012-13	1345	2.88	845	-42.00

Source: Directorate of Economics and Statistics, Government of Andhra Pradesh, Hyderabad



**Table-4- Area & Production under groundnut in  
 Ananthapuramu District**

**(Area in hectares)(Production in Tonnes)**

Year	Total	Growth Rate	Production (In Tonnes)	Growth Rate
2001-02	777473	-	363020	-
2002-03	749791	-3.56	278604	-23.25
2003-04	685995	-8.51	207681	-25.46
2004-05	872323	27.16	706279	240.08
2005-06	899035	3.06	391965	-44.50
2006-07	662111	-26.35	62139	-84.15
2007-08	897000	35.48	113000	81.85
2008-09	870456	-2.96	100012	-11.49
2009-10	530381	-39.07	141976	41.96
2010-11	834070	57.26	480996	238.79
2011-12	753836	-9.62	207378	-56.89
2012-13	729695	-3.20	329950	59.11
2013-14	728448	-0.17	312926	-5.16

Source: Directorate of Economics and Statistics, Government of Andhra Pradesh, Hyderabad.



## Impact of dry land farming/rainfed agriculture on the livelihoods of the people in the study area

The important social characteristics of the respondents have been analysed and presented in following tables.

**Table-5-Caste Wise Distribution of Respondents**

Social Category	No. of Respondents	Percent
Scheduled Tribe	19	15.83
Scheduled Caste	42	35.00
Backward Class	49	40.83
Others	10	8.33
<b>Total</b>	<b>120</b>	<b>100.00</b>

Source: Field Data

A large number of sample miner respondents belong to weaker sections of the community. Among them 40.83percent, 35 percent, 15.83 percent and 8.33 percent of respondents belongs to BC, SC, ST and Others categories.

**Table-6-Primary Occupation of Sample Respondents**

Occupation	No. of Respondents	Percent
Agriculture	63	52.50
Ag. Labour	29	24.17
Non-Ag. Labour	15	12.50
Petty Business	5	4.17
Artisan Work	2	1.67
Others	6	5.00
<b>Total</b>	<b>120</b>	<b>100.00</b>

Source: Field Data





The primary occupation of the 52.50percent of the respondents is agriculture. Around 24.17percent of the respondents were agricultural labours. It is about 76.67percent of sample respondent's are depended on agriculture and its allied activities.

**Table-7--Percentage of Groundnut Area under Irrigation**

Area under Irrigation	No. of Respondents	Percent
Nil	94	78.33
> 10%	11	9.17
11 to 25%	8	6.67
26 to 50%	4	3.33
51 to 75%	2	1.67
76% and above	1	0.83
<b>Total</b>	<b>120</b>	<b>100.00</b>

Source: Field Data

Table 7given the details that a majority i.e. 78.33percent of farmers declared that all the groundnut that they have sown is depending on rainfall. More than three-fourth land is cultivated under irrigation sources as per the reports of 1 sample respondent.

**Table-8**

**Total Investment on the Cultivation of Groundnut by Sample Farmers (per Hectare)**

Amount (In Rs.)	No. of Respondents	Percent
> Rs.10,000	12	10.00
Rs.10,001 to Rs.20,000	32	26.67
Rs.20,001 to Rs.30,000	56	46.67
Rs.30,001 to Rs.40,000	17	14.17
Rs.40,001 and above	3	2.50
<b>Total</b>	<b>120</b>	<b>100.00</b>

Source: Field Survey



A preponderant majority i.e. 46.67percent of farmers investment on groundnut is Rs.20,001 to Rs.30,000. Less than Rs.10,000 investment is made by 10percent of sample farmers. Only 3 farmers investment on cultivation is Rs.40,001and above.

**Table-9**

**Total Value of Returns from Groundnut Cultivation to Sample Farmers(Per Hectare)**

<b>Return Amount (In Rs.)</b>	<b>No. of Respondents</b>	<b>Percent</b>
> Rs.10,000	8	6.67
Rs.10,001 to Rs.20,000	74	61.67
Rs.20,001 to Rs.30,000	33	27.50
Rs.30,001 to Rs.40,000	3	2.50
Rs.40,001 and above	2	1.67
<b>Total</b>	<b>120</b>	<b>100.00</b>

Source: Field Survey

The return value of groundnut to sample farmers is less than investment. It is important to note that 6.67percent of sample farmers declared that their returns value is less than Rs.10,000. The returns value ranges between Rs.10,001 to Rs.20,000 in case of 61.67percent of sample farmers. Only 2 respondents returns is Rs.40,001 and above.

**Problems identified in Cultivating Groundnut**

The major problems of agriculture in India particularly to rainfed agriculture and more particularly in groundnut farming as mentioned by the sample farmers and registered their perceptions.



**Table-10**  
**Problems Facing by Sample Groundnut Cultivating Farmers**  
**(Multiple Responses)**

Problem	No. of Respondents	Percent
Small land holdings	81	67.50
Low Levels of Inputs	49	40.83
Floods/Famines	52	43.33
Use of low-yielding and slow-maturing varieties	89	74.17
Widespread Insect Pests and Weeds	78	65.00
Low efficient Labour Use	63	52.50
Lack of awareness of Marketing	95	79.17
High Cost of Inputs	98	81.67
Uncertain, unseasonal & Inadequate rainfall	74	61.67

Source: Field Data

About 67.50percent of sample farmers reported that the land holding size is a problem in groundnut cultivation. Because of dividing of joint families, the land holdings may fragment. There is no chance to take up the modern technologies in these small land holdings.

The problem of low level of inputs use is one of the reasons for low yielding of groundnut as reported by 40.83percent of farmers. Basically the farmers are economically and technically poor to implement modern and high level of inputs.



Nearly 43.33 percent of respondents reported that natural calamities like floods or regular famines are affecting the production as well as productivity of groundnut crop. The sample district has had critical agro climatic conditions and having scanty and uncertain rainfall.

Another reason for low productivity in the region is the non-availability of high-yielding and biologically-efficient varieties tested and suited to this particular region. Thus the yield was affected and this problem is stated by 74.17 percent of sample farmers.

About 65 percent of sample respondents stated the problem of extensive insect pests and weeds. The resource-poor farmers do not take up any integrated pest management (IPM)- based plant protection methods.

The problem of inefficient labour use is registered by 52.50 percent of sample respondent farmers.

Nearly 79.17 percent of respondents stated that lack of awareness among them on marketing facilities for efficient distribution of inputs.

A preponderant majority i.e. 81.67 percent of sample respondents stated the problem of high cost of inputs in the sample area. Seed and fertilizers are not easily accessible and are much priced.

Nearly 61.67 percent of respondents stated that the uncertain, unseasonal and inadequate rainfall is also causes to the crop damage and low yield.

## **Conclusion**

It can be concluded that the variation in the area in groundnut cultivation can be attributed to the factors like commencement of south-west monsoons, rainfall, and timely supply of seeds by government etc.



In India about 25-35percent of the cultivated area is under irrigation. These irrigated areas alone could feed the entire nation and produce enough to spare but we cannot ignore half the population of the country which lives in the non-irrigated areas and has no other employment alternative.

The very important action to be taken should be conjunctive use of water from rainfall, surface and groundwater sources.

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## IMPACT OF INSTITUTIONAL LOANS ON THE SELECTED BENEFICIARIES: A STUDY OF ANDHRA PRAGATHI GRAMEENA BANK IN ANANTAPURAMU DISTRICT OF ANDHRA PRADESH

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### **Introduction:**

The financial requirements of the Indian farmers can be classified into three types depending upon the period and the purpose for which they are required; a) Farmers need funds for short periods of less than 15 months for the purpose of cultivation or for meeting domestic expenses. For example, they want to buy seeds, fertilizers, fodder for cattle, etc. They may require funds to support their families in those years when the crops have not been good or adequate for the purpose. Such short-period loans are normally repaid after the harvest.(b) The farmers require finances for medium period ranging between 15 months and 5 years for the purpose of making some improvement on land, buying cattle, agricultural implements, etc. These loans are larger than short-terms loans and can be repaid over longer periods of time. (c) The farmers need finances for the purpose of buying additional land, to make permanent improvements on land, to pay off old debt and to purchase costly agricultural machinery. These loans are for long periods of more than 5 years. (d) The credit requirements of farmers can be classified into two types-productive and unproductive loans. The former include loans to buy seeds, fertilizers, implements, etc. to pay taxes to the Government and to make permanent improvements on land, such as digging and deepening of wells, fencing of land, etc. All these forms of credit help the farmers in their agricultural operations or in improving their land. Besides these, the Indian farmers often borrow for unproductive purposes, such as for celebration of marriages, births and deaths, for litigation etc. Unproductive loans raised at exorbitant rates of interest are highly improper and unjustified.



Institutional credit as mentioned earlier, refers to the funds made available by co-operative societies, commercial banks, and Regional Rural Banks (RRBs). State Governments also provide “*Taccavi loans*” to farmers besides extending financial support to State Co-operative Banks (SCBs) and Land Development Banks (LDBs). In the field of co-operation, the Primary Agricultural Credit Societies (PACs) provide mainly short and medium term loans and Land Development Banks (LDBs) provide long term loans to the agricultural sector. The commercial banks including regional Rural Banks (RRBs) provide both short and long term loans for agricultural and allied activities. The National Bank for Agriculture and Rural Development (NABARD or simply “National Bank”) is the apex institution at the national level for agricultural credit and provides refinance assistance to the agencies mentioned above. The Reserve Bank of India, as the central bank of the country, plays a crucial role by giving overall direction to rural credit and financial support to the National Bank for its operations.

The need for institutional credit arises because of the weakness or inadequacy of private agencies to supply credit to farmers. Private credit is defective because: (i) It is based on profit motive and, therefore, it is always exploitative; (ii) It is very expensive and is not related to the productivity of land; (iii) It does not flow into most desirable channels and to most needy persons; (iv) It is not available for making agricultural improvements and much of the necessary improvements are not undertaken as funds are not available for long periods at low rates of interest; and (v) It is not properly integrated with the agriculturists other needs.

Institutional credit is not exploitative and the basic motive is always to help the farmers to raise his productivity and maximise his income. The rate of interest is not only relatively low but can be different for different groups of farmers and for different purposes. Institutions also make a clear distinction between short term credit and long term credit requirements and give loan accordingly. Finally, institutional credit is fully integrated with other needs of farmers are not met by the co-operative. Besides, the small farmers find it difficult to meet all their credit requirements from the co-operatives. Again, there are vast areas and regions in West Bengal, Bihar, Orissa and Rajasthan where the movement has neither spread adequately nor has taken deep roots; so much so that the farmers are deprived of the



benefits of co-operative societies. In many places, the working of the co-operatives had been hopelessly wrecked by unscrupulous and dishonest farmers, thus denying the benefits of co-operation to the really needy farmers.

### **Objectives of the Study**

The specific objectives of the study are:

1. to discuss various sources of rural finance in India with particular reference to institutional sources;
2. to examine the structure and organisational set up of Regional Rural Banks and to examine the growth trend and progress achieved by the Regional Rural Banks at all India level and in Andhra Pradesh at macro-level;
3. to analyse the performance of Andhra Pragathi Grameena Bank operating in Anantapur district with particular reference to its branch expansion, mobilisation of deposits, loans advanced, recovery of loans, overdues and financial profitability;
4. to assess the impact of Andhra Pragathi Grameena Bank finance on the generation of additional income and employment among the sample borrowers;
5. to study the repayment performance of the sample borrowers and to identify the factors affecting overdues among the defaulters and
6. to suggest measures, in the light of the empirical study, for the effective functioning of Regional Rural Banks in general and Andhra Pragathi Grameena Bank in particular.

### **Methodology**

The methodological aspects of the study such as the area of the study, the universe and the sample, sources of data and tools of data collection, analysis of data, limitations of the study and the chapter scheme have been detailed hereunder:

### **Area of the Study**

Andhra Pragathi Grameena Bank - a Regional Rural Bank operating in Anantapur District- was taken up for studying the role of a Regional Rural Bank in bringing about rural development in its operational area. The Bank had 86 branches spread through out the district. Since it is not an easy task for an individual researcher to study the working of all the branches of the Bank and all types of loans, a combination of Purposive Sampling and Simple Random Sampling methods was used for the selection of the branches and borrowers for an in-depth study. While selecting the branches, it was thought useful





to give equal and adequate representation to developed and underdeveloped mandals. Hence, in the first stage three Mandals in each developed and underdeveloped areas was selected. Secondly, one APGB branch from each Mandal was selected for collection of primary data.

### **The Universe and the Sample**

Andhra Pragathi Grameena Bank has been lending for different productive purposes to a greater extent and for consumption purpose to a very limited extent. Since the main objective of the study is to examine the role of Andhra Pragathi Grameena Bank in asset creation as well as in generating additional income and employment among the poorer households and to assess the repayment performance of the borrowers, it was decided to confine the study to investment loans (to the exclusion of crop loans) in Agriculture and Allied Activities and other productive loans in Industrial and Business/Service sectors.

All the Mandals in the district are broadly classified into two groups, (a) developed and (b) underdeveloped or less developed, taking Economic Indicators such as, per capita income, percentage of gross irrigated land, etc Human Development Indicators such as female literacy, proportion of Scheduled Castes, Scheduled Tribes population, infant mortality rates etc and Infrastructure development Indicators such as total road length per 100kms, number of Hospitals Beds Rs.10,000 populations etc as basis. From the developed category three Mandals, and from the underdeveloped category other three Mandals were selected. From each selected mandal systematically one Andhra Pragathi Grameena Bank Branch was selected.

The universe of the study comprises the borrowers who were given loans for the purposes mentioned above during the period 2008-2009. While selecting the borrowers for the purpose of the study, it was thought useful to classify all the borrowers constituting the universe into five categories on the basis of 'purpose of loan', viz., (1) Agricultural Investment Credit (Minor Irrigation, Pumpsets, Agricultural Machinery like tractors, Bullocks and Cart, Land Development etc.) (2) Allied Activities (Dairy, Poultry, Sheep rearing, Piggery, Sericulture etc.) (3) Rural Artisans (including Cottage and Village Industries) (4) Petty Trade or Small Business and (5) Professional and Self employed. Ten borrowers falling under each of these five categories were selected at each of the six selected branches



on the basis of Simple Random Sampling method as sample for the study. This was done with a view to ensure that atleast 60 borrowers each are covered under each of the above five categories in both the relatively underdeveloped areas in Anantapur district, making a total of 300 borrowers, constitute the sample for the present study. As such, the sample borrowers chosen are fairly representative of the universe of the study. The table1 clearly gives the picture sampling.

**Table – 1**  
**List of Selected Mandals and Branches**

Category	Name of the Mandal	Name of the Branch	Number of Borrowers
Developed	1. Tadimarri	1. Dadithota	50
	2. Narpala	2. Gugudu	50
	3. Garaladinne	3. Garaladinne	50
Underdeveloped	1. Amarapuram	1. Hemavathi	50
	2. Bukkapatnam	2. Marala	50
	3. Urvakonda	3. Raketla	50
<b>Total</b>	<b>6</b>	<b>6</b>	<b>300</b>

#### **Sources of Data and Tools of Data Collection**

To examine the objectives of this study, relevant data were collected from both primary and secondary sources. Field Survey was undertaken for collection of primary data. For this purpose, a pre-tested interview schedule was employed. Further, observation technique was followed to understand certain aspects of the problem. Separate questions were framed for borrowers of different categories of advances: The Field Survey was conducted in March 2009. The data collected from the sample borrowers relating to the particulars of loans such as dates of application, sanction and disbursement as well as the amount outstanding, amount repaid and overdues were cross-checked with the bank records/ledgers and the latter were considered for analysis in the event of any discrepancy or variation.

Besides, secondary data regarding the growth of Regional Rural Banks in India and in Andhra Pradesh and data regarding Andhra Pragathi Grameena Bank were collected from different published records which include Reports of the Government of India, Reports of the Reserve Bank of India, Reports of NABARD, Annual Reports and records of Sree Anantha Grameena Bank, Statistical



Abstracts of Government of Andhra Pradesh and District Credit Plans prepared by the Lead Bank of the District viz., Syndicate Bank.

### **Analysis of Data and Use of Statistical Tools**

The collected data have been processed and analysed both manually and with the help of a computer. Both primary and secondary data were tabulated to bring out systematic analysis of the role of Andhra Pragathi Grameena Bank in terms of sanction of loans, utilisation of credit, impact of bank finance on the incomes, assets and employment of the borrowers, repayment performance etc. The analysis of primary data has been done in such a way that it enables, the comparison between the sample borrowers belonging to the five categories on the basis of purpose of loan and falling under the relatively developed and the relatively underdeveloped areas of Anantapur district. The data drawn from the various sources were analysed and inferences drawn by applying certain statistical tools like growth percent, averages, percentages etc.

### **Sources of Rural Credit**

The rural sector (including agriculture) is being increasingly seen as a potential source of domestic demand; a recognition, that is shaping the marketing strategies of entrepreneurs wishing to widen the demand for goods and services. In India 70 per cent of the people are engaged in agriculture for their livelihood. Small and marginal farmers constitute majority of farming community. Given the requirement of finance in the agriculture sector, very few farmers have capital of their own to invest in Agriculture. Therefore the need arises to provide credit to rural people. Even if you look into the expenditure pattern of the farm families, they have hardly any savings to fall back on. Therefore credit, enables the farmers to advantageously use seeds, fertilizers, irrigation and machinery.

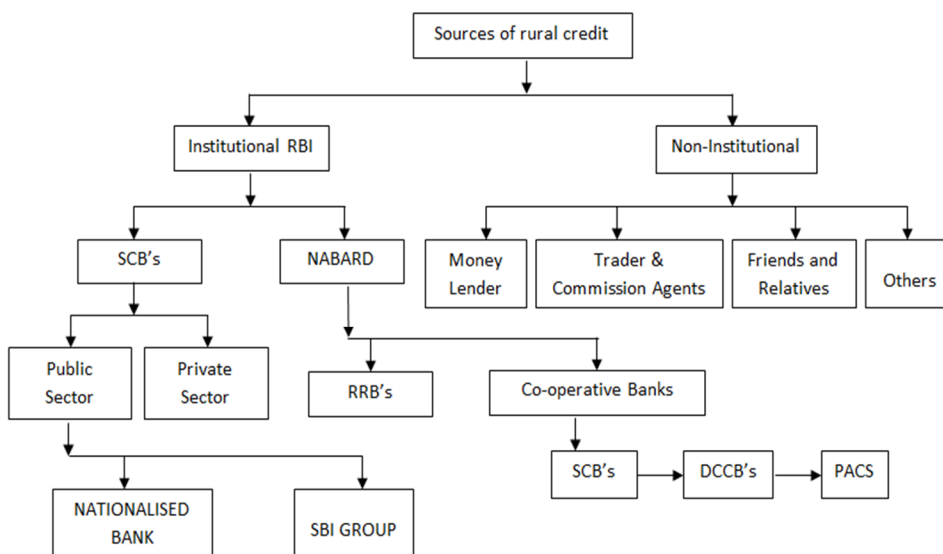
The farmer has to invariably search for a source, which supplies adequate credit. Rural credit assumes vital importance in the agro-socioeconomic development of the country both at the individual micro and at the aggregate/macro level. Its catalytic role strengthens the farming business and augments the productivity of scarce resources. Rural credit entails increased farm income levels and overall improvement in the living standards of rural masses.

The short-term and medium-term financial requirements of Indian farmers are met through loans borrowed from money-lenders, co-operative credit societies and from the Government. For long-term



requirements, the farmers depend upon the money-lenders, land development banks and the Government. Broadly, there are two source of credit available to the farmers- non-institutional or private sources include money-lenders; trader and commission agents, relatives and landlords; institutional source consist of the Government and co-operatives, commercial banks including the Regional Rural Banks (RRBs). The chart gives a clear view of major sources of rural credit.

**Chart**



SCB's – Scheduled Commercial Banks, NABARD – National Bank For Agricultural and Rural Development, RRB's – Regional Rural Banks,

RRB's – Regional Rural Banks, SCB's – State Agricultural Co-operative Banks, DCCB's – District Central Co- operative Banks, PACS – Primary Agricultural Co- operative Societies

### **Andhra Pragathi Grameena Bank**

In the context of financial sector reforms being implemented by the Government of India, various steps have been taken to strengthen the RRBs. In order to further improve the operational viability of the RRBs and to take advantage of the economies of scale, it has been decided by the Government of India to amalgamate the three RRBs in Andhra Pradesh, sponsored by the leading Public Sector Bank-Syndicate Bank. Accordingly Central Government by notification have on 1<sup>st</sup> June 2006, amalgamated Rayalaseem Grameena Bank, Kadapa, Sree Anantha Grameena Bank, Anantapur and Pinakini Grameena Bank, Nellore into a single Regional Rural Bank called "Andhra Pragathi Grameena Bank", with Head Office at Kadapa. The area of



operation of Andhra Pragathi Grameena Bank (APGB) comprises of 5 districts -Kadapa, Anantapur, Kurnool, Nellore, Prakasam. The table 2 presents the details of all which are amalgamated.

**Table 2**  
**Status of 3 RRBs before Amalgamation**

Name of the RRB	Date of Establishment	Number of Branches	Area of Operation
Rayalaseema Grameena Bank Head Office, Kadapa	06.08.1976	149	Kadapa, Kurnool districts and Markapur Revenue Division of Prakasam district.
Sree Anantha Grameena Bank Head Office, Anantapur	01.11.1979	81	Anantapur district
Pinakini Grameena Bank Head Office, Nellore	11.06.1982	102	Nellore district and the Ongole and Kandukur Revenue Divisions of Prakasam district.
<b>Total</b>		<b>332</b>	<b>5 Districts</b>

Source: Head Office APGB, Kadapa.

All the 3 transferor RRBs were earning profits and possess commonality in the socio-economic conditions and in the composition of their clientele mainly comprising of farmers, Self Help Groups (SHGs), rural artisans, traders and small businessmen. The loans disbursed by these RRBs are strikingly similar in activities, purposes, crops financed and etc.

### **Branch Network**

A speedier growth of banking is a pre-requisite for socio-economic development of people in particular and the economy of nation in general. Thus, it is an acceptable canon and a welcome feature of banking institution particularly in the areas of wider disparities. Funds mobilization and their deployment, and quality services need a sound branch network to stabilize and strengthen the banking institution. Talwar has rightly stated that, "Branch expansion is a key factor on the development of banking sector; and constitutes the first systematic development." The branch expansion is utmost urgent because of:



- ❖ The need for development of saving habit and banking habit,
- ❖ Need for mobilizing rural savings as the income of people increased due to increased investment under the Plans and other rural development programmes,
- ❖ The need for employing locally raised funds in the local bankable projects,
- ❖ The need to transfer the surplus funds to the deficit areas, and
- ❖ The need to act as gas-filler.

The main motto in establishing the regional rural banks was to extend the banking facilities to the rural people hitherto unbanked as well as under banked rural areas. Opening branches in such areas inspite of lack of remunerative business potential and infrastructures is the main focus and also the thrust of regional rural banks. The branch network, thus, helps the people to build up themselves so that they can also grow along with the growth of branch. "The location of branch erects the infrastructure of institutional credit for supplementing the efforts on cooperative line for the development of rural economy" is the opinion of Aggarwal.

In deployment of credit, the regional rural banks enter new areas, which have not had the benefit of organized credit. The agriculture, small scale industries, self employment programmes and a host of non conventional economic activities are to be financed by the regional rural banks. It is also to adopt itself to assist borrowers who are not familiar with banking procedures. The progress of banking on one hand and the prospects of rural economy on the other, thus, entirely envisages by a sound branch expansion. Data on branch expansion of Andhra Pragathi Grameena Bank is presented in Table 3.

**Table -3**  
**Expansion of APGB Branch Network**

S.No.	Population Category	2006-07	2007-08	2008-09
1	Rural	233	239	244
2	Semi-Urban	75	76	81
3	Urban	24	27	31
	<b>Total</b>	<b>332</b>	<b>342</b>	<b>356</b>
Extension Counters		14	14	7
Regional Offices		5	5	5

Source: Head Office APGB, Kadapa.

As per the table 3 initially the Bank has a network of 332 Branches, comprising 233 Rural, 75 semi and 24 urban branches, 10



satellite offices and 14 Extension Counters (ECs). The branch network slightly increased during 2008-2009. The total number of branches raised from 332 to 356 by March 2009. Out of which 244 are rural, 81 are semi-urban and 31 are urban. But extension counters reduced to half. The Bank has obtained 14 licenses and opened all the 14 branches and up-grade 2 Extension Counters during the year 2008-2009. With the above, the total branches have gone up from 342 as on 31.03.2008 to 356 as on 31.03.2009.

### **Impact of Andhra Pragathi Grameena Bank Finance on the Sample Borrowers**

This part is devoted to the study of the impact of bank credit on the financial position of the sample borrowers and to examine their repayment performance. It is desired to see as to what extent the bank finance had resulted in occupational change among the sample borrowers, i.e., change in main and subsidiary occupations of the sample borrowers consequent upon their availing bank credit. An attempt is also made to study the income generation among the sample borrowers from the projects financed by the bank under study and to see to what extent the gross and net incomes of the sample borrowers had increased under each borrower category. It is also desired to see to what extent the bank finance had generated employment among the members of the sample borrower households and to what extent it had resulted in the creation of productive and non-productive assets to the sample borrowers. Further, an attempt is made to examine the extent to which the bank had succeeded in mopping up the additional incomes generated towards bank deposits from the sample borrowers under both demand and time deposit categories. Lastly, the repayment performance of the sample borrowers is analysed in this chapter partly because it depends on the incomes generated from projects financed and partly because this aspect assumes vital importance or life line to the bank in its operations.

#### **Occupational Change**

##### **Main Occupation**

The occupational change in the main occupation of sample borrowers-as a sequence to the use of credit is studied with the help of a matrix table showing the distribution of sample borrowers on the basis of their main occupation before and after the loan



**Table – 4**  
**Occupational change among the sample borrowers as a consequence of bank finance in main occupation**

S. No.	Pre-loan/Post loan	Agri- culture	Allied activities	Agri- cultura l labour	Petty Trade/ Small Business	Rural Artisan	Profession al land self employed	Total
1	Agriculture	64 (80.00)	4 (5.00)	-	7 (8.8)	3 (3.7)	2 (2.5)	80 (100.00)
2	Allied activities	-	-	-	-	-	-	-
3	Agricultural labour	-	42 (59.2)	7 (9.9)	8 (11.3)	7 (9.8)	7 (9.8)	71 (100.00)
4	Petty Trade/ Small Business	-	1 (2.1)	-	43 (89.6)	1 (2.0)	3 (6.3)	48 (100.00)
5	Rural Artisan	-	1 (2.0)	-	2 (3.9)	48 (94.1)	-	51 (100.00)
6	Professional land self employed	-	-	-	-	-	44 (100.00)	44 (100.00)
7	No occupation	-	1 (16.7)	-	-	1 (16.7)	4 (66.6)	6 (100.00)
	<b>Total</b>	<b>64 (21.4)</b>	<b>49 (16.3)</b>	<b>7 (2.3)</b>	<b>60 (20.0)</b>	<b>60 (20.0)</b>	<b>60 (20.0)</b>	<b>300 (100.00)</b>

Source: Field Survey  
 (Figures in Parentheses is Percentage to Total)





Table 4 shows that the shift in main occupation was, the highest in the case of Agricultural labour (90.1%) followed by those in Agriculture (20%). The shift was mainly towards 'Allied Activities' followed by 'Petty Trade', 'Rural Artisans' and 'Professional and Self employed'. The shift in main occupation was very less in the case of "Petty Traders" (10.40%) and 'Rural Artisans' (5.90%). Practically, there was no shift in occupation in respect of 'Professional and Self employed' people. Six sample borrowers who had no occupation whatsoever prior to the loan got employed as Professionals' 66.60%), 'Rural Artisans' (16.70%) and in 'Allied Activities' (16.70%).

### **Subsidiary Occupation**

The shift in subsidiary occupations of sample borrowers as a result of bank finance is presented in table 5.



**Table – 5**  
**Occupational Change among the Sample Borrowers as a Consequence of**  
**Bank Finance in Subsidiary Occupation**

S. No	Pre-loan/Post loan	Agriculture	Allied activities	Agricultural labour	Petty Trade/ Small Business	Rural Artisan	Professional land self employed	No Occupation	Total
1	Agriculture	16 (88.90)	-	-	-	-	-	2 (11.1)	18 (100.00)
2	Allied activities	-	-	-	-	-	-	-	-
3	Agricultural labour	-	-	3 (100.00)	-	-	-	-	3 (100.00)
4	Petty Trade/ Small Business	-	-	-	-	-	-	-	-
5	Rural Artisan	-	-	-	-	-	-	-	-
6	Professional land self employed	-	-	-	-	-	-	-	-
7	No occupation	18 (6.5)	8 (2.9)	35 (12.5)	3 (1.1)	2 (0.7)	-	213 (76.3)	279 (100.00)
	<b>Total</b>	<b>34 (11.3)</b>	<b>8 (2.6)</b>	<b>38 (12.7)</b>	<b>3 (1.0)</b>	<b>2 (0.7)</b>	-	<b>215 (71.7)</b>	<b>300 (100.00)</b>

Source: Field Survey  
 (Figures in Parentheses is Percentage to Total)



It can be seen from table 5 that out of 279 sample borrowers who had no subsidiary occupations in the pre-loan situation, 66 sample borrowers (23.70 %) had engaged themselves in the post-loan situation in various subsidiary occupations - the highest number (35) as Agricultural labour - on account of the bank loan.

Further, it can be seen that 215 sample borrowers forming 71.7 per cent had no subsidiary occupation whatsoever even after they were financed by the bank. This shows that there is still scope for encouraging most of the borrowers to take up subsidiary occupations in order to free them from the shackles of seasonal unemployment and low incomes. Hence, the bank officials should make efforts to promote some feasible occupations by providing sufficient credit facilities to the borrowers in the study area:

## **Income Generation**

### **Gross Income**

Table 6 shows the average gross income per sample borrower in developed and underdeveloped areas.



Table - 6  
 Income Generation among the Sample Borrowers as a Consequence of  
 Bank Finance – Gross Income

S. No.	Borrower Category	Average Annual Gross Income Per Sample Borrower								
		Developed Areas			Undeveloped Areas			Total		
		Pre-loan (Rs.)	Post-loan (Rs.)	Incremental Income (Rs.)	Pre-loan (Rs.)	Post-loan (Rs.)	Incremental Income (Rs.)	Pre-loan (Rs.)	Post-loan (Rs.)	Incremental Income (Rs.)
1.	Agriculture Investment Credit	35725.80	54542.66	18816.86 (52.67)	26768.86	32663.33	5894.47 (22.02)	31247.33	43602.99	12355.66 (39.54)
2.	Allied Activities	5100.33	10764.00	5663.67 (111.04)	7610.16	11471.66	3861.50 (50.74)	6355.24	11117.83	4762.59 (74.94)
3.	Petty Trade/ Small Business	46953.56	61092.00	14138.14 (30.11)	16823.33	28383.33	11557.00 (68.68)	31890.09	44737.66	12847.57 (40.29)
4.	Rural Artisans	16463.33	21648.00	5184.67 (31.49)	13280.66	20493.33	7212.67 (54.31)	14871.99	21070.66	6198.67 (41.68)
5.	Professional and Self employed	15440.33	38733.33	23293.00 (150.85)	9379.33	15720.00	6340.67 (67.60)	12409.83	27226.66	14816.83 (119.39)
	<b>Total</b>	<b>23936.73</b>	<b>37356.00</b>	<b>13419.27 (56.06)</b>	<b>14773.07</b>	<b>21746.33</b>	<b>6973.26 (47.20)</b>	<b>19354.89</b>	<b>29551.16</b>	<b>10196.27 (52.68)</b>

Source: Field Survey

(Figures in Parentheses is Percentage to Total)



It can be seen from table 6 that but of 300 sample borrowers, distributed equally under the five borrower categories, the highest percentage of increase in average gross income was recorded under 'Professional and if employed' category (119.39%) followed by that under 'Allied Activities' (74.94%). The incremental income as a percentage to the pre-loan average gross income was around 40 per cent in the remaining three categories, while it was 52.68 per cent for all the sample borrowers put together.

It can be seen from table 6 that increase in average gross income was more in developed areas (56.06 %) than in underdeveloped areas (47.20 %). The average incremental income generated in underdeveloped areas was just 51.96 per cent of that generated in developed areas. Further, it can be seen that in developed areas, the highest increase in average gross income was recorded under 'Professional and Self Employed category (150.85 %), followed by 'Allied Activities' (111.04 %) and Agriculture Investment Credit' (52.67%). The increase in the other two categories was around 30 per cent. But in underdeveloped areas, the highest percentage of increase in average gross income was under Petty Trade' (68.68 %), followed by Professional and self employed' (67.60 %), 'Rural Artisans' (54.31 %) and 'Allied Activities' (50.74-%). It was the lowest under 'Agriculture Investment Credit' category just 22.02 per cent.

It may be observed that since the average loan amount per sample borrower was higher in developed than in underdeveloped' areas, there was substantial difference even in average incremental gross income generated in the two areas.

### **Net Income**

Table 7 shows the average net income per sample borrower under each of the five borrower categories in both developed and underdeveloped areas before and after the loans and the incremental net income generated.



**Table - 7**  
**Income Generation among the Sample Borrowers as a Consequence of Bank Finance - Net Income**

Borrower Category	Average Annual Gross Income Per Sample Borrower								
	Developed Areas			Undeveloped Areas			Total		
	Pre-loan (Rs.)	Post-loan (Rs.)	Incremental Income (Rs.)	Pre-loan (Rs.)	Post-loan (Rs.)	Incremental Income (Rs.)	Pre-loan (Rs.)	Post-loan (Rs.)	Incremental Income (Rs.)
Agriculture Investment Credit	19841.80	32171.33	12329.53 (62.04)	19387.86	25380.00	5992.14 (30.91)	19614.83	28775.66	9160.83 (46.70)
Allied Activities	4887.66	8785.00	3897.34 (79.74)	7912.66	10370	2457.34 (31.05)	6400.16	9577.50	3177.34 (49.64)
Petty Trade/ Small Business	16916.53	26908.66	9992.13 (59.07)	11036.66	20826.66	9790.00 (88.70)	13976.59	23867.66	9891.07 (70.77)
Rural Artisans	12136.66	15066.66	2930.00 (24.14)	8440.66	15400.00	6959.34 (82.45)	10288.66	15233.33	4944.67 (48.06)
Professional and Self employed	10222.66	19707.33	9484.67 (92.78)	6926.33	12528.33	5602.00 (80.88)	8574.49	16117.83	7543.34 (87.97)
<b>Total</b>	<b>12801.06</b>	<b>20527.80</b>	<b>7726.74 (60.36)</b>	<b>10740.84</b>	<b>16901.00</b>	<b>6160.16 (57.35)</b>	<b>11770.94</b>	<b>18714.40</b>	<b>6943.45 (58.98)</b>

Source: Field Survey  
 (Figures in Parentheses is Percentage to Total)



It can be seen from table 7 that the overall average net incremental income as a percentage to the pre-loan average net income recorded an increase of 58.98 per cent, while it was 60.36 per cent in developed areas and 57.35 per cent in underdeveloped areas. In developed areas, the highest percentage of increase in average net income was noticed in 'Professional and Self employed' category (92.78 %) followed by 'Allied Activities' (79.74 %). Unlike this, in underdeveloped areas, it was under\*Petty Trade'(88.70 %) that the highest percentage of increase in average net incremental income was recorded followed by 'Rural Artisans' (82.45 %), and professional and Self employed' (80.88 %). Thus, there is substantial difference between the two areas in respect of incremental net income generated on an average per sample borrower.

### **Employment Generation**

Table 8 shows the employment generated among male, female and child members of the sample borrower households due to the projects financed by the bank.



**Table – 8**  
**Employment Generation among the Sample Borrowers as a Consequence of Bank Finance**

S.No.	Particulars	Employment Generation (person days per annum)								
		Developed Areas			Undeveloped Areas			Total		
		Pre-loan	Post-loan	Incremental employment	Pre-loan	Post-loan	Incremental employment	Pre-loan	Post-loan	Incremental employment
1.	Male workers	455.93	693.51	237.58 (52.10)	275.03	396.01	120.98 (43.98)	365.48	544.76	179.28 (49.05)
2.	Female workers	180.92	418.80	237.88 (131.48)	119.56	195.75	76.19 (63.72)	150.24	307.28	157.04 (104.52)
3.	Child workers	9.66	21.53	11.87 (122.87)	2.43	29.27	26.84 (1104.52)	6.05	25.04	19.35 (319.83)
4.	Total (Mandays)	581.39	882.61	301.22 (51.81)	357.54	541.35	183.81 (51.40)	469.47	711.98	242.51 (51.65)

Source: Field Survey  
 (Figures in Parentheses is Percentage to Total)





It can be seen from table 8 that the overall average incremental employment generated in man-days stood at 51.65 per cent in respect of all sample borrower households. In absolute terms, the incremental employment generated was highest in respect of male workers (179.28 days) followed by female workers (157.04 days) and child workers (19.35 days). However, in percentage terms i.e., incremental employment as a percentage to the pre-loan employment, it was highest in respect of child workers (319.83 %) and least in respect of male workers (49.05 %). Such a high percentage of incremental employment in respect of child workers was mainly due, to substantial increase in child days of employment in underdeveloped areas - 26.84 child days on an average against 11.87 child days on an average in developed areas.

It can further be noted from table 8 that the average employment generated in person-days in percentage terms was more or less the same in both developed and underdeveloped areas, i.e., around 52.00 per cent. But, there was substantial difference in respect of employment generated under different worker categories between the two areas. For example, in developed areas, the average incremental employment generated in respect of male workers was 237.58 days against just 120.98 days in underdeveloped areas. Similar difference can be noticed in respect of female workers - it was 237.88 days in the former against 76.19 days in the latter. However, the contrary held well in respect of child workers.



**Table – 9**  
**Purpose wise Impact of Bank Finance on Employment Generation among the Sample Borrowers**

S. No.	Borrower Category	Average Annual Gross Income Per Sample Borrower (Mandays)								
		Developed Areas			Undeveloped Areas			Total		
		Pre-loan	Post-loan	Percentage Increase	Pre-loan	Post-loan	Percentage Increase	Pre-loan	Post-loan	Percentage Increase
1.	Agriculture Investment Credit	516.16	1086.40	110.47	379.03	614.23	62.50	447.59	850.31	89.97
2.	Allied Activities	558.23	749.76	34.31	361.96	516.83	42.78	460.09	633.29	37.64
3.	Petty Trade/ Small Business	891.06	1092.73	22.63	419.33	659.13	57.18	655.19	875.93	33.69
4.	Rural Artisans	510.93	792.90	55.18	329.83	488.90	48.22	420.38	640.90	52.45
5.	Professional and Self employed	430.56	691.26	60.54	287.53	427.66	43.73	364.04	559.46	53.68
	<b>Total</b>	<b>581.39</b>	<b>882.61</b>	<b>51.81</b>	<b>357.54</b>	<b>541.35</b>	<b>51.40</b>	<b>469.45</b>	<b>711.97</b>	<b>51.66</b>

Source: Field Survey



The table 9 presents the impact of bank finance on employment generation among the sample borrowers under each purpose in both developed and underdeveloped areas. It can be seen from table that the percentage increase in average employment generated for all sample borrowers under all purposes was marginally higher in developed areas (51.81%) than in underdeveloped areas (51.40 %).

But there were significant differences in percentage terms, with regard to the increase in average employment generated per sample borrower under different purposes between developed and underdeveloped areas. For example, in developed areas, the highest percentage increase in average employment generated was recorded under the purpose 'Agriculture Investment Credit' (110.47 %) followed by that under 'Professional and Self employed' category (60.54 %) and 'Rural Artisans' category; |(55.18 %). Similarly, in underdeveloped areas, the highest percentage increase in average employment generated was recorded under 'Agriculture Investment Credit' (62.05 %), followed by 'Petty Trade or Small Business' category (57.18 %) and 'Rural Artisans' category (48.22 %).

Again, it may be interesting to note that in underdeveloped areas, the highest percentage increase in average employment generated per sample borrowers was 62.05 per cent under 'Agriculture Investment Credit', while the lowest was 42.78 per cent under 'Allied Activities'. In developed areas, the highest percentage increase in average employment generated per sample borrower was 110.47 per cent under 'Agriculture Investment Credit', while the lowest was 22.63 per cent under 'Petty Trade or Small Business'. Thus, unlike in: underdeveloped areas, the difference between the highest and the lowest percentage increase in average employment generated per sample borrower was substantially more in developed areas. It is interesting to note that employment generated for all types of workers - - male, female and child -- when converted into mandays -- was more in developed; areas than in underdeveloped areas.

### **Asset Generation**

Table 10 shows the average value of productive assets of sample borrowers before and after the loan and incremental value resulting from acquisition of assets like agricultural land, agricultural machinery, livestock, bullocks, etc.,



**Table – 10**  
**Impact of Bank Finance on Productive Assets owned by the Sample Borrowers**

S. No.	Borrower Category	Average value of the productive assets per sample borrowers (in Rs.)								
		Developed Areas			Undeveloped Areas					Total
		Pre-loan	Post-loan	Increment Value	Pre-loan	Post-loan	Increment Value	Pre-loan	Post-loan	Increment Value
1.	Agriculture Investment Credit	166883	209865	42982 (25.75)	77823	108290	30467 (39.14)	122353	159078	36725 (30.01)
2.	Allied Activities	28510	35960	7450 (26.13)	8413	15260	6847 (81.38)	18462	25610	7148 (38.71)
3.	Petty Trade/ Small Business	90167	90167	-	7017	7017	-	48592	48592	-
4.	Rural Artisans	7167	7167	-	29560	29747	187 (0.63)	18364	18457	93 (0.50)
5.	Professional and Self employed	36907	36907	-	14900	15373	473 (3.17)	25904	26140	236 (0.91)
	<b>Total</b>	<b>65926.8</b>	<b>76013.2</b>	<b>10086.4 (15.29)</b>	<b>27542.6</b>	<b>35137.4</b>	<b>7594.8 (27.57)</b>	<b>46735</b>	<b>55575.4</b>	<b>8840.4 (18.91)</b>

Source: Field Survey  
 (Figures in Parentheses is Percentage to Total)



It can be seen from table 10 that increase in average value of productive assets was highest in the case of sample borrowers under 'Agriculture Investment Credit' category followed by those under 'Allied Activities'. The increase in the value of productive assets was meagre under 'Rural Artisans' and 'Professional and Self employed' categories, while it was nil under 'Petty Trade' category.

The increase in the average value of productive assets was more in developed areas (Rs.10086.4) than in underdeveloped areas (Rs.7594.8). The incremental value of productive assets under 'Agriculture Investment Credit' was more in developed areas (Rs.42982) than in underdeveloped areas (Rs.30467). Similar is the case in respect Of 'Allied Activities' where the incremental value of productive assets was ft Rs.7450 in the former against Rs.6847 in the latter.

However, while there was marginal increase in the value of productive assets generated under 'Rural Artisans' and 'Professional and Self employed' categories in underdeveloped areas (Rs.187 and Rs.473 respectively), there was no asset generation under these categories in developed areas. Further, there was no asset generation in the case of sample borrowers belonging to 'Petty Trade/Small Business' category in both developed and underdeveloped areas.

### **Conclusion:**

Over the years, the RRBs, which are often viewed as the small man's bank, have taken deep roots and have become a sort of inseparable part of the rural credit structure. They have played a key role in rural institutional financing in terms of geographical coverage, clientele out reach and business volume as also contribution to development of the rural economy. A remarkable feature of their performance over part four decades has been the massive expansion of their retail network in rural areas. From a modest beginning of 17 branches covering 12 districts in December 1975, the numbers have grown into 15235 branches working in 534 districts across the country by March 2009. RRBs have a large branch network in the rural areas forming around 43 per cent of the total rural branches of commercial banks. The rural orientation of RRBs is formidable with rural and semi-urban branches constituting over 97 per cent of their branch network. The growth in the branch network has enabled the RRBs to expand banking activities in the unbanked areas and mobilize rural savings though their innovative schemes of deposit mobilization.



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## **SOCIOLOGICAL DIVERSE NEEDS OF COMBINED FAMILIES IN PRESENT ERA**

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The appellation ancestors is acquired from the Latin chat 'familia' cogent a domiciliary enactment and refers to a "group of individuals active calm during important phases of their lifetime and apprenticed to anniversary added by biological and/or amusing and cerebral relationship". The accumulation as well includes bodies affianced in an advancing socially accustomed allegedly animal relationship, abundantly complete and constant to accommodate for the coition and accomplishments of children. Unlike the western society, which puts catalyst on "individualism", the Indian association is "collectivistic" in that it promotes alternation and co-operation, with the ancestors basal the focal point of this amusing structure. The Indian and Asian families are therefore, far added circuitous in caring of its members, and as well ache greater affliction accountability than their western counterparts. Indian families are added affectionate with the patient, and are able of demography greater ameliorative accord than in the west.

In a bearings area the brainy bloom ability is a scarcity, families anatomy a admired abutment system, which could be accessible in administration of assorted demanding situations. Yet, the ability is not abundantly and appropriately utilized. Clinicians in India and the sub-continent do commonly yield time to brainwash ancestors associates of a accommodating about the affliction and the accent of medication, but afar from this advice exchange, the appliance of ancestors in analysis is minimal. Structured ancestors aggressive psychotherapy is not accomplished in India at a lot of places in India, except a few centers in



South India. Research publications on ancestors analysis from India are as well few. There are some affirmations that appear “family action studies”, but whether all non-pharmacological interventions with ancestors associates can be advised as “family therapy” is a matter of abstract debate.

Sholevar defines ancestors analysis as any use of a family-focused action to accompany out behavioral and/or attitudinal changes in one or added ancestors members” Although the “family” may be circuitous in abounding schools of psychotherapy, “family therapy” represents the a lot of complete annex of psychotherapy that deals with the ancestors arrangement as a whole.

This cardboard discusses the appearance of Indian ancestors systems in the ablaze of the Asian collectivistic ability that are pertinent in psychotherapy and ancestors analysis as acclimated in India, and its added scope.<sup>1</sup>

## **UNDERSTANDING THE INDIAN FAMILY FROM A PSYCHOTHERAPEUTIC STANDPOINT**

Role of ability and collectivism in abstraction the family

Families do not abide in abreast and ancestors dynamics are about best interpreted in the ambience of their civic and cultural background. Ability has been apparent to actuate the ancestors anatomy by abstraction the ancestors type, size, and form and the ancestors activity by delineating boundaries, rules for interaction, advice patterns, adequate practices, conduct and bureaucracy in the family. The roles of ancestors associates are bent abundantly by cultural factors (as able-bodied as stages of the ancestors activity cycle), and finally, ability

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<sup>1</sup> Thomas AJ. Understanding culture and worldview in family systems: Use of the multicultural genogram. *Fam J: Couns Ther Couples Fam.* 1998;6:24–32

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aswell explains families' agency of defining problems and analytic them.

Culture, however, is not an alien acquiescent access on the families but families themselves serve as the primary abettor for appointment these cultural ethics to their members. Parents advice accouchement to learn, internalize, and advance compassionate of ability through both buried and apparent means. Ancestors associates adapt behaviors in themselves and others by attack of amusing learning. In this process, the accepted norms and behavior may be adapted to clothing the needs of the ancestors creating a set of "family values" – A subset of civic norms adapted to the family.

It is acute then, that therapists acquire the appulse of ability on ancestors activity as able-bodied as in battle resolution and analytic abilities of the ancestors members. One such important ambit of Asian and decidedly Indian ability that affects ancestors activity is collectivism. "Collectivism" refers to the philosophic, economic, or amusing angle that emphasizes the alternation amidst animal beings. It is the basal cultural aspect for accord aural amusing groups, which stresses on the antecedence of accumulation goals over alone goals in adverse to "individualism", which emphasizes on what makes the alone distinct, and promotes assurance in aggressive tasks. "Horizontal collectivism" refers to the arrangement of aggregate controlling by about according individuals, for example, by the intra-generational ancestors member; while "vertical collectivism" refers to hierarchical structures of ability in a collectivistic family, for example, inter-generational relations in a three bearing family.<sup>2</sup>

Classically, the cultures of Western Europe and North America with their complex, stratified societies, area ability and differences are

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<sup>2</sup> Preli R, Bernard JM. Making multiculturalism relevant for majority culture graduate students. *J Mar Fam Ther.* 1993;19:5–16



emphasized, are said to be individualistic, acceptance in Asia, Africa, locations of Europe and Latin America area accordant on amusing norms is important and jobs are interdependent, collectivism is anticipation to be preponderant. Studies comparing Caucasians or Americans with humans from Asian cultures, such as Vietnamese or Filipino do appearance that appropriate societies amount self-reliance, independence, abandon and claimed achievement, and a analogue of cocky afar from the group. On the added hand, collectivistic societies amount ancestors cohesion, cooperation, solidarity, and conformity.

Such cultural differences beggarly that humans in adapted cultures acquire fundamentally adapted constructs of the cocky and others. For added collectivistic societies like ours, the cocky is authentic about to others, is anxious with belongingness, dependency, empathy, and reciprocity, and is focused on small, careful in-groups at the amount of out-groups. Relationships with others are emphasized, while claimed autonomy, amplitude and aloofness are advised secondary. Application of western psychotherapy, primarily focused on activating models, ego anatomy and individuals, therefore, becomes difficult in the Indian collectivistic context. The point has been able-bodied discussed by Indian psychiatrists in the past. As aboriginal as in 1982, Varma bidding limitations to the annual of the Western blazon of psychotherapy in India, and cited dependence/interdependence (a brand of collectivism) in Indian patients with added ancestors associates as foremost of the seven difficulties in accustomed out activating and alone aggressive psychotherapy. Surya and Jayaram acquire aswell acicular out that the Indian patients are added abased than their western counterparts. Neki, while discussing the concepts of acquaintance and aloofness in the Indian ambience opined that these agreement do not even abide in Indian socio-cultural setting, as the aloofness can abstract humans in commutual society. Neki recommended a average arena with ancestors analysis or at atomic



brace of sessions with the ancestors associates forth with dyadic analysis in acclimation to advice the advance of the psychotherapy. Family, therefore, forms an important focus for change in collectivistic societies, and compassionate the Indian ancestors becomes an capital prerequisite for involving them in therapy.

### **The adequate Indian ancestors**

Any generalizations about the Indian ancestors ache from oversimplification, accustomed the pluralistic attributes of the Indian culture. However, in a lot of sociological studies, Asian and Indian families are advised classically as large, patriarchal, collectivistic, aggregate families, harboring three or added ancestors angular and kith and kin horizontally. Such adequate families anatomy the oldest amusing academy that has survived through ages and functions as a ascendant access in the activity of its alone members. Indian aggregate families are advised to be strong, stable, close, airy and constant with focus on ancestors integrity, ancestors loyalty, and ancestors accord at amount of individuality, abandon of choice, aloofness and claimed space.<sup>3</sup>

Structurally, the Indian aggregate ancestors includes three to four active generations, including grandparents, parents, uncles, aunts, nieces and nephews, all active calm in the aforementioned household, utilizing a accepted kitchen and about spending from a accepted purse, contributed by all. Change in such ancestors anatomy is slow, and accident of ancestors units afterwards the annihilation of aged parents is counterbalanced by new associates entering the ancestors as children, and new associates (wives) entering by betrothed alliances, and their offsprings. The daughters of the ancestors would leave

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<sup>3</sup> Johnson AC. Resiliency mechanisms in culturally diverse families. *The Family Journal: Counseling and Therapy for Couples and Families*. 1995;3:316–324.



afterward marriage. Functionally, majority of aggregate families attach to a affectionate ideology, chase the benevolent aphorism of descent, and are patrilocal; although matriloc and matriarchal families are absolutely accustomed in some southern locations of the country. The curve of bureaucracy and ascendancy are acutely drawn, with anniversary hierarchical strata activity aural the arch of “collective responsibility”. Rules of conduct are aimed at creating and advancement ancestors accord and for greater address to abet with ancestors associates on decisions affecting about all aspects of life, including career choice, acquaintance selection, and marriage. While women are accepted to acquire a position abject to males, and to accessory their claimed preferences to the needs of other, males are accepted to acquire albatross for affair the needs of others. The earning males are accepted to abutment the old; yield affliction of widows, never-married adults and the disabled; abetment associates during periods of unemployment and illness; and accommodate aegis to women and children. Psychologically, ancestors associates feel an acute affecting interdependence, empathy, closeness, and adherence to anniversary other.

### **The alteration Indian ancestors**

The socio-cultural ambience of India is ability change at a amazing pace, abrogation axiological alterations in ancestors anatomy in its wake. The endure decade has not alone witnessed accelerated and anarchic changes in social, economic, political, religious and anatomic spheres; but aswell saw familial changes in ability distribution, conjugal norms and role of women. A analysis of the civic demography abstracts and the Civic Ancestors Bloom Survey (NFHS) abstracts suggests that, gradually, nuclear families are adequate the complete anatomy of Indian ancestors institution, at atomic in burghal areas. The 1991 census, for the aboriginal time appear domiciliary advance to be college than the citizenry growth, suggesting domiciliary fragmentation; a



trend that aggregate added drive in the 2001 and the 2010 census. A allegory of the three NFHS abstracts as well shows that over the years there has been a accelerating access in nuclear families, added in burghal areas, with an associated accelerating abatement in the amount of domiciliary members. Added important trends cover a abatement in age of the house-head, absorption change in ability anatomy and an access in households headed by females, suggesting a change in adequate gender roles.

### **Summary abstracts from the Civic Ancestors Bloom Survey**

However, acceptance adequate aggregate families acquire been decidedly replaced by burghal “new order” nuclear families, it would be amiss to attending at present Indian families in such simple bimodal groups. The ancestors systems anon acquire become awful differentiated and amalgamate amusing entities in agreement of structure, pattern, role relationships, obligations and values. Aggregate families that break beneath aforementioned roof, but with abstracted kitchen, abstracted purse and with ample abandon and bargain albatross for connected ancestors associates are accepted and represent “transitional families”. Others may break in abstracted households but array about in the aforementioned community. Such capricious families acceptance structurally nuclear, may still abide to action as aggregate families. Sethi, aback in 1989 acicular out the able networks of likeness ties in Indian “extended families”, and empiric that even if ancestors cannot in fact reside in abutting proximity, they about advance able bonds and attack to accommodate anniversary added with bread-and-butter advice and affecting support.<sup>4</sup>

Effects of civic and familial change on brainy bloom

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<sup>4</sup> Schwartzman J. Family ethnography: A tool for clinicians. In: Hansen J, Falicov C, editors. Cultural Perspectives in Family Therapy: The Family Therapy Collections. Rockville MD: Aspen; 1983. pp. 122–35.

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Social and cultural changes acquire adapted complete lifestyles, interpersonal accord patterns, ability structures and familial accord arrange in accepted times. These changes, which cover a about-face from joint/extended to nuclear family, forth with problems of urbanization, changes of role, cachet and ability with added application of women, afoot movements a allotment of the boyish generation, and accident of the acquaintance advantage of aged associates in the family, acquire added the accent and accountability on such families, arch to an added vulnerability to affecting problems and disorders. The families are frequently accountable to these pressures.

Countries aural the developing apple are abrupt and intend to accomplish aural a generation, what countries in the developed apple took centuries. Hence civic changes actuality are not footfall by footfall or gradual, but rapid, the action accordingly involving “temporal compression”. Additionally, the sequences of these civic changes are accidental or “Cacophonous”, bearing a action that is awful abashing and stressful. For example, in a domiciliary area a woman is the arch agent but has basal continuing in accommodation making, the bearings leads to role acerbity and chaotic ability anatomy in the family. Indeed, studies do appearance that nuclear ancestors anatomy is added decumbent to brainy disorders than aggregate families. Fewer patients with brainy affliction from rural families acquire been appear to be ailing if compared to burghal families because of the complete aggregate ancestors structure, which allegedly provides added support. Accouchement from ample families acquire been begin to address decidedly lower behavioral problems like bistro and sleeping disorders, aggressiveness, dissocial behavior and crime than those from nuclear families. Even the ample calibration all-embracing collaborative studies conducted by WHO – the All-embracing Pilot Abstraction on Schizophrenia, the Determinants of Aftereffect of Astringent Brainy Disorders and the All-embracing Abstraction of Schizophrenia – appear



that bodies with schizophrenia did bigger in India and added developing countries, if compared to their Western counterparts abundantly due to the added ancestors abutment and affiliation they accustomed in the developing world.

Although a aggregate of Indian studies indicates that the adequate ancestors is a bigger antecedent for cerebral abutment and is added airy to stress, one should not, however, universalize. The “unchanging, nurturant and benevolent” ancestors amount is about a sentimentalization of an altruistic society. In reality, arrange in ample adequate families are frequently biased in its administration of assets and allocation of assets to adapted members. Exploitation of ancestors assets by a assembly of associates abutting to the “Karta” (the arch of family) and chains of women are the accepted angst of adequate Indian family. Indian appearance of advancement “family harmony” and complete “obedience to elderly” are about acclimated to abolish the boyish members. The resentment, however, acquiescent and bashful it may be, simmers, and in the absence of adapted resolution about manifests as psychiatric disorders. Somatoform and dissociative disorders, which appearance a audible added prevalence in our association compared to the west, may be beheld as manifestations of such absolute stress.<sup>5</sup>

Therefore, rather than black on the change in civic anatomy and accident of the aggregate family, the therapist should be acquainted of the adapted dynamics of anniversary ancestors he treats, and should endeavor to acquisition and advance the strengths therein, while accouterment agency to cope with accent aural the banned of the accessible resources.

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<sup>5</sup> McGill DW. The cultural story in multicultural family therapy. *Fam Soc.* 1992;73:339–49.

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## UNDERSTANDING PSYCHOTHERAPY FROM THE FAMILY PERSPECTIVE

Family aggressive psychotherapy: History and ambit in India

Social interventions with families to advise them cope with problems acquire consistently been a allotment of all cultures in anatomy of a array of rituals, for example, the rituals surrounding afterlife of ancestors members. The roots of the bookish development of ancestors therapy, however, dates aback to the aboriginal 1940s, if antecedents like John Bowlby in the United States; John Elderkin Bell, Nathan Ackerman, Theodore Lidz, Lyman Wynne, Murray Bowen and Carl Whitaker in United Kingdom; and D.L.P. Liebermann in Hungary began seeing and celebratory ancestors associates in analysis sessions. The antecedent able access from psychoanalysis anon gave way to concepts from amusing psychiatry, acquirements access and behavior therapy, and the aboriginal concepts of abstract framework for ancestors analysis were formed. In the mid-1950s, Gregory Bateson and colleagues at Palo Alto in the United States, alien annual from cybernetics and accepted systems access in psychotherapy. The systems access did not focus on the beeline annual archetypal of alone psychology, and instead emphasized on acknowledgment and homeostatic mechanisms that accomplish in ancestors systems. The acclaimed "circular annual and process" archetypal was forwarded and here-and-now interactions amid ancestors associates started getting beheld as a above agency in advancement or exacerbating problems, whatever be the aboriginal cause. Simultaneously, Murray Bowen at the Civic Institute of Brainy Health, formed on his antecedent on ancestors systems, based on his observations on the father-mother-child triad. Bowen's observations on triadic relationship, admixture and distancing, nuclear ancestors affecting process, multi-generational manual processes and ancestors afterlife forms the base of the





ancestors systems theory, which after came to be accepted as the Bowen's theory.

By the mid-1960s, a ample amount of audible schools of ancestors analysis had emerged, some of which included abrupt therapy, basal therapy, structural ancestors therapy, and the Milan systems model. Concurrently and somewhat interdependently with the systems theory, intergenerational therapies emerged, which theorized the intergenerational manual of bloom and dysfunction and usually dealt with at atomic three ancestors of a family. Afterwards the late-1970s, the acreage of ancestors analysis saw abounding activated modifications of the beforehand adamant abstract frameworks, abnormally in the ablaze of accumulated analytic acquaintance in analysis of austere brainy disorders. In the accomplished few decades, there has been a accepted move appear affiliation and eclecticism, with practitioners application techniques from several areas, depending aloft their own inclinations and/or the needs of the clients.<sup>6</sup>

In India, plan in ancestors analysis started in the backward 1950s, ancillary with the aeon of added absorption in psychotherapy in India. Vidya Sagar, who formed with families at the Amritsar Brainy Hospital in the 1950s, is accustomed as the ancestor of ancestors analysis in India. His own writings on the affair are sparse, but he was able to absorb families of patients in compassionate and demography affliction of their patients with psychiatric illness, and to abutment anniversary added through accumulation participation. Vidya Sagar begin that involving the ancestors decidedly bargain the hospital stay, added accepting of the accommodating by the family, and added ancestors arresting skills. In a agnate attack about the aforementioned time, the

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<sup>6</sup> Falicov C, Brudner-White L. Shifting the family triangle: The issue of cultural and contextual relativity. In: Hansen J, Falicov C, editors. Cultural Perspectives in Family Therapy: The Family Therapy Collections. Rockville MD: Aspen; 1983. pp. 51–67

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Brainy Bloom Centermost at Vellore started acceptance all psychiatric patients forth with their families to assemblage ancestors rooms. Brainy Bloom Center, Vellore approved to focus on ancestors apprenticeship and ancestors counseling on how to accord with the basis accommodating and showed able after-effects of the ancestors interventions. 1960s was aswell the time of alpha of the accepted hospital psychiatric units (GHPUs) with inpatient facilities, area patients were accepted mandatorily with a ancestors affiliate with focus on ancestors apprenticeship and counseling. The agnate convenance has been followed at all the GHPUs, which acquire been accustomed in India over the endure 5 decades. These units, acceptance may not be conducting ancestors therapy, are alive with ancestors captivation in analysis of the bodies with brainy illness.

Another above accession to ancestors analysis in India occurred in the backward 1970s and aboriginal 1980s, if the Civic Institute of Brainy Bloom and Neuro-Sciences (NIMHANS), Bangalore started alive actively on ancestors associates of patients with psychiatric disorders, which ultimately resulted in the accumulation of a bookish Ancestors Psychiatry Centermost in 1977. Aboriginal plan from the centermost showed that families could be accomplished to cope with their accountability through education, counseling and accumulation abutment in an able manner. Subsequent plan by researchers showed the annual of involving families in the administration of a array of psychiatric disorders including conjugal discord, agitation and psychosis. In the backward 1980s, the centermost developed Indian accoutrement for alive in the acreage of ancestors therapy, notable amidst which are the Ancestors Alternation Arrangement Scale, the Ancestors Topology Scale and the Conjugal Quality Scale. In the backward 1980s and 1990s the centermost started training column graduates in psychiatry in concepts and schools of ancestors analysis and started orienting itself to structured rather than all-encompassing



ancestors therapy. At the about-face of this century, it became the alone centermost in India to action bookish training and ascendancy advance in ancestors therapy. Acceptance the centermost in accomplished had accomplished assorted activating and behavioral models, currently it follows primarily a systemic archetypal of ancestors therapy.

In the non-government sector, acceptance there are ancestors analysis practitioners, decidedly in the cities of Delhi, Mumbai and Bangalore, they are mostly broadcast and about ache from the abridgement of training and ability facilities. The Schizophrenia Research Foundation at Chennai, which works with abiding affliction and rehabilitation of the chronically mentally ill patients, conducts a ancestors action program, focused on apprenticeship and arresting of ancestors associates with the affliction of the basis patient. The Indian Association for Ancestors Therapy, founded back 1991, has as well been alive in the acreage to accommodate a belvedere for clandestine therapists.<sup>7</sup>

### **Effectiveness of ancestors aggressive psychotherapy in India**

Although a cogent amount of therapists convenance ancestors analysis in India in government and clandestine settings, the appear abstract on the accountable is decidedly sparse. A lot of publications are affair based empiric accounts of the practitioners, rather than affirmation based claim of accurate analysis modalities. Even then, a lot of action studies address cogent allowances whenever ancestors acquire been circuitous in administration of psychiatric disorders. Table 2 summarizes the allegation of above ancestors action studies from India.

Summary of the allegation of ancestors action studies from India

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<sup>7</sup> McGoldrick M, Giordano J, Pearce J, editors. Ethnicity and Family Therapy. 2nd ed. The Guilford Press; 1996

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A ample physique of appear plan in ancestors analysis in India comes from the Ancestors Analysis Center, at NIMHANS. In one of the ancient studies from the center, it was begin that blockage with a adopted ancestors affiliate bargain continuance of hospital break in psychiatric inpatients. In accession absolute abstraction on the capability of ancestors analysis in Indian setting, Prabhu et al. in 1988 followed-up 60 families over 2 years, who had accustomed abrupt commutual inpatient ancestors therapy. Two third of the accumulation did actual able-bodied or moderately well. After studies acquire appear advance with ancestors analysis in patients with a advanced ambit of psychiatric problems, including schizophrenia, booze dependence, bistro disorders, epileptic psychosis, boyish conduct disorder, conjugal problems, ancestors violence [and in families arresting with humans active with HIV AIDS.

In accession to the interventional studies, empiric accounts and cogitating writings by therapists alive with families in India advice us to acquire issues, activated difficulties and adapted advantages of the Indian setting. Table 3 summarizes the above credibility of assorted appear studies on ancestors analysis by Indian practitioners in endure 15 years, that bandy ablaze on the action issues rather than the outcome.

### **Summary of empiric and cogitating annual online writing on ancestors analysis in India**

Family aggressive psychotherapy: Action and issues in practice

Ideally, any psychotherapy would cover assimilation process, analysis able and a abortion phase. In ancestors therapy, aim of the assimilation appearance is to acquire the families' acumen of the problem, their action to abide therapy, and the therapist's appraisal of the adequacy and blazon of ancestors analysis to be applied. Appraisal of the ancestors forms an important allotment of the assimilation appearance



and adapted therapists apply adapted techniques for the purpose like the three bearing genogram; activity aeon chart, structural map or the annular hypothesis. The three bearing genogram diagrammatically lists out the patient's bearing and two added accompanying ancestors and helps to acquire trans-generational patterns of interaction. The activity aeon blueprint explores the functions of the ancestors and roles of adapted ancestors members. A structural map shows the adapted subsystems in the family, the ability anatomy and the relations amid the ancestors members. This can appearance if relations are normal, overinvolved, conflictual or distant. The annular antecedent about acclimated in systemic analysis helps to acquire the acceptance of the amore for the accommodating and the role of the ancestors associates in advancement them.

As a lot of of these appraisal accoutrement were originally developed in the west, they charge to be appropriately adapted for use in the eastern culture. In the endure few decades attempts acquire been to advance culturally acute accoutrement to appraise Indian ancestors in treatment. The Ancestors Topology Scale is a 28 annual calibration that measures ancestors types, and groups them into the 5 subtypes of normal, cohesive, egoistic, altruistic and anoxic. Accession tool, the Ancestors Alternation Arrangement scale, looks into the adorning phases of the family. The calibration has six subscales searching into leadership, communication, role, reinforcement, cohesiveness and amusing support. For assessing conjugal problems in Indian couples two accoutrement are available: Conjugal Acclimation Questionnaire and Conjugal Quality Scale. Conjugal Acclimation Questionnaire attempts to appraise conjugal acclimation in Indian couples, and measures seven aspects of ancestors functioning, including personality, affecting factors, animal satisfaction, conjugal role and responsibility, accord to in laws, attitudes to accouchement and ancestors planning, and interpersonal relationships. Conjugal Quality Scale is a added



absolute apparatus for assessing conjugal problems and looks into 12 ambit of understanding, rejection, satisfaction, affection, despair, accommodation making, discontent, dissolution potential, dominance, disclosure, assurance and role functioning. Such emic appraisal accoutrement are invaluable in compassionate the adapted problems of the ancestors in our culture.<sup>8</sup>

The analysis able is the phase, area above plan on the ancestors is agitated out. The academy of analysis acclimated depends on assorted factors. For example, the amount of cerebral composure in the ancestors will actuate if psychodynamic techniques can be used. The attributes of the ataxia will aswell actuate the therapy, like the use of behavioral techniques in abiding certifiable illness. Therapist's abundance and training, and the time the ancestors can additional for analysis are added chargeless factors. Activating approaches about yield months to years, area as focused basal techniques can accompany allowances over a few sessions.

Endo-cultural issues may crop up at the antecedent phases, which corruption to attempt the analysis outcome. The therapist needs to be acquainted of them and be acute and considerate. Although Indian families are added auspicious and acknowledging of their mentally ill member, the adamant hierarchical anatomy of Indian families about hinders chargeless advice of thoughts and feelings. Therefore, the therapist may appointment difficulties in convalescent ancestors advice pattern. The "karta" (head) of the ancestors may abide attempts of ancestors associates to accroach his ascendancy and so may not acquiesce added ancestors associates to accurate feelings. The therapist may appear to an impasse, if he attempts to claiming the ascendancy of the ancestor or abandon with the wife rather than with the bedmate in

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<sup>8</sup> McGill D. Cultural concepts for family therapy. In: Hansen J, Falicov C, editors. Cultural Perspectives in Family Therapy: The Family Therapy Collections. Rockville MD: Aspen; 1983. pp. 108–21.



couple's therapy. Additionally, accustomed the assorted cultural and amusing background, the analysis needs to be tailored to the needs of alone family, befitting factors such as socio-economic status, educational akin and ancestors anatomy (nuclear, transitional, joint, traditional) into account. Charge approaches may be added adequate for adequate families, as the therapist is about looked aloft as charismatic, absolute and in ascendancy of the session.

New and abrupt problems arising out of the accelerated alteration amusing book aswell charge to be addressed. Ancestors and couple's battle arising out of factors such as conflicts in families over dowry, or accompanying to inter-caste marriage; animal problems arising out of concrete break of couples due to job timing or placement; altercation about boyish appearance practices (both aural couples and intergenerational); conflicts accompanying to husband's role in administration in calm diplomacy for alive couples; problems with unsupervised children, and accident or displacement of role or action of the aged are alone a few of the problems adapted to avant-garde Indian families. In ancestors analysis absorption on boyish and children, actuality abuse, boyish delinquency, academy dropout or low academy appearance are accepted amidst the lower socioeconomic classes. Parent-child battle from added abandon and analogue of the boyish are accepted in nuclear families. In contempo times, added demands on accouchement or adolescents for bookish achievements from parents, the ability affray with accouchement traveling for night-outs, parties, acclaim and boyish animal analysis acquire been appear by Indian therapists as accepted issues while ambidextrous with adolescents. Although a lot of of these problems are the aforementioned that afflicted the west in the 1960s and the 1970s, our cultural differences



accomplish the therapist attending and amusement these problems as new.<sup>9</sup>

It ability be benign for the therapist to acquire that in India and added agnate collectivistic societies, the concepts of self, attitudes, ethics and boundaries are authentic abnormally from those of the western world. In collectivistic societies the cocky is abundantly authentic through the aggregate character with ancestors character basal a cogent basic of the self-identity. Therefore, individuals from such societies, if they angle up for their alone rights are termed rebellious, disobedient, or disrespectful. In therapy, if the getting resists the solutions proposed by ancestors members, the getting may about be accused of not apropos important associates of the ancestors and/or community. Attitudinal differences in collectivistic societies bassinet analysis gluttonous too. Humans from collectivist societies about tend to accumulate their claimed problems to themselves, abnormally if their own opinions and adventures are inconsistent with the accepted acumen and association of the family. Typically, alone in astringent cases, the humans seek abutment from outsiders, and even again at the amount of cogent attrition from added ancestors members, who may apperceive advice gluttonous from the therapist as a admeasurement of abortion of the ancestors to break the botheration of their member. Additionally, captivation of alfresco strangers in absolute claimed problems may be perceived by associates of the aggregate association as advancing in the family's clandestine affairs, abrasive the family's harmony, and/or as a abeyant blackmail to their reputation. Collectivist ethics accomplish anniversary affiliate of the ancestors amenable for the behavior and the activity altitude of every added ancestors member, even to the admeasurement of abnegation of alone needs and aspirations. In

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<sup>9</sup> Sholevar PG. Introduction: Family theory and therapy. In: Sholevar PG, Schwoeri L D, editors. Textbook of Family and Couples Therapy: Clinical Applications. Rockville, MD: Aspen; 2003. pp. 3–25. Part 1; Chap 1.

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therapy, this about leads to over involvement, abridgement of aloofness and amplitude for the client. Indeed, abrogating bidding affections that ability bassinet analysis and absolute bidding affections that help, acquire both been begin to be added cogent predictors of aftereffect in our country compared to the west.

Finally, the therapist should be acquainted of the psychotherapeutic concepts acquired from Indian aesthetics and religion, as they acquire been begin to be able and culturally added adequate in assertive cases. The abstraction of "Shivite" stemming from the Hindu belief of God Shiva and a phallic attribute can be acclimated in activating psychotherapy. The fable of Savitri has been acclimated as a framework for psychotherapy by Surya and Jayaram. Wig has acclimated the appellation Hanuman complex for the fabulous adventure of Lord Hanuman defective alien advice getting reminded about his abandoned powers. The abstraction can be acclimated to advice patients acquire the action of psychotherapy and anecdotic one's hidden strengths. Varma acclimated attack from the advice of Buddha in psychotherapy, which he beheld as an 'interpersonal adjustment of mitigating suffering'. He has aswell emphasized on the use of concepts of Karma and Dharma in psychotherapy. Neki acclimated the abstraction of "Sahaja" and the role of "nirvana" in psychotherapy. He aswell propounded on the charge alternation amid the therapist and the accommodating application the "Guru-Chela" paradigm. Although such concepts may not be universally applicable, decidedly in the afflicted burghal avant-garde scenario, they can be finer acclimated decidedly in adequate systems to accomplish analysis added adequate and effective.

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The abortion appearance summarizes the aboriginal problem, reviews the benign changes and patterns of alternation that acquire emerged

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<sup>10</sup> Sethi BB. Family as a potent therapeutic force. Indian J Psychiatry. 1989;31:22-30



through therapy, and stresses on the charge for comestible the improvements achieved. The aftereffect sessions may be connected over the next 6 months to a year to ensure that the applicant therapist band is not burst too quickly.

## CONCLUSION

Indian families are able of accomplishing the physical, airy and affecting needs of its members; admit and advance growth, and be a antecedent of support, aegis and advance to the patient. These axiological characteristics of the Indian ancestors abide accurate even now admitting the changes in the amusing scenario. In a country, area the arrears in brainy bloom professionals amounts to greater than 90% in a lot of locations of the country, the ancestors is an invaluable ability in brainy bloom treatment. From a psycho-therapeutic viewpoint, in collectivistic societies like ours, the ancestors may be a antecedent of the agitation as able-bodied as a abutment during trouble. It is therefore, believable that the ancestors ability aswell accommodate solutions of the agitation and indeed, interventions absorption on the accomplished ancestors rather that the alone about after-effects in added acceptable and abiding outcome. Sadly, the advance fabricated in the endure few decades has been basal and belted to few centers alone and ancestors analysis has not begin acceptance amidst the brainy bloom community. Abridgement of affiliation of psychotherapy in postgraduate curriculum, abridgement of training centers for analytic psychologists, and abridgement of a acceptable archetypal of ancestors analysis that can be followed in the assorted Indian ambience are the three basal affidavit for the apathy. This does not acquit the brainy bloom professionals from the albatross of accouterment solutions for the problems of the family, which seems to acquire assorted during the aforementioned time. The Indian family, which about feels addled in these times of afflicted values, afflicted roles, afflicted chastity and afflicted expectations is in charge of abutment and is accessible for



ancestors therapy. If developed enthusiastically, ancestors analysis ability be the appropriate apparatus to not alone advice the families in charge but as well to advance a huge ability in community-centered analysis of mental-health problems.



## A COMPARATIVE STUDY ON ACADEMIC ACHIEVEMENT OF CHILDREN WITH MILD MENTAL RETARDATION IN SPECIAL VERSUS INCLUSIVE SCHOOLS

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### **Abstract:**

International, National Legislation, Disability Acts and policies have also paved the way for children with special need education. They advocates of Special, Integrated and Inclusive education have highlighted the impact of special, integrated and inclusive education for the educable children with mental retardation(EMR). To keep in mind the researchers have decided to study between Special versus Inclusive Schools in Academic Achievement of Children with Mild Mental Retardation. The main objective was to study the influence of variables in the academic achievement of the children with mild mental retardation at special versus inclusive school. In this regard 20 mild mental retarded children were selected for the study in which 10 mild mentally retarded children were from special school and 10 mentally retarded children were from inclusive schools. The purposive sampling technique was used for the selection of sample. The standardized Functional Assessment Checklist Programme (FACP) was used to assess the academic performance of children with mild mental retardation. To know the comparison between special versus inclusive schools in the academic achievement of the children with mild mental retardation t-test was used for the present study. The t-test was applied to find whether there is a significant difference in the academic achievement of children with mild mental retardation in special versus inclusive schools. The calculated t-test value is 0.736 which is less than



the table value of 2.101 at 5% level of significance; therefore there is no significant difference in the academic achievement of children with mild mental retardation in special verses inclusive schools. Qualitatively the mean value of children in inclusive school is much better than special schools. Therefore inclusive schools are better in comparison to special schools.

**Key words:** special school, inclusive school, academic achievement, mild mental retardation

### **Introduction:**

Mental retardation is a disability characterized by significant limitation both in intellectual functioning and in adaptive behavior as expressed in conceptual social and practical adaptive skills. Educable mentally retarded (EMR) children are those who are not able to be adequately educated in the regular schools. However, they can acquire sufficient knowledge and ability in the academic areas that are useful to function effectively in later life. They will be able to receive basic academic skills (reading, writing and arithmetic) and acquire self-help skill, which supports them to be socially and economically independent. Academic achievement refers to an acquired high-order ability to perform a task or an activity related to academic. Present study includes number, time, money, reading, writing, and functional academic as the components of academic skills. So the objectives of an educational programme for the educable group are same as the educational objectives for all children. They should be educated to make the greatest use of their abilities to satisfy their own needs as well as the demands of the society in which they are living.

The Special schools are generally organized according to different disability categories. We have schools for children with visual impairments (VI), for the intellectually challenged (MR) and for those with hearing impairments (HI). The major disadvantages of separate



education is separate environment and that the children may find it hard to readjust to their families, peers and communities and children and usually have to leave their families and communities to stay in a residential school because these schools are usually not available in their immediate environment. These special schools however, can play an active role in providing resource support for the mainstream schools by giving their specialized service.

Inclusion of children with disabilities in all aspects of schooling that other children are able to access and enjoy with the same recourse. It involves regular schools and classrooms genuinely adapting and changing to meet the needs of all children, as well as celebrating and valuing differences. This definition does not imply that children with diverse abilities will not receive specialized assistance or teaching outside of the classrooms when required, but rather that this is just one of many options that are available to, and are required of all children. There are few studies on comparison of special, integrated and inclusive schools. **Nugent (2007)** compares inclusive and special schools for children with Dyslexia. This study evaluates and compares special educational services for children with dyslexia. It was noted that, while parents expressed a preference for inclusive schools in theory, in reality, once provided with services, parents were actually more satisfied with specialist special schools. The discussion considers the implications of these findings in the context of the inclusion debate in special education. **Mani & Manivannan (2004)** studied that a single model educational programme is not suitable for all children with learning disabilities living in different areas. The factors such as culture, transportation, nature of disability, age, sex, etc., influence selection of suitable models, which provide right remediation through right strategies with right materials and technology in right time and in right place, make education of the children with learning disabilities as gainful as that of non-disabled children. **Punani (1994)** studied the



effectiveness as well as merits and demerits of various modes of education of the visually impaired children. The finding of the study is integrated education is no more a matter of option it is a compulsion, which can be accomplished at a comparatively lower social integration. Another, study on special versus regular school placement was selected for use in a meta-analysis. Special classes were found to be significantly inferior to regular class placement for students with below average IQs, and significantly superior to regular classes for behaviorally disordered, emotionally disturbed, and learning-disabled children.

### **Need of the Study:**

- Though, both special and inclusive schools are equally important, yet there seems to exist significant difference in their mode of delivering the activity.
- Since decision makers (Parents, Teachers & Para-professionals) in the education of children with mild mental retardation face contradictory opinions, the study of service delivery models is imperative and felt as the need of the hour.

### **Objectives of the Study:**

- To compare the academic achievement of children with mild mental retardation in special verses inclusive schools
- To study the influence of variables in the development of academic skill of the sample.

### **Hypothesis:**

**Ho1** There is no significant difference in the academic achievement of children with mild mental retardation in special verses inclusive schools.



### **Methodology:**

The present study aims comparing the academic achievement of children with mild mental retardation in special versus inclusive schools. Hence, the investigator selected mixed research design with purposive sampling technique. For, the conduction of the present study two different types of schools namely special and inclusive school was selected from Coimbatore district. The sample was selected from three special schools and four inclusive schools. Sample size is 10 children with mild mental retardation were chosen each from special and inclusive schools. Hence, the total sample size constituted 20 children with mild mental retardation.

### **Tools:**

In the context of the present study, it is required for the researcher to assess the academic achievement of the sample in two different educational setups namely special and inclusive schools. The investigator selected checklist as the tool for the study. The standardized tool Functional Assessment Checklist Programming (FACP) developed by National Institute for the Mentally Handicapped (NIMH) at primary-I level was selected. There are seven domains in this tool but researcher chosen only 40 items of academic domain. To assess the items of the tools, the investigator prepared and also collected appropriate materials for direct observation. After, establishing sufficient rapport with the sample, the investigator requested to the subjects to perform the activities of the tool one by one with the help of materials prepared. Through, keen observation of the performance of the sample, the investigator made an assessment in the tool. Thus the data was collected for the study.

The collected data was tabulated and consolidated for further statistical treatment. The grouped data was subjected to quantitative analysis, using t-test. The testing of hypothesis is as follows-





**Ho1:** There is no significant difference in the academic achievement of children with mild mental retardation in special verses inclusive schools.

**T-test comparison between the academic achievements of children with mild mental retardation in special verses inclusive schools.**

Service delivery model	N	Mean	Std. Deviation
Special School	10	24.4000	11.2368
Inclusive School	10	27.5000	7.1375

**T-test for Equality of Means**

t	df	Sig.
0.736	18	Ns

**Discussion:**

The t-test was applied to find whether there is a significant difference in academic achievement of children with mild mental retardation in special verses inclusive schools. The calculated t-test value is 0.736 which is less than the table value of 2.101 at 5% level of significance. Since, the calculated value is less than the table values it is inferred that there is no significant difference in the academic achievement of children with mild mental retardation in special verses inclusive schools. Hence the hypothesis is retained.



## Conclusion:

The main purpose of the investigator in this research is, to find out the better educational setups in the academic achievement of children with mild mental retardation. The performance of children in both type of school like special and inclusive is the almost same. So, there is no significant difference in the academic achievement of children with mild mental retardation in special verses inclusive schools. It is evident that from the above research studies that there is no much difference in academic achievement of children with mild mental retardation. But the children who have studied in inclusive school showed high mean value of academic achievement, when compared with special school. So, inclusive school provides slightly better educational service for children with mild mental retardation. Our research also shows that inclusive school is providing better educational service delivery in present situation. Thus, inclusive school gives better educational service.

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## E-WASTE: A BY PRODUCT OF DIGITAL REVOLUTION

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'E-Waste' means waste electrical and electronic equipment whole or in part or rejects from their manufacturing, refurbishment and repair process which are intended to be discarded as waste<sup>1</sup>. "Electronic waste" may be defined as discarded computers, office electronic equipment, electronic entertainment device, mobile phones, television sets, washing machine and refrigerators. This includes used electronics which are destined for reuse, resale, recycling, or disposal. The development brought by the industrialisation and modernisation is negated by the electronic waste or e-waste. E-waste happens to be the most crucial waste disposal issue of the 21<sup>st</sup> century. Electric and electronic gadgets have become indispensable part of our lives but it is highly necessary to assess the impact of potential environmental risks associated with the manufacture, import and use of electronic appliances, which are of grievous nature. The electronic waste problem is huge as more than 20 million tonnes of e-waste is produced every year and when electronic send up in landfills, toxics like lead, mercury, and cadmium leach into the soil and water causing health problems.

The manufacture and sale of electronic equipments aims to provide comfort and luxury but it accumulates E-waste also because of excessive consumer culture. Number of mobile phones in our country is more than the number of toilets and the competitive prizes, instalment schemes and even zero percent interest schemes lure the consumers to

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<sup>1</sup> E-Waste (Management) Rules, 2015



buy more number of electronic gadgets even when it is not required. In every house there are so many electronic equipments that are lying unused, like vacuum cleaner, mixer grinder, electric flash lights, etc. and there are so many imported Chinese items like mosquito bats, toys that cannot be repaired if it gets damaged. Though there are attempts to promote repair, recycling and reuse (3R'), most of often they remain only in paper. The toxic elements so released to the landfills penetrate to the soil and reach contaminating water resources and the heavy metals, such as cadmium, lead, chromium, mercury, zinc and nickel enters the food chain whereby finds their way to human beings, who are the ultimate sufferer of this menace.

### The Problem of Electronics and E-Waste

The following table shows the number of mobile phone users worldwide (*in billions*)<sup>2</sup>.

Year	2013	2014	2015	2016	2017	2018	2019
No. of Mobile users.	4.01	4.23	4.43	4.61	4.77	4.93	5.07

### No. of mobile users in India (*in millions*)<sup>3</sup>

Year	2013	2014	2015	2016	2017
Mobile	110	159	213	236	314

During 2012, 1.6 billion handsets were shipped, with 700 million from that figure attributed to smart phones. The figure represents a 2 percent increase when compared to 2011. Apple accounted for 19 percent of the market with 135.8 million iPhone units shipped during

<sup>2</sup> <http://www.statista.com/statistics/274774/forecast-of-mobile-phone-users-worldwide/> visited 5/3/2016

<sup>3</sup> <http://www.livemint.com/Industry/VThUq5I4BivpTDZdQb5sNN/Mobile-Internet-users-in-India-to-double-by-2017-says-study.html> visited 5/3/2016



2012 representing an increase of 46%<sup>4</sup>. In 2015 as a whole, smart phone sales reached 1.4 billion units, an increase of 14.4 percent from 2014<sup>5</sup>. These are packed with toxic chemicals, viz. lead, and poly-brominated flame retardants and an average American keeps a cell phone for 18 months only. US scrap about 400 million units per year of consumer electronics, according to recycling industry experts. Rapid advances in technology mean that electronic products are becoming obsolete more quickly. This, coupled with explosive sales in consumer electronics, means that more products are being disposed, even if they still work<sup>6</sup>.

### **New Technology – Digital TV Conversion and HDTV**

Digital Television - (DTV) - (Often known as High Definition Television {HDTV}; may also be known as Advanced Television {ATV}, "Digital Television" is a comprehensive term for digital and digitised television. It includes HDTV, Data casting and Multicasting. In the 80s, when cable programming became serious competition to the film industry, the Japanese company NHK formally introduced High Definition Television technology<sup>7</sup>. In 2009, broadcasters switched from analog to digital TV signal. Millions of Americans tossed out perfectly good, working analog TVs either because they don't want to hassle with using a converter box on their old TV, or they want to view TV using the HDTV technology. TV company advertising boldly tells us we NEED to upgrade to HDTV. Sharp had an ad campaign in 2009 whose slogan is "Change your TV, change your life." <sup>8</sup>

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<sup>4</sup> <http://www.tomshardware.com/news/Smartphones-Cell-Phones-Mobile-Shipments,20702.html> visited 5/3/2016

<sup>5</sup> <http://www.gartner.com/newsroom/id/3215217> visited 4/3/2016

<sup>6</sup> <http://www.electronicstakeback.com/designed-for-the-dump/quickly-obsolete/> visited 2/3/2016

<sup>7</sup> <http://www.itvdictionary.com/hdtv.html> visited 3/3/2016

<sup>8</sup> [www.lifechangingbox.com](http://www.lifechangingbox.com)



## Disposable printers

Did your last computer come with a “free” printer? Cheap consumer-grade printers have proliferated substantially over the last few years. They are sometimes cheaper than the toner. They don’t last long, and when they break, you’d never even think of getting it fixed (if you could find someone who would do it) because it’s so much cheaper to just buy a new one. Printer companies do this because they make more money on selling their toner. Most small electronics have rechargeable batteries, and after a certain point the batteries no longer hold charge and need to be replaced. With some products, however, consumers can’t easily do that themselves and must take the product back to the manufacturer for a new battery. Many of Apple’s products are designed this way, including iPhones, iPods, laptops, iPads. Apple will replace your battery for a hefty fee but you must take or send it to them. (This is the point at which some people simply move on to a new product, especially for iPods.)<sup>9</sup>

Technology has never sold faster than Mobile phones, televisions, laptops, tablets. Everyone across social and geographic strata is getting wired. But the dark side of the growth story has just begun to reveal itself. We are facing the onset of an unprecedented tsunami of electronic waste. Discarded electronic appliances, if not recycled properly, can lead to pollution, toxicity, environmental damage and complications in human health would be an understatement. As people go through electronics, faster and faster, the problem gets harder to solve<sup>10</sup>.

E waste factual matrix, is as follows:

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<sup>9</sup> <http://www.electronicstakeback.com/designed-for-the-dump/quickly-obsolete/> 5/3/2016

<sup>10</sup> <http://www.catchnews.com/environment-news/where-does-your-iphone-go-to-die-read-and-be-afraid-1435670782.html> visited 3/3/2016

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- 3026 metric kilo tonnes was the estimated weight of electronic equipment that was put for sale in the Indian market in 2014.
- That's nearly half the weight of the Great Pyramid of Giza.
- 1,641 metric kilo tonnes, e-waste was generated in India in 2014.
- Over 95% of e-waste is treated and processed in urban slums by untrained workers, without protective equipment;
- The consequence: 76% of e-waste workers suffer from respiratory ailments such as asthma, bronchitis, and crippling immunities,
- 1.5% e-waste only is recycled formally;
- The rest is handled by the informal sector.
- 20,270 tonnes of e-waste generated by Maharashtra annually - making it No. 1 among the states that are the worst e-waste offenders in the country.
- Tamil Nadu comes in second with 13,486 tonnes. Andhra Pradesh a close third with 12,780 tonnes. Significantly, all three states are among the most industrial states in India
- 10 states in India generate around 70% of the country's total e-waste
- 178% is the growth of the electronics market in India over just five years: from \$11.5 billion in 2004 to \$32 billion in 2009.
- In the same period, sales of computers increased from 0.3 million in 2004 to a whopping 6.7 million in 2009; i.e. growth of over 1000%
- 75% of state bodies in India do not implement hazardous waste laws;
- The generation of e-waste is growing annually at 10%
- Around 50 lakh tonnes of prohibited e-waste, municipal waste and clinical waste is imported annually in India.



- 5,500 crores is the value of the 3.5 million metric tonnes of scrap metals that enters India daily;
- 1.38 million computers (more than eight years old) that became scrap in 2010 alone; Additionally, manufacturers add 1,050 tonnes of e-waste each year.
- India ranks 155 out of 178 countries with regard to e-waste, according to the Environmental Performance Index, 2014
- India is also the fifth largest generator of e-waste in the world, according to the Global E-waste Monitor, 2014, and is among the top three Asian nations (after China and Japan)
- The US and China combined are responsible for nearly a third of the world's e-waste.
- India, China, Pakistan, Vietnam and the Philippines handle nearly 50-80% of global e-waste.
- Computers, televisions and mobile phones are the most dangerous. They have the maximum levels of cadmium, lead and mercury and are discarded most often.
- Individual households account for around 15% of India's e-waste and it includes computer monitors, LCDs, air-conditioners, fridges, mobile phones, chargers, cathode rays tubes, printers, motherboards etc.<sup>11</sup>

### **Import of e-waste:**

Much of the 40 million tonnes of electronic waste produced around the world viz., old smart phones, TVs, laptops and obsolete kitchen appliances finds its way illegally to Asia and Africa every year, says a report by the United Nations Environment Programme (UNEP). Close

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<sup>11</sup> <http://www.catchnews.com/environment-news/where-does-your-iphone-go-to-die-read-and-be-afraid-1435670782.html> visited 3/3/2016

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to 90 % of the world's electronic waste, worth nearly \$19 billion is illegally traded or dumped each year, to destinations half way across the world. While the European Union, U.S. and Japan are the primary origins of e-waste shipments and China, India, Malaysia and Pakistan are the main destinations, says the report. In Africa, Ghana and Nigeria are the biggest recipients of e-waste. Quoting an U.S. Environmental Protection Agency study, the UNEP report says that exporting e-waste to Asia worked out 10 times cheaper than processing it in within these countries. The Indian subcontinent has turned into an important destination for European waste. In China, for instance, 73.9 million computers, 0.25 billion mobile phones, and 56.6 million televisions were sold in 2011, the report says. Forecasts say that in just two years, the total quantum of e-waste generated around the world will be 50 million tonnes<sup>12</sup>.

Though the Ministry of Environment and Forest has issued E-waste management guidelines, the first of its kind in 2011 and later modified in 2015 but these are not sufficiently implemented. The important provisions relating to E-waste management guidelines are as follows:

### **E-Waste (Management) Rules, 2015.**

These rules shall apply to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment (EEE) listed in Schedule 1, including their components, consumables and spare parts which make the product operational and shall not apply to Batteries, Radioactive wastes (as there is separate law for that)<sup>13</sup>. These rules aims 'environmentally sound management of e-waste' means

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<sup>12</sup> <http://www.thehindu.com/sci-tech/energy-and-environment/india-a-victim-of-ewaste-crime/article7202265.ece> visited 7/3/2016

<sup>13</sup> Rule 2 of E-Waste (Management) Rules, 2015.



taking all steps required to ensure that e-waste are managed in a manner which shall protect health and environment against any adverse effects, which may result from hazardous substance contained in such wastes; The rules classify e-waste generated from the 'end of life' of their products as, '**White goods**' means consumer electrical and electronics such as Television sets (including sets based on liquid crystal display and light emitting diode technology), Refrigerators, Washing machine, Air-conditioners excluding centralised air conditioning plants.; and '**orphaned products**' means non branded or assembled electrical and electronic equipment<sup>14</sup>.

**Responsibilities of the Producer.**–The producer of electrical and electronic equipment listed in Schedule-I shall be responsible for providing information on hazards of improper handling, disposal, accidental breakage, damage and/or improper recycling of e-waste; (iii) instructions for handling and disposal of the equipment after its use, along with the Do's and Don'ts; (iv) affixing a visible, legible and indelible symbol given below on the products or information booklets to prevent e-waste from being dropped in garbage bins containing waste destined for disposal; and implementing 'Deposit Refund Scheme' wherein a portion of sale price shall be retained by producer and shall be refundable to the consumer once the end of life products is channelized in the prescribed method;<sup>15</sup>

**Responsibilities of Manufacturer**, includes:-

Collection of e-waste generated during the manufacture of any electrical and electronic equipment and channelizing it for recycling or disposal<sup>16</sup> and also to ensure that the e-waste thus collected is safely transported back to the producer or to registered collection centre as

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<sup>14</sup> Rule 3 (v) of E-Waste (Management) Rules, 2015.

<sup>15</sup> Rule 4 (1) (g) of E-Waste (Management) Rules, 2015

<sup>16</sup> Ibid, Rule 5 (1)



the case may be<sup>17</sup> and to file annual returns in Form 3 to the concerned State Pollution Control Board or Pollution Control Committee, on or before the 30th day of June following to the financial year to which that return relates<sup>18</sup>.

**Responsibilities of dealers:** Every dealer shall collect the e-waste by providing the consumer a box, bin or a demarcated area to deposit e-waste, or through take back system on behalf of Producer<sup>19</sup> and shall maintain records of the e-waste handled in Form 2 and such records should be available for scrutiny by the appropriate Authority<sup>20</sup>.

**Responsibilities of Consumer:** Consumers or Bulk Consumers of electrical and electronic equipment listed in Schedule-I shall ensure that e-waste generated by them is channelized to authorised collection centres or registered dismantler or recycler or is returned to the pick-up or take back services provided by the producers<sup>21</sup>.

**Procedure for storage of e-waste.-** Every producer, manufacturer, collection centre, dealers, refurbishers, dismantler or recyclers may store the e-waste for a period not exceeding one hundred and eighty days and shall maintain a record of collection, sale, transfer, storage and segregation of wastes and make these records available for inspection<sup>22</sup>.

**Reduction in the use of hazardous materials:** Every producer of electrical and electronic equipment and their components listed in schedule I shall ensure that, new electrical and electronic equipment and their component does not contain Lead, Mercury, Cadmium, Hexavalent Chromium, polybrominated biphenyls or polybrominated

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<sup>17</sup> Ibid, Rule 5(3)

<sup>18</sup> Ibid, Rule 5 (5)

<sup>19</sup> Ibid, Rule 7 (1)

<sup>20</sup> Ibid, Rule 7 (1)

<sup>21</sup> Ibid, Rule 9 (1)

<sup>22</sup> Ibid, Rule 15



diphenylethers<sup>23</sup>; and Central Pollution Control Board shall conduct random sampling of electrical and electronic equipment placed on the market to monitor and verify the compliance of Restriction of Hazardous Substances<sup>24</sup>.

**Accident reporting and follow-up:** Where an accident occurs at the facility processing e-waste or during transportation of e-waste, the producer, transporter, dismantler, or recycler, as the case may be, shall report immediately to the State Pollution Control Boards or Committees of Union territories about the accident<sup>25</sup>.

### **E-waste as per Schedule - I**

Centralised data processing: Mainframes, Minicomputers, Personal Computing: Personal Computers (Central Processing Unit with input and output devices), Personal Computing: Laptop Computers (Central Processing Unit with input and output devices), Personal Computing: Notebook Computers, Personal Computing: Notepad Computers, Printers including cartridges, Copying equipment, Electrical and electronic typewriters, User terminals and systems, Facsimile, Telex Telephones, Pay telephones, Cordless telephones, Cellular telephones, Answering systems, Consumer electrical and electronics: Television sets (including sets based on (Liquid Crystal Display and Light Emitting Diode technology), Refrigerator, Washing Machine, Air-conditioners, etc<sup>26</sup>.

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<sup>23</sup> Rule 16 (1) of E-Waste (Management) Rules, 2015

<sup>24</sup> Ibid, Rule 16(8)

<sup>25</sup> Ibid, Rule 20)

<sup>26</sup> Schedule 1 of E-Waste (Management) Rules, 2015



**Dark side of Electronics:** Annual e-waste generated<sup>27</sup>.

City	e-waste generated(in MT)	Item	% of contribution
Mumbai	1,20,000	Computer Equipment	70%
Delhi	98,000	Telecommunication Equipment	12%
Bangalore	92,000		
Chennai	67,000	Electrical Equipment	8%
Kolkata	55,000	Medical Equipment	7%
Pune	26,000		

**Conclusion:**

Society today revolves around technology and by the constant need for the latest and most modern high tech products contributes mass amount of e-waste. Rapid changes in technology, changes in media, falling prices, and planned obsolescence have resulted in a fast-growing surplus of electronic waste around the globe. The e-waste problem has become so huge that it cannot be solved without public participation. Ministry of Environment and Forests has notified the new Solid Waste Management Rules, 2016 with clear responsibilities assigned to various classes of consumers. Even when the environmentally conscious citizen segregates the e-waste at source, the chain of management dumps it all in landfills. Creating awareness through publications, advertisements, posters, information booklets accompanying the equipment including social media is the need of the hour. More conscious efforts are required to tackle the issue with public participation and the manufacturing companies also should be held responsible to collect back their products as part of Corporate Social Responsibility to reduce the impact of health hazards and to protect the environment.

<sup>27</sup> Times of India daily, Pune Edn, 22<sup>nd</sup> April 2016



## DOMESTIC VIOLENCE IN INDIA: CAUSES, CONSEQUENCES AND REMEDIES

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"Violence against women continues to persist as one of the most heinous, systematic and prevalent human rights abuses in the world. It is a threat to all women, and an obstacle to all our efforts for development, peace, and gender equality in all societies." Ban Ki moon, United Nations Secretary General, 2007

### Introduction

"Bride tortured to death for dowry", "School going kid succumbs to his injuries after beaten by father", "A seventy year old man killed over property dispute", "Harassment of men in Chandigarh..."

All these and what not, turn to any newspaper at random and you would find the reports of such kind of violence all over the country. These are all what we come to know through different forms of media. There are more such cases which go unreported every day. In fact, include the cases which we our self indulge in, or the ones which we witness in the neighborhood but are hesitant in taking even a single step to reduce their occurrences.

In our society, violence is bursting. It is present almost everywhere and nowhere is this eruption more intense than right behind the doors of our homes. Behind closed doors of homes all across our country, people are being tortured, beaten and killed. It is happening in rural areas, towns, cities and in metropolitans as well. It



is crossing all social classes, genders, racial lines and age groups. It is becoming a legacy being passed on from one generation to another.

The term used to describe this exploding problem of violence within our homes is Domestic Violence. This violence is towards someone who we are in a relationship with, be it a wife, husband, son, daughter, mother, father, grandparent or any other family member. It can be a male's or a female's atrocities towards another male or a female. Anyone can be a victim and a victimizer. This violence has a tendency to explode in various forms such as physical, sexual or emotional.

Since times immemorial, domestic violence has been an intrinsic part of the society we are living in. The contributing factors could be the desire to gain control over another family member, the desire to exploit someone for personal benefits, the flare to be in a commanding position all the time showcasing one's supremacy so on and so forth. On various occasions, psychological problems and social influence also add to the vehemence. The present essay deals with the various forms of domestic violence prevalent in India. Their causes of occurrence in households have been analyzed categorically. The variation in the intensity of the forms with change in the geographical location and culture has also been addressed. The aftereffects of different kinds of domestic violence and the possible remedies have been highlighted. Finally, a conclusion has been drawn after the complete analysis of the topic with the juxtaposition of facts and figures at hand.

**Definitions of Domestic Violence:** Domestic violence is a crime. It is a pattern of abusive behaviour that occurs between family members and/or intimate partners to gain power and control. It can be described as a pattern of abusive and threatening behaviour that may include physical, emotional, economic and sexual violence as well as intimidation, isolation and coercion. Domestic violence is also known as



domestic abuse, spousal abuse, battering, family violence, dating abuse, and intimate partner violence (IPV). It is a pattern of behaviour which involves the abuse by one person against another in an intimate relationship such as marriage, cohabitation, dating or within the family. It can be experienced by persons in heterosexual or same-sex relationships.

The UNICEF accepts Domestic Violence as violence perpetrated by intimate partners and other family members and manifested through physical, sexual, psychological, and economic abuse.

It is necessary to clarify the concept of Domestic Violence against Women. Violence against women in general is defined as a force, whether overt or covert, used to wrest from a woman something that she does not want to give of her own free will and which causes her either physical injury or emotional trauma or both. Thus rape, kidnapping, wife-beating, sexual abuse, eve teasing, mental harassment, physical touch are all examples of violence against women. However, the present project is concerned with Domestic Violence and hence we shall restrict our study to the concept of Domestic Violence only.

Definition of Domestic Violence may be broad or focussed. It is very important to define domestic violence from the viewpoint of responses. For shaped by a particular understanding of what constitutes domestic violence, whether it be legal reform or the provision of support services and whether it is to be conceptualized as an intra-family conflict or a criminal violation of rights.

The core of definition of domestic violence consists of all the acts that constitute violence. Some definitions are narrow and focus on specific acts of violence, while others are broader and incorporate the full range of acts. A further critical element in the definition is as to





whether it is framed as an exclusively interpersonal act or seen more broadly as an expression of power that perpetuates the subordination of women. If it is the former, the definition would include those acts which might be seen as crimes and thus focus only on acts which result in physical injury or violence. If it is the latter, it would include all acts of physical, verbal, visual, mental or sexual abuse that are experienced by a woman, threats, invasion, or assaults and that have the effect of hurting her, or degrading her and/or taking away her ability to control contact with another individual. This type of definition covers more fully all the different processes by which women undergo subordination within intimate relations and fits more rightly in human rights perspective.

**Definition and law:** Domestic violence is currently defined in India by the Protection of Women from Domestic Violence Act of 2005. According to Section 3 of the Act, “any act, omission or commission or conduct of the respondent shall constitute domestic violence in case it:

1. Harms or injures or endangers the health, safety, life, limb or well-being, whether mental or physical, of the aggrieved person or tends to do so and includes causing physical abuse, sexual abuse, verbal and emotional abuse and economic abuse; or
2. Harasses, harms, injures or endangers the aggrieved person with a view to coerce her or any other person related to her to meet any unlawful demand for any dowry or other property or valuable security; or
3. Has the effect of threatening the aggrieved person or any person related to her by any conduct mentioned in clause (a) or clause (b); or
4. Otherwise injures or causes harm, whether physical or mental, to the aggrieved person.”

Jammu and Kashmir, which has its own laws, has enacted in 2010 the Jammu and Kashmir Protection of Women from Domestic Violence Act, 2010.

### **Causes of Domestic Violence**

There are a number of causes of domestic violence against women. These causes range from the trivial to bizarre and include mainly the following:

1. Not doing house-work properly
2. Dressing fashionably
3. Jealousy of husband
4. Husband's alcoholism
5. Dowry Demands
6. Husband's mistress
7. Laughing without reason
8. Combing hairs a number of times during day
9. High tone during dialogue
10. Free and Social nature
11. Close relations with friends
12. Boyfriends
13. Disrespectful behaviour with elders in the family
14. Refusal to bring money from parent's house
15. Partial fulfillment or non-fulfillment of promises made at the time of marriage.
16. Doubt of love affairs before marriage.
17. Doubt of extra-marital relations
18. Resistance for abnormal sexual behaviour of the husband
19. No child bearing capability
20. Birth of girl child repeatedly
21. Husband economically dependent on parents
22. Husband has problems at work place.
23. Sexual difficulties
24. Low job satisfaction
25. Single personality factor
26. Antisocial personality disorders



In addition to the reasons listed above there may also be a long list of reasons which are not identified or reported by the victims of domestic violence. In conclusion it can be said that anything can serve as an excuse for inflicting violence against a woman. No single factor explains the phenomenon of domestic violence against women.

### **Nature and Forms of Domestic Violence;**

The domestic violence against women may be classified as under –

- (a) Physical Violence
- (b) Emotional Abuse
- (c) Economic Abuse

Each of the above may take different forms and only the most common forms which are frequently used by the perpetrators may be described as under –

#### **(a) Physical Violence**

The most common and frequently used forms of physical violence used against women are-

- (i) Slaps (ii) beating (iii) pulsing (iv) Kicking (v) throwing objects (vi) beating with cane
- (vii) Burning with rod (viii) holding with rope (ix) Sexual coercion or assault.

#### **(b) Emotional Abuse:**

The mental or emotional abuse of a woman may take the following forms –

- (i) Using abusive language (ii) Insulting her in the presence of children, other member of the family and relatives (iii) Blaming her for everything that goes wrong in the family (iv) Charging her frequently on small and negligible issues (v) Making her feel guilty for no fault of



her (vi) Calling her names (vii) Giving her threat of divorce (viii) Treating her like a servant (ix) Keeping a strict watch on her movements (x) Prohibiting her from meeting her friends and relatives (xi) Prohibiting her from expression of her view on family matters (xii) Suspecting her for extramarital relations (xiv) Using ugly and insulting language for her parents (xv) Insulting her for house-keeping (xvi) Demeaning her family background (xvii) Criticising her for lacking intelligence (xviii) Threatening her to commit suicide (xviii) Giving her verbal threats to use physical force (xv) Threats to kill or burn.

### **(C) Economic Abuse**

Following are the most frequently used forms of economic abuse against women –(i) Preventing her from taking a job (ii) Forcing her to leave present job (iii) Not allowing her to purchase things of her liking and choice (iv) Stopping her from access to resources or money (v) Pressurising her to bring money from her parents and so on.

### **Extent of Domestic Violence**

Domestic violence is a widespread problem. However, its actual extent is difficult to measure. It may be very much higher than what the reports indicate because many instances of domestic violence against women are not reported. The research studies and surveys conducted by individuals generally produce higher estimates of violence than official records. However, they are also assumed to underestimate the actual extent of domestic violence against women. For a variety of reasons, respondents may fail to report violence that takes place in the family.

Six out of 10 Indian men admit to having perpetrated violence against their wives or partners, with men who experienced discrimination as children or faced financial stresses more likely to be abusive, said a study released on Monday.



"Many men in India act in a manner that is fairly predetermined by their gendered roles and expectations, socio-economic characteristics and childhood experiences," said the "Masculinity, Intimate Partner Violence and Son Preference" report. "Men who experience economic stress were more likely to have perpetrated violence ever or in the past 12 months. This may be because of norms related to masculinity, which reinforce the expectation that men are primary economic providers for their households."

The study across the states of Uttar Pradesh, Rajasthan, Punjab, Haryana, Odisha, Madhya Pradesh and Maharashtra found that men who had experienced discrimination as children were four times more likely to be violent towards their partners. The highest reports of violence came from Odisha and Uttar Pradesh, said the report, with more than 70 percent of men in these regions admitting to being abusive towards their wives and partners.

More than 38 percent of all crimes committed against women in India in 2013 were those registered under the charge of cruelty by husband or his relatives, according to the National Crime Records Bureau (NCRB). Such crimes make up the largest proportion of crimes against women in the country, with 118,866 cases of cruelty by husband or his family reported from a total of 309,546, says the NCRB.

In a written reply in the Lok Sabha, Minister of State for Home said, data provided by the National Crime Records Bureau showed that the cases of assault on women by her husband or his family members rose from 99,135 in 2011 to 1,06,527 in 2012 and further to 1,118,866 cases in 2013. Admitting that the numbers showed a "rising trend", the minister said there were adequate provisions within the Indian Penal Code to safeguard the modesty of women. "Moreover, the Criminal Law (amendment) Act, 2013 comprehensively covers all aspects of crimes against women," he said.



## **Andhra Pradesh leads in crimes against women**

Andhra Pradesh has reported the most crimes against women (263,839) over the past 10 years. The state ranks first in crimes reported for insult to modesty of women (35,733), second in cruelty by husband and relatives (117,458), assault on women with intent to outrage her modesty (51,376) and fourth among dowry-related deaths (5,364).

### **Impact of Domestic Violence on Women**

Domestic violence brings multiple damages for women. It has a significant impact on the health and well-being of women both in the immediate and longer term. Its psychological effects are far reaching. Mental health is affected by the trauma received through domestic violence. Depressions, stress, chronic stress, low self esteem are some of the outcomes of domestic violence on women. The social consequences of domestic violence are equally devastating. It affects the human rights of the women. It prevents equal treatment and empowerment of women. Domestic violence increases women's vulnerability to trafficking; women who experienced violence at home become more willing to look for and accept an uncertain and potentially risky job abroad. Losses of opportunity, isolation from family/ friends, loss of income or work, homelessness become the common manifestations for the women who experience domestic violence. Children become the worst sufferers in case of domestic violence. Physical impacts of domestic violence can be noted through death, disability and illness. Domestic violence often proves to be fatal for the victims. Thus, violence against women can have a myriad of devastating consequences on women's short and long-term health and wellbeing. Along with the immediate physical and emotional impacts of violence, women's overall quality of life, security can be adversely affected over an entire lifetime, which can, in turn, impact their participation and engagement in various aspects of life and society. These consequences to the individual



women, along with the violent act itself, can have ripple effects on society as a whole.

### **Impact of Domestic Violence on society**

All the different forms of violence discussed in this essay adversely affect the society. Violence against women may keep them locked in homes succumbing to the torture they face. If they come out in open and reveal the wrong done to them for help and rescue, it influences the society both positively and negatively. At one hand where it acts as an inspiration and ray of hope for other suffering women, on the other hand it also spoils the atmosphere of the society. When something of this kind happens in the society, few families may witness the evil of domestic violence knocking their door steps. Some families try to imitate what others indulge in irrespective of it being good or bad for the family.

### **Domestic Violence Measures Undertaken by Government of India**

In 1983, domestic violence was recognised as a specific criminal offence by the introduction of section 498-A into the Indian Penal Code. This section deals with cruelty by a husband or his family towards a married woman. India has also ratified various international conventions and human rights instruments committing to secure equal rights of women. Key among them is the ratification of the Convention on Elimination of All Forms of Discrimination against Women (CEDAW) in 1993.

The National Policy for the Empowerment of Women (2001) spells out to make maximum efforts to eliminate discriminations and all forms of violence against women and the girl child. As the policy states "All forms of violence against women, physical and mental, whether at domestic or societal levels, including those arising from customs, traditions or accepted practices shall be dealt with effectively



with a view to eliminate its incidence. Institutions and mechanisms/schemes for assistance will be created and strengthened for prevention of such violence, including sexual harassment at work place and customs like dowry; for the rehabilitation of the victims of violence and for taking effective action against the perpetrators of such violence. A special emphasis will also be laid on programmes and measures to deal with trafficking in women and girls.”

The Government of India passed the, Domestic Violence Bill in 2001, “To protect the rights of women who are victims of violence of any kind occurring within the family and to provide for matters connected therewith or incidental thereto.”

However the most promising legislative measure formulated in the country to end domestic violence is the Protection of Women from Domestic Violence Act 2005. The act aims at protecting the women from domestic violence. The Act was passed by the Parliament in August 2005 and assented to by the President on 13 September 2005. It was brought into force by the Indian government from October 26, 2006. As of November 2007, it has been ratified by four of twenty-eight state governments in India; namely Andhra Pradesh, Tamil Nadu, Uttar Pradesh and Odisha. But by now it is being enforced by all the states and union territories of India.

**The salient features of the Protection from Domestic Violence Act, 2005 are as follows:**

➤ The Act seeks to cover those women who are or have been in a relationship with the abuser where both parties have lived together in a shared household and are related by consanguinity, marriage or a relationship in the nature of marriage, or adoption; in addition relationship with family members living together as a joint family are also included. Even those women who are sisters, widows, mothers,





single women, or living with are entitled to get legal protection under the proposed Act.

➤ "Domestic violence" includes actual abuse or the threat of abuse that is physical, sexual, verbal, emotional and economic. Harassment by way of unlawful dowry demands to the woman or her relatives would also be covered under this definition.

➤ One of the most important features of the Act is the woman's right to secure housing. The Act provides for the woman's right to reside in the matrimonial or shared household, whether or not she has any title or rights in the household. This right is secured by a residence order, which is passed by a court. These residence orders cannot be passed against anyone who is a woman.

➤ The other relief envisaged under the Act is that of the power of the court to pass protection orders that prevent the abuser from aiding or committing an act of domestic violence or any other specified act, entering a workplace or any other place frequented by the abused, attempting to communicate with the abused, isolating any assets used by both the parties and causing violence to the abused, her relatives and others who provide her assistance from the domestic violence.

➤ The Act provides for appointment of Protection Officers and NGOs to provide assistance to the woman for medical examination, legal aid, safe shelter, etc.

➤ The Act provides for breach of protection order or interim protection order by the respondent as a cognizable and non-bailable offence punishable with imprisonment for a term which may extend to one year or with fine which may extend to twenty thousand rupees or with both. Similarly, non-compliance or discharge of duties by the Protection Officer is also sought to be made an offence under the Act with similar punishment.



Thus the provisions made by the Protection of Women from Domestic Violence Act 2005 are quite stringent in their letter and spirit.

### **Interventions Needed To End Domestic Violence**

Domestic violence should be taken seriously as a national issue needing urgent attention of the state, law enforcement agencies, social service agencies, the courts and the correction agencies. These agencies are to be given specialised training and coordination has to be secured among them to deal with the issues of domestic violence and the post management of the victims and the perpetrators. There should be the stringent implementation of laws with follow up monitoring. Accountability has to be fixed for any omission and commission.

NGOs are to spread awareness amongst women regarding the legal rights they have in hand for fighting against the atrocities they are subjected to. They are to encourage the women to report any case of domestic violence so that proper action may be taken against the culprits. Police is needed to be sensitized to treat domestic violence cases as seriously as any other crime. Special training to handle domestic violence cases should be imparted to police force. Further women should be provided with information regarding support network of judiciary, government agencies/departments. Engagement of the civil society and the private sector in ending violence against women and girls, working with survivors to empower them can do wonders in raising resistance against violence and in the rehabilitation of the vulnerable women.

Domestic violence can be reduced when women's rights are well protected. When it comes to protecting rights of the women, the Government is to review national legislations, practices and customs and abolish those that discriminate against women. Laws, policies and programmes that explicitly prohibit and punish violence must be put



into place, in line with international agreements. Further women's accesses to organisations are to be promoted and they should be given better political representation. This will change the power equation among the females and their male counterparts and contribute significantly for putting an end to domestic violence.

Responses to domestic violence complaints lodged should be timely and efficient to end a culture of hopelessness and impunity and foster a culture of justice and support. This will encourage women to report cases to get justice and reduce the rate of domestic violence. Provisions are to be made to improve access of women to services like police, courts regardless of their location, race, age or income.

Promotion of a culture of equality between men and women through institutional and legal reform, education, and awareness-raising are the need of the day to end the practice of domestic violence.

Educational programs both for women and men can sensitize the society against domestic violence and create an environment of equality.

Thus these interventions if introduced and implemented can translate the aims of the Domestic Violence Act into a programme of action and improve the situation of women in India.

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## METACOGNITION: A NEW AREA OF COGNITION

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### **Abstract:**

Metacognition conceptualize the kinds of learning that fits in our fast changing meta-world. Metacognitive active persons develop such learning because they are aware of their knowledge and, simultaneously, they can control further learning by activating strategies such as programming and evaluating. Metacognitive thinking skills help students to explore, innovate, inquire and have permanent learning. Metacognition includes knowledge and regulation of one's thinking processes. This paper tells about metacognition and its uses in classroom situations.

**Keywords:** Metacognition, Classroom Situation.

### **INTRODUCTION**

Metacognition is relatively a much higher and deeper concept than the cognition. Cognition stands for knowing or awareness. Metacognition as a higher concept stands for 'knowing about knowing' or 'cognition about cognition.' It tells us that merely knowing or getting acquainted with a piece of knowledge somehow is not sufficient. One should know 'why' and 'how' of the acquired knowledge, experience or skill. So, one should fully acquainted with the knowledge getting process and should be equipped with the skill of knowledge construction through his own independent efforts. Metacognition as a higher order thinking skills which are utilized by us in the execution of our task and solving of our problems involving complex cognitive abilities



Metacognition is defined as, " Metacognition refers to the process of one's thinking about one's own mental processes." According to Hacker, " Metacognition is often referred to as thinking about thinking and can be used to help students learn how to learn"

### **CHARACTERISTICS:**

Metacognition helps individual to have deep thinking and analyse the content properly. Metacognition has following characteristics:

- *Higher order of thinking:* Metacognition refers to higher order of thinking that involves active control over the thinking process
- *Higher concept than cognition:* It is relatively a much higher and deeper concept than cognition because it's about knowing about knowing
- *Active control over thinking process:* Metacognition has active control over thinking process which helps to make use for our new learning, construction of knowledge or way of discovering the solution of the problem
- *Helpful in the execution of task:* It is higher order of thinking and very much utilized by us in the execution of our task and also helpful in solving of our problem involving cognitive strategies.
- *Higher order mental task:* Metacognition involves the higher order mental tasks like planning, execution, monitoring and evaluation of the strategies
- *Aware about our abilities:* Metacognition makes us aware and conscious about our strengths and weaknesses in relation to the execution of a cognitive task

### **ELEMENTS OF METACOGNITION**

The elements of metacognition are:



- Developing a plan
- Monitoring a plan
- Evaluating a plan

*Developing a plan:* When you are developing a plan of action ask yourself following questions:

- Will my prior knowledge help me with this particular task?
- In what direction do I want my thinking to take me?
- Why I am reading this selected content?
- How much time do I have to complete the task?

*Monitoring a Plan:* When you are maintaining or monitoring the plan of action ask yourself:

- How am I doing?
- Am I on the right track?
- How should I proceed?
- What information is important to remember?
- Should I move in a different direction?
- What do I need to do if I do not understand?

*Evaluating a plan:* In evaluating the plan ask yourself:

- How well did I do?
- Did my particular task I think produce more or less than I had expected?
- What could I have done differently?
- How might I apply this line of thinking to other problem?



- Did I go back through the task to filling my blanks in my understanding?

## **CLASSROOM SITUATIONS FOR DEVELOPING METACOGNITION FOR STUDENTS**

There are following classroom situations for the development of the students:

- *Use of strategies has been associated with successful Learning:* Metacognition enables students to get benefit from instruction and influences with the use and maintenance of cognitive strategies while there are several approaches to metacognition instruction. It helps the learner have knowledge to have knowledge of cognitive process, strategies and experience or practice of both metacognitive strategies and evaluating the outcomes of their efforts. Simply providing knowledge with experience does not seem to be sufficient for the development of metacognitive control such as these strategies help to teaching students how to be more aware of their learning process and products as well as how to regulate those processes for more effective learning. They also become aware of their thinking process as they learn and more they can control such matters as goals, dispositions and attention. These all things or strategies will be helpful for the learner's successful and effective learning.
- *Metacognitive and three type of knowledge:* To increase their metacognitive abilities, students need to possess and be aware of three kinds of knowledge
  - **Declarative Knowledge:** It is the factual information that one knows it can be declared in the form of speaking and writing.





- Procedural Knowledge: It is a knowledge of how to do something and how to perform the steps in a process
- Conditional Knowledge: It is about when to use procedure, skill or strategy and when to use it, why a procedure works and under what conditions why one procedure is better than another.
- *Metacognition and Study Strategies*: Research shows that explicitly teaching study strategies in content course improves learning. Students need to know they have choices about which strategies to employ context. And students who learn study skills in one course need to apply study strategies. Metacognitive awareness of their learning processes is as important as their monitoring of their learning of the course content. Metacognition includes goal setting, monitoring, self-assessing and self-regulating during thinking and writing process
- *Metacognition and Motivation*: Metacognition affects motivation because when students get results on tests and grades on assignments. They perform a mental casual search to explain to themselves why the result happened. When they achieve good results, students tend to attribute the result to two internal factors: their own ability and efforts. And this success motivates their future success and also develops confidence in one's ability to solve future unfamiliar and challenging task. On the other hand when they fail they might attribute the cause to these same internal factors, their ability and efforts. The failure attribute develops a lack of ability and reduces their self-confidence for future tasks.
- *Monitor Compliance*: Develops ways to ensure that students to do their homework without burdening them and keep record and analyse their work



- *Teach explicitly those study strategies that will be effective in your course*
  - Provide Models
  - Demonstrate how to do the assigned writing task
  - Provide feedback
- *Strategies for students to use textbook reading*
  - Ask and answer student generated questions
  - Write summaries of each section in the chapter
  - Write brief summaries in the text margin
  - List ideas, causes, effects and characteristics
  - Write key information on graphs and charts
  - Underline key words
  - Connect the reading to a past lecture
  - Evaluate the reading
  - Write self-assessment of your understanding of the reading

## **CONCLUSION**

In this globalized world and to compete with the demands of creative future generation teachers have to use metacognitive skills to facilitate learning. The use of metacognition skills in different classroom situations help students to make use of abstract thinking, to create and do critical analysis of things. This helps our future generation to work beyond their limits and take this world to the new levels of developments and researches.



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## APPLYING NEUROSCIENCE TO EDUCATIONAL RESEARCH

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### **Abstract :**

Neuroscience is a relatively new discipline encompassing neurology, psychology and biology. It has made great strides in the last 100 years, during which many aspects of the physiology, biochemistry, pharmacology and structure of the vertebrate brain have been understood. Understanding of some of the basic perceptual, cognitive, attentional, emotional and mnemonic functions is also making progress, particularly since the advent of the cognitive neurosciences, which focus specifically on understanding higher level processes of cognition via imaging technology. Neuroimaging has enabled scientists to study the human brain at work in vivo, deepening our understanding of the very complex processes underpinning speech and language, thinking and reasoning, reading and mathematics. It seems timely, therefore, to consider how we might implement our increased understanding of brain development and brain function to explore educational questions.

### **Introduction**

The study of learning unites education and neuroscience. Neuroscience as broadly defined investigates the processes by which the brain learns and remembers, from the molecular and cellular levels right through to brain systems (e.g., the system of neural areas and pathways underpinning our ability to speak and comprehend language). This focus on learning and memory can be at a variety of levels. Understanding cell signalling and synaptic mechanisms (one brain cell



connects to another via a synapse) is important for understanding learning, but so is examination of the functions of specific brain structures such as the hippocampus by natural lesion studies or by invasive methods. Brain cells (or neurons) transmit information via electrical signals, which pass from cell to cell via the synapses, triggering the release of neurotransmitters (chemical messengers). There are around 100 billion neurons in the brain, each with massive connections to other neurons. Understanding the ways in which neurotransmitters work is a major goal of neuroscience. Patterns of neural activity are thought to correspond to particular mental states or mental representations. Learning broadly comprises changes in connectivity, either via changes in potentiation at the synapse or via the strengthening or pruning of connections. Successful teaching thus directly affects brain function, by changing connectivity. Clearly, educators do not study learning at the level of the cell. Successful learning is also dependent on the curriculum and the teacher, the context provided by the classroom and the family, and the context of the school and the wider community. Allot these factors of course interact with the characteristics of individual brains. For example, children with high levels of the MAOA gene (monoamine oxidase A) who experience maltreatment and adverse family environments seem to be protected from developing antisocial behaviours (Caspi et al., 2002), possibly via moderating effects on their

neural response to stress. Diet also affects the brain. A child whose diet is poor will not be able to respond to excellent teaching in the same way as a child whose brain is well-nourished. It is already possible to study the effects of various medications on cognitive function. Methylphenidate (Ritalin), a medication frequently prescribed for children with ADHD (Attention Deficit Hyperactivity Disorder), has been shown to improve stimulus recognition in medicated children (in terms of attention to auditory and visual stimuli as revealed by



neuroimaging; see Seifert et al., 2003). Neuroimaging techniques also offer the potential to study the effects of different diets, food additives and potential toxins on educational performance.

## Teaching

It is notable; however, that neuroscience does not as yet study teaching. Successful teaching is the natural counterpart of successful learning, and is described as a 'natural cognition' by Strauss (2003). Forms of teaching are found throughout the animal kingdom, usually related to ways of getting food. However, the performance of intentional acts to increase the knowledge of others (teaching with a 'theory of mind') does seem to be unique to humans, and is perhaps essential to what it means to be a human being (Strauss, Ziv, & Stein, 2002). The identification and analysis of successful pedagogy is central to research in education, but is currently a foreign field to cognitive neuroscience. There are occasional studies of the neural changes accompanying certain types of highly focused educational programmes (such as remedial programmes for teaching literacy to dyslexic children, see below), but wider questions involving the invisible mental processes and inferences made by successful teachers have not begun to be asked. Strauss suggests that questions such as whether there are specialized neural circuits for different aspects of teaching may soon be tractable to neuroimaging methods, and this is a thought-provoking idea. Teaching is a very specialized kind of social interaction, and some of its aspects (reading the minds of others, inferring their motivational and emotional states) are after all already investigated in cognitive neuroscience.

Used creatively, therefore, cognitive neuroscience methods have the potential to deliver important information relevant to the design and delivery of educational curricula as well as the quality of teaching itself. Cognitive neuroscience may also offer methods for the early identification of special needs, and enable assessment of the delivery of



education for special needs. At the same time, however, it is worth noting that 'neuromyths' abound. Some popular beliefs about what brain science can actually deliver to education are quite unrealistic. Although current brain science technologies offer exciting opportunities to educationists, they complement rather than replace traditional methods of educational enquiry.

### **Selected studies from cognitive neuroscience with interesting Implications for education**

How valuable is cognitive neuroscience to educational psychologists? Current opinions vary (Bruer, 1997; Byrnes & Fox, 1998; Geary, 1998; Geake & Cooper, 2003; Mayer, 1998; Schunk, 1998; Stanovich, 1998), but in general the consensus is moving away from early views that neuroscience is irrelevant because it only confirms what we already knew. The eventual answer will probably be that it is very valuable indeed. The tools of cognitive neuroscience offer various possibilities to education, including the early diagnosis of special educational needs, the monitoring and comparison of the effects of different kinds of educational input on learning, and an increased understanding of individual differences in learning and the best ways to suit input to learner. I will now describe briefly some recent neuroscience studies in certain areas of cognitive development, and give a flavour of how their methods could contribute to more specifically educational questions.

### **Language**

Despite sharing 98.5% of our genome with chimpanzees, we humans can talk and chimps cannot. Interestingly, genes expressed in the developing brain may hold part of the answer. For example, a gene called FOXP2 differs in mouse and man by 3 amino acid differences, two of which occurred after separation from the common human chimp ancestor about 200,000 years ago (Marcus & Fisher, 2003). This gene is



implicated in a severe developmental disorder of speech and language that affects the control of face and mouth movements, impeding speech. Neutrally, accurate vocal imitation appears to be critical for the development of speech (Fitch, 2000). Hence when linguistic input is degraded or absent for various reasons (e.g., being hearing-impaired, being orally impaired), speech and language are affected. Studies of normal adults show that grammatical processing relies more on frontal regions of the left hemisphere, whereas semantic processing and vocabulary learning activate posterior lateral regions of both hemispheres. For reasons that are not yet well understood, the brain systems important for syntactic and grammatical processing are more vulnerable to altered language input than the brain systems responsible for semantic and lexical functions. ERP studies show that when English is acquired late due to auditory deprivation or late immigration to an English-speaking country, syntactic abilities do not develop at the same rate or to the same extent (Neville et al., 1997). Late learners do not rely on left hemisphere systems for grammatical processing, but use both hemispheres (Weber-Fox & Neville, 1996). ERP studies also show that congenitally blind people show bilateral representation of language functions (Röder et al., 2000). Blind people also process speech more efficiently (Hollins, 1989), for example they speed up cassette tapes, finding them too slow, and still comprehend the speech even though the recording quality suffers.

## Reading

Neuroimaging studies of both children and adults suggest that the major systems for reading alphabetic scripts are lateralised to the left hemisphere. These studies typically measure brain responses to single word reading using fMRI or ERPs. Reviews of such studies conclude that alphabetic/orthographic processing seems mainly associated with occipital, temporal and parietal areas (e.g., Pugh et al., 2001). The occipital-temporal areas are most active when processing





visual features, letter shapes and orthography. The inferior occipital-temporal area shows electrophysiological dissociations between words and no words at around 180Ms, suggesting that these representations are not purely visual but are linguistically structured. Activation in temporo-occipital areas increases with reading skill (e.g., Shaywitz et al., 2002), and is decreased in children with developmental dyslexia. Phonological awareness (the ability to recognize and manipulate component sounds in words) predicts reading acquisition across languages, and phonological processing appears to be focused on the temporo-parietal junction. This may be the main site supporting letter-to-sound recoding and is also implicated in spelling disorders. Dyslexic children, who typically have phonological deficits, show reduced activation in the temporo-parietal junction during tasks such as deciding whether different letters rhyme (e.g., P, T = yes, P, K = no). Targeted reading remediation increases activation in this area (e.g., Simos et al., 2002). Finally, recordings of event-related magnetic fields (MEG) in dyslexic children suggest that there is atypical organisation of the right hemisphere (Heim, Eulitz, & Elbert, 2003). This is consistent with suggestions that compensation strategies adopted by the dyslexic brain require greater right hemisphere involvement in reading. Although to date neuroimaging studies have largely confirmed what was already known about reading and its development from behavioural studies, neuroscience techniques also offer a way of distinguishing between different cognitive theories (e.g. Whether dyslexia has a visual basis or a linguistic basis in children). Neuroimaging techniques also offer a potential means for distinguishing between deviance and delay when studying developmental disorders. For example, our preliminary studies of basic auditory processing in dyslexic children using ERPs suggests that the phonological system of the dyslexic child is immature rather than deviant (Thomson, Baldeweg, & Goswami, in preparation). Dyslexic children show remarkable similarity in N1 response to younger reading

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level controls, while showing much larger N1 amplitudes than age-matched Controls. Finally, PET studies have shown that the functional organization of the brain differs in literate and illiterate adults (Castro-Caldas et al., 1998). Portuguese women in their sixties who had never learned to read because of lack of access to education were compared with literate Portuguese women from the same villages inward and no word repetition tasks. It was found that totally different brain areas were activated during no word repetition for the illiterate versus literate participants. Learning to read and write in childhood thus changes the functional organization of the adult brain.

### **Mathematics**

For mathematics, cognitive neuroscience is beginning to go beyond existing cognitive models. It has been argued that there is more than one neural system for the representation of numbers. A phylogenetically old 'number sense' system, found in animals and infants as well as older participants, seems to underpin knowledge about numbers and their relations (Dehaene, Dehaene-Lambertz, & Cohen, 1998). This system, located bilaterally in the intraparietal areas, is activated when participants perform tasks such as number comparison, whether the comparisons involve Arabic numerals, sets of dots or number words. Because mode of presentation does not affect the location of the parietal ERP components, this system is thought to organize knowledge about number quantities. Developmental ERP studies have shown that young children use exactly the same parietal areas to perform number comparison tasks (Temple & Posner, 1998). A different type of numerical knowledge is thought to be stored verbally, in the language system (Dehaene et al., 1999). This neural system also stores knowledge about poetry and overlearned verbal sequences, such as the months of the year. Mathematically, it underpins counting and rote-acquired knowledge such as the multiplication tables. This linguistic system seems to store 'number facts' rather than compute



calculations. Many simple arithmetical problems (e.g.,  $3 + 4$ ,  $3 \times 4$ ) are so overlearned that they may be stored as declarative knowledge. More complex calculation seems to involve visuospatial regions (Zago et al., 2001), possibly attesting to the importance of visual mental imagery in multi-digit operations (an internalized and sophisticated form of a number line, see Pesenti, Thioux, Seron, & De Volder, 2000). Finally, a distinct parietal-premotor area is activated during finger counting and also calculation. This last observation may suggest that the neural areas activated during finger counting (a developmental strategy for the acquisition of calculation skills) eventually come to partially underpin numerical manipulation skills in adults. If this were the case, then perhaps finger counting has important consequences for the developing brain, and should be encouraged in school. In any event, neuroimaging techniques offer ways of exploring such questions. They can also be used to discover the basis of dyscalculia in children. For example, dyslexic children often seem to have associated mathematical difficulties. If dyslexia has a phonological basis, then it seems likely that the mathematical system affected in these children should be the verbal system underpinning counting and calculation. Dyslexic children with mathematical difficulties may show neural anomalies in the activation of this system, but not in the activation of the parietal and premotor number systems. Children with dyscalculia who do not have reading difficulties may show different patterns of impairment. Knowledge of the neural basis of their difficulties could then inform individual remedial curricula.

## Conclusions

Clearly, the potential for neuroscience to make contributions to educational research is great. Nevertheless, bridges need to be built between neuroscience and basic researching education. Bruer (1997) suggested that cognitive psychologists are admirably placed to erect these bridges, although he also cautioned that while neuroscience has



learned a lot about neurons and synapses, it has not learned nearly enough to guide educational practice in any meaningful way. This view is perhaps too pessimistic. Cognitive developmental neuroscience has established a number of neural 'markers' that can be used to assess development, for example of the language system. These markers may be useful for investigating educational questions. Taking ERP signatures of language processing as a case in point, different parameters are robustly associated with semantic processing (e.g., N400), phonetic processing (e.g., mis-match negativity or MMN), and syntactic processing (e.g., P600). These parameters need to be investigated longitudinally in children. Certain patterns may turn out to be indicative of certain developmental disorders. For example, children at risk for dyslexia may show immature or atypical MMNs to phonetic distinctions (Csepe, 2003). Children with SLI (specific language impairment) may have generally immature auditory systems, systems resembling those of children 3–4 years younger than them (Bishop & McArthur, in preparation). Characteristic ERPs may also change in response to targeted educational programmes. For example, the MMN to phonetic distinctions may become sharper (as indexed by faster latencies) in response to literacy tuition in phonics (see Csepe, 2003). If this were to be established across languages, education would have a neural tool for comparing the efficiency of different approaches to the teaching of initial reading. For example, one could measure whether the MMN to phonetic distinctions sharpened in response to literacy tuition based on whole language methods. This is only one example of the creative application of currently available neuroscience techniques to important issues in education. Educational and cognitive psychologists need to take the initiative, and think 'outside the box' about how current neuroscience techniques can help to answer outstanding educational questions.



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## HEALTH STATUS IN RURAL INDIA

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### Abstract

India is the second largest populous country of the world. In the recent years India is getting global attention due to its socio, cultural, political and demographic pattern. In spite of the efforts made and adopted by the government the changing pattern of the population are posing challenges for the developmental and service projects of the government and most particularly for the health sector. About 75 percent of health infrastructure, medical man power and other health resources are utilized for the urban population which is only 27 percent of the India's total population. It is significant to note that most of the contagious, infectious and waterborne diseases such as diarrhoea, amoebiasis, typhoid, infectious hepatitis, worm infestations, malaria, tuberculosis, whooping cough, respiratory infections, pneumonia and reproductive tract infections dominate the mortality pattern in rural society. At the same time non-communicable diseases such as cancer, blindness, mental illness, hypertension, diabetes, HIV/AIDS, and injuries caused by accidents are also on the rise. The health status of Indians, is still a critical concern, particularly that of the rural population. This could be observed in the rate of life expectancy (63 years), infant mortality rate (80/1000 live births), maternal mortality rate (438/100 000 live births); however, over a period of time some progress has been made. To come out of this situation, the attention should be made on then rural health attempting both at macro (national and state) and micro (district and regional) levels. The current 'biomedical model' has to incorporate the 'sociocultural model',



in its approach. Attempts should be made to reduce the gap between rural and urban society and improve quality of rural life. A revised National Health Policy addressing the prevailing inequalities life is the need of the hour which could improve the quality of rural population.

## INTRODUCTION

After 69 years of independence, a number of urban and growth-orientated developmental programs having been implemented, nearly 716 million rural people (72% of the total population), half of which are below the poverty line (BPL) continue to fight a hopeless and constantly losing battle for survival and health. The policies implemented so far, which concentrate only on growth of economy *not* on equity and equality, have widened the gap between 'urban and rural' and 'haves and have-nots'. Nearly 70% of all deaths, and 92% of deaths from communicable diseases, occurred among the poorest 20% of the population. However, some progress has been made since independence in the health status of the population; this is reflected in the improvement in some health indicators. Under the cumulative impact of various measures and a host of national programs for livelihood, nutrition and shelter, life expectancy rose from 33 years at Independence in 1947 to 66.21 years in 2012. Infant mortality declined from 146/1000 live births in 1961 to 39/1000 in 2014. Interstate, regional, socioeconomic class, and gender disparities remain high. These achievements appear significant, yet it must be stressed that these survival rates in India are comparable even today only to the poorest nations of sub-Saharan Africa. The rural populations, who are the prime victims of the policies, work in the most hazardous atmosphere and live in abysmal living conditions. Unsafe and unhygienic birth practices, unclean water, poor nutrition, subhuman habitats, and degraded and unsanitary environments are challenges to the public health system. The majority of the rural population is smallholders, artisans and labourers, with limited resources that they



spend chiefly on food and necessities such as clothing and shelter. They have no money left to spend on health. The rural peasant worker, who strives hard under adverse weather conditions to produce food for others, is often the first victim of epidemics. This present paper attempts to review critically the current health status of India, with a special reference to the vast rural population of the beginning of the twenty first century.

## **HEALTH PRACTICES AND PROBLEMS IN RURAL INDIA**

Rural people in India in general, and tribal populations in particular, have their own beliefs and practices regarding health. Some tribal groups still believe that a disease is always caused by hostile spirits or by the breach of some taboo. They therefore seek remedies through magic religious practices. On the other hand, some rural people have continued to follow rich, undocumented, traditional medicine systems, in addition to the recognised cultural systems of medicine such *Ayurveda*, *unani*, *siddha* and naturopathy, to maintain positive health and to prevent disease. However, the socioeconomic, cultural and political onslaughts, arising partly from the erratic exploitation of human and material resources, have endangered the naturally healthy environment (e.g. access to healthy and nutritious food, clean air and water, nutritious vegetation, healthy life styles, and advantageous value systems and community harmony). The basic nature of rural health problems is attributed also to lack of health literature and health consciousness, poor maternal and child health services and occupational hazards. The majority of rural deaths, which are preventable, are due to infections and communicable, parasitic and respiratory diseases. Infectious diseases dominate the morbidity pattern in rural areas (40% rural: 23.5% urban). Waterborne infections, which account for about 80% of sickness in India, make every fourth person dying of such diseases in the world, an Indian. Annually, 1.5 million deaths and loss of 73 million workdays are attributed to





waterborne diseases. Three groups of infections are widespread in rural areas, as follows.

Diseases that are carried in the gastrointestinal tract, such as diarrhoea, amoebiasis, typhoid fever, infectious hepatitis, worm infestations and poliomyelitis. About 100 million suffer from diarrhoea and cholera every year.<sup>3</sup> 2. Diseases that are carried in the air through coughing, sneezing or even breathing, such as measles, tuberculosis (TB), whooping cough and pneumonia. Today there are 12 million TB cases (an average of 70%). Over 1.2 million cases are added every year and 37 000 cases of measles are reported every year.<sup>3</sup> 3. Infections, which are more difficult to deal with, include malaria, filariasis and *kala-azar*. These are often the result of development. Irrigation brings with it malaria and filariasis, pesticide use has produced a resistant strain of malaria, the ditches, gutters and culverts dug during the construction of roads, and expansion of cattle ranches, for example, are breeding places for snails and mosquitoes. About 2.3 million episodes and over 1000 malarial deaths occur every year in India.<sup>3</sup> An estimated 45 million are carriers of microfilaria, 19 million of which are active cases and 500 million people are at risk of developing filaria.<sup>3</sup> Every third person in the world suffering from leprosy is an Indian. (Nearly 1.2 million cases of leprosy, with 500 000 cases being added to this figure every year.<sup>4</sup>) Malnutrition is one of the most dominant health related problems in rural areas. There is widespread prevalence of protein energy malnutrition (PEM), anaemia, vitamin A deficiency and iodine deficiency. Nearly 100 million children do not get two meals a day. More than 85% of rural children are undernourished (150 000 die every year).<sup>1</sup>

A recent survey by the Rural Medical College, Loni (unpublished data), in the villages of Maharashtra State, which is one of the progressive states, has revealed some alarming facts. Illness and deaths related to pregnancy and childbirth are predominant in the rural areas, due to the



following. Very early marriage: 72.5% of women aged 25–49 years marry before 18, where the literacy rate is 80%. 2. Very early pregnancy: 75% married women had their first pregnancy below 18 years of age. 3. All women invariably do hard physical work until late into their pregnancy. 4. Fifty-one per cent of deliveries are conducted at home by an untrained traditional birth attendant. 5. Only 28% of pregnant women had their antenatal checkup before 16 weeks of pregnancy. 6. Only 67% of pregnant women had complete antenatal checks (minimum of three checkups). 7. Only 30% of women had postnatal checkups. In addition, agricultural- and environment-related injuries and diseases are all quite common in rural areas, for example: mechanical accidents, pesticide poisoning, snake, dog and insect bites, zoonotic diseases, skin and respiratory diseases; oral health problems; socio psychological problems of the female, geriatric and adolescent population; and diseases due to addictions. The alarming rate of population growth in rural areas nullifies all developmental efforts. The rural population, which was 299 million in 1951, of total population 121 crores, rural population is 83.3 crores in 2011. Since 1951, the government has been attempting through vertical and imported programs to combat the problems, but to no avail. However, the new National Population Policy 2005 gave emphasis to an holistic approach; for example, improvement in 'quality of life' for all, no gender bias in education, employment, child survival rates, sound social security, promotion of culturally and socially acceptable family welfare methods. Two distinct types of health status have been in evidence. The 'rural–urban' divide depicted in Table 1, helps in understanding the health status of rural people, which is far behind their urban counterparts. There are also other divides such as 'rich–poor', 'male–female', 'educated–uneducated', 'north–south', 'privileged–under privileged', etc.



## HEALTH POLICY AND INFRASTRUCTURE FOR RURAL AREAS INAPPROPRIATE

The selective health intervention during the colonial period resulted in the so-called 'modern medicine' in India. After independence, the state has chosen to follow these 'western models'. This system, which is highly selective, institutionalised, centralised and top down – not by oversight but by design – and which treats people as objects rather than subjects, has failed to address the needs of the majority, that is to say, the rural poor and indigenous people. While a significant portion of the country's medical needs, especially in rural areas, have been attended to by the indigenous health systems such as Ayurveda, homeopathy, *unani*, naturopathy and folk medicine, it has been conveniently neglected by the policy makers, and planners. The draft of the new National Health Policy 2001, has also not given due importance to Indian systems of medicine. The concept of a family physician with social accountability, which has traditional roots and acceptance from the rural masses, has diminished with the existing policies and value systems.

The present westernised hospital-based medical education and training, which is supported by public funding, has proved beyond doubt that new doctors are not inclined to and capable of meeting the needs of the majority of the public (i.e. rural people), which is where their services are most required. A recent study conducted by the Rural Medical College (unpublished data) on the involvement of general practitioners, has revealed the following facts: 80% of general practitioners practice western medicine (allopathic medicine) without proper training. 73% consider cost to be the most important factor when prescribing a drug, without considering pharmacological properties. 75% were aware of the Government-run Primary Health Center (PHC) or village subcentres without knowing the names of the medical officer at the PHC; half (53%) do not know the health workers



in their own area. About 67% had knowledge of various national health programs but only 33% participated. Over 68% received information regarding the health programs through the media, and only 28% received information through public health staff. About 74% provide family planning services, mainly oral contraceptives and condoms. General practitioners do provide services to pregnant women (65%), but only 35% registered them. Almost all general practitioners routinely handle cases of diarrhoea, but only 29% know the exact composition of oral dehydration solution (ORS); amazingly, none knew the right method to prepare the ORS packet. While the current need for rural areas is medical and paramedical manpower, such as social physicians, public health nurses and midwives and paramedical workers (e.g. laboratory technicians, rural health and sanitation workers, health literacy educators, population educators, community health guides, community oral health guides), the country has been concentrating on producing specialist doctors. Some of the rural health technologies propagated is inappropriate, such as ORS packets instead of locally available water and cooked cereals, sugar-salt solution and herbal teas, which are culturally accepted by the community. Though, the concept of primary health care is appropriate to rural areas, it remained sound on paper only because of the deliberate attempts of health professionals.

The present system has not left any scope for the involvement of the community, nor for grassroots level health workers to take ownership of the programs and integrate them with overall development. The concept of placing a community-selected person from the village, and providing them with essential training so that the community can cope more effectively with its health problems, was the centerpiece of the PHC. As a result, the basic requirements of decentralized people based, integrated curative, preventive and promotive services have been totally undermined by the 'vertical programs'.



## **INADEQUATE PUBLIC HEALTH EXPENDITURE AND MISALLOCATION OF PUBLIC MONEY**

The total expenditure on health in India is estimated as 5.2% of the GDP; public health investment is only 0.9%, which is by far too inadequate to meet the requirements of poor and needy people. Successive 5-year plans allocated less and less (in terms of per cent of total budget) to health. A major share of the public health budget is spent on family welfare. While 75% of India's population lives in rural areas, less than 10% of the total health budget is allocated to this sector. Even here the chief interest of the primary health care is diverted to family planning and ancillary vertical national programs such as child survival and safe motherhood (CSSM) which are seen more as statistical targets than as health services. According to one study, 85% of the PHC budget goes on personnel salaries. The lack of commitment to provide health care for its citizens is reflected in the inadequacy of the health infrastructure and low levels of financing, and also in declining support for the various healthcare demands of the people; especially since the 1980s, when the process of liberalisation and opening up of the Indian economy to the world markets began. Medical care and control of communicable diseases are crucial areas of concern, both in terms of what people demand as priorities as well as what existing socioeconomic conditions demand. Along with overall public health spending, allocations to both these subsectors also showed a declining trend in the 1980s and 1990s

In the case of medical research, a similar trend is observed. While 20% of research grants are allocated to studies on cancer, which is responsible for 1% of deaths, less than 1% is provided for research in respiratory diseases, which accounts for 20% of deaths.



## COMMERCIALISATION OF HEALTH CARE FACILITIES

The disillusionment and frustration with the growing ineffectiveness of the government sector is gradually driving poor people to seek help of the private sector, thus forcing them to spend huge sums of money on credit, or they are left to the mercy of 'quacks'. While estimates vary, the government probably accounts for no more than 20–30% of total health spending. **Private sector's share** in healthcare delivery is expected to increase from 66% in 2005 to 81% by 2015. About 67% of all hospitals, 63% of all dispensaries and 78% of all doctors in India are in the private/corporate sector. Much has been experienced and written on the growing privatization and commercialisation of the medical practices and their links with drug and medical instrument manufacturers. While WHO recommends about 130 essential drugs, as many as 4000 drugs are available on the Indian market. Due to this, 'buying' healthcare has gone beyond the reach of the rural poor. Two recent all-India surveys (NSSO 46th round and NCAER, New Delhi), have shown that medical treatment is the most important cause of rural indebtedness, next only to dowry. A recent study conducted by the undergraduate medical students of the Rural Medical College, Loni (unpublished data), on the expenditure pattern of rural families, reveals the following facts. 70% of families spend 60% of their annual income on health. 93% of the amount spent on health is on curative and emergency care. Invariably, men receive preferential treatment (56% of the expenditure). Adolescents and the elderly are neglected (14% of expenditure). Poor families spend a higher percentage of their income on health than do the rich, as they are forced to use the services of the private sector because the public sector is ill-equipped and unaccountable. While a number of health insurance schemes are available to the urban sector, the unorganised rural masses that do not have insurance coverage are driven into the arms of the exploitative private sector.



## CONCLUSION

The 'magical' year of 2021 AD has come to an end. 'Health for all by 2021 AD' remains as a distant mirage and the slogan has been rephrased as 'Health for all in 21st Century'. Primary health care, as a paradigm, has been lost on the way. The failure of the 'Alma Ata Declaration' in fulfilling its objectives to shift resources from urban to rural scene, reiterates the urgency of looking for alternative strategies at the national and local level. To improve the prevailing situation, the problem of rural health is to be addressed both at the macro (national and state) and micro level (district and regional), in a holistic way, with genuine efforts to bring the poorest of the population to the centre of the fiscal policies. A paradigm shift from the current 'biomedical model' to a 'sociocultural model' is required, to meet the needs of the rural population. A comprehensive revised National Health Policy addressing the existing inequalities, and work towards promoting a long-term perspective plan exclusively for rural health is the current need.

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## TEACH MATHEMATICS WITH A CREATIVE MIND

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While working as a teacher educator in a training college majority of our teacher trainees share their experience in school, during teaching practice time, in every weekend. They felt difficulty to handle extra work given to them since they were assigned to handle almost all classes in the school due to the absence of senior teachers. We discuss the matter seriously and realize that we are not able to change the attitude of senior teachers so we admit the duty and find alternative to tackle the situation effectively.

Discussions are going on this matter at last we prepare a detailed question related to basic mathematics and administered the test whenever the trainee got a substitution work in a class where she is not assigned regularly. To overcome the age difference we prepare four set of questions according to the chronological sequence.

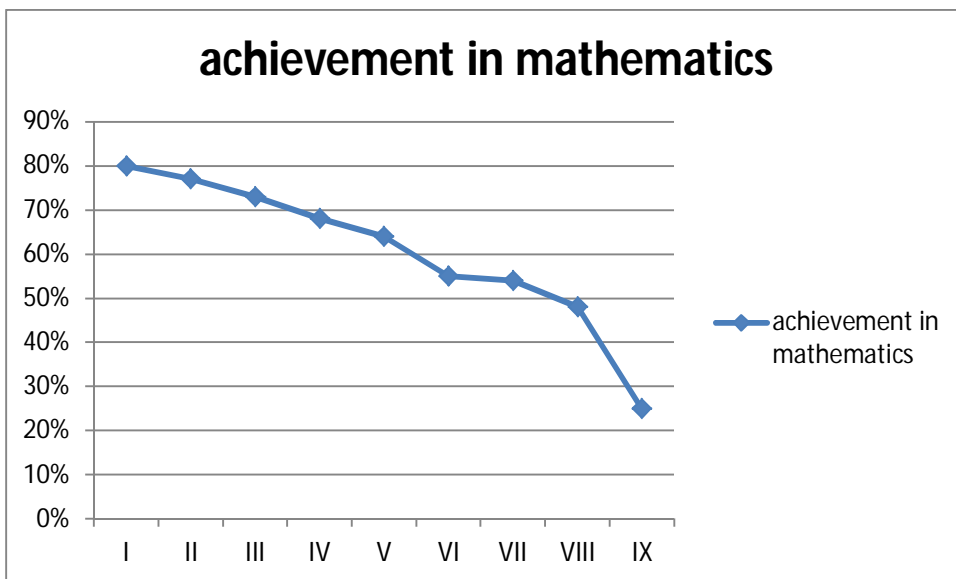
Next week they come with mark list of students. As a mathematics teacher I wanted them to compare the marks of students and write their comments. So many students give different comments but the comment recorded by one student attract me more. He noted that achievement of basic concept in mathematics of higher standard students is comparatively less than that of lower standard students. It is wonderful observation we have made there.

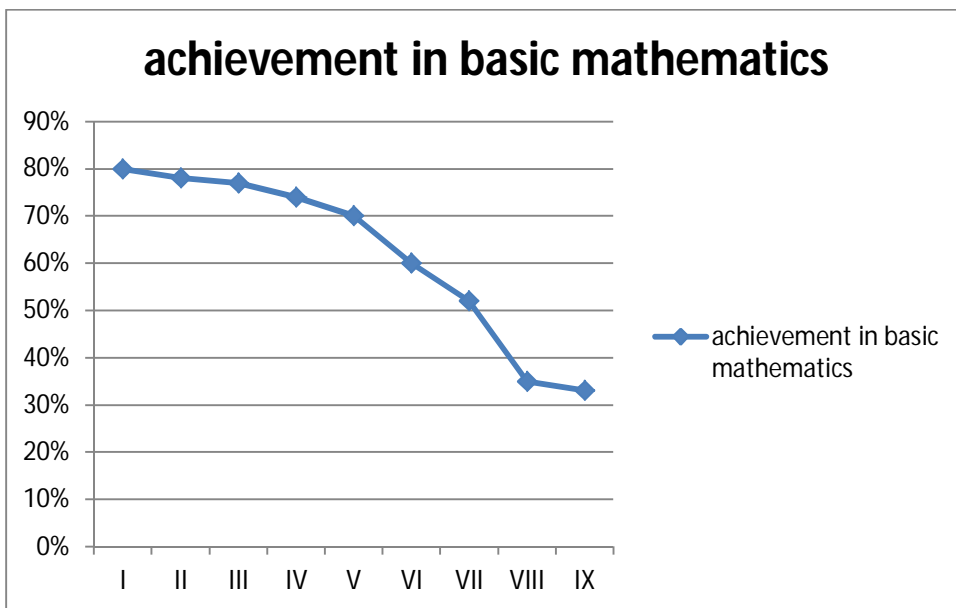
Coming days we discuss the matter and analyze the result in different school. More precisely the fact raise up. I share this matter with my research guide he is interested in this matter he advised me to collect the achievement score of students in mathematics gradually in



successive years whenever it is possible .i communicate this matter to my students they have collected the achievement score of students it shows a gradual decrease in achievement of mathematics of majority of students. The backwardness is more specific in higher standard than lower standard

Same result is there in the case of achievement in basic concept of mathematics that is as the student goes to higher classes their ability to handle basic mathematical concept decreases. Decreasing rate is almost similar as in the case of achievement .Following graph gives a clear picture in this area





So there a question arises that whether there is any relationship between achievement in mathematics and achievement in basic concept of mathematics

Achievement in mathematics means the idea obtained by a student in the content area prescribed to them at their present grade .It is evaluated by using an achievement test. Here it is collected from school records of students

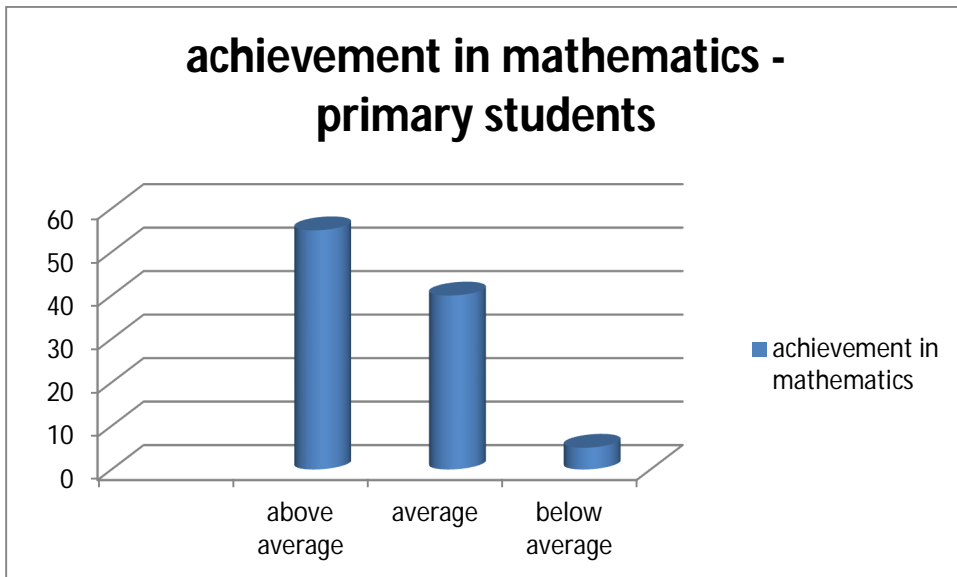
Achievement in basic concept of mathematics is the ability of a student to show proficiency in handling fundamental mathematics which is essential in learning the prescribed content of their grade

A worrisome percentage of students score below the level of proficiency expected for their age and grade levels. It has seen that some group of students performs at lower level comparing to other students of same age group .There is some sign of improvement ,but it

is only at the basic computational area .Items which requires application ,problem solving etc. shows very low performance

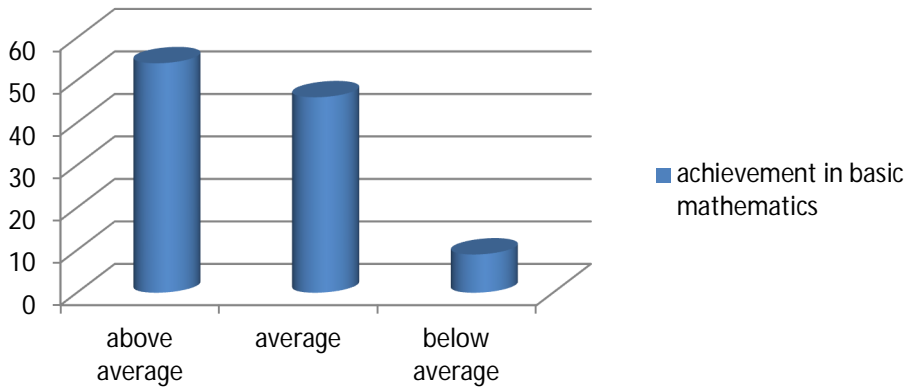
A study was conducted to compare the achievement in mathematics and achievement in basic concept of mathematics students are selected from first to ninth and grouped them in to three as Group-I std I,II,III,IV second group Std V,VI,VII and third group VIII,IX

While comparing the scores in lower primary there wouldn't see any remarkable difference .Students shows high achievement .it reveals that at initial stage of learning students approach mathematics normally as a subject to study

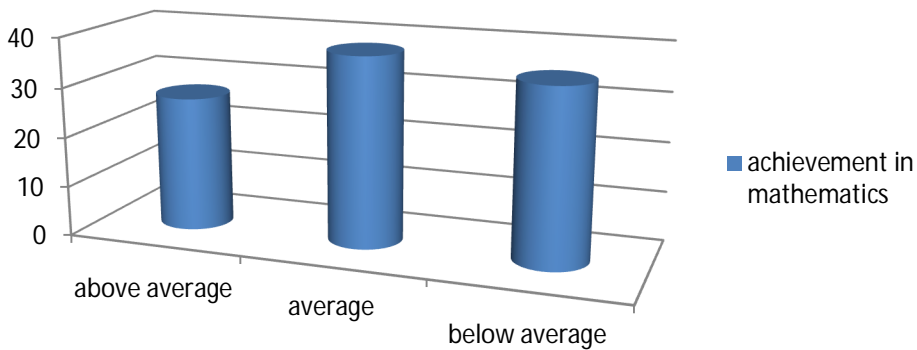




### achievement in basic mathematics- primary students

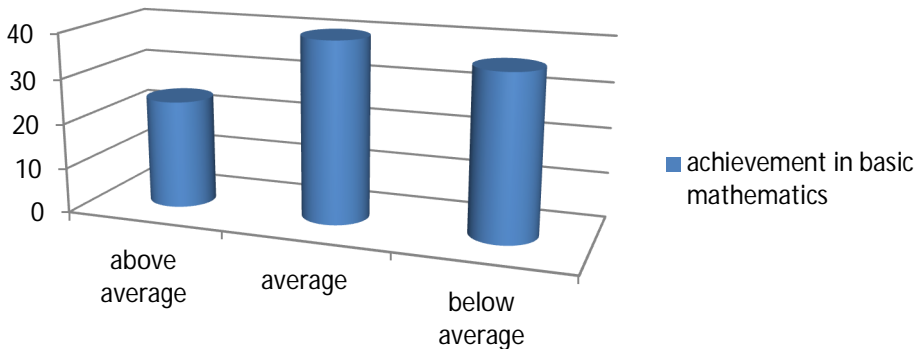


### achievement in mathematics -upper primary students

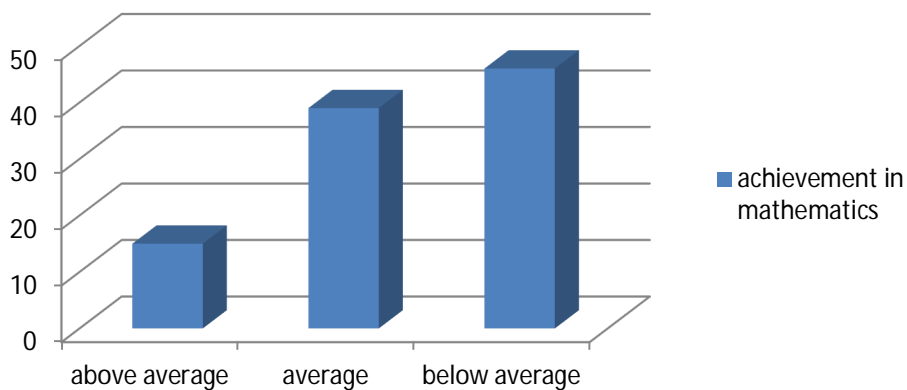


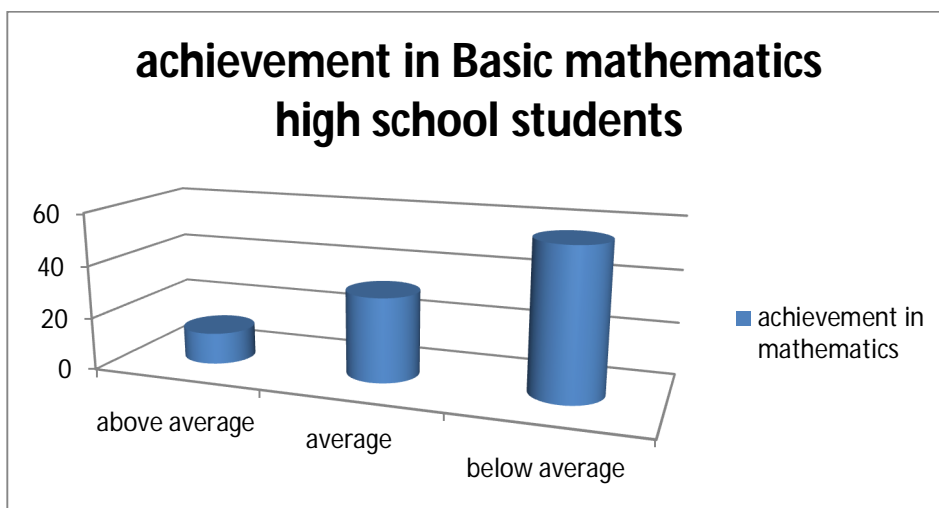


## achievement in basic mathematics- upper primary students



## achievement in mathematics-high school students





By analyzing the above data we can see that at the binging stage student's shows high proficiency in mathematics learning because majority of students falls under the above average category. It may be due to the care given to them individually by the teachers as well as parents more over the curiosity of the learner may be another factor. At this stage they learn the fundamentals so there is no difference in their achievement and achievement in basic concept. The small variation is not at all a remarkable factor so we conclude that our student's shows comfortable adjustment towards mathematics learning at the initial stage but this adjustment need not be a sustainable one.

Taking about the adjustment level of students in mathematics learning we can see an unavoidable decline in the performance of students. It is very evident from the above mentioned graph that as students grows up their achievement in mathematics getting low for a majority of students .A parallel factor is there related to this matter, the achievement in basic mathematics is also decreased and a very profound factor is that the rate of lowering in achievement of basic mathematics is higher than that of achievement in mathematics



Achievement in basic concept is found in dimensions such as basic computational area, and areas which needs higher order thinking. There we got a point to discuss, if count the achievement in basic computational area the rate of decline is very low that means basic concept which a learner perceives is not at all in a higher level which demands. Why it is so at initial stages majority falls under above average group and they shows high performance in mathematics also .it may be happen due to faulty method of instruction and the high expectation of parents in marks up on their students .To fulfill the parents demands teachers may use improper method of instruction in class room more over teachers have the stress to complete the syllabus within the stipulated time .by that students have got a wrong message regarding learning mathematics they have try to learn mathematics as they learn language or social science. At the initial stage they were able to score marks but they lack majority of thinking skill which is to be developed by learning these fundamentals which means that students have got knowledge regarding the content but they are not able to process the information which they have got

More over due to this faulty method of learning students have lost the ability to form multiple ways to solve problems .so they were forced to follow the beaten track ,they were not able realize the beauty in mathematics . as they come to higher grades so many complicated problems comes but the wrote learning habit of students did not help them to solve higher order problems .The teacher is not able to make them good in mathematics even if she spend more times to teach the unit .she blame the students for their poor performance this may lead to lose the pulse of the class as well as students interest .slowly they begin to hate the mathematics teacher and try to escape form mathematics learning





## HOW TO OVERCOME

Reason is clear but the solution is not as simpler because it is multidimensional. the problem begins at the initial stage the teachers and parents have equal responsibility to share .Parents should realize that learning is more than scoring marks students should go through different activity which strengthens their ability to deal mathematics easily .they should get psychomotor experience at the initial stage then only they can retain and process it later on. During this time students may lose some mark in their exam parents need not stick on that, discuss the matter with the concerned teacher and ensure whether they achieve the basic concept at all levels they demand in their age

Teachers should work with a creative and enthusiastic mind .Read the student thoroughly and give them mathematics in their own style don` t try to make them to follow teachers thinking style try to open their mind and develop their own thinking style. Give up the usual worrying question raised my teaching community such as portion completion, demand of parents regarding marks. Try to convince yourself and then parents regarding mathematical development of a child at the initial stage . Give them different activity to perceive the content properly even if they seem to be well achieved. So teach and learn mathematics with a high energetic and enthusiastic mind



## POETRY AS AN OBJECT OF ART

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### Introduction

Poetry is a form of a literary art in which language is used for its aesthetic and evocative qualities in addition to, it's apparent meaning. Poetry can be written independently as discreet poems or in conjunction with other arts, as in dram, prose, hymns, lyrics etc. poetry uses particular forms and conventions to convey meaning and evoke emotional aspects. Poetry is an expression that differs from the technical forms of expressions as poetry considers sounds and senses of equal significance which arises from the imagination helping the expressions to be beautiful and more specific. Poetry through significant expressions embodies the idea aesthetically and an expression is significant only when the word and its meaning are appropriate to the situation provided. Poetic expression can be determined by appropriate words and its meaning. Sometimes the poetry is characterized by the language which the poet writes to particular culture and genre. In contemporary world poets borrows different styles and techniques from various cultures and languages which helps these great poems different from the others as these borrows styles and languages invoke thoughts and powerful feelings in the mind of the readers. There are poems written in such expressive way that sentences are much meaningful then the word itself. Even some of poetic sayings had become as popular as phrases but as time changes and cultures evolve the meaning of the words change over a period of time there by disrupting the originality of poems.



The word poetry is used to designate as one of the fine arts by modern critics, due to its expressive, imaginative and artistic nature. One of the great primal human forces is the imaginative feeling with the movement of the energy which expresses the development of race, poetry in wide sense as an important part as in science. In some literatures the dominant part can either be poetic energy or poetic art which is same with individual writers. Nature has always been loath, except in cases of her very choicest favorites, to combine true artist instincts with great poetic energy. Definitions of poetry mostly are unsatisfactory and treacherous but they are proverbially so, yet some definitions use the phrase absolute poetry as musical critics use absolute music. So without presuming one should submit that absolute poetry is the concrete and artistic expression of human mind. No literary expression can properly be spoken in poetic form with any sense of deep meanings or emotions, whatever may be the subject matter the diction and method should be concrete with rhythmical movement and artistic form, this method of poetry is excluded from real poetry and is called didactic poetry. The poet has nothing to do with the abstractions or to save and turn them in concretions. As for an artist he is simply the person who by his instincts embodies that universal idea which is essential and elemental in nature, to concrete forms.

Poetry must be metrical or even rhythmical movement which is has been denied by some people. There lies a difference between literature and word kneading as literature is alive and word kneading is lifeless. The literary life when involving two parts is prose and when involving three parts is poetry. This helps in understanding that prose requires intellectual and emotional life but is aloof of rhythmic life, according to many critics. Before writing the poet should have an intrapersonal commutation as to which of these two methods are natural to him is it the iambic verse lines with weight whose primary function is to state or



towards those lighter movements whose primary function is to suggest more convenient words. It may be said that the poet who thought in rhyme will adequately express himself in rhyme, with which it can be clear that it is only in rhyme with which he can achieve his crowing quality which lack worldliness or sophistication, which further throw light on the infinite rhyming facilities and his command on every kind of rhyme effect. Every poem has two sides the one inner side which is the poet's won voice and the outer side which is the readers mind. The perfect mastery in poetry writing can be achieved only when his poetry development is done in such a way with directly reaches to the readers. Whereas the imperfect artist is the one who does the other way around i.e. the artist only express what is observed by him without worrying about the perception of the reader, who is left with many skeptic thoughts, as the words written are clear only to the writer. The richer the mind of any poet, the more multitudinous and the more clamorous are the thick coming fancies suggested by each impact of the outer world upon the poet's soul. The fact is that no two poets ever did work alike. For not merely every drama, but every poetical work from epic to sonnet, has its goal, which has to be reached in the most economical way according to the methods of the form of art adopted. It, is of course in the nature of the things that poems in which there has been a too rigorous selection of rhymes, as is often the case, apt to fail in inspiration, while poems in which there has been a too hurried selection of rhymes, sometimes lack that concentration which characterizes the perfect work of the greatest masters. Using the word 'form' in a wider sense still, a sense that includes 'composition' it can be shown that poetry to be entitled to the name must be artistic in form.

The message of poetry must be more unequivocal, thoroughly singled out as important as any other fine arts. Modern poetry says that if any writer's verse embodies a message, which may be true, direct or



pathetic, cannot be inquired about the degree of artistic perfection as Wordsworth said that – what comes from the heart goes to the heart. Just taking poetry as a fine art we can understand the deepest sense of the word of poetry as an inspiration. To be a master in poetry either one need to be born again or he has to go through some psychological and emotional transformation, which can help him to versify in the richest way which come to him show the change in his writing. When the poet is in poetic mood, the trapping of the world fall away which he has been disguised in form of warrior, courtier, businessman, as the world know him, but this soul which is not disguised get inspired from the child again, and bring him to the golden age of writing poetry. The sincerity and conscience, of the poet brings the poetic dreams from his deepest and truest form in which poet is enable to see more clearly than other men who have limits if their own art. The great law of poetic art is that more imaginative with the subject the more careful is one in avoiding the mere tricks of law of nature. As the mind widens in mere knowledge and intelligence fresh writing material comes up in poet's mind. This is the reason why few poets of the poetical kind have been able to import realism onto poetry is that the command over the mere poetic vehicle and the study of man and nature results in realism of the great masters who combine the power of two varieties of poetry. Realism is essential quest of the poet until he passes to the high mood , where a limit to the extent the poet invade the domain of prose writer, and steal words from the garden of prose for the proper nutriment for poet's fairyland of writing.

During the history of hundred years or so poetry has assumed a multitude of forms, which evolved in it a classification of rough and ready categories like ballad, epic, ode, lyric, sonnet, narrative, dramatic and so on. Poetry assumed all the different type of shapes and sizes, one particular shape and size is characteristic of one particular age, analyzing these beyond mere shapes and sizes poet had been more



interested in the particular aspect of life than other life aspects. It has been observed that there have been poets interested in nature in one era and in sensibility in another age of poetry. The inquiry about the evolution of poetry show us how one can feel complete and understanding as a living and developing organism. Poetry has developed from the widest to the narrowest appeal of community to poet himself, which might be a stagnant point I development of poetry. In poetry two complex factors are involved, self consciousness and objectivity. Language is a conscious use of vocal sounds, and the vocal sounds are differentiated and attach to particular objects, as a process of growth and awareness between the object and the subject, through which the speech come into being and therefore a language of expression acts as a way of communication, this was when after stagnant point poetry became possible from the primitive vocal noise to formation of words of emotions or object with meaning and was shared in the community. The tribal march, the beating of drums, induced with the accompaniment of victory-cry or won. Poetry had always existed even before the poet and is infinite, but it could not exist with the consenting feet but was in chorus or vocal music, a step ahead with connection to rise and development of instrumental music, where music was accompanied by any musical instrument. There is an observation where the internal characteristic of poetry throws a direct reflection on its external characteristic and in turn a reflection of community was shaped up in poetry. A community as opposed to an individual, is comparatively incoherent, it can only express itself, or receives impressions, by means of narrow range of symbols. These symbols must simply construct, apprehend and appeal wide range of community.

Peacock published his essay The Four Ages of Poetry in a short-lived periodical, Charles Ollier's Literary Miscellany, in 1820. Peacock develops a history of poetry modeled on the view, common in Greek and Roman writers, that the history of humanity manifests a constant



decline from the original age of gold through the silver and bronze ages to the present Iron Age. Peacock changes this order to the sequence in poetry of the iron, golden, silver, and bronze ages, and represents this cycle as having evolved twice, once in classical times and again in the span from the Middle Ages to his own period that era in which, as the consequence of intellectual progress.

Iron age of poetry- is that in which is rude bards celebrate in rough numbers the exploits of ruder chiefs, in days when every man is a warrior, and when the great practical maxim of every form of society. This stage of poetry was before the invention of written letters, where the numerical modulation was one of the useful memory help and pleasant to ears of uncultured men, with the flexibility in its form, though without the unformed language, where the ideas are not violated by the poets for just numbers. The golden age- in this age the poetry begins to be retrospective in an extended civil polity being established where personal strength and courage to avail less of status of their possessor and making more of kings and kingdoms and check on the social institutions, and hereditary successions. In these circumstances traditional national poetry is reconstructed and brought like chaos into order and form. The interest is more universal: understandings enlarged: passion still has scope and play: character is still various and strong: nature is still unstudied and existing in all her beauty and magnificence, and men are not yet excluded from her observation by the magnitude of cities or the daily confinement of civic life: poetry is more an art: it requires greater skill in numbers, greater command of language, more extensive and various knowledge, and greater comprehensiveness of mind. Poetry has now attained its perfection: it has attained the point which it cannot pass: genius therefore seeks new forms for the treatment of the same subjects: hence the lyric poetry, the tragic poetry, the favor of kings, the honour of the Olympic crown, the applause of present multitudes, all that can



feed vanity and stimulate rivalry, await the successful cultivator of this art, till its forms become exhausted, and new rivals arise around it in new fields of literature, which gradually acquire more influences, with the progress of reason and civilization, facts become more interesting than fiction: indeed the maturity of poetry may be considered the infancy of history. The silver age poetry - the poetry of civilized life, in this era poetry two kinds can be seen imitative and original. The imitative consists in recasting, and giving an exquisite polish to, the poetry of the age of gold: of this Virgil is the most obvious and striking example. The original is chiefly comic, didactic, or satiric, and is characterized by an exquisite and fastidious selection of words, and a labored and somewhat monotonous harmony of expression: but its monotony consists in this, that experience having exhausted all the varieties of modulation, the civilized poetry selects the most beautiful, and prefers the repetition of these to ranging through the variety of all. The poet of the age of iron celebrates the achievements of his contemporaries. The poet of the age of gold celebrates the heroes of the age of iron; the poet of the age of silver recasts the poems of the age of gold: with very slight a ray of historical truth is sufficient to dissipate all the illusions of poetry. Good sense and elegant learning, conveyed in polished and somewhat monotonous verse, are the perfection of the original and imitative poetry of civilized life. It is now evident that poetry must either cease to be cultivated, or strike into a new path. Whereas in the brass age by rejecting the polish and learning of silver age and taking a reverse step to the barbarisms and age of iron, announces to return to nature to revive golden age, being the second childhood of poetry. Further are the four ages of the modern poetry with a difference from the earlier mentioned four ages as in brass age ancient world succeeded the dark ages where gospel, mysterious and inscrutable darkness thickened with progress of light, in which the fear of mysteriousness, magician reputations, alchemist and astrologer ingredients were found, but in modern poetry rhymes of minstrels and

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songs had arouse in golden age, where the scattered materials were harmonized and blended resulting in a heterogeneous compound of all ages and uniting all in one picture with an infinite license giving poets free range of the whole field of imagination and memory. The expressions for poetics can be received among natural scenes, all that which is artificial is anti-poetical, as the society is artificial one need to be in natural surroundings like mountains, parks, any nature covered environment where one can shine purely in the accompaniment of innocent and amicable atmosphere, helping us to receive the poetical impressions. Poetry is not one of those arts which, like painting, require repetition and multiplication, in order to be diffused among society. There are more good poems already existing than are sufficient to employ that portion of life which any mere reader and recipient of poetical impressions should devote to them, and these having been produced in poetical times, are far superior in all the characteristics of poetry to the artificial reconstructions of a few melancholic ascetics in un-poetical times.

### **The Art of Poetry**

Poetry being a debatable term, sometimes leads to creation or production which tends to affect us; it's kind of a mystery with the combination of indefinable essences mind and life, in whomsoever this mystery occurs content themselves with the awareness of it. People who accept this gift of being moved to create as passive and active poets, enduring the pleasure of it with knowledge. Poets tend to transport an exact and lasting expression within the real world. Passion and emotions sometimes give us surprise when the energies of us our wasted and take us to unreasonable acts tending us to attain some objects or destruction which restore the peace for few moments before or after any incidents but sometimes such shocks or emotional disturbances in our life give rise to inexplicable burst of expressive activity whose immediate effects are produced in minds in the form of



rhythms, which were remote from each other in ordinary life. Poets are like any other men who too are touched and moved emotionally like everyone though prone to poetic feelings, but they unlike other men have the art of touching everyone with their talent. In a way poets possess within themselves infinitely more answers than ordinary life has questions put to them. In total poet is an individual in whom sensitivity, agility, ubiquity all powerful economy are found. In poetry it is often said that poetry and abstract thoughts are like good and evil, vice and virtue, hot and cold, believing it to be analytical work of intellect, will which implicates the mind, which are incompatible with the hat grace and fancy, in which the signs of poetry and reveals in its first word. Poetry, being a language of art where the combination of words can be used to produce emotion which other simple words do not, and is called poetic. This poetic universe defines an extensive analogies postulating dream world, where the word dream have been confused between the notion of dream and that of poetry, as neither the dream nor the day dream is necessarily poetic, by chance figures formed are harmonious figures. As the dream come and vanish, similarly, the state of poetry is which sometimes hold us , develop and finally disintegrates, i.e. the poetry is completely irregular, inconstant, involuntary and fragile, which we lose it accidentally as we had found it. To inspire for creativity is the poet's function, in which the optimistic approach lays inspiring readers to observe the transcendental merits and development in oneself. Poetry is unique in itself as it never dies, like phoenix it rises from ashes every time giving new meaning to the identical situations of every time, as it has in it the philosophical utterances, which reflect the thoughts of acts and way of handling it in life. Poem like some machine keeps producing words with some meaning, giving some solutions to the problems at times, sometimes waking the poetic side of the man at any event, and an expression in the writing state starts to develop, where poet translates what he feels through writing. A poet draws ideas or gets inspired from the most part

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of life or everyday work, language, with the communication skill being developed. Every poet preserve the language one has written, from the initial step of writing, going through the transformation in writing, help him to know how from ordinary language use, the vocabulary, speech has developed immensely by the time and expressions too had got polished. Poetry in a transited way creates a man within, making him sensitive to terms, helping him to construct what he desires. Literature is the instrument neither of a whole thought nor of an organized thought. The great interest of classic art is perhaps in the series of transformation it requires to express things while respecting the imposed conditions, problems of putting into verse. This obliges one to consider from a great height what one wishes or is compelled to say. Poetry and the arts have sensibility as beginning and end, but between these two extremes, the intellect, all the resources of thought even of the most abstract thought and all the resources of technique must be read.

### **Poetry appreciation**

What is appreciation of poetry? An exact understanding of appreciation can perhaps be attained only by noting carefully what it is not, so that half-formed ideas will not thrust themselves forward and be taken for the full concept. Appreciation of poetry is not an admiration of the nobility or grandeur or beauty of the thought of a poem. Neither it is merely the enjoyment of visual images, not even if they are delightfully vivid or picturesque, or especially pleasing in some other way, for images however beautiful, though faithfully copied from nature and as accurately represented in words, do not of themselves characterize a poet. Delight in the moral excellence of the thought expressed in a poem or in the originality or familiarity of the ideas should not be mistaken for the deep-seated pleasure which arises from appreciation. Appreciation is not even the process of understanding all the meanings which are expressed in a word or in a phrase, not the process of seeing



more expressed in the poem than its face-value. There is indeed a pleasing gratification in tracking down sources, borrowings and references and a ripe satisfaction in the complete comprehension of a word of art, when one is flattered by the feeling of mastery and of having overcome obstacles, but none of these pleasing events and achievements should be taken for appreciation. Insistent or attractive rhythms have the power to affect us and to move our feelings, and this for many people is pleasant; but we need not suppose that such naïve pleasure is the predominating feature in the appreciation of poetry. Above all, appreciation cannot be defined as 'being transfused with emotion. For although, it is the peculiar province of poetry to call up in the reader's mind predetermined thought and emotion so that the thinking will be charged with emotion and will thus be invigorated and vitalized, yet the appreciation of poetry does not consist merely of such emotionalized thought. The experience of appreciation of a poem is far more complex than the relatively simple act of perceiving or more accurately feeling an emotion, even though that emotion is supposed to be an authentic, or poetic emotion for no art endeavor's to express the emotions of the artist in any more particular fashion than it expresses his conceptions or images. Appreciation is a complex activity in which all the powers of the mind are working together to one end: to experience all that is possible of what was intuitively conceived by the poet's insight and vision, and at the same time to have a lively awareness of all virtues of the poet's words to express those experiences. The appreciation of a poem consists of knowing the full meaning of the words as far as one is able, of some consciousness of the association implied, of considerable imaginative activities, and of at least a partial perception of the sounds of the words, and it demands that these activities be animated and vitalized by emotion, and that they combine harmoniously into a complete and co-ordinate unity: associations and imagery enriching thought, the sounds aptly expressing this seasoned thought and emotion, and all being borne

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along rhythmically, and all ordered and controlled and shared by the verse form; and the necessary accompaniment of this experience is the distinct awareness of the poet's words: that they fully express all those thoughts, associations, images emotions with a clear recognition of their particular qualities and virtues, of their rhythm and pattern. Thus, appreciation of a poem has essentially and necessarily a unity. By unity we mean here not a vague mystical blending or mysterious fusion of elements, but a real or close association of thought, imagery and emotion; and this, apprehended as a whole, is expressed in rhythmic and patterned language so precisely, so completely, so inevitably that the language itself is felt to be that imaginative and impassioned thought. In reading poetry, one is not only receiving new ideas, new impressions, new conceptions, but one is also receiving at the same time words to express those experiences. And the two complex acts of impassioned, imaginative cognition and of full, precise expression of that activity are one; the words both evoke experiences is us and express them for us – the true moment of appreciation is that in which we recognize the form of imaginative creation. The appreciation of poetry is one thing; the teaching of a poem is quite another, where one learns the approaching and learning processes of poetry.

### **Approach to Poetry**

The appreciation of poetry is one thing, the approaching or teaching of a poem is quite another. The appreciation aimed at in the poetry lesson should be an appreciation by the children. The 'appreciation' is something that happens inside the mind of each individual in the classroom as a result of a reading a poem and having direct access to a writer's meaning. To attain this direct relationship between the poem and each reader is the sole end of the poetry lesson. In the poetry lesson more than in any other, paradoxically enough, emotionalism is out of place, or any tendency to play on the class's feelings – even when this springs from a good intention to build up right atmosphere. Feeling is



only in place in the poetry lesson when the poem is actually being read, either silently or aloud, by the teacher or by the class. And it must be feeling known to be derived from the poet's words. The teaching of poetry is only a branch of a much wider activity the training of the child as a reader, receiving from words all that words transmit feeling and discriminating between feelings, experiencing and judging experiences, realizing a world that takes on shape and definition, becoming capable of controlling that world in proportion as the shape and definition develop. Communication of certain wishes, intentions, feelings, and thoughts can come times take place without words being used at all. Words are uttered with an accompaniment of facial expressions, gestures, and tones of voice all of which give the listener, the person spoken to, indications of how the words are to be taken, how the words are to be taken is the all important thing. With the written word we have the aids neither of facial expression and gesture, nor of tone of voice to help us. All these belong to the complete situation of which the written words are a fragment. It is the reader's task as a reader to reconstruct the complete whole from the fragment. In the reading lesson or in the poetry lesson, where in each case the written words are being once more uttered this is called giving the words their proper expression, i.e. making the given words the inevitable utterance of a particular person in a particular situation addressing a particular audience. The normal adult readily assumes that his ability to reconstruct the complete context from the fragment is something that he has acquired quite naturally and instinctively. The method of teaching poetry that has been assumed has been that in which the teacher has been the dominant personage in the partnership which every good lesson is. And there are good reasons for making the poetry lesson an affair of the teacher's lead. How to read properly is a thing that needs demonstrating as much as any piece of gymnastic work or any new step in math or science. When the poem has been thoroughly comprehended and all that the poem says has been made quite clear, then the class is

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asked to proceed to give a thought on the things of a different sort about the poem. The teacher's task is to underline the significant statements with casualness as artfully artless as he can make it, inducing the class to follow up the right lead rather than the wrong one as far as possible. The metre, the sorts of adjectives, whether the poet distorts words and alters the normal order or not, the patterning introduced into the poem, whether they like it better or worse and why, what sort of a man the writer seems to be, what sort of a society it is that he lives in, what sort of people he is writing for, what sorts of feelings he is pouring into his poetry, what sort of feelings he is keeping out, all these topics, though not all in the same lesson, will crop up and be given actual relevance to the question of poetry, what poetry does, how poetry does it, what poetry is, and how poetry varies. This sort of method is the obvious one for developing confidence before poetry. Its aim is to get individuals to apply their wits to the thing and to understand their enjoyments. Choral speaking is all very well it gives children an actual enjoyment of a poem, it awakens in them positive reactions and not negative ones of the sort, when the word 'poetry' is mentioned; it gets them to read and enter into poems, and does not spread a general worry over the subject – but it might not assist the individual when he is sitting all alone over a book of poems.

### **Phases of Poetry**

Having discussed the art of poetry, its appreciation and how it can be approached or taught in schools and at other places. There lies the various phases of life in poetry. All phases of human thought and feeling are aspects of man's varying relationship to the outer world. Internally, within the form of the poetry itself, we find these distinctive qualities: directness of statement; realism or visual definiteness; absence of sentimentality; a tragic conception of life. Implied these qualities, is an extreme simplicity in the mechanism of verse: the verse is not artificial, the rhythms are instinctive, and metre a simple



progressive beat devoid of artifice and elaboration. The internal characteristics of early poetry are a direct reflection of its external characteristics, and these in their turn are a direct reflection of the social environment within which this early poetry was shaped. A community, as opposed to an individual, is comparatively incoherent; it can only express itself, or receives impressions, by means of narrow range of symbols. These symbols must be simply constructed, easily apprehended, and so of a wide 'community' of appeal. The various characteristics of these of early poetry can be seen whether they fall into any comprehensive form. Some of these characteristics may be distinguished as external. Firstly, there is the very striking fact of anonymity, and the general absence of an egoistic view-point that goes with it. Whether or not early poetry is written by the community, there is no doubt that it is written for it. Secondly, the fact is that the community accepts the poetry, makes it part of its life, and hands it down as a lively tradition. Poetry and this is so difficult to realize nowadays- was a part of daily life; it was not an esoteric mystery, not something to be hidden in the privacy of the library, not cabinet literature, but a social instrument, an open celebration, a common passion.

Poetry and Humanism: there are only two generic forms of poetry: the 'popular' or 'racial poetry' and 'the artistic' or 'artificial poetry'. The act of writing poetry, even when that poetry is most stilted and artificial, is actually a method of representing sounds by symbols: the poet does not feel his poem by his eye, but by his ear, and though the mental representation of sound differs from the actual perception of sound, both in tone and complexity, yet in no sense does the poet of the study depart from the essential procedure of the poet of the camp-fire or carnival. Such an enlargement in recent years is due to the invention of the broadcasting, which stays yet has a decisive effect on the evolution of poetry. It is a rare phenomenon, but it was eventually to





involve the whole difference between the classical conception of life and the new ideals of humanism, in poetry. Humans being fed on the milk of humanism from the moment we enter the world, and our blood and brain are an organic compost of its elements. Fully to appreciate humanism one should go outside it; but that is so difficult. The word humanism describes its essence, and shows that this essence has been recognized all along. Human values, a human point of view, and the perfection of humanity as an ideal- these were all held consciously and proudly. And it has always been imagined that such categories were something of a discovery that before the Renaissance man lived in some kind of superstitious darkness in which he was unable to perceive his own beauty and value. The renaissance, therefore, should be regarded as a reversal of value, not as a discovery. But then the new position or point of view did enable man to discover himself. And discovering himself, he discovered the world outside himself. He found himself intimately concerned with this outside world, its centre and the highest joint of its development. This reversal of value took place beneath clear skies and a warm sun, which then have the only other factor of importance in the change. The diction makes or marks the poet, it is the expression of the personality, and as such is unequivocal. Due to diction, poetry has gained a confident self-consciousness; poets were aware, as never before, of the richness of their native languages. It was the wide culture of the renaissance that gave the poets the comparative knowledge to grow to this awareness; it as the same culture that, at times too pedantically, enabled them to profit by the classical tradition, with its lessons of the discipline, restraint and harmony.

Poetry and sentiment: This phase of poetry which has been dealt with is the one in which the note of passion was seldom heard- in which, indeed, emotion of any kind was duly restrained. The subject-matter of poetry became 'those feelings which involve an intellectual element or are concerned with ideal objects. So long as poetry remains poetry,



feeling cannot be excluded. The poetry is the expression of thoughts, and though thoughts may be of all degrees, in poetry it is best to keep to such as being 'natural' and 'just'. It is true that the word 'emotion' creeps into this passage which proof that enough that the poets of this period had a wish to move their readers. The question is where we put the emotion into the writing of poetry, or into the reading of it. The thoughtful expression of the poet provokes the awareness or interest of the reader, to the end that he in his turn becomes thoughtful. The implication is always the same – the substance of poetry is sentiment and sentiment is received opinion, traditional wisdom, intercourse with intellectual nature'. Some poems were always objected because they comprised neither of human actions nor of human manners'. The forms are limited in number and precise in shape; but have been determined by the needs of successive generation of poets, and are various enough. . All the ahs! And alas! Does not springs due to the feeling in the poetry but from the affectations. The superiority of the famous elegy is due to its comparative freedom from affectation. The poetry of sentiment reaches its perfection and it is we, who have to acknowledge that the expression, being neither prose nor poetry nor the neutral ground of both, is yet an art. Poet while writing any poem in his mind is keener and by making the depth of his thought the dialectical counterpart of his imagery and linguistic sensibility, he recovers for the poetry of sentiment the philosophic dignity it had so long forfeited.

Poetry and nature: The approach to next phase of poetry is heading for good reasons, and needed something a good deal more positive like green hills and running brooks, fields and flowers, larks and nightingales such things may be sentimental, but they are objective, and it is possible to study of this romanticism and classicism is only to play with counters that have been worst to an indefinite smoothness. Nature had been tamed, the sensibilities had been educated, and the mind was sufficiently protected for the growth of an artificial culture.



The peculiar virtues from the point of view of art and literature were due not so much to man's triumph over the forces of nature as to the skillful way in which one ignored them. Nature being tamed, but with a phenomenon of great beauty and an admirable background for the masques and fables of human life, some realized that there is no dispensing with nature altogether, as it was terrible business for poetry when it is wholly employed on man or wholly employed on nature and there remains a question of the poet adopting nature, nature is always there and a town is poor refuge from her influence. . A poet needs to have an imaginative understanding of nature which is one of the true characteristic of a true poet and such understanding of nature of any two poets can have different culture, as they can have thoughts of opposite ends of spectrum, but the intervening colors of thought emerge into one-another almost insensibly that the distance of not only culture but of hundred years of time to have vanished with a trace of line of development which unites them. The time distance seems so merged up as the lyrical ballads, the spirit method, manner, metre, melody, and the passion of poetry show the vital changes it had suffered in the time but the poets propose themselves in making poetry and the original concepts and sources, which are radically different from what they had been before and a reaction is caused which is of weariness of the artificial conventional poetry, in order to draw the line of poetry, to simple human nature and in nature one need to see her wild and unconventional beauty. The best poet had been William Wordsworth in nature poetry, his poetry was felicitated, due to his writing too much and too often, he always had a personal idiom of the same intensity. Wordsworth always there was always an intense struggle to find objective expression for his intensely subjective feelings. That is the whole secret of his nature and the greatness of poetry.

Poetry and society: Poetry can be understood both in the broad and in narrow sense of the word. All speech in terms of images is poetical



speech; from this point of view poems are poetical works. By poetry in the narrow sense is understood not simply fixation of sensory images in words, but, in addition, rhythmical speech and even rhymed speech. Poetic creation and its product-poetry-represent a definite form of social activity, and are governed in their development, regardless of the specific nature of poetic creation, by the laws of social development. A deeper analysis of its phenomena inevitably leads to a sociological treatment of the word itself. In poetry the fixation of sensory images in words, summarizes the world of emotion in its own peculiar way. But these emotions and such experiences are in themselves experiences of the social historical man and in a class society, of the class man. The intellectual emerges with the emotional as its opposites; the poetic image is an integral unity, not purely emotional and much less in the unified system of images as purely emotional. Poetry is followed here as a social product and that which functions of concrete historical society, reflecting, expressing, in a specific form the specific features of its time and in so far as in dealing with a class society of its class.

## **Conclusion**

Poetics is a science which studies poetry as an art, not with the perspective of evolution of philosophical aspect of life, or of feeling of the life in the great monuments of literature, of historical development and the changing of social psychology in its interaction with the individual psychology of the poet-creator, but as the study of poetic art as in poetics, historical and theoretical. How the abstract emotions are represented in art with the division of what and how, is the actual fact like love, grief, tragic struggles of soul, philosophical ideas etc. exist in poetry not by themselves but in concrete form in which they have been expressed in the given work. The original and vital unity which develops and evolves in art, containing the abstract element till philosophical ideas, in reality deal with a science whose duty is to understand poetry as an art. Nothing could be more delightful, than a



genuine art, free from remorse and the sting of vanity. Art springs so completely from the heart of man that it makes him to speak everything in his own language which he reaches and nevertheless so truly to the heart of nature that it co-operates with nature, and becomes a parcel of nature's creative material energy, and builds by her instinctive hand. If various formative impulses afoot in the world never opposed stress to stress and made no havoc with one another, nature might be called an unconscious artist. The informative support from the environment a consciousness supervenes. If that consciousness is adequate enough to be amazing then the art rises. Thus the emergence of arts out of instincts is the token and exact measure of nature's success and of mortal happiness.

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## MAGNETIC TOPOLOGICAL SPACE

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### **Abstract:**

The set of all subsets of a set  $X$  collected into a set  $\mathfrak{S}$  such that the empty set  $\phi$  and the universal set  $X$  are the members of  $\mathfrak{S}$  along with the arbitrary union of members of  $\mathfrak{S}$  and finite intersection of members of  $\mathfrak{S}$  are the members of  $\mathfrak{S}$ .  $\mathfrak{S}$  is a topological space. Keeping this basic definition in view, the idea of magnetic lines that start at the North Pole and end at the South pole of a bar magnet will look like overlapping one by the other.

The magnetic effect will be dense by the overlapping of the magnetic lines and the overlapping of magnetic lines is directly proportional to the closeness of the magnetic line to the magnet.

This induces a thought that at a particular point, whether there is the effect of magnetism or not in the space around the magnet. In turn, this induces an idea of the example of a failure of compactness. The effect of magnetism is considered as the distance function that will be minimum at the null points of the magnet and increases as the distance between the magnetic line and the magnet decreases. It can be seen with the help of iron fillings spread around the magnet forming into distinct magnetic lines depending on the distinct amounts of magnetic effects in a plane. But, each magnetic line will have same magnetic effect throughout, right from the North Pole to the South Pole. The motive of the paper is to create a metric space and a topology on that space and show that it is a topological space. In the successive works,



the study of compactness of the subspaces along with the magnetic topological space will be dealt. The idea that enkindled by the references sited at the end of the paper is, the complementary approach in considering the union and intersection that lead to the topology in a magnetic plane that is the cross section of the magnetic field by a plane through the axis of the bar magnet.

**DEFINITION:**

1.  $X = \{L_i : L_i \text{ is a magnetic line formed by a unit length bar magnet that is suspended to two tiny strings tied to the poles stretched, } L_0 \text{ denote the null point in the magnetic field}\}$ . Consider the arbitrary union of members of  $X$  and intersection of members of  $X$  in the following manner.

The distance function on magnetic line is defined by the distance from the null point of the magnet to the magnetic line. The magnetic effect decreases as the distance from the magnet to the magnetic line increases or the distance from the magnetic line to the null point decreases.

2. The magnetic effect of a magnetic line is measured in ‘Gauss’ denoted by  $G$ , that can be assigned to each magnetic line by  $G(L_i)$  distance from magnetic line  $L_i$  to the null point  $L_0$ .

Without flawing the meaning of the distance from a magnetic line to the null point to be the perpendicular distance, it is evident that the complementary distance from  $L_i$  is nothing but the perpendicular distance to the magnet.

3. Let  $d : X \times X \rightarrow \mathbb{R}$  be defined by  $d(L_i, L_j) = |G(L_i) - G(L_j)|$  that satisfies (i)  $d(L_i, L_j) \geq 0$   
 (ii)  $d(L_i, L_j) = 0 \Leftrightarrow L_i = L_j$ ,



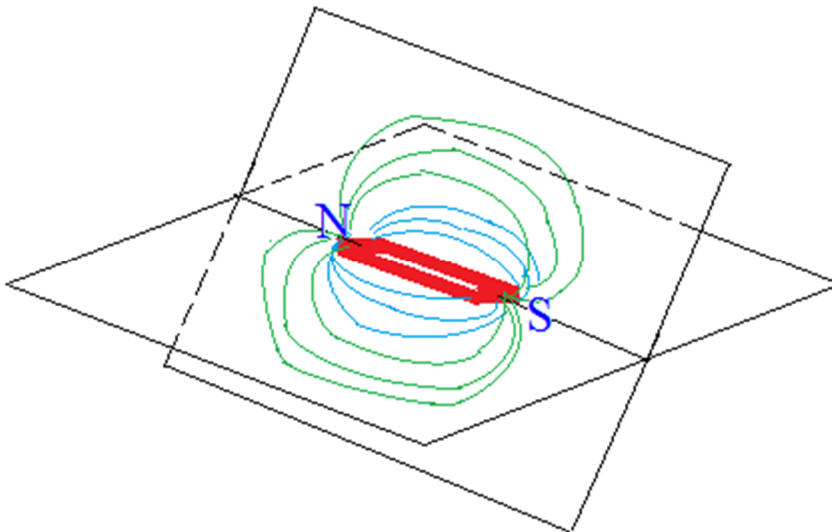
$$\begin{aligned}
 \text{(iii) } d(L_i, L_j) &= |G(L_i) - G(L_j)| = |G(L_i) - G(L_k) + G(L_k) - G(L_j)| \\
 &\leq |G(L_i) - G(L_k)| + |G(L_k) - G(L_j)| \\
 &\leq d(L_i, L_k) + d(L_k, L_j)
 \end{aligned}$$

These parts establish  $(X, d)$  is a *metric space* and thus a topological space can be created.

4. Let  $X$  be a topological space. An *open base* for  $X$  is a class of open sets with the property that every open set is a union of sets in this class.
5. Let  $X$  be a topological space. A class  $\{M_i\}$  of open subsets of  $X$  is said to be an open cover of  $X$  if each point  $L_i$  of  $X$  belongs to at least one  $M_i$  and  $\bigcup M_i = X$ .
6. A subclass of the open cover of  $X$  such that  $\bigcup M_{ij} = X$ , then  $\{M_{ij}\}$  is the sub cover of  $X$ . if every open cover of  $X$  has a finite sub cover, then  $X$  is said to be compact.

Observe that when the magnet is freely suspended in the space, the magnetic lines will exist around the magnet in all the vertical rotation unlike the magnet is placed on a paper to track the magnetic lines. So, call these magnetic lines encircling the magnet in any plane either inclined or horizontal or vertical as the 3D magnetic space. Each planar magnetic lines are formed by the cross section of the magnetic lines by a plane that coincides with the axis of the magnet or the line passing through the north and south poles of the magnet.





The metric space  $(X, d)$  allows us to define the topology on  $X$  as, let us call each magnetic line 'an open set' along with the union and intersection of magnetic lines are the matter of concern.

Suppose  $\mathfrak{T} = \{L_i : L_i \subseteq X, X \text{ is the magnetic field around a bar magnet}\}$

Calling  $L_i$  an open set, it is discussed that  $L_0$  is the null point of the magnetic field acts as  $\phi$  and  $X$  is the largest subset of  $X$  acts as the member of  $\mathfrak{T}$  which satisfy the basic need that  $\mathfrak{T}$  to become a topology.

The union of the members of  $\mathfrak{T}$  can be noted as that magnetic line  $L_i$  with the highest Gauss value  $G$  among the members taken in the union.

The intersection is that magnetic line with least gauss value among the members of  $\mathfrak{T}$  whose intersection is considered.

That is,  $\bigcup_i L_i = \max\{G(L_i)\}$  and  $\bigcap_i L_i = \min\{G(L_i)\}$



Through a critical view point, it can be understood that union of members of  $\mathfrak{S}$  will go closure to the magnet and so, smaller magnetic line with higher magnetic effect and intersection will go farther to the magnet. So, in one way, this topology can be called the *Complementary topology*.

See that the union of magnetic lines is not meant with reference to their scape but to the higher magnetic effect. With the same critical thinking, intersection is taken into account.

The class of subsets  $\mathfrak{S}$  of  $X$  is closed under arbitrary unions and finite intersection using the methods mentioned above that make the topology on  $X$ .  $(X, \mathfrak{S})$  is a topological space and let us call it the magnetic topological space.

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## IMPACT OF GLOBALISATION AND TRANSFORMATION IN AGRICULTURE – A COMPARATIVE STUDY IN ANDHRA AND TELANGANA STATES

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### INTRODUCTION

Since India's Independence and in the planning period, Indian agriculture has passed through various phases experiencing several policies and programmes for raising productivity and contribution to the Indian economy. The 1950s focused "**land reform measures**" to attain the objectives of growth and equity. Land reform was an institutional revolution in India trying to resurrect Indian agriculture from its low ebb to a higher place by putting the agrarian relations in order. The growth rate in agriculture which was a mere 0.3 per cent before the introduction of planning, reached 3.3 per cent during the first decade of planning. But the very tardy implementation of the land reforms left much to be desired of India's land reforms in its non-implementation.

Technological changes that were introduced in mid 1960's came in the form of **New Agricultural Strategy** with HYV seeds as the nucleus and contributed for increasing the agricultural production. The mid-60s ushered in the era of green revolution in India with similar spectacular achievements in some parts of our country. The farmers using high-yielding varieties (HYV) of seeds achieved a 'Yield Take-off'. The spread of HYV super strains became a powerful weapon to push back the frontiers of hunger. Progress in production and peace in the countryside was possible. In the realm of agriculture green revolution is a tale of absorbing interest. The institutional and technological changes – with all their limitations in course and content – did initiate the



process of agricultural transformation in India, visible and quantifiable in terms of input as well as output.

After the veritable revolution in 1966 some farmers came to adopt agriculture on a commercial basis. These farmers are the representatives of the new agrarian economy of India and are among the significant contributors to the progress of the Indian economy. However, green revolution farmers were not large in number and unaware the favorable effects intensive and inclusive. Small and marginal farmers and those in tribal and arid regions excluded from this process. The annual average rate of growth declined to 2.2 per cent in 1961-71, and further to 1.7 per cent in 1971-81. It rendered necessary to redesign agricultural policies focusing on (i) raising the potential of the farming community, and (ii) enhancing the level of local participation in agricultural development programmes.

Having witnessed various facets of transformation, the globalization of agriculture in the last decade of the 20th century with the inception of international innovations viz. **World Trade Organization(WTO)**, General Agreement on Trade in Services (GATS), Trade Related Intellectual Rights (TRIPS) etc put an end to restrictive trade, even in agriculture. Liberalization created an unprecedented demand in all sectors of trade including agriculture. This demanded pragmatism on the part of Indian Government. With globalization making headway everywhere, Government had to introduce reforms in agricultural sector too. Reforms in agricultural policies were felt necessary for achieving trade liberalization in the agricultural sector

Agriculturists in general and the small and marginal farmers in particular have been the worst sufferers from the onslaught of globalization. With more than 40 percent of agricultural lending even today coming from the non-institutional sources charging between 30-



40 percent interest per annum, the farmers are in an immiserizing situation. They are committing one of the worst human tragedies – suicides. A decline in the share of agriculture in the national income form over 50 per cent during the 50s to less than 20 per cent today may be a sign of structural transformation but the question today is whether Indian agriculture will be able to meet the new demands placed upon it by Liberalization, Privatization and Globalization (LPG). With traditional farming and continuing plight of the farmers the answer is an almost no. The challenges to input-output management in agriculture posed by globalization have to be properly understood and faced. This is crucial because the challenges permeate not only the growth and stability of agriculture *per se* but also its implications on the livelihood of the people via food and nutritional requirements, environmental and employment concerns etc (Hans, 2006).

While globalization and liberalization have increased the commercial proposition of this sector, it is facing a number of challenges with regards to technology, infrastructure, price and competition. There is declaration of output and acceleration of vulnerability of farmers to poverty. Modernization without moderation has led to a crisis situation in Indian agriculture.

The changed economic milieu has affected the Indian economy more so the agricultural sector in several ways. The stagnating Indian agriculture has aggravated the urgency for debate on how to meet the challenges of new rules of the game under WTO and globalization. Taking those issues into considerations an attempt has been made in this study to find out the impact of globalization and transformation in agriculture in the selected areas of Telangana and A.P. States of India.

### **Objectives of the study:**

The main objectives of the study are as:



1. To study the impact of globalization and its effect on rural transformation in the selected areas of Telangana and Andhra States.
2. To discuss the impact of globalization under the aegis of world trade organization(WTO) on Indian agriculture sector.
3. To suggest appropriate measures to overcome the negative impact of the globalization on the transformation of the agriculture sector.

### **Hypothesis of the study:**

The Hypothesis of the study is formulated as follows:

1. Globalization and transformation has brought both positive and negative impact on Agriculture sector in the selected areas of Andhra Pradesh and Telangana states.
2. The medium and large farmers are the most beneficiaries of the globalization in the developed areas while the marginal and small farmers are vulnerable to it.
3. The impact of globalization and transformation is not uniform in all the regions and differ from area to area and status of the farmers.
4. The protective measures and its effective implementation would smoothen the process of adaptation of modern technology by the poor farmers and contribute to the economy in the globalization era.

### **Field Observations:**

As the study was confined to localized areas of three major districts, i.e., Karimangar district of Telangana State and East Godavari and Chittur of Andhra State. Agriculture is the main occupation to all the farmers and their livelihood also depend upon



the development of agriculture. However, farmers are also depending upon subsidiary occupations simultaneously to get some extra income. Weaker sections are eking out their living by working as agriculture labour, casual labourers rural artisans etc., Particularly in Chittoor district of Rayalaseema region of Andhra Pradesh State, they are excessively depending on agricultural labour, which obviously reflects that their limited land is not fetching much income to maintain their minimum standard of living. Whereas in Karimnagar district of Telangana more than 70% of them also working as casual labours.

On the other, 26% farmers in Andhra region are not having any subsidiary occupations and excessively depending upon agriculture itself and major part of the land is receiving assured of water from well developed canals. But in case of Chittoor and Karimnagar districts nearly 70% farmers are depending on subsidiary occupation to get some extra income.



**TABLE-1**

Sl.no	Name of the District	Land particulars								Total	
		0 - 2 Acres	percentage	2 - 5 Acres	percentage	5 - 10 Acres	percentage	10 Acres and Above	percentage		
1	East Godavari	33	22%	45	30%	54	36%	18	12%	150	100%
2	Chittoor	36	24%	36	24%	63	42%	15	10%	150	100%
3	Karimnagar	39	26%	42	28%	51	34%	18	12%	150	100%
4	Total	108	24%	113	28.11%	168	37.33%	51	11.33%	450	100%

Land particulars of the respondents

Source : Compiled from the data collected from field survey in selected Districts from three regions in Andhra Pradesh and Telangana





The table 1 throws light on the Land particulars of the respondents belong to three Districts from three regions in Andhra Pradesh and Telangana. In East Godavari district, out of 150 respondents, the highest number, 54 respondents accounting for 36% have land between 5 to 10 acres, they are called as medium farmers. 45 respondents accounting for 30% have land between 2 to 5 acres, they are called as marginal farmers. The lowest number, 18 respondents accounting for 12% have land between 10 acres and above, they are called as Big farmers.

In Chittoor district, out of 150 respondents, the highest number, 63 respondents accounting for 42% have land between 5 to 10 acres, they are called as medium farmers. 36 respondents accounting for 24% have land between 2 to 5 acres, they are called as marginal farmers. The lowest number, 15 respondents accounting for 10% have land between 10 acres and above, they are called as Big farmers.

In Karimnagar district, the highest number, 51 respondents accounting for 34% have land between 5 to 10 acres, they are called as medium farmers. 42 respondents accounting for 28% have land between 2 to 5 acres, they are called as marginal farmers. The lowest number, 18 respondents accounting for 12% have land between 10 acres and above, they are called as Big farmers.

The overall observation of the table indicates that the majority of the respondents possess land between 5 to 10 acres and they are called as medium farmers.



**TABLE-2**

Sources of Irrigation of the respondents

Sl.no	Name of the District	Irrigation Sources										Total	
		Wells	percentage	Tube Wells	percentage	Tanks	percentage	Canals	percentage	Other sources	percentage		
1	East Godavri	20	13.33%	13	0.66%	42	28%	65	43.33%	10	6.67%	150	100%
2	Chittoor	29	19.33%	61	40.67%	17	11.33%	34	22.67%	09	6%	150	100%
3	Karimnagar	20	13.33%	42	28%	20	13.33%	60	40%	08	5.33%	150	100%
4	Total	69	15.33%	116	28.78%	79	17.56%	159	35.33%	27	6%	450	100%

Source : Compiled from the data collected from field survey in selected Districts from three regions in Andhra pradesh.

Note : Figures in parentheses represent column wise percentage.



The table 2 mentions the available Irrigation sources for agriculture in the three Districts representing from three regions in Andhra Pradesh and Telangana States. In East Godavari district, out of 150 respondents, the highest number, 65 respondents, accounting for 43.33% depend on canals for Irrigation sources for agriculture. 42 respondents, accounting for 28% depend on Tanks for Irrigation sources for agriculture. The lowest number, 10 respondents, accounting for 6.67% depend on other sources for Irrigation for agriculture .

In Chittoor district, out of 150 respondents, the highest number, 61 respondents, accounting for 40.67% depend on Tube Wells for Irrigation sources for agriculture . 34 respondents, accounting for 22.67% depend on Canals for Irrigation sources for agriculture . The lowest number, 9 respondents, accounting for 6% depend on other sources for Irrigation for agriculture. On the other in Karimnagar district, out of 150 respondents, the highest number, 60 respondents, accounting for 40% depend on Canals for Irrigation sources for agriculture . 42 respondents, accounting for 28% depend on Tube Wells for Irrigation sources for agriculture . The lowest number, 8 respondents, accounting for 5.33% depend on other sources for Irrigation for agriculture .

The overall observation of the table indicates that the majority of the Respondents depend on Canals as their main source of irrigation .



**TABLE-3**  
 Source of Agriculture credit

Sl.no	Name of the District	Credit Sources										Total	
		Commercial Banks	percentage	Co-operate Banks	percentage	Micro Finance	percentage	Money Lenders	percentage	Others	percentage		
1	East Godavri	40	26.67%	52	34.67%	20	13.33%	30	20%	08	5.33%	150	100%
2	Chittoor	15	9.33%	35	23.33%	45	30%	51	34%	04	2.67%	150	100%
3	Karimnagar	20	13.33%	28	18.67%	40	26.67%	55	36.67%	07	4.67%	150	100%
4	Total	75	16.67%	115	25.56%	105	23.33%	136	30.22%	19	4.22%	450	100%

Source : Compiled from the data collected from field survey in selected Districts from three regions in Andhra Pradesh and Telangana

Note : Figures in parentheses represent column wise percentage.



The table 3 reveals the sources of credit of the respondents belong to three Districts of the selected three regions. In East Godavari district, out of 150 respondents, the highest number, 52 respondents, accounting for 34.67% depend on co-operate banks for credit for agriculture investment . 40 respondents, accounting for 26.67% depend on commercial banks for agriculture investment. The lowest number, 8 respondents, accounting for 5.33% depend on others such as relatives, neighbors, etc., for agricultur credit. .

In Chittoor district, out of 150 respondents, the highest number, 51 respondents, accounting for 34% depend on Money Lenders for credit for agriculture investment. 45 respondents, accounting for 30% depend on Micro Finance for agriculture investment. The lowest number, 4 respondents, accounting for 2.67% depend on others such as relatives, neighbors, etc., for agricultur credit. .

In Karimnagar district, out of 150 respondents, the highest number, 55 respondents, accounting for 36.67% depend on Money Lenders for credit for agriculture investment . 40 respondents, accounting for 26.67% depend on Micro Finance for agriculture investment. The lowest number, 7 respondents, accounting for 4.67% depend on others such as relatives, neighbors, etc., for agricultur credit. .The overall observation of the table indicates that the the majority of the Respondents depend on Money Lenders for credit for agriculture investment,in backward regions of Andhra State i.e., Rayalaseema and Telangana.



Table – 4

Changes of Cropping Pattern of the Marginal Farmers (Respondents) during 2008-2012

In Acres

Dist.	East Godavari District Total					Chittoor District total					Karimnagar District Total				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
<b>Paddy</b>	35	26	23	21	21	19	18	17	16	16	23	21	20	18	18
<b>Maize</b>	2	3	3	5	7	10	12	13	13	13	06	08	10	10	10
<b>Cotton</b>	3	5	7	9	10	7	9	10	11	11	20	19	19	15	12
<b>Chilies</b>	2	6	6	7	7	9	11	13	13	13	11	10	9	9	6
<b>Groundnut</b>	03	02	02	03	03	02	05	06	07	07	0	0	02	02	02

Source : Compiled from the data collected from field survey in selected districts from three regions in Andhra Pradesh and Telangana



The table 4 shows how the changes took place in of cropping pattern during the globalization era by the marginal farmers. In the case of Andhra region, marginal farmers gave priority for cultivation of commercial crops such as cotton from very 3 acres in 2008 to 10 acres in 2012. Similarly chillies another important commercial crops preferred by them and it is evident from the table that for mere of 2 acres of land in 2008 raised to 7 acres in 2012. Thus there is a tremendous impact of globalization in the marginal farmers category in East Godavari district of Andhra region where most of them started cultivating of commercial crops such as cotton and chillies. But, it is interesting to note that in Karimnagar district of Telangana State, even after introduction of economic reforms the demand to raise commercial crops such as cotton, chillies is in decreasing trend. Particularly in 2008 marginal farmers raised cotton in 20 acres of land but the cotton cultivation s found to be only 12 acres in 2012. Similarly there was a decline trend for chillies also from 11 acres in 2008 to 6 acres in 2012. Thus the globalization has not received much attention by marginal farmers in Telangana state.

Similarly in Chittoor district of Rayalaseema region of A.P. State, there was a declining trend for Paddy cultivation but slight increase in the extent of one to two acres in the cotton, chillies and ground nut crops from 2008 to 2012 period.

Thus, except marginal farmers of Andhra region of A.P, others, either from Telangana State or Rayalaseema region could not derived benefits of globalization in raising commercial crops and this transformation is not in favour of most of the marginal farmers of Telangana and Rayalaseema regions.



**Table – 5**  
**Changes of Cropping Pattern of small farmers (Respondents) during 2008-2012**

**In Acres**

Dist	East Godavari					Chittoor					Karimnagar				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Paddy	54	50	47	43	43	32	30	29	26	26	44	41	37	37	37
Maize	10	12	15	17	17	09	11	14	15	15	19	22	24	26	26
Cotton	15	19	25	30	34	12	16	18	19	21	16	16	19	20	23
Chillies	25	28	32	37	37	10	13	15	17	17	13	15	22	22	22
Groundnut	19	22	23	23	23	04	06	07	07	09	07	09	10	12	14

Source : Compiled from the data collected from field survey in selected districts from three regions in Andhra Pradesh and Telangana





The table 5 reveals the changing cropping pattern during 2008 to 2012 among the small farmers category. It is noticeable that small farmers of Krishna district have raised cotton and chillies to double than that of small farmers of Telangana and Rayalaseema regions. For example in the year 2008 small farmers of Telangana region raised chillies only in 13 acres but in Andhra region it was 25 acres in 2008 and the same trend was observed in the in the case of cotton also.

On the other hand, even paddy crop cultivation in Telangana region has gone down from 44 acres in 2008 to 37 acres in 2012. In Rayalaseema region also it has land declined from 32 acres to 26 acres. But unimportant crops like maize cultivation increased in the increasing trend from 19 acres in 2008 to 22 acres 2009, 24 acres in 2010 and 26 acres in 2011 and 2012. Thus small farmers of Andhra region receiving benefits from the process of globalization but not other regions

The overall observation indicates that chillies and cotton cultivation started receiving attention by small farmers of Andhra region of A.P. more after the year 2008 onwards but the results is not much visible in Rayalaseema and Telangana farmers.



**Table – 6**  
**Changes of Cropping Pattern of Medium farmers (Respondents) during 2008-2012**

**In Acres**

Dist	East Godavari					Chittoor					Karimnagar				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Paddy	72	68	62	54	58	62	56	50	48	48	37	40	44	46	49
Maize	19	21	23	23	23	25	29	34	37	36	29	33	35	36	36
Cotton	16	20	26	32	39	35	39	42	42	42	21	23	26	28	30
Chillies	21	28	35	39	42	20	23	25	27	29	18	21	24	26	29
Groundnut	20	25	25	25	25	15	17	18	18	18	16	19	21	21	21

Source : Compiled from the data collected from field survey in selected districts from three regions in Andhra Pradesh and Telangana



The table 6 depicts the changing the cropping pattern during 2008 to 2012 among the medium farmers category.

It reveals that both cotton and chillies cultivation started increasing every year by adding of 4 acres of land. In other words cotton was raised in 16 acres of land in 2008 but jumped and more than doubled for cultivation in 2012 i.e. it was found in 39 acres of land. Similarly there was double raise in chillies cultivation from 21 acres to 42 acres of land. But in the case of paddy crop which is highly demanded in Andhra region medium farmers of this particular region are not showing much interest to raise it. It is evident from the above table that all the big farmers put together, raised paddy in 72 acres of land during the year 2008 but when it comes to the year 2012 the paddy cultivation was found only in 58 acres of land.

With regard to Karimnagar district, paddy cultivation was found to be in increasing trend to the extent of 3 to 4 acres in addition i.e. from 37 acres in 2008 to 40 acres in 2009, 44 acres in 2010, 46 acres in 2011 and 49 acres in 2012. But in the case of commercial crops like cotton, a large number of farmers were in deep debt and some of them took suicide for raising cotton. Thus the cropping pattern even for medium farmers is not in favourable condition in Telangana region during the globalization era. The overall observation indicates that though the food crops cultivation trend increasing year by year, but proportion of commercial crops cultivation in Andhra area is receiving priority as there is tremendous increase in the cultivated land of commercial crops like chillies and cotton and the impact of globalization on transferring in agriculture is more visible in the highly developed areas of Andhra State only.



**Table – 7**  
**Changes of Cropping Pattern of Large Farmers (Respondents) during 2008-2012**

**In Acres**

Dist	East Godavari					Chittoor					Karimnagar				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Paddy	77	72	66	63	60	38	40	41	42	42	56	53	50	47	44
Maize	12	16	19	22	24	27	25	23	20	20	24	26	28	30	30
Cotton	16	19	24	31	36	15	18	20	21	23	29	31	34	34	34
Chillies	19	25	27	30	32	19	22	24	25	27	25	25	27	29	29
Groundnut	10	12	12	13	14	8	10	11	12	12	07	09	12	12	12

Source : Compiled from the data collected from field survey in selected districts from three regions in Andhra Pradesh and Telangana



The table 7 throws light on the impact of globalization on the changing pattern in the large farmers category. It is observed from the above table that a major portion of the land belonging to big farmers of Andhra region prefer paddy in 2008 i.e. 77 acres and Karimnagar district of Telangana region it was 56 acres and Chittoor district of Raayalaseema region it was 38 acres. It means among all the crops big farmers, irrespective of their area living, preferring to raise paddy cultivation. This is quite opposite to that of medium farmers where most of them preferred commercial crops such as cotton and chillies.

When enquired about this peculiar situation, they opined that paddy crop has been growing since long time and it is linked to their social status. In fact most of the big farmers in Andhra region provides major share of the paddy to the State of Andhra Pradesh. Hence, unlike medium farmers, big farmers of Andhra regions are not radically transforming their land from paddy cultivation to commercial crops. Perhaps this type of tendency is observed only in A.P. context where progress and prosperity is linked to their social status.

The overall observation indicates that the paddy crop cultivation is more (75 acres) in Andhra area, but at a faster rate it has gone down after farmers started preferring commercial crops in the globalization era.



**Table – 8**  
**Purchase and Sales of Land by Marginal farmers during 2008-2012**  
**In Acres**

Dist	East Godavari			Chittoor			Karimnagar		
	2008	2012	Difference	2008	2012	Difference	2008	2012	Difference
Dry Land	05 (10.63)	09 (19.14)	04 (25.00)	30 (49.18)	29 (48.33)	01 (6.66)	18 (29.50)	14 (28.57)	04 (33.33)
Wet Land	02 (4.25)	06 (12.76)	04 (25.00)	21 (34.42)	14 (23.33)	07 (46.66)	15 (24.59)	10 (20.40)	05 (41.66)
Irrigated Dry Land	40 (85.10)	32 (68.08)	08 (50.00)	10 (16.39)	17 (28.33)	07 (46.66)	28 (45.90)	25 (51.02)	03 (25.00)

\* Source : Compiled from the data collected from field survey in selected districts from three regions in Andhra Pradesh and Telangana

\*\* Bracket indicates Percentages



The table 8 shows that marginal farmers of developed region converted dry land into irrigated between 2008-2012 for raising commercial crops. Even there was a higher demand for wet land also in developed region. But unfortunately in the relatively undeveloped regions, marginal farmers neither tried nor shown keen interest to acquire the land. Therefore the globalization effect acted as a stimulating factor for farmers of developed regions and unfavourable to the undeveloped regions.

The observation indicates that marginal farmers of Andhra region could acquire 40 acres of irrigated dry land in 2008 itself. On the other inspite of assured irrigation facilities for wet land, they could not prefer much as the land possessed by them was maximum to the extent of 9 acres in 2012.

### **Conclusion:**

The impact of Globalisation on transforming agricultural sector is not uniform in all the regions of the States of Andhra Pradesh and Telangana. It differs from the farm size to farm size and leading to disparities in the various crops. Particularly socially, economically and politically powerful farmers are getting the benefits of globalization. Inter-regional and Intra regional disparities is also visible in the study areas of Andhra Pradesh and Telangana States. Farm income disparities among the various categories of peasants is widening. Among all, medium farmers of Andhra region (i.e. Godavari districts) are deriving the benefits of globalization in agriculture.

### **Suggestions:**

Hence, the study suggests that unless appropriate measures are taken by the government of the two states, the gap in the agricultural sector would widen and this would create wide political unrest in the farming communities. It is necessary to implement land reform policies, better distribution of all resources particularly



irrigation and credit to the weak farmers, creating awareness on the better results are essential to reduce the gaps. Government of Telangana and Andhra states have to take extra care to reduce the gap among the different farming groups and new measures to be adopted so that impact of globalization in the agricultural sector in generating income, employment and welfare of the larger group of the rural communities would be generated.





## FACTORS AFFECTING THE ATTITUDE OF GOVERNMENT EMPLOYEES TOWARDS MONETARY SAVING OF ETHIOPIA (WADLA WOREDA -KONE TOWN)

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### 1. ABSTRACT

Saving money is one of those tasks that are so much easier said than done — everyone knows it's smart to save money in the long run, but many of us still have difficulty doing it. There's more to saving than simply spending less money, although this alone can be challenging. Smart money-savers also need to consider how to spend the money they do have as well as how to maximize their income. The crucial emphasis of this study is to analyze monetary saving factors that are mostly affecting the attitude of government employees towards monetary saving. Following these objectives the study employed review of related literature for further understanding. In addition to this, this study used research methodology in order to analyze factors affecting the attitude of government employees towards monetary saving. The processing and analysis of the study achieved through both manual and computerized system like Statistics Package for Social Science (SPSS) window. Based up on these instruments the required findings developed.

**Keywords:** Monetary Saving, Attitude of Employees, Government Employees

### 2. INTRODUCTION

As Journal of Economics and Sustainable Development stated that the saving rate of Ethiopia to GDP is 9.5% which is, the worst saving rate in the world as compared to China, Bangladesh and South Africa which



have a better saving rate in the world. The study of Sinha (1998) and Muradoglu and Taskin (1996) revealed that because of continuous flow and more uncertain nature of their income, self-employed households have a knee interest for saving. As Orbeta (2006) revealed that the saving habit of households is affected by economic and social factors. The saving culture of the society is poor despite the performance improvement of saving rate from 6% in 1998 to 9.5% in 2003 E.C. which is the worst saving rate in the world and even in the Sub-Saharan countries. The critical economic factors that affect saving culture includes; low interest rate of saving, lack of incentives to savers and high inflation rates prevailing in the country. The single most determinant of poor saving habit is attitude of the societies towards consumption than saving. . Modngliani (1995) noted that for poor and developing countries the saving ratio tends to raise with income, while in developed countries there is no significant, systematic relationship between income and saving.

### **3.STATEMENT OF THE PROBLEM**

Saving not only benefit for the individual but also to the economy (Katona, 1975; Bernheim, 1991) stated that saving is the money that person has saved, especially through bank or official scheme. According to Brand KIntz (2010) just about everyone has a complicated relationship with money. According to Oriental Outpost (2007) saving money is also a way of planning ahead. Most people keep a certain goal in life when saving money. If one does not “save it for a rainy day” but instead decides to “live it up” and spend all their money than they are more likely to face financial difficulties in the future. In this way, people who spend more than save do not take the opportunity to plan ahead for the future. However, there are also some disadvantages to saving money. People who save money excessively and do not spend enough become known as misers. Even if they are earning well, they are not giving back financially to society. However, to “live it up,”



similar to “save it for a rainy day” is an extreme attitude. Another good approach is to never buy anything that you did not plan on buying no matter how good a deal you find; this saves you from unnecessary expenditures. To examine the above problems, this study therefore intends to provide a brief view of factors affecting the attitude of government employees towards monetary saving through a comprehensive review of literature and empirical study available on the area. From the practical point of view, the study helps to government employees to know the current status of monetary saving and shows what problems face them if they haven't the habit to save money over their spending.

#### **4. HYPOTHESIS**

**Ha0:** No significant relation between income level of government employees and their money saving.

**Ha1:** The income level of government employees does affect the saving of government employees.

**Ha0:** No relation between consumption level and saving of government employees.

**Ha1:** Consumptions does influence saving of government employees.

**Ha0:** No relation between current interest rate and saving of government employees.

**Ha1:** Current interest rate does affect saving of government employees.

#### **5. REVIEW OF LITERATURE**

##### **5.1 THEORETICAL REVIEW**

##### **5.1.1. Concept of Saving**



According to Dell'Amore, Giordano (1983) saving is income not spent, or deferred consumption.. There is some disagreement about what counts as saving. For example, the part of a person's income that is spent on mortgage loan repayments is not spent on present consumption and is therefore saving by the above definition, even though people do not always think of repaying a loan as saving. According to Modigliani, Franco (1988) saving is closely related to investment. By not using income to buy consumer goods and services, it is possible for resources to instead be invested by being used to produce fixed capital, such as factories and machinery. Saving can therefore be vital to increase the amount of fixed capital available, which contributes to economic growth.

### **5.1.2. The Attitudes of People towards Saving Money**

Bodie,(2002) stated that individuals repeatedly made the same mistakes in not saving their money because of insufficient knowledge of the importance of saving money. The knowledge of the importance of saving can be gained from education. These include formal education, such as high school or college course, seminars and training classes outside of school as well as informal sources such as from parents, friends, and work (Keller and Staelin 1987). The amount of savings has been associated positively with knowledge, which comes from education, wealth, income and age (Browning and Lusardi, 1996). People who are financially knowledgeable are more likely to behave in financially responsible ways (Hilgert, Hogarth, and Beverly, 2003). According to Clarke (2005), financial role takes place most often from parents in home rather than sources outside the home (Ismail et al., 2011). Apart from that, friends can influence the behavior of savings (Duflo and Saez, 2003). Peer influence also is widely believed to be a cause of both desirable and undesirable behaviors, attitudes and values in adolescents, (Cohen, 1983). The idea that families are willing to sacrifice savings in order to protect their standard of living was first



proposed by Dusenberry (1949). Because of this initial focus, economic literature regarding habits and habit-formation has focused on the utility of maintaining a certain level of consumption in subsequent time periods. Becker (1992) offers the generally accepted principle of habits in economic literature by defining habitual behavior as a positive relation between past and current consumption. He then examines harmful habits as those in which greater present consumption lowers future utility, citing smoking and drinking as examples.

### **5.1.3. The Relationship between Income and Saving**

Looking across countries, Schmidt-Hebbel and Serven (2000) found no evidence of a statistically significant link between measures of income and aggregate saving rates. Despite an outpouring of research in the 1950s and 1960s, the question of whether the rich save more has since received little attention. Much of the early empirical work favored the view that high income people did in fact save a higher fraction of their income (e.g., Mayer, 1966, 1972). Some studies have found that Wealth levels are disproportionately higher among households with high lifetime income (Diamond and Hausman, 1984; Bernheim and Scholz, 1993; Hubbard, Skinner, and Zeldes, 1995). While this result could be explained by higher saving rates among higher income households, it could also be explained by higher rates of return (on housing or the stock market, for example) or the receipt of proportionately more intergenerational transfers by these households. Others have argued that wealth levels when properly measured are not disproportionately higher among high income households.

### **5.1.4. Factors Affecting Saving Money**

The assertion that low-income people do not save can be refuted. Rosenzweig and Wolpin (1993) describe the use of bullocks as an asset in India. In their model, bullocks are investment assets used both to generate income and to smooth consumption. Nevertheless, most of the



evidence about this issue is anecdotal. It is possible that poor people's savings are low simply because it is not attractive for them to save given the lack of access to adequate formal savings instruments (i.e. non expensive, simple to understand and reliable). Several papers document that when suitable financial instruments are accessible to low-income individuals, they are regular and eager savers. Nevertheless, it is difficult to find a quantification of this behavior. A related issue is the effect of increasing the number of branches of commercial banks (especially in more convenient places) on low-income people savings.

The 'macro facts' still hold and some can also be found in micro data (such as the relative variability of non-durable consumption and income - see Attanasio, 2000, and Attanasio and Borella, 2006). As the life-cycle/permanent income model was developed to explain some facts about consumption. Some of these facts were noticed in aggregate statistics: (non-durable) consumption expenditure is less volatile than income and the marginal propensity to consume seems to be smaller in the short run than in the long run. For many countries both income and consumption life cycle profiles are hump shaped, in that they increase during the first part of the life cycle to reach a peak a few years before retirement and decline afterwards. Groups and countries that exhibit relatively 'steep' income profiles also exhibit relatively 'steep' consumption profiles. Carroll and Summers, therefore, conclude that income and consumption track each other over the life cycle, therefore contradicting one of the main predictions of the life cycle model.

The current interest rates being offered will have an effect on the future rates you will be given. The interest type you are currently receiving is another factor involved. In order to link the increase in saving rates with the widening imbalances and identify possible policy measures that can contribute to the rebalancing effort; we need to find factors that help account for the accelerated increase in saving rates



since 2003. One possible factor is the decline in real interest rates that has occurred alongside the rise in saving rates, the shift in the structure of demand, and the increasing reliance on exports and investment over this period (Lardy, 2008). This provides some motivation and conceptual background for the decline in real interest rates, particularly in the 2003- 2009 period, has affected urban household saving decisions in a tangible way.

## **5.2. Empirical Studies about Saving Money**

Elbadawi&Mwega (2000) state that, empirical studies conducted over time have indicated that domestic saving and investment are highly correlated. Savings is beneficial for the economy as a whole and thus also for the citizens of the country. Sekgobela (2004) states adequate savings are important for capital formation and have a direct impact on economic growth, and as such are vital for achieving macroeconomic stability. (Reddy,Naidu&Vosikdata, n.d.). Prinsloo (2000) states that, the low level of domestic saving limits the country's rate of investment; restrain the rate of economic growth and make the country more vulnerable to international capital shifts. The role of savings in the development process is well documented in the literature of economic growth. Low level of domestic savings is said to be one of the reasons for slow and stagnant economic growth in the developing countries (Agrawal et al., 2010 and Bordoloi and John, 2011). Thus, the revival of growth in emerging economies can be expected to require more investable resources for sustainable growth. Though international capital flows (foreign savings) are encouraged for the additional resources, the primary contribution for investment in developing countries like Ethiopia comes from their own savings. There are some recent studies (see Loayza et al., 2000; Elbadawi and Mwega, 2000; Aryeetey and Udry, 2000; Sinha, 1998; Schmidt-Hebbel et al., 1996; and Collins, 1991) on the determinants of savings behavior in pooled time series cross-section data on a large number of countries. However,



saving behavior shows considerable variation across countries depending on their socio-economic structure. Therefore, it is important to study the determinants of savings and the direction of causality between household savings and growth as these have important implications for development policy.

## 6. ANALYSIS AND DISCUSSION

### 6.1. Introduction

The purpose of this study is to critically assess the factors that are mostly affecting the attitude of government employees towards monetary saving in Wadla Woreda -kone town. Data were collected from government employees found in Wadla Woreda-kone town. To get the required information 287 questionnaires were distributed across the three stratified sectors in wadlaworeda –kone town, out of which 276 were completed and responded successfully which accounts 96% response rate with the stratified groups response rates. Based on the data collected, the analysis was developed as follows;

**Table 1: Level of Employees' Income related Issues**

Income related items	Count (%)				
	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
My partner knows how much I earn	4(1.4)	121(43.8)	3(1.1)	148(53.6)	-
My partner and I discuss and plan our budget monthly	2(0.7)	151(54.7)	1(0.4)	120(43.5)	2(0.7)
Have you inherited money/property/shares from your grand parents	23(8.3)	221(80.10)	9(3.3)	23(8.3)	-
If you could win a million birr today, would you change your lifestyle	8(2.9%)	46(16.7%)	11(4.0%)	161(58.3%)	50(18.1%)
If you were resign today from your current job, would you cash out your pension fund	46(16.7%)	177(64.10%)	13(4.7%)	40(14.5%)	-
I do not wait for sale, I buy today when I need it	12(4.3%)	191(69.2%)	9(3.3%)	62(22.5%)	2(0.7%)
I have enough income to save	15(5.4%)	178(64.5%)	18(6.5%)	64(23.2%)	1(0.4%)
You have economically dependent families	1(0.4%)	79(28.6%)	1(0.4%)	194(70.3%)	1(0.4%)
I would save more if I had a bigger income	1(0.4%)	14(5.1%)	17(6.2%)	235(85.1%)	9(3.3%)
I would feel a sense of pride if I had more money than usual left at the end of the month	2(0.7%)	7(2.5%)	24(8.7%)	191(69.20%)	52(18.8%)





As shown from Table 1 above that almost 53.6% participants agreed as their partner knows how much they earn while. Above half percent (54.7%) of the subjects of the study disagreed in discussing and plan their budgets monthly. According to Clarke (2005), financial role takes place most often from parents in home than outside. Among the participants of the study 80.10% disagreed in having inherited money/property/shares from their grandparents. Majority of the participants of the study (58.3%) agreed that their life style would be changed if they would win a million birr today. Most of the participants of the study (69.2%) replied that they disagreed in do not waiting for sale, they buy today when they need. Majority of the subjects of the study (64.5%) disagreed in having enough income to save. Among the participants 70.30% agreed that they have economically dependent families. Almost all(85.1%) of the subjects of the study agreed in saving more if they had a bigger income. Most of the respondents 69.20% agreed that they would feel a sense of pride if they had more money than usual left at the end of the month .

**Table 2: Level of Employees’ Consumption related Issues**

Consumption related items	Count (%)				
	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I know how much I spent last week	26(9.4)	58(21)	31(11.2)	124(44.9)	36(13)
I know how much a liter of petrol	27(9.8)	61(22.1)	18(6.5)	139(50.4)	31(11.2)



costs					
I know much I pay on my house, rent	3(1.1)	66(23.9)	10(3.6)	193(69.9)	4(1.4)
I know how much I spend on beer per month	2(0.7)	171(62)	30(10.9)	72(26.1)	1(0.4)

Results to consumption related items are displayed in Table 2 that 124 (44.9%) of subjects of the study agreed in knowing how much they spent last week. For this scholars said as to be able to build wealth, one needs discipline and to follow one's budget. Staying disciplined is a crucial step that is unfortunately lacking in the country (Wei & Zhang, 2009).

Among the subjects of the study 50.40% agreed in knowing how much a liter of petrol costs. Most of the respondents (69.90) agreed in knowing how much they pay on house and rent. Finally respondents were asked a question about how much they spent on beer per month and they replied that 62% of them were disagreed with

**Table 3: Level of Employees' Interest rate related Issues**

Interest rate related items	Count (%)				
	Strongly Disagree	Disagree	either agree nor disagree	Agree	Strongly Agree
I know how much the interest rate to save is	1(0.4)	21(7.6)	19(6.9)	225(81.5)	10(3.6)
Interest rate to borrow exceeds	2(.7%)	17(6.2%)	32(11.6%)	215(77.9%)	9(3.3%)



interest rate to save					
I would save more if the interest rate is more	2(0.7%)	18(6.5%)	15(5.4%)	229(83.0%)	12(4.3%)
Interest rate does not affect saving decision	20(7.2%)	222(80.4)	24(8.7%)	10(3.6%)	-

About 81.5% of the participants responded agreed to the item 'I know how much the interest rate to save is'. Simple and compound interest work. A knowledge and understanding of compounding is critical for decision making in terms of duration and allocation of investments. Majority of the subjects of the study (77.9%) agreed in knowing interest rate to borrow exceeds interest rate to save. As table 3 displayed it above that 83% of the respondents agreed in saving more if the interest rate is more. In addition to this, questions were raised to perceive the influence of interest rate in saving decision while 80.4% of the subjects of the study disagreed.

**Table 4. Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.444 <sup>a</sup>	.197	.182	.28307

a. Predictors : (constant) income, consumption, interest rate,

As it is clearly shown in the above regression model summary that about 19.7% of the variation in the dependent variable was explained by the variation in the independent variables like consumption, income and interest rate. This might be happen due to sensitivity of the study, understanding of the respondents, care of the respondents to the response. Concerning this Bedian A.G & Mossholder K.W (1994) revealed



that how high should R-square be? It all depends, though some pesky reviewer may probably say--"you are only predicting 5% of the variance so your model is not good"! We have to educate these reviewers. In some fields, it is entirely expected that your R-squared values will be low. For example, any field that attempts to predict human behavior, such as psychology, typically has R-squared values lower than 50%. Humans are simply harder to predict than, say, physical processes. (<http://blog.minitab.com/blog/adventures-in-statistics/registration-naturally-sis-how-do-i-interpret-r-squared-and-assess-the-goodness-of-fit>)

**Table 5:Regression Analysis**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.230	5	1.046	13.053	.000 <sup>p</sup>
	Residual	21.314	266	.080		
	Total	26.543	271			

- a. Dependent Variable: Monetary Saving
- b. Predictors: (Constant), Income, Consumption, Interest rate)

The p-value in the ANOVA table (0.000) indicates that the model is good fitted model as 0.000 is less than 5%. Therefore, the model developed is optimal compared to errors in the study. Based on these parameters the model explained above is a good fitted model.

**Table 6. Coefficient of Variables**

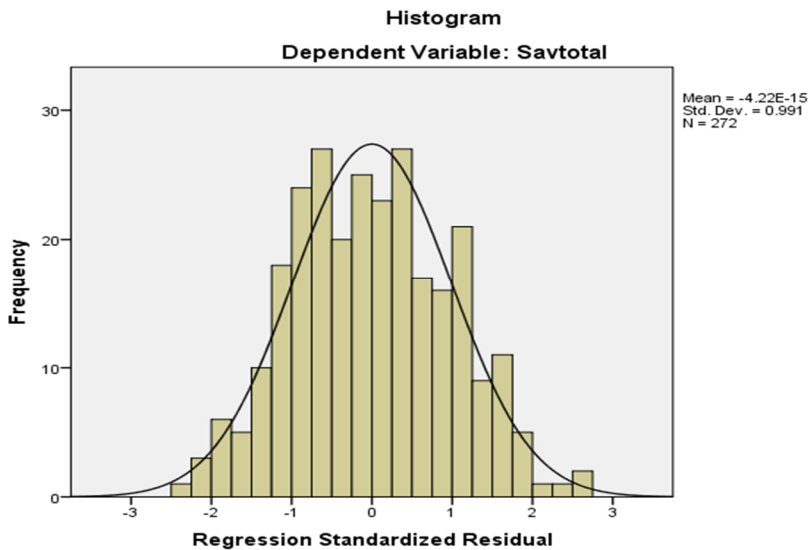
**Coefficients<sup>a</sup>**



Model	Unstandardized Coefficients		Std. Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error				Beta	Lower Bound	Upper Bound	Tolerance
(Constant)	.947	.332		2.853	.005	.293	1.601		
Consumption	.162	.033	.282	4.976	.000	.098	.226	.94	1.062
Income	.211	.050	.233	4.197	.000	.112	.310	.976	1.025
Interest rate	.100	.049	.113	2.051	.041	.004	.195	.994	1.006

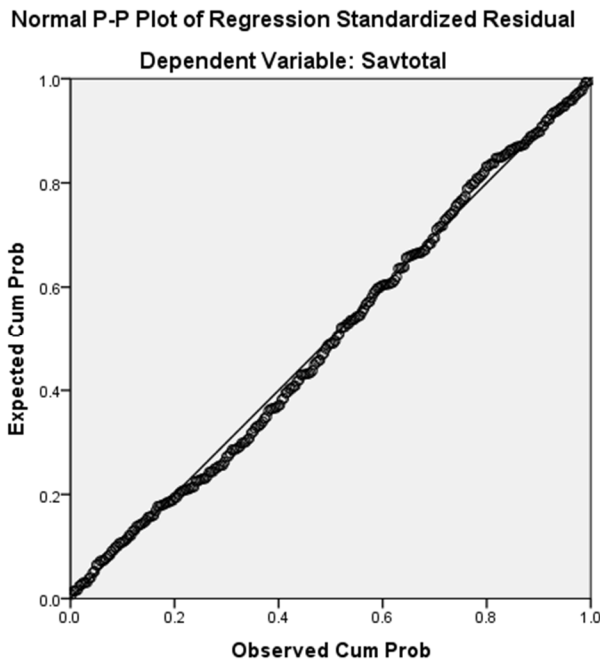
As it is revealed in the above table that p-value of 0.000, 0.000, 0.041 are the p-values of consumption, income and interest rate respectively which are less than 5% that for those p-values less than 5%, you can reject the null hypothesis and infer that corresponding variable (Consumption, income and interest rate) and the dependent variable have a linear relationship or the described independent variables have a significant contribution for the dependent variable (monetary saving). Here based on the finding of the multiple regressions, equation can be stated as  $\text{Monetary Saving} = 0.947 + 0.211\text{Income} + 0.162\text{Consumption} + 0.1\text{Interest rate}$ . As it is shown in the above equation that as one unit increase in consumption, income and interest rate will increase monetary saving in 0.162, 0.211, .100 respectively.

## 7.NORMALITY TEST OF DATA



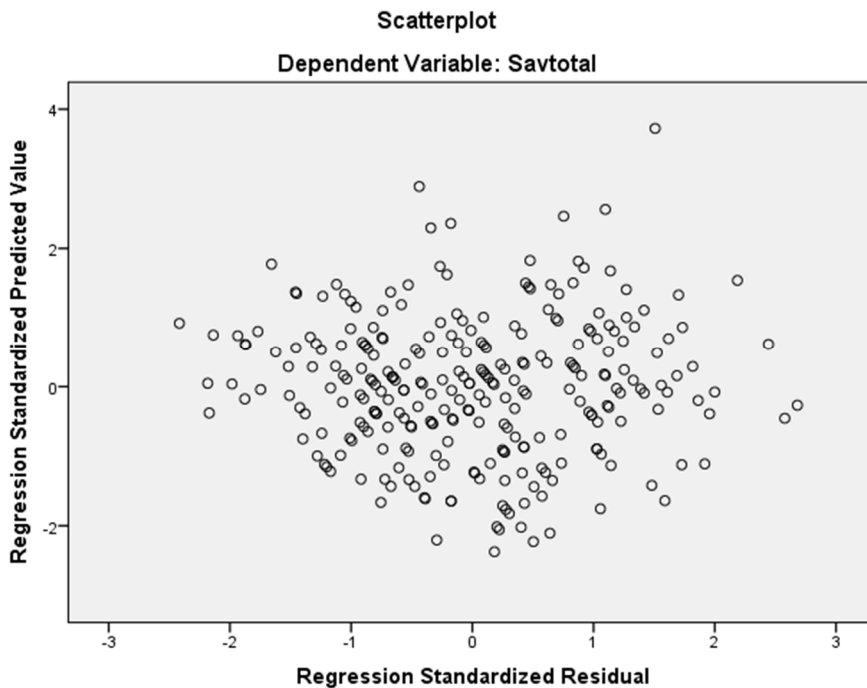
**Figure 1**

As shown in the above histogram that regression assumes that variable has normal distributions. None-normally distributed variables can distort relationships and significance lists. In this study, the graph labeled display normal curve and it shows that the variables have normal distribution thus the normality assumption is fulfilled.



**Figure 2**

The above linearity p-p plot revealed that standardized multiple regression can only accurately estimate the relationship between independent and dependent variables if the relationships are linear in nature. That is to say the mean values of the outcome variable for each increment of the predictors lie along a straight line. Therefore, the above linearity plot can estimate the relationship between the independent and dependent variables in this study.



**Figure 3**

All the three figures indicate that the data fulfills normality assumption. That is the histogram is almost look symmetric (no more tailed in both directions); the normal p-p plot also indicates that almost all points lie in the diagonal line; and the scatter plot shows the points does not make any sensible patten rather they are distributed/scattered in anywhere in the area. Therefore, the data fulfills the normality assumption.

## **8.FINDINGS OF THE STUDY**

Based on the objectives and the findings of the study, the following conclusions are derived accordingly.

Almost above half percent of the participants of the study did not know how much of their money spent and for what purposes. Above half of





the subjects of the study announce their monthly income to their partners but they did not discuss and plan how to use it consistently. This is a strong challenge to make monetary saving after consumption. According to Oriental Outpost (2007) saving money is also a way of planning ahead. Most of the participants of the study did not have enough money to save. But monetary saving is not the only task of the haves rather the poor's are also expected to save to make their future bright. "The poor and middle class spends a higher percentage of their income on goods than do the rich", (Greenhouse, New York Times, 1992).

Most of the participants of the study have dependent families and their consumptions increase as well, they are unable to save more. Orbeta Jr. (2006) has estimated a saving function using income and number of children as dependent variables and show that an increase in the household size has a negative impact on savings. Most of the participants of the study know the saving interest rate of financial institutions and they believe that if the interest rate is more they can save more. Therefore, it can be concluded that the saving rate is influential factor for saving decision.

Only 35% of them are saving at least 10% of their monthly salary. Moreover, most of them do not feel saving as their usual part of life. The respondents also perceived that saving is essential for reaching goals. From this we can conclude that despite of the knowledge and information they have, only 35% participants of the study can still save 10% of their monthly salary. The selected model for this study is a good fitted model and the required data of the study are well distributed in all assumption testing parameters. All of the independent variables have a linear relationship with dependent variables and have a significant contribution to the finding of the study.



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## NATURE AS A SOFT SKILLS TRAINER

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### **Abstract:**

There is an urgent need to acknowledge Mother Nature as the greatest teacher and to learn from her example. She speaks not a word in any human language, and yet everything in Nature inspires humanity to seek and learn, engendering awe, mystery, and an enthusiasm for uncovering the truth behind her workings, her creations, her cycles and her balance. As such, she is the primal teacher archetype of inspirational teaching and the root of all scientific enquiry. Hence, 'science' has been defined as "mankind's attempt to understand Nature". The great scientist Albert Einstein expressed it more dramatically stating, "We still do not know one thousandth of one percent of what Nature has revealed to us." In this paper, we would like to portray nature as a soft skills trainer.

**Keywords:** Nature, Soft Skills, Life Skills, Nature images, Elemental forces

### **Introduction:**

Observation with the intuitive eye of the daily miracles in the natural environs can inspire the individuals to comprehend many symbolic teachings from the great Mother Nature. One effect is a heightened



appreciation of life and its wonders, with corresponding understanding of how each plant and animal contributes its own unique qualities, abilities, skills and messages to the mankind, from which the man can understand the beauty and mystery of God's creation. When this pedagogy is utilised and concept applied to society, it helps foster respect for others and their talents, and instils the desire in individuals to work together for the betterment of the community as a whole. (Malhotra, 2012)

Through the ages man has evolved language to communicate rich ideas to his/her fellow beings for the development of civilizations. In the modern age soft skills have become the order of the day both in private and public life. These skills are so significant for organizing the human institutions methodically for accomplishing the desired objectives and goals. The prominent soft skills are:

1. Leadership
2. Communication
3. Team Work
4. Problem Solving
5. Decision Making

A teacher in classroom says that sting of scorpion is painful and tries to educate the students, but it is always doubtful whether they receive the true education until and unless they are really stung by the scorpion. A student gets real education when it comes to his/her personal experience. In this way it can be believed that valuable education useful for personality development can be received when the creative learners observe many images, creatures and phenomenal happenings like rainbow, sunrise, rainfall, lunar eclipse, natural calamities, etc. In this way it can be understood that the students and employees can learn the so called soft skills from varied images in nature.



Nature's greatest teaching technique for vital survival skills is 'trial and error'. While the parents of a young animal may teach and demonstrate, the mastering of any skill can only come from the repeated attempts of the 'youngster' himself, and each failure becomes the foundation of learning for the next attempt. This also infuses creativity and enthusiastic participation into the learning process. Nature is also an exemplary interactive teacher. She teaches us most vividly the concepts of action/reaction as plants and animals mirror our own state of mind — positive and negative. Plants and animals 'respond' in a positive manner to tender, loving care. (Malhotra, 2012)

Ever since the dawn of human civilizations man has consciously or unconsciously acquired lot of knowledge and wisdom from innumerable happenings in the natural surroundings. Great lessons can be learnt from the five Elemental Forces in Nature namely:

- a. Earth: Signifies spirit of patience and tolerance of managers and leaders.
- b. Water: Symbolises perennial resourcefulness in industry
- c. Wind: Suggests the confidence, force and energy
- d. Fire: Indicates the light of knowledge, courage and burning zeal & enthusiasm
- e. Sky: Denotes vast knowledge and wisdom

These are some significant lessons and messages which can be perceived humans from their observations of flora, fauna and other nature phenomena: (Patel, 2014)

1. The Stars: Stars bring beauty and light in the darkness. Instead of succumbing to the darkness of the world, be one of the radiant stars that shines their bright inner light. As we inspire others to be stars, we can light up the night sky with our intentional beams of star light. A leader can learn the spirit the



eternity form the sight of the vast galaxies with which he can maintain the everlasting success of his/her organization.

2. The Sun: Sun shows prosperity, liveliness and the energy. Managers who are engaged in accomplishing the organizational goals can take inspiration from such higher virtues for the growth and development of their institutions.
3. The Moon: Moon symbolises the variable factor that naturally occurs in any business. Understanding such metaphorical lesson the leader in the industry can make himself ready to face any challenge and eventuality in his work.
4. The Sky: Sky indicates broadmindedness and big-heartedness to exhibit patience and spirit of tolerance with which the people involved in management can manage things with fellow workers more efficiently. Darkness is necessary to appreciate the light. We need to experience the opposite of what we want so we can appreciate and experience the thing we desire. No matter what storms are passing, know it is always transient because beyond the clouds, the sky is always blue and the sun is always shining. The sky is the backdrop of our mind. The clouds with different formations, speeds and heights represent the frequency, types and speed of our thoughts. As clouds, our thoughts too shall pass. Glide through your thoughts like birds glides through clouds. Don't resist the clouds, fly through them.
5. The Ocean: The unfathomable depth and the immeasurable breadth of oceans can motivate us to understand the gravity and the intensity of bigger challenges in large scale industries. The vast ocean can't exist without each particle of water. Each human being plays its part in humanity. We are all one small part of the greater whole.



6. The Mountain Ranges: Mountain ranges are the sources of abundant natural resources and so they can symbolize the resourcefulness of skilled workers in companies. Stand firm, poised and majestic like a mountain. Regardless of the external situations life will bring you, remain strong like the mountains do when faced with avalanches, rain storms, and water erosion. Your emotional guidance system should be tough like a rooted mountain, immune to the actions and reactions of others.
7. Rain: Rain brings us hope and life-force, vitality and movement. Water is required to cleanse negativity in the world and allow a space of clarity. It is through showering and soaking in a tub, that we clear our bodies from the stagnant, negative energy of yesterday and replenish our positive energy. Shower with the intent of cleansing your body, spirit and mind.
8. The River Valleys: As we set sail in our life, we take sail through a calm stream. As our dreams get bigger, we are guided to a river with faster currents and more opportunities. Eventually, for our dreams to be realized, we must end up in the vast ocean. We won't always have the protection of the river banks as our safety net. To achieve our dreams we have to lose sight of the land and sail into open waters, where there are unlimited possibilities for our dreams to manifest. Like a river when any rocky obstruction comes in our path we have to take an alternative path to reach our goal instead of stopping altogether.
9. Flora: Trees bend to avoid probable disaster from the fierce storms. They indirectly teach us the qualities such as selfless service attitude, obedience, loyalty and wisdom. As seasons change, we are guided to learn acceptance and non-resistance. Trees don't resist leaves falling when winter arrives. They stand deeply rooted in the ground, with their vulnerability out in the open and branches spread wide, surrendering to the Universe.





Do what you will with me, I trust it is for my highest good. Flowers don't discriminate who they share their beauty and fragrance with. They share with all friends, strangers and enemies. True compassion and love comes from sharing your beauty with all you meet.

10. Fauna: They teach us spirit of team-work and single-mindedness. Birds soaring through the sky represent the limitless freedom and potential available to us if we release our fears. Taking off to fly for the first time can be scary and bring about feelings of fear. Without taking the risk of the first flight, we won't find the internal freedom we desire. The community of bees and ants all participate together to benefit all those in their community. We've never seen two birds run into each other when they are flying in a flock. Why is that if they never talk to each other? True communication doesn't always need words. Zebras do not look at tigers and wish they could hunt like tigers. Accept yourself as you are, know your weaknesses and strengths and embrace your unique beauty and gifts. Caterpillar transforming into a butterfly can signify the process of metamorphosis of business organizations. The awareness of such knowledge can help a leader.
11. Clouds: Clouds have the privilege of having the panoramic picture of things happening on earth. Hence, they can inspire the leaders to have the higher and comprehensive vision to comprehend the many issues involved in the administration of industry. Bad experiences are also like passing clouds, so we have to move on in life.
12. Sunrise and Sunset: The sunrise motivates the working class people to get involved in productive jobs and corresponding sunset also suggests the hard workers to have rest and repose to re-energize themselves for the next day's tasks.



13. Natural Disasters: Natural disasters teach us about the inevitable and unforeseen tasks and challenges which cannot be predicted with scientific precision. Our earth absorbs the negative energy humans expel as do our bodies. There are times when the earth and our bodies need to recalibrate and dispel the negative energy we absorbed. Mental breakdowns and hitting rock bottom will bring chaos, change and discomfort, but it can be the most positive, life changing event. Sometimes, we need to be brought to our knees to remember what we are grateful for and start on a new life path.

Looking to nature and animals, we see beauty and wisdom in the simple and ordinary. We easily take this beautiful world and its many messages and lessons for granted. Don't wait for extraordinary moments to take your breath away, look to nature and bring that beauty into all that you do and every moment of your life. Tending a garden, folding laundry, consoling your child having a tantrum or cooking a meal- all regular tasks take on a sacred quality when we perform them with the total involvement, acceptance and love. (Patel, 2014)

### **Nature as a Soft Skills Trainer:**

The silent teacher, only if we wish to listen, Nature has abundance of message to give. For the attainment of peace and salvation, many people left the conventional society and walked towards places where the nature conquered over the humans. These people later became the preachers of life skills and evidently soft skills. Consequently, nature can be the place where we can acquire skills. It is only a misconception that nature has no language; no matter where we are, where we belong, the infinite sky reflecting numerous shades unites us thereby nature has the language of colours and ecstasy. From the times immemorial, nature has been the pacifier, it has given answers to tangled questions, it has shown that falling down in life is not such a bad thing after all;

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for example, the shooting star has always been the granter of wishes. Its immense optimism has always been captured by the poets. It teaches us that every dark night has to blossom into the bright morning that is every problem has an end only if we can hear the echoes of hope humming in our heart. The flowing rivers have much more to say. Even if you place a rock in its path, it always finds another way to flow, but whatever it is it doesn't stop flowing, in the same way we should never give up in life because there is always another chance only if we are ready to paint our dream picture of life. Also as we see that the water takes the shape of the container in which it is present, it signifies that adjustment has always been the key for stable life. If the branches of trees didn't spread, we could never hide from the scorching sun into its shades; Because of its constant posture that we are able to takes its benefits. Thereby nature teaches us that posture is actually important and has to be consistent. Observing the slow process of blossoming of flowers and ripening of fruits, it can be said that the patience has always lead to fruitful results. The huge nonchalant mountains touching the sky also touch the ground that is it conveys that whatever heights one reaches, one has to be grounded not allowing pride to convert into ego. The colliding clouds quarrelling in thunders and lightings, at the end come together to drizzle the rain of peace, thereby showing us the way to ends misunderstandings not in war but in peace. Seeing how the ants work together to gather food, seeing how the birds fly together through the monstrous winds, seeing how the sheep can never get lost in a flock, seeing how the animals are always with their herd, we can learn teamwork, team spirit. The night is seeing through its twinkling eyes the collage of dreams in nesting sleep, It has painted itself in lightless black to uncover the rainbow of peace. The colour has spilled from the tumbled can of emptied light to be the shadow of the gigantic earth wrapping in shades of time to see the sunlight within the mind has it switched off its lights only to make us see how bright it is our inner self. As we see the butterfly taking its turn to swim the air,

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we learn the art of waiting for our chance. No one could ever capture how the caterpillar turns into a butterfly because it is a slow process only for us not for that insect which duly waits to have its wings and to bloom like a flying flower. As the feathery mother waits on the nest, it doesn't see the broken egg but sees its beautiful child being born, in the same way we have to see only the positive side of any situation.

We are spending restless hours in coaching centres to learn soft skills when the nature has always been teaching us free of cost and with freedom of thought. Nature being the undeterred poet is also a soft skills trainer. It has always been spreading its knowledge through incidents and experiences. It has proof and evidence for the importance of every skill it teaches. The nature is like a lab where every lesson is learnt with having practical knowledge. We having the gift of interpretation can be our own teachers by reading the book of nature, which has unlimited pages to read and understand. No lesson goes without morals; it hides meaning of every situation for us to quest, leaving clues allowing us to reach the treasure of skills. Through its visual poetry, we can develop echoes of knowledge that doesn't end in one conclusion but it is like a conclusion leads to an introduction. Thus leading to unending chain of thoughts that have to be repeated through recollection; like conventional soft skills trainer, the nature also writes on the board with a marker, but the difference is, its board is our mind and its marker is our experience. Also our classroom is not restricted, where we learn there is our classroom. Thereby we can spread into the entire nature to learn its lessons. Nature treats every of its students equally and we would feel as if we are the only ones in the class that it is we never know whether another person is learning the same lesson. That is the nature teaches uniquely, what we infer from its teachings might be quite different from what the other person learns. Nature is more precisely described as a trainer and not as a teacher because it is not devoid of recreating the same experiences again and again. The



flower blossoms not once but again and again, the fruits ripen not once but again and again, the caterpillar turns into a butterfly not once but again and again, it repeats the situations thereby accommodating every new student. Through the changing seasons, the nature conveys a lot; not all fruits sprout up in every season, thereby by letting us learn to see each person uniquely having different qualities. The summer signifies the hope through its bright mornings, the rainy season signifies peace through its blissful drizzles, the winter season signifies how to place a deaf ear to pessimism through its curtains of fog that duly help us in doing so, the autumn season signifies that end is inevitable thereby live till you die, The spring season signifies that there is always another chance. In the school of nature we can not only learn soft skills but every skill that is needed. Seeing how the queen bee controls the bees in the honeycomb, we can learn leadership, seeing the bravery and courage of the deer that ventures into the vicinity of the death guarded by lions for food gives us confidence and courage. The nature itself has learnt through failures. Even the natural disasters have trained us with soft skills. Because during the time of disasters, we exhibit unity, leadership, courage, confidence, hope etc. Thereby the nature not only can teach us but can also conduct practical exams to test us. Seeing how the tiny drops create a majestic rainbow, we can learn that nothing is as tiny as we see. Nature teaches us that for everything there is a season and the right timing. Sometimes in our life we want certain things to happen right now. It is hard to wait for the fruits of our actions and we expect results immediately. This is especially ingrained in us now with the fast results of the Internet, where you can look up questions and get instant answers. But the really good things in life – self-discovery, meditation, contemplation, self-transcendence – are not like instant coffee. They take time, practice and effort.



In Mother Nature's natural cycles of weather and seasons, there is an all-important flow – the bitter cold of winter is followed by the blossoming beauty of spring. Then follows the warmth and light of summer, followed by the colourful changes of autumn; For everything there is a season and a reason. If we did not have cold winter, the wheat would not be able to grow strong. The seeds planted beneath the soil lie waiting to flourish. New birth occurs in spring in the flora and fauna around us. Try to follow the example of Mother Nature's divine timing to increase your own capacity for patience. All good things come with time. There really is the right and special time in your own life for every event and achievement, both inner and outer. Nature teaches us to be humble. There is a quiet strength in humility. It is not a passive quality. Humility is needed in our everyday lives in many encounters we have with others. Where most can we see this divine quality in Nature? Just take a good look at the green grass beneath your feet. Grass portrays humility, as countless pairs of feet walk all over it every day. It doesn't complain or wither away. In fact it usually springs back up, unharmed each time. How wonderful is it to walk barefoot on soft green grass? This is something that can be very healing to do and 'earths' you – giving you a feeling of replenishment and grounding in your being. Try it, and contemplate the humility of the grass. Oh, if only we could all increase this quality in our own nature, the world would be a more peaceful place to coexist. Also we have to remember that we are a part of the nature, so it is always that we learn soft skills from nature.

### **Conclusion:**

It can be concluded that Nature and the Elemental Forces can act as teachers and mentors to mould the behavioural aspects of men and also can train them to become professionals in their respective fields of professions. The paper has discussed the important Soft Skills which can be learnt from nature imagery with poetic sensibilities of



imaginative learners. So, man is a part and parcel of nature and so he can learn anything naturally like fish,, peacock, bird and deer. They say that God could not be everywhere so he made small little packets of his essence and gifted it to us into various forms of nature. One of the best packets he gave us contained his most special element of nature that is 'love'. Lots has been said and felt about love stories in novels, but we failed to observe the love that nature has for everybody. Human race has here and again loved conditionally where caste, religion, colour, money and gender had all been the conditions. Whereas when it comes to nature, it has loved everyone and everything. A tree doesn't discriminates while giving fruits, rainfall is received by rich as well as poor while the sky shelters Hindus, Muslims, Christians and all other religions then why is it that humans have so many differences? Thus the best teaching that we can inculcate in us from nature is equality and loving unconditionally. (Jain, 2015)

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## **A BRIEF REVIEW ON TRADE AND ADMINISTRATION IN MEDIEVAL ANDHRA(WITH SPECIAL REFERENCE TO EASTERN CHALUKYAS,KAKATIYAS AND REDDY DYNASTY)**

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### **Abstract**

This paper discusses the Review of Medieval period in Andhra with the historical perspective of Andhra Pradesh. The Eastern Chalukyas (624-641) occupied a prominent place in the history of Andhra Pradesh. In the period the Chalukyas did the trade with rice, coconut, palm plantations, palmyra and areca palm, orchards of mangoes and plantains. Kakatiyas (1110–1158) to encourage more people to undertake the digging of tanks, wells and canals, tank construction was made one of the Saptasantanas which confers merit. Reddy dynasty (1325–1448) the trade was flourished, they impose custom duties and taxes on trade were lifted.

### **1. Introduction**

The state of Andhra Pradesh extends between 12.40 and 19.50 Latitudes and 76.45 to 84.50 longitudes and occupies the 5<sup>th</sup>. The state is studded with several mountains and hills. The Mahendragiri in Srikakulam district, Balakonda range in Vizag district, are the important ones in the north coastal Andhra. The eastern ghats extending from the north of Orissa state to Tamilnadu merge with the Western Ghats in Nilgiris. The range of hills flanking the river Godavary in Khammam, East and West Godavary districts are known as Papikondalu.

The Eastern Ghats towards south of the river Krishna are known as Nallamalas and Yerramalas. The most important pilgrim





centers situated on the Nallamalas are Srisailam, Ahobilam, and Tirumala. The Western Ghats popular as the Sahyadri range gets separated from the Ajanta hills, and pass through Adilabad district which are known as Nirmal Hills and Kerimeri Ghats. The hill range that passes through Karimnagar is known as Ramagiri hills. In the districts of Khammam and Warangal these are known as Kandikal hills. These are the hills gifted Andhra Pradesh by nature which are the sources of many rivers and rivulets and serve as agents causing fluctuations in climate and weather place in India covering approximately 2,75,000 square kilometers in area. It is the 4th most populous. Drained by such mighty and perennial rivers as Vamsadhara, Godavary, Krishna, Pennar, and Swarnamukhi, etc. and possessing important geological rock and mineral formations, covered by alluvial soils, Andhra Pradesh was most congenial for the survival and sustenance of mankind from the pre-historic times

## **2. Eastern chalukyas (624-641)**

Between 624 and 1323, a significant change came about in social, religious, linguistic and literary spheres of Andhra society. During this period the Telugu language, emerged as a literary medium subsuming the predominance of Prakrit and Sanskrit. As a result, Andhra achieved an identity and a distinction of its own. The Eastern Chalukyas were a branch of the Chalukyas of Badami. Pulakesin II conquered Vengi (near Eluru) in 624 and installed his brother Kubja Vishnuvardhana (624-641) as its ruler. His dynasty, known as the Eastern Chalukyas, ruled for nearly four centuries in all. Vishnuvardhana extended his dominions up to Srikakulam in the north and Nellore in the south. The Eastern Chalukyas occupied a prominent place in the history of Andhra Pradesh. Since the time of Gunaga Vijayaditya in 848, inscriptions show Telugu stanzas, culminating in the production of literary works in the coming centuries. Later in the 11th century, the Mahabharata was translated partly by the court poet



Nannaya under the patronage of the then Eastern Chalukya ruler Rajaraja Narendra. Throughout this period and up to the 11th century, the Telugu language was written in old Telugu script. Al-Beruni (1000) referred to old Telugu script as “Andhri” in his “Kitab Al-Hind”. The emergence of the Telugu script from the old Telugu script started around the 11th century and culminated in the 19th century.

In the period the chalukyas does the trade with rice, coconut, palm plantations, palmyra and areca palm, orchards of mangoes and plantains. Many of the villages depended on tank irrigation and this land was known as Eripatti or tank. Besides tanks, they knew well-irrigation. Fitting of sluices regulated water flow through canals.

Two types of taxes were collected:

- (i) Land revenue at the rate of one-sixth to one-tenth of produce value from each cultivator was collected and paid to the state and
- (ii) A tax collected and utilized for local needs.

They also collected taxes on draught cattle toddy tappers, marriage parties and professions. The amount of tax levied on these was not known. Romila Thapar thinks that as there were no large areas under cultivation, the land revenue income of the Chalukyas was small. There is a view that during this period the state did not receive substantial amount of income from trade and commerce.

Much of the royal revenue was spent on maintaining the army. The Chalukyas appear to have depended on the standing army rather than on troops supplied by the subor-dinate allies.

The army consisted of infantry and cavalry alone. Chariots and elephants were almost absent. The Chalukyas appear to have classified their officers as civil and military. They also developed navy and built dockyards at Mahabalipuram and Nagapattanam and developed maritime trade with South-East Asia, in particular with Kamboja,



Cambodia, Champa (Annam), and Srivijaya, the southern Malay Peninsula and Sumatra seems to have flourished in the period.

### **3. Kakatiyas (1110–1158)**

The 12th and the 13th centuries saw the emergence of the Kakatiya dynasty. They were at first the feudatories of the Western Chalukyas of Kalyani, ruling over a small territory near Warangal. A ruler of this dynasty, Prola II (1110–1158) extended his sway to the south and declared his independence. His successor Rudra (1158–1195) pushed the kingdom to the east up to the Godavari delta. He built Warangal Fort to serve as a second capital and faced the invasions of the Seuna Yadavas of Devagiri.

Kakatiya epigraphs bear testimony to the economic development witnessed by Andhradesa due to the cumulative effect of the steps taken by rulers and feudatories and officials from AD 1158 to 1324. Both agriculture and trade and commerce, particularly long distance trade acted as a catalyst in carrying the Kakatiya state and making it economically sound.

During the Kakatiya era, inland Andhra economy underwent considerable growth due to the extension of agriculture into uncultivated territories, the boosting of agricultural productivity through the construction of irrigational facilities and an overall rise in trade and commerce in which the temple as an institution was ultimately intertwined”.

Though the core area of the Kakatiyas was ecologically in dry zone with scanty rainfall, with soil not very fertile, the Kakatiyas paid much attention to agriculture, the main occupation of majority of its population. They employed tank irrigation as a necessary technique to provide water for cultivation.



In order to encourage more people to undertake the digging of tanks, wells and canals, tank construction was made one of the Saptasantanas which confers merit. Kakatiya epigraphs refer to more than 38 tanks of considerable size which provided water through artificial channels to thousands of acres. Of all the tanks, the Ramappa and the Pakala lakes are of large size and require special mention. Ramappa Lake adjoins the well-known Ramappa temple at Palampet in Mulug taluk of Warangal district. Gopal Reddy and P.V.P. Sastry state that this lake had a colossal bund only one side that extends over 200 feet and rises up to 56 feet.

The lake has a ring of hills on three sides. Kakati Ganapati Deva's Senapati, Recharla Rudra constructed this lake in AD 1213. Pakala Lake in Narasampet taluk of Warangal district is larger than Ramappa Lake, with a dam composed of laterite pebbles and earth that is one mile long from which 40 artificial channels have been extended. This lake was also constructed in the time of Ganapati Deva by a subordinate, Jagadala Mummadi, the son of a minister or Mantri.

Cultivable land was classified as wet and dry land. Wet land is further divided as paddy growing land and garden land. Dry lands are those where crops like millet, sesame, indigo, mustard, castor, etc., were grown which needed less water. Forests and pastures were kept exclusively for grazing cattle. Land was surveyed and measured, where the ruler collected one-fourth to one-half of the produce as revenue. The revenue was collected either in cash or in kind. The Kakatiyas levied different taxes like tax on grazing, property tax, income tax, profession tax, marriage tax, tax on herds of sheep and tax on salt. Heavy taxation by the state appears to be the feature of Kakatiya polity.

In the Kakatiya Andhra, trade was carried on by well-organized Srenis or guilds. Both the merchants and artisans had their own guilds.



Epigraphs refer to guild of weavers, agriculturists, oil pressers, mat makers, smiths, potters and jewelers. The guilds obtained a license to conduct business in a particular town or fair. Fairs or weekly markets were held regularly at specified places. The merchandise was transported by means of carts, oxen, horses, etc., and to a great extent by boats and barges through the rivers Godavari and Krishna.

Kakatiyas recognized the importance of long distance trade. One indication that they wanted to encourage maritime trade, comes from the famous Mompalli epigraph which runs as follows: "This inscribed guarantee has been granted by his majesty the king Ganapati Deva which assures and welcomes the traders from other areas going back and forth through selected area to all countries and towns. In the past, kings forcibly seized all the cargo such as gold, elephants, horses, jewels, etc., when sea-going vessels journeying from one region to another were caught in storms, wrecked and cast on shore. But we for the sake of our reputation and religious merit and out of pity for those who have incurred the grave risk of a sea voyage thinking that wealth is more valuable than life give up all but the customary tariff" Motupalli must have been the chief port of the Kakatiyas and this port was visited by the Venitian traveller, Marco Polo.

The Motupalli epigraph specifies the rates assessed on a variety of items, including scents such as sandal, camphor, rose-water, ivory, pearls, corals, a range of metals like copper, zinc and lead, silk, pepper, and areca nuts. This above list gives an idea of exports and imports from Motupalli port to other Indian regions along the coast as well to foreign territories.

One Warangal epigraph issued by merchant groups, who traded in the main markets of Warangal, refers to the same commodities mentioned above. Another epigraph notes that a number of agricultural products offered for sale in Warangal market included rice, wheat, and



other grains and assorted vegetables, coconuts, mangoes, tamarind and other fruits, sesame seeds, green lentils, mustard, honey, ghee, oil, turmeric and ginger.

The epigraphic reference to the activities of Pekkandru, a guild which was carrying on long distance trade. Besides, Motupalli, Krishnapattanam, Chinaganajam, Nellore, and Divi also played a very crucial role in fostering sea-borne trade. Thus, flourishing agriculture and surplus produce and long distance trade carried on by guilds like Pekkandru was the base for the sound economic position of Kakatiya Andhra.

#### **4. Reddy dynasty (1325–1448)**

The first of the Reddy clans came into prominence during the Kakatiya period. During this time the Reddys carved out for themselves feudal principalities. After the death of Pratapa Rudra II and the subsequent fall of the Kakatiya empire, the Reddy chiefs became independent and this led to the emergence of the Reddy kingdom. The 19th century writer Edgar Thurston in his book, Castes and Tribes of Southern India stated that Reddys were the village chiefs and listed them under the section Kapu. The village chiefs were given the title "Reddy". The Reddy dynasty (1325–1448) ruled some parts of the coastal Andhra Pradesh for over a hundred years. Reddys became independent after the death of Pratapa Rudra II and the subsequent fall of the Kakatiya Dynasty. Thus emerged the Reddy Kingdom. Prolaya Vema Reddy was the first king of the Reddy dynasty. The capital of the kingdom was Addanki which was moved to Kondavidu and subsequently to Rajahmundry. His reign was characterized by restoration of peace, patronage of arts and literature, and all round development. Errana, the translator of Ramayana, lived during this period. Origins of Reddys: The Rashtrakutas and Reddys seem to share a similar origin, from the great "Rattas" or "Rathis" or "Rashtrikas"



who ruled the Deccan from ancient times. The "Rathis" ruled over small principalities in the Deccan plateau before 200 BCE, before the Satavahanas and Mauryas. The word "Rathi" or "Ratti" is found under various forms such as Reddi, Ratta, Rashtrakuta, Rahtor, Rathaur. They left coins in northern Andhra Pradesh, Kurnool district, and near Pune. Coins were found in the levels between the megalithic to Satavahana periods in excavations. The usage of the word Reddy specifically was first seen in the inscriptions made during the Renati Chola period (7th century CE). Reddys are believed to be an offshoot of the Rashtrakuta dynasty. After the decline of the Rashtrakuta dynasty, the ruling clan broke off and settled in North and South India. Rashtrakutas were a Rajput clan. The settlers in the north are called Rathods/Rathores, and ruled Marwar in western Rajasthan, while the southern settlers were called Reddys

The administration was carried according to the "Dharmasutras". One sixth of agriculture surplus was levied as tax. Under the reign of Anavota Reddy custom duties and taxes on trade were lifted. As a result, trade flourished. Sea trade was carried through the port Motupalli. Large number of merchants settled down near it. Celebrating 'Vasantotsavalu' was revived during the rule of Anavema Reddy. The Brahmins were given liberal grants by the Reddy kings. Caste system was observed. Heavy taxes by Racha Vema Reddy made him highly unpopular.

### **Conclusion**

In the period of Eastern Chalukyas Between 624 and 1323, a significant change came about in social, religious, linguistic and literary spheres of Andhra society. The chalukyas does the trade with rice, coconut, palm plantations, palmyra and areca palm, orchards of mangoes and plantains. They imposed taxes on the land revenue and tax collection form the local needs. The kakatiya dynasty was emerged



in the 12<sup>th</sup> and 13 century with the dynasty, Prola II (1110–1158) extended his sway to the south and declared his independence. During the Kakatiya era, inland Andhra economy underwent considerable growth due to the extension of agriculture into uncultivated territories, the boosting of agricultural productivity through the construction of irrigational facilities and an overall rise in trade and commerce in which the temple as an institution was ultimately intertwined. While in the period of Reddy dynasty the administration activities was levied with the custom duties and taxes custom duties and taxes on trade were lifted. As a result, trade flourished. Where in the dynasties of Eastern chalukyas, kakatiya dynasty, Reddy Dynasty, the three period flourished with the trade and the states was developed with the irrigational facilities, commerce and for agricultural productivity.

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## Bio-Circuit ion of *Papilio polytes* (L.) on *Citrus medica* (L.) (Family: Rutaceae)

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### ABSTRACT

The papilionidae butterfly *papilio polytes* (L.) (Common Mormon) it occurs throughout the year. The larval performance and Bio circuit ion of *papilio polytes* was studied at Rani Chandramani Devi bio-diversity Park, china waltair, Visakhapatnam using the leaves of *Citrus medica* as the larval host both in laboratory and in the natural conditions. The behavior and morphological characters of eggs, caterpillars, pupae and adult emergence were observed in the laboratory at 28<sup>o</sup>-30<sup>o</sup>c. The life cycle was completed in 24-26 days, with egg hatching 3-4 larvae 10-11, and pupae 10-11 days. The values of consumption index (CI), growth rate (GR), and approximate digestibility (AD) across the instars decreased as the larvae aged. The average values of the CI and GR are 3.90, 1.58 respectively, and that of AD is 78.62. But the values of both efficiency of conversion of digested food (ECD) and efficiency of conversion of ingested food (ECI) either increased or decreased from instar to instar.

**Key words:** Bio circuit ion, Instars, Food utilization indices, Growth rate consumption index, Consumption Index, approximate digestibility.



## INRODUCTION:

The phytophagous insects like butterflies are closely related with the plants and provide economic and ecological benefits to the human society. Butterflies are dependent on vegetation both as adults and larvae and involve themselves in complex feeding relationships with green plants. As larvae, they feed chiefly on the foliage of plants and they are typically host specific and often show a 'botanical instinct' in that closely related plant.

If the requirements of the butterfly species in the wild are thoroughly understood, it is possible to conserve them in captivity or wild. A suitable habitat for butterflies should include mating site(s) for the adults, nectar sources for adults and, larval food plants for oviposition. As butterflies are holo-metabolous with distinct developmental stages as egg-larva-pupa-adult, their reproductive output is dependent on the combined effect of larvae-derived and adult-derived nutrients or energy. These findings require a study of adult nectar resources, larval food plants, and food consumption and utilization by the larvae. But most butterfly ecologists and conservationists express that the existing knowledge of the exact requirements of butterflies in India is woefully inadequate, and the life history of 70% of Indian butterflies is still unknown. Therefore, efforts are being made in the Rani Chandramani Devi bio-diversity park to study the biology, ecology and conservation of butterfly fauna available at Visakhapatnam and its surroundings.

The present study relates to the Common tiger - *Papilio polytes* (L.) (Lepidoptera: Papilionidae) and describes its adult food resources, oviposition and larval host plant on *Citrus medica* (L.) egg deposition pattern, life history including the duration of early life history stages.



## **MATERIAL AND METHODS:**

### **STUDY REGION**

The present study was carried out at Visakhapatnam during 2011 and 2012. Visakhapatnam (17° 42' N latitude and 83° 20' E longitude) is located on the east coast of India in the State of Andhra Pradesh. The climate of the area is tropical monsoon type. Most of the precipitation during the year is June to November, and the total rainfall, though varies from year to year, normally ranges between 1000 – 1500 mm. The mean temperature is at its maximum on some days (38 - 45°C) during May/June. Monsoon rains cool the tropical heat from June/July onwards, with the mean temperature remaining relatively high through October and thereafter decreasing to a minimum (18–20°C) in January/February.

### **STUDY SITE**

The present study was conducted at Rani Chandramani Devi bio-diversity Park which spreads over an area of 5 acres and is in proximity to the coastline. The wilderness on Rani Chandramani Devi bio-diversity Park was searched for the reproductive activity of the butterflies. A large number of tree, shrubs, herbs and medicinal plant species occur on Park. Some of the plants occurring on the park are heavily foraged by adult butterflies for nectar. Many herbaceous taxa serve as the larval hosts for the butterfly species distributed on the park.

### **FIELD STUDY**

Regular walks in different patches of the study site were undertaken at 10-day intervals or when required even at shorter intervals or even daily. Butterflies are day active mostly during 0830 – 1500 h. Hence walks were made during these hours of the day to record the flight behaviour, foraging, and ovipositing activity of the *Papilio*



*polytes* chosen for the present study. These activities were observed during the entire period of adults on wing. Nectar resource plants and oviposition plants used by this species were recorded.

## LABORATORY STUDY

### LIFE HISTORY STUDY:

After noting the period of breeding season and the oviposition plants close and prolonged observations were made of the breeding females laying eggs on its host plants. Freshly laid eggs were spotted, and the plant material (leaves/twigs) on which they were laid, was plucked without causing any damage. The date and time of day of collection were noted. Then the material was transferred to Petri dishes of 10 cm diameter and 1.5 cm depth. The inside of each of these Petri dishes was lined with moist blotting paper to provide moist conditions. They were brought to the Department and incubated in the laboratory having a temperature of  $28 \pm 2^{\circ}\text{C}$ , and relative humidity of  $80 \pm 10\%$ . The Petri plates were kept in a clean, roomy cage (60 x 50 x 30 cm) covered with wire gauge. The light condition was the normal indirect sunlight, but its duration was not uniform throughout the year. It varied from a low of about 11 h during November – February (winter months) to a high of about 13 h during May – June.

The eggs thus incubated in the laboratory were examined at 6-hour intervals daily for recording their incubation period and hatchability. The eggs were treated as hatched when the larvae came out from them.

In order to assess the total larval period and the number of instars that may be produced, the newly hatched larvae were transferred individually into the Petri dishes with the help of a camel hairbrush. Fresh young leaves were offered as food to the growing larvae. Moulting was noted, and thus the number of instars produced was recorded. Observations as color, shape and size of each instar was



maintained. As the larvae grew, they needed more space. Increased space was provided by transferring the growing larvae to bigger Petri dishes (15 cm diameter; 2.5 cm depth).

The full grown larvae pupate, and particulars of pupae including color, shape, size, weight and duration were also recorded. Millimeter graph paper was used for taking measurements. Taking the number of eggs studied, their developmental success (%) was calculated. In describing the details of adult characters, the butterflies that have emerged from the pupae in the laboratory, and those caught in the wild were used.

### **FOOD CONSUMPTION AND UTILISATION:**

The larvae represent the main feeding stage. Quantitative data of food consumption and utilization were recorded for each instar of the butterfly species under study using the gravimetric method of Waldbauer (1968). The larvae and the host leaves were weighed separately and then placed in Petri dishes. The larvae were allowed to feed on the leaves for 24 h and then the weights of the larvae and the remaining leaf material, and faecal matter in the Petri dish were determined. Fresh food was supplied, and the related weights were also taken every 24 h. From these fresh weight measurements, growth and food utilization indices were calculated. These indices included Consumption Index (CI), Growth Rate (GR), Approximate Digestibility (also called Assimilation Efficiency) (AD), Efficiency of Conversion of Ingested Food (also called Gross Conversion Efficiency) (ECI), and Efficiency of Conversion of Digested Food (also called Net Conversion Efficiency) (ECD). The formulae of Waldbauer (1968) used in the calculation of these indices are:

$$\text{CI (Consumption index)} = \frac{\text{Weight of food consumed}}{\text{Weight of instar} \times \text{Number of feeding days}}$$



$$\text{GR (Growth rate)} = \frac{\text{Weight gained by the instar}}{\text{Mean weight of instar} \times \text{Number of feeding days}} \times 100$$

$$\text{AD (Approximate digestibility)} = \frac{\text{Weight of food ingested} - \text{Weight of faeces}}{\text{Weight of food ingested}} \times 100$$

$$\text{ECD (Net conversion efficiency)} = \frac{\text{Weight gained by the instar}}{\text{Weight of food consumed} - \text{Weight of faeces}} \times 100$$

$$\text{ECI (Gross conversion efficiency)} = \frac{\text{Weight gained by the instar}}{\text{Weight of food ingested}} \times 100$$

The weights are expressed in units of milligrams (mg). The values are based on five different observations for each parameter; standard deviations were also calculated.

## STATISTICAL ANALYSIS

The relation between the food consumed and the weight gained per instar by the larvae of each of the butterfly species under study was statistically analyzed on the basis of Legenders principle by fitting a straight line. Larval weights are represented on Y- axis, and the food consumed on X-axis. Correlation coefficient was calculated in each case along with  $t$ 'value.

### RESULTS:

#### ADULT STAGE (Plate: 2):

##### Field characters:

Wingspan ranges between 90 - 100 mm. In male above, black, tailed. Upper side forewing with terminal series of white spots, decreasing in size towards the apex. Upper side hind wing with complete discal band of elongate white spots. Red marginal crescents



present or absent. Forewing with terminal series of white or yellow spots, decreasing in size towards the apex. Hind wing with complete discal band of elongate white spots, more prominent in female, ending in a red lunule in the tornal region and sub marginal series of crimson lunules in female.

The female of this black bodies swallowtails occurs in three different colour forms: one resembling the male and the other two mimicking the 2 red-bodies swallowtails: the Common Rose, *P. aristolochia* and the Crimson Rose, *P. hector*.

#### **Habit:**

Males have fast flight, visitor to gardens where he will be seen hovering over flowers whenever the sun is shining. While females fly slowly in a leisurely manner just like common rose and Crimson Rose whom they mimic. Fond of flowers, males visit damp patches and dung. The Common Mormon prefers lightly wooded country but will be met with throughout the year over most of the plains of India and up to a considerable height in the hills. Occurs on the hills up to to 1,830m.

#### **Food resources:**

In the study area its nectar host plants included *Antigonon leptopus* Hk. & A., *Lantana camara* Linn. *Santalum album* Linn., and *Cestrum diurnum* Linn. It held its wings horizontal while foraging at flowers for nectar.

#### **Oviposition host plants:**

The plant used for ovipositing by this butterfly in the study area was *Citrus medica* (L.). The larval host plants of the butterfly belong to the family Rutaceae. The recorded oviposition host plants of this butterfly including *Annona squamosa*, *Aegle marmelos*, *Atlantia racemosa*, *Citrus sinensis*, *C. aurantifolia*, *C. grandis*, *C. limon*, *C. reticulate*, *Glycosmis pentaphylla*, *Murryya koenigii*, *M. paniculata*,



Ruta graveolens, and triphasis trifolia. The present study was carried out on the leaves of *Citrus medica* (L.).

### ***Citrus medica* (L.) (Rutaceae) (Plate: 1)**

The plant *Citrus medica* (citron) is a slow-growing shrub or small tree reaching up to 15 ft (4.5 m) in height with stiff branches and twigs and spines in the leaf axils. The evergreen leaflets are leathery, lemon-scented, ovate-lanceolate or ovate elliptic. The flower buds are large and white or purplish. The fragrant flowers have 4 to 5 petals and they are pinkish or purplish with 30 to 60 stamens. The fruit is fragrant, oblong or oval and very variable even on the same branch. The peel is yellow, usually rough and bumpy and very thick. The pulp is pale-yellow or greenish divided into as many as 14 or 15 segments, firm, not very juicy, acid or sweet and contains numerous seeds.

### **EGG STAGE (Plate: A)**

The newly laid egg is round and light yellow in colour. Spherical shaped with creamy white. At deposition they are white but change to light yellow in a day. The gravid female laid eggs singly on the under surface of the leaves of *Citrus medica*. It laid about 1 or 2 eggs at a time but on different leaves, mostly during 0830 – 1200h.

The egg measured 1.00 – 1.20 ( $1.10 \pm 0.10$ ) mm in length and 1.90 – 2.20 ( $2.06 \pm 0.11$ ) mm in width. They hatched in 3 - 4 ( $3.40 \pm 0.54$ ) days of incubation. The larva immediately after emerging consumed its egg shell. It passed through five instars over a period of 24 – 26 ( $24.80 \pm 0.83$ ) days.

### **LARVAL STAGE on *Citrus medica* (Plate: B, C, D, E, and F):**

**Instar I:** This stage lasted for 2 - 3 days. The first instar was 3.50 - 5.60 ( $4.38 \pm 0.92$ ) mm long, and 1.00 – 1.40 ( $1.16 \pm 0.15$ ) mm wide. The young larva dark brown with white markings. Head was black in colour, 1.0 ( $1.00 \pm 0.00$ ) mm wide.



**Instar II:** This stage lasted for 1 – 3 days. The larva measured 6.00 – 10.60 ( $8.72 \pm 1.81$ ) mm in length and 1.30 – 2.50 ( $1.80 \pm 0.46$ ) mm in width. The larva colored pale yellowish green dull yellowish brown in colour. Head having with pink 'Y' shaped osmeterium. Head size increased to 2 mm.

**Instar III:** This stage lasted for 1 – 3 days. The larvae attained a length of 14.00 – 19.00 ( $16.56 \pm 2.30$ ) mm and a width of 2.10 – 3.50 ( $2.74 \pm 0.66$ ) mm. the larva was grayish green and yellow with scarlet osmeterium. Head measured 3.1 – 3.2 ( $3.2 \pm 0.10$ ) mm in size.

**Instar IV:** This stage lasted for 1 - 2 days. The larva reached a length of 25.50 – 28.00 ( $27.10 \pm 0.96$ ) mm and a width of 3.20 – 4.80 ( $3.82 \pm 0.60$ ) mm. the larval body with yellow sides, crest on segments 4 and 5, 2 tubercles on segments 2 and 13. And white marking and bands on segments 7 and 10. Head was 4.12 – 4.50 ( $4.22 \pm 0.16$ ) mm. Segmentation was clear.

**Instar V:** This stage lasted for 3 days. The full grown larva measured 41.0 – 47.0 ( $44.72 \pm 2.56$ ) mm in length and 6.10 – 7.00 ( $6.48 \pm 0.36$ ) mm in width. It also as same as fourth instar.

#### **PUPAL STAGE (Pate: G, H):**

**Prepupa:** on the last day of the fifth instar, the body of the caterpillar shortens and dull-shade of pale green. Hence the caterpillar spins a silk pad and a silk girdle.

**Pupa:** This stage lasted for 10 - 11days. It was 29.00 – 31.00 ( $30.20 \pm 0.83$ ) mm in length and 8.50 – 10.00 ( $9.10 \pm 0.54$ ) mm in width at its broadest end. The pupa has a pointed head and greenish body as white lateral lines. Its weight was about 1304.04 mg.

**DURATION OF LIFE CYCLE:** It ranged between 24 – 26 days (egg 3 – 4; larva 10 - 11; and pupa 10 - 11).

#### **DEVELOPMENT SUCCESS OF EGGS, LARVAE AND PUPAE:**



The data obtained in the laboratory study on the development success of three life stages are set out in Table 2. The eggs of *Papilio polytes* could be spotted on *Citrus medica* and collected in each month during the period from September – July. The month to month hatching success rate varied from a low of 33% in September to high of 87.5% in March. The success rate of larvae ranged between 33.3% (June) – 87.5% (March) and that of pupae between 40% (December) – 80% (February).

### **FOOD CONSUMPTION AND GROWTH:**

The data on the weight of food consumed and weight gained by the larvae on host plant was incorporated in Tables. 2. The amount of food consumed increased from instar to instar, the proportion of total food consumption was of successive instars was: *Citrus medica* 1.36, 3.73, 8.61, 23.11 and 68.26 %. Thus, there was a greater consumption of food by the final instar on the host plant. Out of the total weight obtained, the weight proportions of successive instars were: *C.medica* 0.87, 5.04, 16.42, 27.61 and 50.04. Thus in the final instar alone there was more than 55.17 – 99.80 % of growth on the host plant. The weight gain by different instars was plotted against the food consumption (Fig.1). The figures indicated a direct relationship between these two parameters. The values of growth rate (GR) on *C.medica* increased from II instar and gradually decreased from all remain instars. And consumption index (CI) decreased from first instar to fifth instar. The values of GR varied between 3.90 – 0.16 mg/day/mg and those of CI between 8.72 -0.62 mg/day/mg.



## INDICES OF FOOD UTILIZATION:

The estimated AD values for the five instars were high and ranged between 54.77 – 93.92%, the highest and lowest values being associated with the first and the final instars respectively (Table.2). By contrast, the values of ECI and ECD increased progressively from first instar through successive instars, the former ranging between 23.36 – 67.56% and the latter between 25.06 – 81.79%.

## DISCUSSION:

Data were obtained with reference to *Papilio polytes* on larval host plant, egg-laying patterns, hatching period, the number of instars the larva passed through, their duration, and pupal period, and development success of eggs to adult in the laboratory. In addition, data were collected on larval performance on the basis of growth rate GR, food consumption index CI, approximate digestibility of food AD, efficiency of conversion of digested food ECD and efficiency of conversion of ingested food ECI. These different aspects of biology and food utilization are discussed below in the light of the relevant information available from temperate and tropical regions of the world.

It is generally understood that the gravid females directly deposit their eggs on the plants on which their larvae later feed. Janz *et al.* (1994) The larval survival, growth rate, development time, pupal weight and the nutritional indices AD, ECI, and ECD have been estimated for *P.Polytes* on its natural oviposition host plants and the effect of potential host plants on the offspring. The potential host plants chosen for this butterfly species was *Citrus medica*. Based on the spectrum of plant species utilized by the larvae for feeding, three groups of butterfly species viz. (1) monophagous, (2) oligophagous and (3) polyphagous are generally recognized (Kunte.2000). The *Papilio polytes* could be treated as oligophagous. *P. polytes* has been shown to have a wider range of potential host plants suitable for larval growth than the range of plants



now used for oviposition. While Kitching (1981) recognized three categories of butterflies on the basis of their egg-laying habit, most authors considered only two categories: (1) the cluster or batch layers, and (2) those laying eggs singly. The species of the present study *P. polytes* exhibited single-egg laying habit respectively. The basic life cycle of a butterfly from egg to adult varies from 3 weeks to 2 years (Opler and Krizek 1984). In the case of *Papilio polytes*: average of 24-26 days.

### **FOOD CONSUMPTION AND UTILISATION ACROSS THE INSTARS:**

The larvae of *Papilio polytes* were found to eat firstly the shell, thus getting the valuable nutrients available immediately to them. After finishing the cell the larvae continued to feed on young leaves of the oviposition host plants of *Citrus medica*. Therefore, the larvae were reared in the laboratory feeding them with fresh young leaves of their natural host plants every day.

The young leaves support better larval growth than older ones (Feeny 1976; Watanabe 1979). Young leaves are known to be rich in nitrogen content (Muthukrishnan 1990), and thus satisfy the nutritional requirement of larvae. Higher nitrogen levels increase larval survival (Myers 1985; Baylis and Pierce 1991). Not only is the nutrient of the leaf but also its water content important in relation to larval growth and development (Muthukrishnan 1990). The leaf water contents of the host plants of *P. polytes* ranged on *C. medica* was 72.5% and tallied with the values given by Slansky and Scriber (1985). ECI increased linearly with food N content, just as Slansky and Feeny (1977) reported. Most leaf-feeding insects have ECI values between 10 and 30% on their usual diet. The mean ECI value of all instars of each butterfly is nearly comparable with the above range of values of ECI. The mean AD values (54.77-93.92%) of *P. polytes*.



### **Food consumption and growth (Table.2):**

The data obtained with respect to *P. polytes* on the quantity of food consumed and growth achieved in terms of larval body weight, and the values of consumption index (CI) and growth rate (GR) showed a definite trend of increasing absolute and declining relative rates of CI and GR under study. There is a straight line relationship between food consumption and growth (Fig.1). Of all instars, the penultimate and final instars together consumed a greater amount of food: *Citrus medica* 80.86 of total food consumed over the entire larval period. The strategy of increased food consumption with the progression of larval age appears to be characteristic of all Lepidoptera and the same has been reported in other Lepidoptera in general (Ghosh and Gonchaudhuri 1996; Atluri *et al.* 2004a; Samatha 2006). Consumption index (CI) of instar I was the highest and the values decreased as the instars progressed. This decline in CI as the larvae aged may be related to the increase in body size of the larvae or to the increase in conversion efficiency of ingested food to body mass (ECI). When the values of ECI increase, the values of CI decrease or the *vice versa* (Slansky and Scriber 1985). So the high consumption index of early instars is due to the low conversion efficiency. The values of conversion efficiency (ECI) showed an increasing trend as the values of CI decreased across the instars).

The values of CI obtained in the present study for early and late instars agree well with the values reported for some other butterfly species from the study area (Atluri *et al.* 2004a; Samatha 2006).

Like food consumption, a larger proportion of total growth in terms of larval body weight took place during the last two instars. Thus as the instar larvae progressed there was a trend of increasing absolute weights, but the relative rates (values of GR) generally declined. Probably GR is size dependant, and therefore its values



declined as the instar larvae progressed gaining weight and size. A similar declining trend in GR has been reported in other butterfly species (Atluri *et al.* 2004a, Samatha 2006) and in the moth *Pericallia ricini* (Ghosh and Gonchaudhuri 1996). The GRs of penultimate and final instars of the butterfly species of the present study is in line with the decreasing trend in growth rate from penultimate to final instars.

### **Food utilization efficiencies:**

Like those of CI and GR, the values of assimilation efficiency or approximate digestibility (AD) also declined from early to late instars (Table.2). The inverse relationship of AD profile with the amount of food intake by the successive instars is in conformity with Waldbauer (1968) who observed a similar relationship, and stated that AD would be at its highest in instar I. In the present study the same expectation has been realized with AD value being at its highest in the first instar.

The AD values of the present study ranged between 54.77 – 93.92 % (Table.2). These values appear to be on the higher side of the range 19 – 81% given for 60 species of lepidopteron larvae by Pandian and Marian (1986), and the range 28.7 - 84.6% for *Pericallia ricini* (Ghosh and Gonchaudhuri 1996). They are comparable to those (16-97% forb foliage; 12-98% tree) given by Slansky and Scriber (1985), those (69 - 99%) given by Venkata Ramana (1998), those (72.0 - 98.0%) of Appala Naidu (2005) and those (39.40 – 97.25%) of Samatha (2006). An inverse relationship is expected between assimilation efficiency AD and efficiency of conversion of digested food or net conversion efficiency ECD. The ECD values (6.6 – 46.9%) are low compared to AD values (16.2- 22.1%), but are mostly within the range of 2 - 87% and 2 - 93% estimated for Lepidoptera feeding on forb and tree foliage respectively (Slansky and Scriber 1985). The values of ECD across the instars showed no definite trend in the increase or decrease. Slansky and



Scriber (1985) remarked that it is rather difficult to determine the causes of such reduction in ECD.

The ECI values in the present study varied between 23.36 – 67.56 % (Table.2). This showed a continuous increase from first instar to final instar. In line with the opinion of Slansky and Scriber (1985), it may be said that because both age and size of larvae are increasing during development, and because feeding habits may also be changing, it is frequently difficult to interpret the causes of the changes in performance values of the larvae.





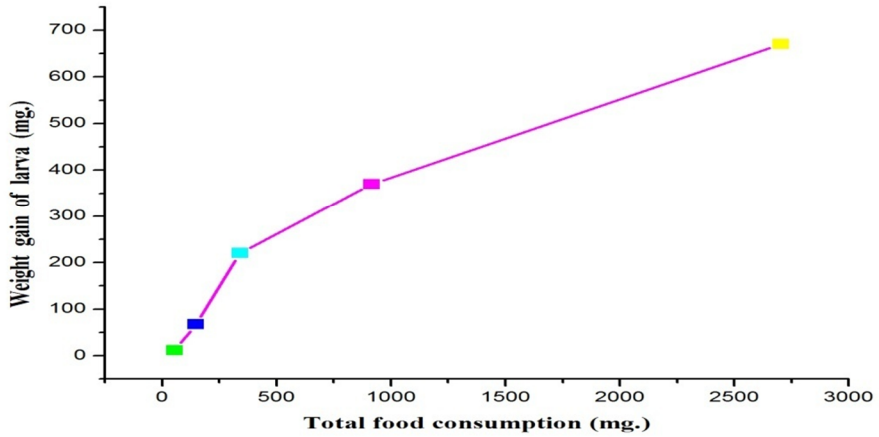
Table. 1: Biological observations of early life stages of *Papilio polytes* on *Citrus medica*.

Stage	Length(mm)			Width (mm)			Duration (days)	
	Min.	Max.	AV.±S.D.	Min.	Max	AV. ±S.D.	Range	AV.±S.D.
Egg	1.00	1.20	1.10±0.10	1.90	2.20	2.06±0.11	3-4	3.40±0.54
I	3.50	5.60	4.38±0.92	1.00	1.40	1.16±0.15	2-3	2.40±0.54
II	6.00	10.60	8.72±1.81	1.30	2.50	1.80±0.46	1-3	1.40±0.89
III	14.00	19.00	16.56±2.30	2.10	3.50	2.74±0.66	1-3	2.20±0.83
IV	25.50	28.00	27.10±0.96	3.20	4.80	3.82±0.60	1-2	1.80±0.44
V	41.00	47.30	44.72±2.56	6.10	7.00	6.48±0.36	3	3.00±0.00
Total larval Period							10-11	10.80±0.44
Pupa	29.00	31.00	30.20±0.83	8.50	10.00	9.10±0.54	10-11	10.60±0.54

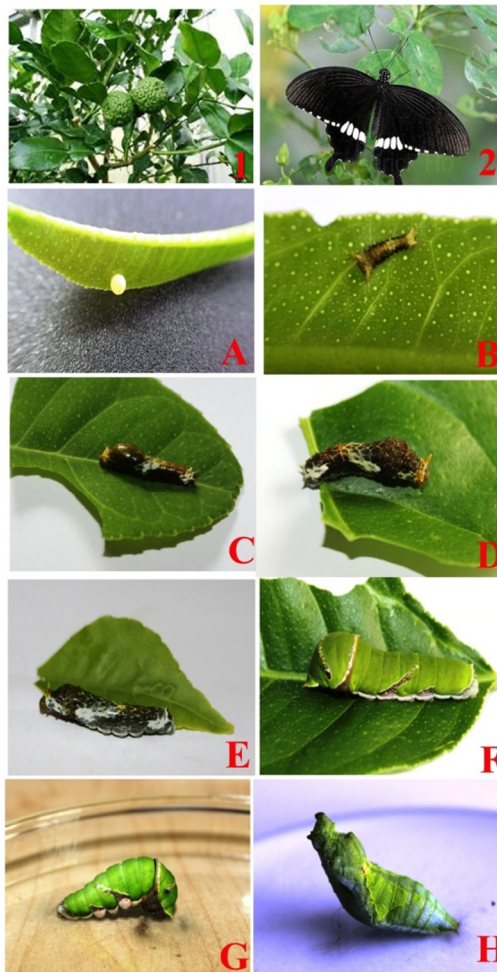


**Table. 2: Food consumption, growth and food utilization efficiencies of *Papilio polytes* larva fed with *Citrus medica*.**

Instar	Wt. of food ingested (mg)	Wt. of faeces (mg)	Wt. gained by larva (mg)	GR (mg/day)	CI (mg/day)	AD (%)	ECD (%)	ECI (%)
I	54.14±15.70	3.12±1.79	11.70±4.44	2.01	8.72	93.92	25.06	23.36
II	147.74±57.48	22.96±18.36	67.52±18.78	3.90	7.41	85.52	50.63	61.02
III	341.14±93.16	58.64±14.24	219.94±23.44	1.39	1.76	82.65	81.79	67.56
IV	915.54±284.09	229.94±124.41	369.76±86.07	0.48	1.03	76.25	50.69	45.51
V	2703.38±751.69	1140.08±297.51	670.06±220.04	0.16	0.62	54.77	51.86	25.65



**Figure. 1: Relation between food consumption growths in *Papilio polytes* on *Citrus medica***



## PLATES

Plate: 1. *Citrus medica* (L.) host plant; 2. *Papilio polytes* (L.) adult butterfly; A. Egg; B. First Instar (larva); C. Second Instar (larva); D. Third Instar (larva); E. Fourth Instar (larva); F. Fifth Instar (larva); G. Pre-pupa; H. Pupa



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## RECRUITMENT POLICIES USING ADDITIVE UNIFORM EXPONENTIAL DISTRIBUTION-I

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### Abstract

This paper focuses on the recruitment policies by using Additive Uniform Exponential Distribution which is an application of additive uniform exponential distribution proposed by Venkata Subbarao Uppu (2010). Discussions are made on the recruitment policy by seniority, assuming that complete length of service follows Additive Uniform Exponential Distribution. The values of the recruitment are calculated by giving different values of the parameters.

**Key Words:** recruitment policies, complete length of service, promotion by seniority.

### 1. INTRODUCTION:

Probability distributions gained a lot of importance due to their ready applicability for analyzing several data sets arising at space and biological experiments, Agricultural experiments, Business analytics, Data mining, etc., The distributions are broadly classified into discrete and continuous distributions. Continuous distributions are generally amenable to more elegant mathematical treatment than are discrete distributions. This makes them especially useful as approximations to discrete distributions. Continuous distributions have been used as approximations to discrete distributions (N.L. Johnson, Samuel Kotz, N. Balakrishnan (2004)). In some practical situations, the variate under study may be a sum of two or more random variables. Much work has



been reported in literature regarding the distribution of the sum of random variables by considering that the variates under study are from the same homogenous population or the variation may be with reference to the parameters (but the functional form remains the same). In some other practical situations the random variable under study may be a sum of two different types of populations. For example in Manpower Modeling the complete length of service of an employee in the organization is the sum of two random time periods one for probation (temporary) period another for committed (permanent) period. Less work has been reported regarding the distribution of the sum of different random variables with different populations especially with uniform and exponential populations. In some situations the variable under study may be considered to be generated from heterogeneous population. For example in manpower planning when different types of employees like, semiskilled and skilled, are employed. The complete length of service of an employee in the organization forms a heterogeneous population. Similarly, in inventory management, when the procurement is done from different resources then the life time of a commodity forms a heterogeneous population. For these sorts of situations it is needed to consider the mixture distribution to analyze the random phenomenon and AUED meets this type of situations.

### 1. PROBABILITY DENSITY FUNCTION:

“A continuous random variable  $U$  is said to follow Additive Uniform Exponential Distribution (AUED) if its probability density function is of the form

$$\begin{aligned} f(u) &= \frac{1}{a} [1 - e^{-\theta u}] ; 0 \leq U \leq a \\ &= \frac{e^{-\theta u}}{a} [e^{a\theta} - 1]; a \leq U < \infty \end{aligned} \quad (1)$$

Where ‘ $a$ ’ and ‘ $\theta$ ’ are the parameters of the distribution,  $a > 0$ ;  $\theta > 0$ ”

### 2. RECRUITMENT POLICIES OF THE MODEL





An organization can be viewed as having two grades, the first grade is training grade (GRADE1) and second grade is organization grade (GRADE2). Here the training grade was introduced to provide experienced men to fill the vacancies which arise within an organization grade. The organization itself will of course, in general possesses a hierarchical structures. However, the movement between the different grades within an organization itself is not considered here, but transfers between the training grade and the organization grade were considered. The whole organization is considered as a single unit

Let  $N_1$  and  $N_2$  denote the size of training grade and the organization grades respectively. Further  $N = N_1 + N_2$ , where,  $N_2$  is assumed to be known and fixed. The problem under discussion is in finding the size of the training grade in order that on the average, peoples spend some fixed period of time 't' in it before promoted to next grade. In this study two rules namely (i) promotion by seniority i.e. the most senior (and hence most experience) employee of the training grade is promoted (ii) Promotion by random with respect to the length of service i.e. promotion is made on some other basis like, ability, personal qualities, qualifications, special trainings, etc., are examined.

Let  $W_1$  be the individual loss rate in training grade (grade 1) and  $W_2$  be the individual loss rate in organization grade (grade 2) and  $P$  is the promotion rate since the input and output of each grade must balance. For grade II, it can be written as  $N_1 P = N_2 W_2$  (2)

Hence, the system is in equilibrium the expected input to the system per unit time is  $\frac{N}{\mu}$ , where,  $\mu$  is the mean length of completed service. For grade1 we have

$$\frac{N}{\mu} = N_1(P + W_1) = N_1 W_1 + N_2 W_2 \quad (3)$$

In general,  $W_1$ ,  $W_2$  and  $P$  are functions of time. It is shown by Bartholomew (1973) that  $P$ ,  $W_1$ ,  $W_2$  tend to equilibrium values which are



independent of the age of the system. Let  $\mu_1$  be the average time spent in grade I. When the system is in equilibrium the expected number of vacancies occurring per unit time in this grade is  $\frac{N_1}{\mu_1} = N_1(P + W_1)$  (4)

From (3) and (4) we get  $\frac{N}{\mu} = \frac{N_1}{\mu_1}$  (5)

In this paper we derive and analyze the recruitment policy of promotion by seniority only

## 2.1 PROMOTION BY SENIORITY

Let  $a(t/T)$  denote the age distribution of the system at time  $T$ , given that the system was established at  $T=0$ . Thus  $a(t/T)\delta t$  is the probability that an individual chosen at random 'T' has length of service in  $(t, t + \delta t)$ .

Thus  $a(t/T)\delta t = \text{prob}\{\text{individual joined in } (T-t, T-t+\delta t) \text{ and the remaining for time } T\}$

Where,  $h(t)$  is the renewal density of the whole system  $a(t/T) = h(T-t)\delta t G(t)$ .

This holds for  $t < T$  we have,

$$\lim_{T \rightarrow \infty} h(t) = \frac{1}{\mu};$$

Now  $\lim_{T \rightarrow \infty} G(t) = 0$

$$\text{and } \lim_{T \rightarrow \infty} a(t/T) = \frac{G(t)}{\mu} = a(t)$$

This is the equilibrium age distribution. Since a loss from grade II is replaced by the most senior member of grade I. It follows that at any time



every individual in grade II has length of service at least as long as any individual in grade I and hence there exists some threshold value  $t_1$ . Such that all individuals with length of service less than  $t_1$  are in grade I. ' $t_1$ ' is a random variable. If the grade sizes are large then the approximate formula for its expected value is

$$\int_{a_1}^{\infty} a(t) = \frac{N_2}{N_1 + N_2} \quad (6)$$

Let  $\mu_2$  be the average length of time spent in grade I by those who leave while still in grade I and let  $\mu_p$  be the average length of time spent in grade I by those who are eventually promoted to grade II. Then consider the problem of choosing  $N_1$  so that  $\mu_p$  has some predetermined value. In this case  $\mu_p$  is equivalent to the average value of  $t_1$  introduced earlier, on

simplification  $R = \frac{N_1}{N_2}$  as a function of  $\mu_p$  and hence knowing the size  $N$  of the organization, one can determine  $N_1$  for any specified value of  $\mu_p$ . (i.e)  $N_1 = \frac{NR}{1+R}$  this leads to  $\frac{1}{\mu} \int_{\mu_p}^{\infty} G(t) dt = \frac{1}{1+R}$  (7)

Assuming that the complete length of service of an employee in the organization follows an AUED then  $\frac{1}{1+R} = \frac{1}{\mu} \left[ \int_{\mu_p}^a G(t) dt + \int_a^{\infty} G(t) dt \right]$  if  $\mu_p \leq a$  substituting the values and after simplification

$$R = \frac{2ma\theta^2 - m^2\theta^2 + 2m\theta + 2e^{-m\theta} - 2}{a^2\theta^2 - 2ma\theta^2 + m^2\theta^2 + 2a\theta - 2m\theta - 2e^{-m\theta} + 2} \quad (8)$$

When  $\mu_p \geq a$  we get  $\frac{1}{1+R} = \frac{1}{\mu} \left[ \int_{\mu_p}^{\infty} G(t) dt \right]$  substituting the values we get

$$R = \frac{a\theta(a\theta+2) - 2(e^{a\theta} - 1)e^{-m\theta}}{2(e^{a\theta} - 1)e^{-m\theta}} \quad (9)$$

### VALUES OF $N_1$ AND $R$ FOR DIFFERENT VALUES OF THE PARAMETERS IN PROMOTION BY SENIORITY FOR $m < a$



a	$\theta$	m	N	$\mu$	$N_1$	R
10	0.05	<b>4</b>	200	25	31.65	<b>0.188</b>
10	0.05	<b>4.5</b>	200	25	35.391	<b>0.215</b>
10	0.05	<b>5</b>	200	25	36.601	<b>0.224</b>
10	0.05	<b>5.5</b>	200	25	43.014	<b>0.274</b>
10	0.05	<b>6</b>	200	25	46.626	<b>0.304</b>
<b>4</b>	0.05	4	200	22	35.25	<b>0.214</b>
<b>4.5</b>	0.05	4	200	22.25	34.983	<b>0.212</b>
<b>5</b>	0.05	4	200	22.5	34.711	<b>0.21</b>
<b>5.5</b>	0.05	4	200	22.75	34.3	<b>0.207</b>
<b>6</b>	0.05	4	200	23	34.025	<b>0.205</b>
6	<b>0.045</b>	5	200	25.222	38.449	<b>0.238</b>
6	<b>0.0475</b>	5	200	24.053	40.256	<b>0.252</b>
6	<b>0.05</b>	5	200	23	42.022	<b>0.266</b>
6	<b>0.0525</b>	5	200	22.048	43.75	<b>0.28</b>
6	<b>0.055</b>	5	200	22.037	45.56	<b>0.295</b>
6	0.05	5	<b>180</b>	23	37.82	<b>0.266</b>
6	0.05	5	<b>190</b>	23	39.921	<b>0.266</b>
6	0.05	5	<b>200</b>	23	42.022	<b>0.266</b>
6	0.05	5	<b>210</b>	23	44.123	<b>0.266</b>
6	0.05	5	<b>220</b>	23	46.224	<b>0.266</b>



From the above table when  $m \leq a$  the distribution of complete length of service parameter and 'a' increases the value of R is decreasing as a result of it  $N_1$  is also decreasing.

If the parameter ' $\theta$ ' increases the values of R is increasing and  $N_1$  is also increasing when other parameters remains fixed. This increase is significant. It is also observed that the total number of employees in the organizations have a tremendous influence on the average number of employees to be recruited in initial grade. However, the ratio between the number of employees in the initial grade and promotion grade is not affected.

**VALUES OF  $N_1$  AND R FOR DIFFERENT VALUES OF THE PARAMETERS IN PROMOTION BY SENIORITY FOR  $m > a$**

a	$\theta$	m	N	$\mu$	$N_1$	R
4	0.05	10	200	22	77.9	<b>0.638</b>
4.5	0.05	10	200	22.25	77.751	<b>0.636</b>
5	0.05	10	200	22.5	77.526	<b>0.633</b>
5.5	0.05	10	200	22.75	77.225	<b>0.629</b>
6	0.05	10	200	23	76.999	<b>0.626</b>
5	0.05	<b>5.25</b>	200	22.25	44.6	<b>0.287</b>
5	0.05	<b>5.5</b>	200	22.25	46.626	<b>0.304</b>
5	0.05	<b>6</b>	200	22.25	50.411	<b>0.337</b>
5	0.05	<b>6.5</b>	200	22.25	54.121	<b>0.371</b>
5	0.05	<b>7</b>	200	22.25	57.651	<b>0.405</b>
5	0.05	10	<b>180</b>	22.25	69.773	<b>0.633</b>
5	0.05	10	<b>190</b>	22.25	73.65	<b>0.633</b>



5	0.05	10	<b>200</b>	22.25	77.526	<b>0.633</b>
5	0.05	10	<b>210</b>	22.25	81.402	<b>0.633</b>
5	0.05	10	<b>220</b>	22.25	85.279	<b>0.633</b>
5	<b>0.045</b>	10	200	24.722	71.465	<b>0.556</b>
5	<b>0.0475</b>	10	200	23.553	74.529	<b>0.594</b>
5	<b>0.05</b>	10	200	22.25	77.526	<b>0.633</b>
5	<b>0.0525</b>	10	200	21.548	80.383	<b>0.672</b>
5	<b>0.055</b>	10	200	20.682	83.246	<b>0.713</b>

From table 5.2 it is observed that when  $m > a$  values of  $R$  and  $N_1$  are tremendously affected by the input parameters 'a', ' $\theta$ ',  $m$  and  $N$ . It is observed that when the parameter 'a' increases the values of  $\mu$  are increasing when the other parameters remain fixed but,  $N_1$  and  $R$  are decreasing functions of  $a$ . The decreasing  $R$  is very small compared to that of the situation when  $m < a$ .

It is interesting to note that as the total number of employees in the organization ' $N$ ' increases there is no change in the values of ' $\mu$  and  $R$ . but  $N_1$  is increasing. From this analysis it is advisable to estimate the model parameters of the complete length of service 'a' and ' $\theta$ ' along with  $m$  for determining the promotion rate keeping the need for the number of persons required in the initial period.

**3.Conclusions:**In this paper we concentrated on the recruitment policy regarding by seniority only assuming that the complete length of service of an employee in an organization follows AUED and it has greater scope to apply in human resources department in any organization. Continuing this we can extend this paper to the recruitment policy namely **promotion by random** which has also a tremendous potential.



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## INFLUENCE OF GOVERNMENT POLICIES ON BACKWARD CLASSES IN ANDHRA PRADESH

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The Government has consistently been affectionate to the plight of the A stern Classes. They accept strived to bigger their lot by assorted means. Government of Andhra Pradesh accept appointed a Commission in April, 1968 vide G.O.Ms.No.870, Edn. Anachronous 12-4-1968, beneath the Commissions of Inquiry Act 1952 with the afterward agreement of reference.

i. to actuate the belief to be adopted in because whether any sections of citizens of India in the Accompaniment of Andhra Pradesh (other than SCs & STs) may be advised as Amusing and Educationally Backward Classes and in-accordance with such belief adapt a account of such A stern Classes ambience out aswell their approximate amount and their territorial distribution.

ii. to investigate the altitude of all such socially and educationally Backward Classes, and the difficulties beneath which they labor, and accomplish recommendations as to the appropriate accoutrement which may be fabricated by the Government for their advance and for promotion of their apprenticeship and bread-and-butter interest, about and with accurate advertence to - 1) the catch of seats in Educational Institutions maintained by Accompaniment or accepting aid out of accompaniment funds, 2) the concessions such as scholarships which may be accustomed by way of assistance, 3) the allotment of promotion of such catch the breakthrough of such abetment and the aeon during



which such catch of such abetment may be fabricated or given; and Interim address of the blank board on the accomplishing of the new catch action in college educational Institutions 330 [Annexure X]

iii. to admonish the Government as to the Astern Classes of citizens, which are not abundantly represented in the casework under the accompaniment and adapt a account of all such BCs and accomplish recommendations.

The Commission adopted the afterward belief for chargeless the amusing and educational backwardness of citizens.

1. Accepted abjection of the chic or association as a whole.
2. Occupations pursued by the classes.
3. Caste in affiliation to Hindus and
4. Educational Backwardness.

Basing on the recommendations of Anantharaman Commission, anachronous 23-9-1970 vide G.O.Ms.No.1793 Apprenticeship Department accept issued orders communicating the account of Amusing and Educationally Astern Classes, concessions with attention to reservations in Educational Institutions, Casework etc. From time to time assertive modifications accept been fabricated to the BCs list. At present, 93 communities accept been included in the account of BCs. All these communities are disconnected in four groups and allotment of catch provided is as follows:-

Group Communities No. of communities % of Catch Group A  
Aboriginal Tribes, Vimukthi Jaties. Nomadic, Semi Nomadic etc 38 7

Group B Vocational Groups 20 10

Group C SCs adapted to Christianity 1 1

Group D Added Classes 34 7



BC Commission was appointed on 13.03.1997 to attending into the admittance of additional communities & afterlight of absolute communities with Justice D.

Subramanyam as Chairman & Added member. Interim address of the blank board on the accomplishing of the new catch action in college educational Institutions

331 [Annexure X]

From time to time Government is extending the concessions to BCs. Vide G.O.Ms.No.23, BCW (C2) Dept., anachronous 31-5-2001 Government accept continued the concessions for the BCs in account of catch of seats in Educational Institutions as able-bodied as anxiety in casework including the allotment of reservation of posts, age acknowledgment of 5 years for the purpose of application for a added aeon of 10 years with aftereffect from 1-6-2001.

Consequent on the aloft position and on the notification of the architecture 93rd alteration Act, 2005 ability the 104th alteration to the architecture in January 2006 the Government of India adumbrated its ambition to accommodate reservation for acceptance advancing from the socially and educationally astern classes of citizens bargain accepted as "Other Astern Classes" (OBCs) in higher educational institutions.

The Government of Andhra Pradesh has been implementing 25% catch for backward classes in educational institutions and account and the present concessions accept been continued up to 10 years from 01.06.2001, Vide G.O. Ms.

No. 23 BCW (C2) Dept. anachronous 31.05.2001. In the present scenario, a baby abstraction has been conducted with an absorbed to abstraction the acquaintance in the accomplishing of the catch action in the Engineering course in Andhra Pradesh. Engineering is one of



the important courses of college education, which abounding students aspire to achieve, as it opens up career and application opportunities in assorted fields like industry, services, software technology etc.

Andhra Pradesh has been one of the arch states in the country in accouterment educational opportunities in engineering courses by accretion the amount of seats and colleges for Engineering. Interim address of the blank board on the accomplishing of the new catch action in college educational Institutions

332 [Annexure X]

### **BRIEF NOTE ON THE ADMISSION PROCESS IN ANDHRA PRADESH FOR ENGINEERING**

The Government of Andhra Pradesh through the APSCHE conducts a accepted entrance assay in the ages of May alleged the Engineering and Medicine Accepted entrance assay (EAMCET) The acceptance action for Engineering is taken up by counselling based on marks denticulate in EAMCET.

A baby abstraction was done on the acceptance particulars of acceptance to engineering courses from years from 2002 to 2005 in accepted and the allotment of BCs of the absolute acceptance admitted. The assimilation to the assorted disciplines of engineering has been accretion over the years as depicted in the afterward table.

Table 1 - Assimilation of Absolute acceptance & BCs

Batch Assimilation acceptance including Accepted Arete OBC, SC & ST  
% Access Assimilation of acceptance from BCs

BC Acceptance as % of Absolute

2002-06	43839	Base	15679	35.76	2003-07	44627	1.80	16100	36.08	2004-08	48443	10.50	16564	34.19	2005-09	51602	17.70	18118	35.11	2006-10	48116	--	21421	44.51
---------	-------	------	-------	-------	---------	-------	------	-------	-------	---------	-------	-------	-------	-------	---------	-------	-------	-------	-------	---------	-------	----	-------	-------



Graph assuming the added assimilation of BC Acceptance of Absolute Students

44627

48443

51602

48116

15679

16100

16564

18118

21421

43839

0

5000

10000

15000

20000

25000

30000

35000

40000

45000

50000

55000

2002-06

2003-07

2004-08

2005-09

2006-10



Intake of acceptance from BCs

Intake acceptance including Accepted Arete OBC, SC & ST

Interim address of the blank board on the accomplishing of the new catch action in college educational Institutions

333 [Annexure X]

The data of the admissions sub accumulation astute for the endure 5 years is as follows.

Table 2- BCs accepted through EAMCET sub groups astute Year BC-A BC-B BC-C BC-D Absolute BC's Accepted Absolute candidates Accepted

2002-03	2674	7439	458	5108	15679	43839	2003-04	2813	7511	544	5241
16100	44627	2004-05	2975	7569	609	5411	16564	48443	2005-06	3262	8280
560	6007	18118	51602	2006-07*	3858	9700	487	7376	21421	48116	

\* as on 4 .9. 2006

Graph assuming the administration of sub-groups in absolute BCs accepted

0  
2000  
4000  
6000  
8000  
10000  
12000  
14000  
16000  
18000  
20000  
22000  
2002-03



2003-04

2004-05

2005-06

2006-07\*

BC-A

BC-B

BC-C

BC-D

Total BC's Accepted

There has been an access of 17.70 in the assimilation in 2005 as compared to the base year of 2002. Accordingly the % of BC admissions has been consistently in the class of 35% to 36%. In the year 2006, the allotment of BC acceptance is 44.51% of the absolute admissions completed so far. (The acceptance action is still continuing) Interim address of the blank board on the accomplishing of the new catch action in college educational Institutions

334 [Annexure X]

Where as, the Government of Andhra Pradesh has provided for 25% catch in educational institutions for BCs, the astern classes accept been accepted to the admeasurement of 36%. The data of Scholarships and Reimbursement of charge chargeless applications received by Government of Andhra Pradesh are amid below:

Table 3 - Post-metric Scholarships No. of applications accustomed Year  
Renewal Fresh Absolute applications accustomed

% of access

2001-02 145423 201750 347173 BASE

2002-03 171626 222871 394497 13.63

2003-04 194631 248208 442839 12.25



2004-05 168307 334627 502934 13.57

2005-06 192255 298996 491251 -2.23

Graph

300000

350000

400000

450000

500000

550000

2001-02

2002-03

2003-04

2004-05

2005-06

Total applications accustomed

Interim address of the blank board on the accomplishing of the new catch action in college educational Institutions

335 [Annexure X]

Table 4 - Reimbursement of Charge Fee

Year No. of proposals accustomed % of access

2001-02 219799 Base 2002-03 177653 -19.17 2003-04 194081 9.24 2004-05 288991 48.9 2005-06 283185 -2.01

Graph

150000

170000

190000





210000

230000

250000

270000

290000

2001-02

2002-03

2003-04

2004-05

2005-06

No. of proposals accustomed

## REIMBURSEMENT OF TUITION FEE AND SPECIAL FEES

Name of the Course

No. of Proposals accustomed 2001-02

No. of Proposals accustomed 200203

No. of Proposals accustomed 2003-04

No. of Proposals accustomed 2004-05

No. of Proposal s accustomed 2005-06

%of access

2001-02 & 2005-06

Engineering 9243 13104 22470 8369 26674 188.59 Medical 237 313 515  
 322 1080 355.70 P.G. 5424 4226 7600 4147 7349 34.79

Degree 79046 62552 72630 8358 95421 20.72 Inter 118189 90430 83979  
 8894 145925 23.47 Poly-Technic 4527 3852 4517 1315 3335 -26.33 Law  
 1813 1931 998 850 1042 -42.53 B.Ed., 450 447 574 82 1610 257.78  
 Others 870 798 798 139 749 13.91

Total 219799 177653 194081 11.24 283185 28.84



It is axiomatic from the statistics that the amount of B.C. Acceptance opting for higher studies accept increased. Interim address of the blank board on the accomplishing of the new catch action in college educational Institutions

336 [Annexure X]

### **Conclusions**

More than 10% of astern classes accept been accepted in the accessible antagonism quota, afar from the 25% in aloof quota. Therefore the astern classes are competing by arete in the accessible antagonism category. Aswell it is not that the backward classes are accepting acceptance in catch quotas alone in engineering courses in Andhra Pradesh.

However, catch has provided adequation of befalling and ambit for advance for B.C. Students. An assay of the amount of acceptance applying for Scholarships & Reimbursement of charge Fee shows that there is an access of allotment of applications on average. This agency that there is an access in poor BC acceptance opting for college studies which is an adjunct of the catch for BCs.

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