

CORPORATE SOCIAL RESPONSIBILITY AND SWACHH BHARAT ABHIYAN

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ABSTRACT :- India has thousands of villages which are not open defecation free. It is not only the government activity but a public movement to make India as a open defecation free country. For this on 2nd October, 2014 Prime Minister Shri Narendra Modi launched Swachh Bharat Abhiyan with the aim of universal sanitation, construction of toilets, solid and liquid waste disposal system, promotion of cleanliness and providing safe drinking water to every person by 2019. It would have been difficult for Government to look alone in the matter of sanitation and cleanliness. For sustainability and development in this sector requires public private partnership. Corporate social responsibility is a way to boost up the swachh bharat abhiyan.

KEY WORDS :- Corporate Social Responsibility, Swachh Bharat Abhiyan,

INTRODUCTION :- “We can no more gain God’s blessing with an unclean body than with an unclean mind. A clean body cannot reside in an unclean city” – Mahatma Gandhi

On 2nd October, 2014 Prime Minister Shri Narendra Modi launched Swachh Bharat Abhiyan with the aim of universal sanitation, construction of toilets, solid and liquid waste disposal system, promotion of cleanliness and providing safe drinking water to every person by 2019.. The swachh bharat abhiyan is dedicated to Mahatma Gandhi.

Corporate Social Responsibility (CSR) is a business practice that involves participation and

initiatives that benefit the society. CSR is a way to use business resources to help social problems and achieve social goals. It is the companies responsibility towards the society. Corporate Social Responsibility is policy of the company to make the positive impact on the society, environment and stakeholders. Whether public or private, companies draw much from the society so it is their duty to give back to the society.

The simplest and the most significant definition of Corporate Social Responsibility was given by **Mahatma Gandhi** always believe that wealth created from the society, has to be ploughed back into the society. He gave the concept of trusteeship.

OBJECTIVE OF STUDY

- To study the role of Corporate Social Responsibility in swachh bharat abhiyan.
- To study the need of Corporate Social Responsibility in swachh bharat abhiyan.

RESEARCH METHODOLOGY :- Research methodology used for the study is descriptive in nature. The data and information is obtained from secondary source. The secondary data are collected from various reports, publications and bulletin, Ministry of Commerce & Industry, books, magazines, newspapers, research articles, research journals, e-journals and internet etc.

LIMITATION OF THE STUDY :- The study has limitation in terms of availability of data and its collection. As the concept of swachh bharat abhiyan is new and the available data is limited and corporate also recently start spending its fund

under corporate social responsibility towards swachh bharat abhiyan and swachh vidyalaya abhiyan.

REVIEW OF LITERATURE :

Caroll defines CSR, he propose a framework of actions needed by company to develop CSR policies. According to him the business needed to define them, what CSR is to according to him. The business need to define themselves what CSR is to state, an ambition for their own initiative. Secondly companies need to understand about the nature of shareholder and lastly about their ambition in terms of social responsiveness. Social responsiveness of business would be defensive, accommodative, reactive and proactive.

Mullins (2005) argues that the responsibilities to consumers may be seen as no more than a natural outcome of good business. However, there are broader social responsibilities including: a) providing good value for money; b) the safety and durability of products/services; c) standard of after-sale service; d) Long-term satisfaction – serviceability, adequate supply of products/services, and spare parts and replacement parts. e) Fair standards of advertising and trading; and f) Full and unambiguous information to potential consumers.

Gautam, R., & Singh, A., 2010 every company defines CSR in their own way as per their needs. CSR is now presented as a comprehensive business strategy arising mainly shareholders pressure and companies performance.

In India with the national endeavours CSR practices are adopted by the companies. Ministry of corporate affairs issued guidelines on corporate social responsibility, 2009 and further National Voluntary Guidelines on Social Environmental & Economic Responsibilities of Business, 2011 was released by Ministry of Corporate Affairs in July 2011. These guidelines are based on nine principles which a responsible business conducts.

Swachh bharat guidelines specify the role of corporate and the areas under which the corporate can invest their corporate social responsibility fund in fulfilling the mission.

SWACHH BHARAT ABHIYAN :- On 2nd October, 2014 the honourable Prime Minister of India, Shri Narendra Modi launched Swachh Bharat Mission with the aim to achieve Swachh Bharat by 2019 and to put focus on sanitation and accelerate the efforts to attain the universal sanitation coverage. According to him “Swachh Bharat Mission is a public movement. This is the need of the hour and a change in our behaviour is a must”.

The mission is coordinated by the Ministry of Drinking Water and Sanitation at both urban and rural mission to improve the cleanliness in all areas through solid and liquid waste management and make India open defecation free. The main objectives of Swachh Bharat Mission are:-

- Improve the quality of life by creating awareness about hygiene, cleanliness and eliminating open defecation.
- Full sanitation coverage by October, 2019.
- Motivate communities to adopt suitable sanitation practices, creating awareness about health and education.
- To encourage cost effective technologies for ecologically safe and suitable sanitation.
- To develop sanitation system which focus on scientific solid and liquid waste management system.

CORPORATE SOCIAL RESPONSIBILITY AND

SWACHH BHARAT ABHIYAN :- In India Corporate Social Responsibility has played an important role in development of sanitation. Corporate sector has always contributed for social development through CSR. Earlier the major focus of corporate in Corporate Social Responsibility is on health and education. But from last few years corporate give priority to sanitation in their Corporate Social Responsibility budget. Government encouraged Corporate Social Responsibility in the field of

sanitation by corporate houses. Corporate Social Responsibility in sanitation can be in form of establishing toilets, creating awareness programmes, exposure to latest technology to rural areas, educating cleanliness, hygiene and proper sanitation methods and its importance at schools, providing incentives to rural households in form of suitable sanitary materials, creating sanitation facilities with the help of local organisations, providing sanitary complexes in the markets or around the work places, by providing trained manpower for building and maintaining sanitation facilities and by providing financial assistance or adoption of village or areas. The Government of India take initiatives from time to time like Nirmal Bharat Abhiyan, Swachh Bharat Abhiyan etc, to spread the awareness of issue. Basic sanitation is one of the goals of United Nations Millennium Development goals. Sanitation receives increasing budgetary support from government as well as corporate.

ROLE OF CORPORATE SOCIAL RESPONSIBILITY IN SWACHH BHARAT ABHIYAN :- After declaration of the mission Swachh Bharat Abhiyan become the essential part of the corporate social responsibility.

Corporate can undertake the following activities under their corporate social responsibility for swachh bharat mission :-

- Contribution to swachh bharat kosh under Companies Act.
- Adoption of villages/ districts and
- Open defecation free
- Teaching Solid and liquid waste management
- Providing management support
- Providing raw material
- Providing financial aids to swachh bharat fellows
- Participation with the district administration
- Partnership with non profit organizations
- Construction and repair of public toilets in villages and schools.
- Sponsoring training programmes.

- Providing innovative techniques.

NEED OF CORPORATE SOCIAL RESPONSIBILITY IN SWACHH BHARAT ABHIYAN :-

Swachh Bharat Abhiyan is launched to improve the quality of life and reduce the chances of diseases which cause due to contaminated water and poor sanitation. Since 2nd October 2014, 7,59,47,107 household toilets build; 3,89,420 open defecation free village; 4465 open defecation free village in Namami Gange, 398 open defecation free districts, 17 open defecation free states/ union territories. But there is long way to go and thats why funds and active involvement under corporate social responsibility by the corporate is needed.

Through Corporate Social Responsibility corporate can motivate the communities to have proper sanitation facilities at their homes and helps them in construction of toilets, drainage system and awareness programmes. Awareness regarding sanitation is required in all rural areas as well as in urban areas, especially in slums. Proper focus on education on personal hygiene and to clean surrounding, awareness campaigns is required for people to understand its need. Corporate Social Responsibility played an important role to encourage the cost effective facilities. Corporate have been working with the government and invest huge amount of funds in government policies and programmes related to swachh bharat abhiyan. Companies can create alliances between private agencies, government departments and non government organisations to provide better facilities under this mission. There is need for better sanitation facilities and functional toilets in Government schools and organisations, railway stations, bus stops. With public private partnership this swachh bharat abhiyan can be achieved.

India has thousands of villages which are not open defecation free. It is not only the government activity but a public movement. The efficiency and the creativity of the management and the financial resources of public private

corporate can help in achieving the mission of swachh bharat abhiyan.

CONCLUSION :- Corporate have been committed towards swachh bharat abhiyan but they need to do lot more than construction and repair of toilets. The construction quality and maintenance is needs improvement. More public and private partnership is required for better delivery of services. All the corporate must set their priorities between corporate social responsibilities funds used under swachh bharat abhiyan.

It would have been difficult for Government to look alone in the matter of sanitation and cleanliness. For sustainability and development in this sector requires public private partnership. Corporate social responsibility is a way to boost up the swachh bharat abhiyan.

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THE RELATIONSHIP BETWEEN EDUCATION AND SOCIAL MOBILITY OF WOMEN ON THE BASES OF THEIR WORK PROFILE

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Human world can never be static. It is always dynamic and ever changing. In fact, change, it is said and agreed upon, is the law of nature and society. In fact, after industrialization, 'change' became the defined feature of any society. In the era of globalization and mass communication, technology explosion and application, constant change of individual and communities has become characteristic feature of societies across the globe. Change, no more, remained as a character or attribute of individuals or communities. Now, it has become the value to be admired and cherished.

Movement of different kinds-spatial, social, economic and other kinds- has become the existential experience in everybody's life. Everybody wishes to 'move' to secure, to free oneself from unfreedom-real or imagined. Thus, one of the philosophical streams of ancient wisdom concluded that, constant change, perpetual motion is the ultimate reality of physical and social worlds.

Primitive communities were 'nomadic' communities, moving one place to the other in search of food. This is not the movement of individual from the community; it was the movement of the communities as a whole. Individual is not moving in social 'rank' / position, hence this primitive movements of communities are considered as mobility. It is community movement prior to the 'settled life'. Therefore, it cannot even be termed as migration in its modern sense.

OBJECTIVES OF THE STUDY :- The success of an investigation depends upon the aims and objectives of the study. Firstly, the major aim should be decided and then the aim should be

divided into small objectives to be met successfully. The formulated objectives should be short, specific and precise.

The proposed objectives of this study are as follows:-

- To study the social mobility of women.
- To study the difference in social mobility of women between working and non-working women.

HYPOTHESIS OF THE STUDY :- Based on the objectives mentioned above the researcher formulated the following hypotheses.

- Social mobility of women is very high.
- There is no significant difference in social mobility of women between working and non-working women.

METHODOLOGY OF THE STUDY :- The present study aims to obtain the relationship between Education and Social mobility among women of Bhopal on the bases of work profile. Therefore, a Descriptive survey approach method was adopted.

A Descriptive study describes and interprets what is. It is concerned with conditions or relationship that exist, opinions that are held, processes that are going on, effects that are evident, or trends that are developing. It is primarily concerned with the present, although it often considers past events and influenced as they relate to current conditions.

In the Descriptive survey method, information is collected through a pre-framed questionnaire/ scheduled for the purpose.

The independent variables of the study were Education and Social Mobility of women.

Along with these variables, the work profile is considered as background Demographic variable for the present study.

The researcher had taken the research population consists of educated women population of the Bhopal city.

The research is always based on the particular area, which is called area of study. In the present study the researcher has taken 'Bhopal' as area of study.

Bhopal is the city of lakes, is second largest one in Madhya Pradesh after Indore. The city is divided into two major areas, the old and the new city. The district is highly urbanized with nearly 80% of its population marked as urban; it also has a sizeable chunk of the population residing in villages many of whom retain their rural characteristics. Administratively, Bhopal is divided into two subdivisions, Berasia and Phanda. Of this, Phanda, is more urbanized with nearly 90 % of its population residing in urban areas.

The researcher has taken 400 educated women from different classes and categories as sample.

In the present study researcher used purposive stratified random sampling technique.

In the present study researcher will use purposive stratified random sampling technique. The size of the sample would be around 400 of total population of the study.

Data obtained from the respondents was analyzed by using informational statistical techniques. Further, for the open ended 'test items' a qualitative description of the data was done to map the status of the women social mobility. The analysis, findings and interpretations are given as follows.

Identity of an individual is constituted by the work one engages with. Work not only makes one earning person but also makes one to take decisions regarding the process of work and the consequence of the work. While earnings equips the individuals with the capacity to satisfy needs, the decision making makes one to enjoy the freedom in making decisions and makes accountable. Work makes individual economically self reliant and free. A non-working woman may not enjoy these fruits of working women. Thus, the researcher assumes the difference in social mobility among women due to their work profile.

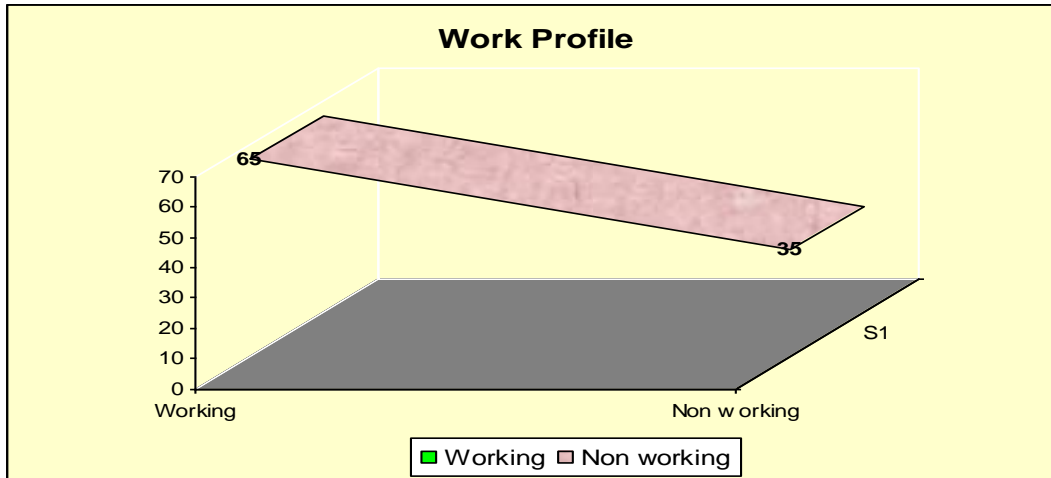
Table No. 1.1

Work profile wise distribution of the sample

S. No	Work profile	Number	Percent
1	Working	261	65
2	Non working	139	35
Total		400	100

The above table shows the distribution of the sample with reference to employment, out of 400 respondents 261 (65 %) respondents are working and the rest of 139 (35 %) respondents are non-working.

Graph No. 1.1
Graphical representation of the sample with respect to work profile



Even though most of the non working women are educated, they are staying at home for taking care of children and old age people at the home. They are simply educated home-makers.

1. OBJECTIVE :- To study the social mobility of women

H1: Hypothesis: The Social mobility of women is very high.

In view of the objectives formulated, the researcher would like to study the social mobility of women. Based on the scores obtained in the questionnaire, the researcher has categorized the women into five groups as very poor, poor, average, high, and very high social mobility. The following table shows the frequency and percentage of the women in each of these five categories.

Table No. 1.2
Frequency and percentage of women in each category of Social mobility

Social mobility	Category values	Very Low Up to 50	Low 51-65	Average 66-80	High 81-95	Very High 96 & above	Total
	Count	04	41	98	148	109	400
Percent	01	10.25	24.50	37	27.25	100	

The above table shows the frequencies and percentages of women in each category of Social mobility on the bases of the scores obtained in questionnaire. Four (1%) women fall in very low category, 41 (10.25%) women fall in low category, ninety eight (24.50%) women fall under average category, one hundred forty eight (37%) women

fall under high category, one hundred nine (27.25%) women fall under very high category. From the above table it shows that very few women come under very low social mobility category and more women fall under high social mobility category.

This has been graphically represented below.

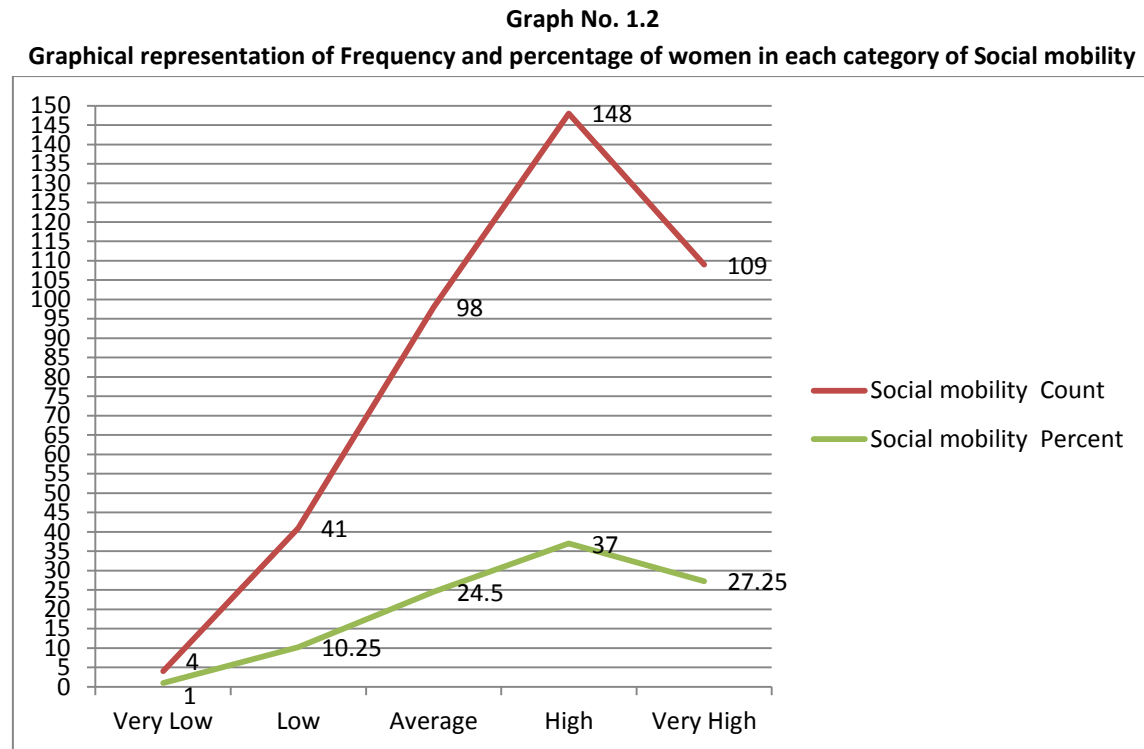


Table No. 1.3

Nature of distribution of social mobility of women

Social Mobility	N	Mean	Median	Mode	S.D.	S.E.
	400	82.42	83.00	87.00	10.816	0.308

The above table shows the Descriptive statistics scores of social mobility of women. The Mean score of women on social mobility is 82.42, Median score is 83.00 and the Mode is 87.00. There is a slight difference in the Mean, Median and Mode of the scores. The Standard Deviation of the score is 10.816 and the Standard Error of the Mean is 0.308.

The Mean score of women on social mobility is 82.42 which fall under high category of social mobility. So, it can be said that the Social Mobility of women is high. Hence the hypothesis which states that the Social mobility of women is very high stands accepted.

So it can be concluded that Social mobility of educated women is high.

FINDING - One of the basic objectives of the research work is to know the level of social mobility among educated women. On the scale the very low social mobility is up to 50, low social mobility is 51-65, average is 66-80, high is 81-95 and very high is 96 & above. The mean score of women on social mobility is 82.42 which come under the high category of social mobility. The test results have shown that the social mobility of women is high.

INTERPRETATION - This may be due to the fact that the test use to measure the social mobility of educated women is not ability based where the

concept of normal probability curve has been evolved. Hence in the test used for the present study consist of general life situations the individuals face are prepared with five alternative responses measuring more social mobility response to less social mobility. The respondents are asked to this simulated situation if such a situation occurs.

On the social mobility scale, the social mobility level is categorized into five levels depending on the social mobility score start from low social mobility to very high social mobility. The

score of different levels of social mobility categories are: below 50 is low social mobility, 51-65 average, score below 66-80 is high; score below 81-95 is high and 96 & above is very high.

OBJECTIVE : To study the difference in social mobility of women between working and non-working women.

H2: Hypothesis: There is no significant difference in social mobility of women between working and non-working women.

Table No. 1.4

Distribution of Social Mobility scores with respect to work profile

Profile	N	Mean	Median	Standard Deviation	Standard Error Mean
working	261	86.15	88.00	15.830	.980
Non-working	139	83.68	85.00	13.658	1.158

Table 4.22 shows the nature of distribution of social mobility scores of women who are employed and unemployed. The size of sample is 400, out of which 261 women are employed and 139 women are unemployed.

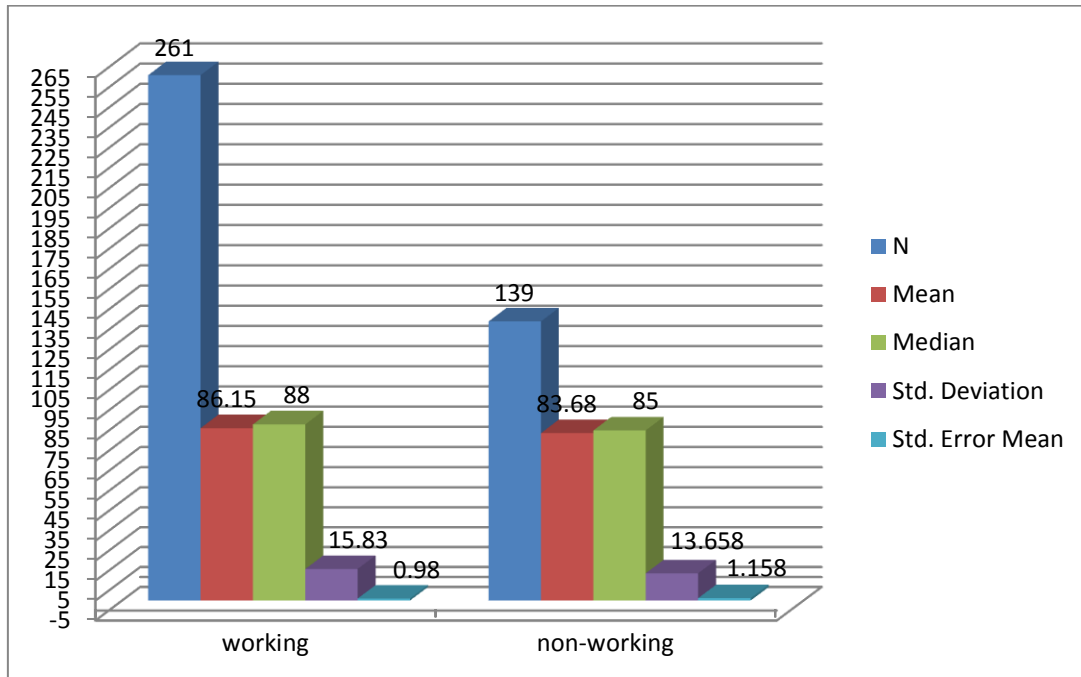
The mean and the median scores of employed women are 86.15 and 88.00 respectively with a slight difference. The standard deviation is 15.830 with a standard error of the mean 0.980. The slight difference between mean and median shows a normal distribution.

The mean and median scores of unemployed women are 83.68 and 85.00 respectively which shows a slight difference. The standard deviation of the score is 13.658 with a standard error of the mean 1.158. It shows normal distribution.

It is observed that the mean scores of employed and unemployed differ with regard to social mobility. The table also shows the comparison of standard deviation and standard error between employed and unemployed women.

Graph No. 1.3

Graphical representation of mean and standard deviation scores pertaining to work profile



To see, whether the apparent difference in their mean scores is statistically significant, the researcher would like to test the hypothesis

Table No. 1.5

Analysis of variance pertaining to work profile

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	3.189	.075	1.552	398	.122	2.462	1.587	-.657	5.582
Equal variances not assumed			1.623	319.334	.106	2.462	1.517	-.523	5.447

Table 4.23 shows the scores for Levene's test for equality of variance pertaining to employment. The size of sample is 400 out of which 261 women are employed, while 139 women are unemployed. The value of F is 3.189 which is not significant at 0.05 level. The value of T for equal variance is 1.552 and for not assumed variance is 1.623. The value of df for equal variance assumed is 398 and equal variance not

assumed is 319.334. The significance (2-tailed) is 0.122 and 0.106. The mean difference for both is 2.462 while standard error difference is 1.587 and 1.517. The lower values are -0.657 and -0.523 and the upper values are 5.582 and 5.447.

Further, the researcher would like to see whether there exists any difference in the components of social mobility of women on the basis of their employment.

Table No. 1.6

Analysis of variance pertaining to different components of social mobility with respect to work profile

Profile		N	Mean	Std. Deviation	Std. Error Mean
freedom of choice in family matters	employed	261	30.81	6.632	.411
	unemployed	139	30.04	5.067	.430
freedom of choice in Economic and political matters	employed	261	34.94	7.249	.449
	unemployed	139	33.99	6.897	.585
freedom of choice in Social and personal matters	employed	261	20.39	4.967	.307
	unemployed	139	19.65	4.881	.414

Table 4.24 shows the nature of distribution of different components of social mobility scores of employed and unemployed women. The size of sample is 400, out of which 261 women are employed and 139 women are unemployed.

The mean scores of family matters of employed and unemployed women are 30.81 and 30.04 respectively with a slight difference. The standard deviation is 6.632 and 5.067 respectively. While the standard error mean of the employed is 0.411 while for unemployed it is 0.430.

The mean scores of economical and political matters of employed and unemployed women are 34.94 and 33.99 respectively with a slight difference. The standard deviation is 7.249 and 6.897 respectively. While the standard error

mean of the employed is 0.449 while for unemployed it is 0.585.

The mean scores of social and personal matters of employed and unemployed women are 20.39 and 19.65 respectively with a slight difference. The standard deviation is 4.967 and 4.881 respectively. While the standard error mean of the employed is 0.307 while for unemployed it is 0.414.

It is observed that the mean scores of different components of social mobility of employed and unemployed differ very slightly, which shows normal distribution. The table also shows the comparison of standard deviation and standard error between employed and unemployed women for all components of social mobility.

Table No. 1.7

Analysis of variance pertaining to different components of social mobility with respect to work profile

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
freedom of choice in family matters	Equal variances assumed	3.270	.071	1.194	398	.233	.769	.644	-.497	2.036
	Equal variances not assumed			1.294	350.011	.197	.769	.594	-.400	1.938
freedom of choice in economic and political matters	Equal variances assumed	.920	.338	1.278	398	.202	.957	.749	-.515	2.429
	Equal variances not assumed			1.298	294.134	.195	.957	.737	-.494	2.408
freedom of choice in social and personal matters	Equal variances assumed	1.330	.250	1.420	398	.156	.736	.518	-.283	1.755
	Equal variances not assumed			1.428	286.019	.155	.736	.516	-.279	1.751

FINDING - Based on the work profile the respondents have to divide into two categories as working and non working, with an assumption that there would be no significant difference in social mobility of women belonging to different work profiles.

The global score of social mobility of women based on their different work profiles

show that- there is no significant difference in social mobility of women belonging to different work profile.

Results pertaining to the different aspects of social mobility of women belonging to different work profile show that there is no significant difference in all three aspects of social mobility of women on the basis of their work profile.

INTERPRETATION - Family structure is one of the important aspects of Indian culture. Much importance was given to the structure of the family as it influences the growth and development and the individual both in cognitive and social dimensions. The profile of a woman as working or non-working differs in several ways from the situations of the families to the role each member plays in the family.

The environment at home always influences the profile of women. The responsibilities they share and rearing practices they adopt at home are widely influenced by their profile. Sometimes to work out is essential for women for family responsibilities.

It seems that working women would be smarter than home maker women. But researcher found that there is no significant difference in social mobility of based of their work profile.

CONCLUSION :- Empirical evidence generated from the study has very clearly shown that the facts that almost 80% of respondents were having high social mobility (37% high and 27.25 very high social mobility).

Further, empirical evidence on the first dimension of relationship i.e., social determinants of social mobility has demonstrated that no social category has caused difference in social mobility. Further, findings of the study have indicated that there is no significant relationship between social mobility and education on the bases of castes.

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Role of Education in Tribal Development

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Research Scholars MGCGV Chitrakoot

Introduction : The progress of a nation depends upon the educational advancement of its people. Education is a key to development and literacy is both the index and agent to modernization. Educational development is a basic requirement for social and economic development as it helps in removing illiteracy and ignorance which are fundamental characteristics of tribals (Srivastava et al., 1971). Education is seen as the most crucial input necessary for development out of poverty. Education is an essential programmer for economic growth and development of the society and it is an investment and a human capital. It enhances individual's wellbeing. Literacy is proved to be a key variable for the development of the society and success of democracy. Mahatma Gandhi was of the opinion that education is the basic tool for the development of consciousness and reconstruction of the society. The purpose of education is to promote the development of a well integrated person capable of exercising such responsibilities in the society as his power allows.

Education helps the community to achieve the desired levels of development. Indeed, it enables them to use the opportunities for their advantage. Thus it serves as a means to achieve these ends. Education is a harmonious development of the individual in the context of the community to which he belongs. The socio-economic development and educational expansion should be viewed as interdependent processes and both should therefore go hand in hand. In recent years there has been a greater emphasis on relating the process of education with the development of the society. In any society, it is through the system of education, deliberate attempts are made to introduce the development inputs. The integral relationship between education and economic development has

received conceptual recognition since the time of classical economists. The basic assumption in relating education to economic growth is the potentiality of education to contribute to the national economy.

Emphasizing the need of education for the people of under developed countries of the world in particular, Margaret Mead (1953) says, "Education is needed in all the areas to cope with and repair the destruction already introduced and beyond this to make it possible for the people, if they choose to take their place in the community of nations and to take advantage of the progress of science and technology in improving their standard of living". Education is essential for the economic modernization of the societies. In developing societies education is considered as a crucial investment as it generates much needed skills and knowledge for economic growth. As V.K.R.V. Rao (1966) says, "Literacy is a value in itself. In addition there is an economic reason, a developmental reason for primary education, for it enables children to acquire literacy and to retain it in adulthood, besides cultivating in them the capacity to acquire skills and develop the right altitude". Education acts as a facilitator of socio-economic development and all improvement must be educational and primary education is the basis of everything.

Education is the most important element in the development of any community. The role of education as an investment in human resources has been increasingly recognized all over the under developed and developed countries. Education has special significance for the weaker sections of the society which are facing a new situation in the development process to adjust themselves to changing circumstances. The need

for educational development of scheduled tribes assumes primary importance to save them from economic exploitation and to help them in their all-round development. [Report of the Commissioner for SC and ST (1979-80), Second Report, 1981] Education enables them to cross the social, psychological economic barriers under which they have been struggling for centuries. Denying this basic input to the members of these communities is a denial of the very right to participate as an equal partner in the national life. In order to realise the social and economic benefits listed in the five year plans, universal and compulsory education for all children upto the age of 14 is enshrined in the Constitution as a Directive Principle.

Education is the key catalyst to the development of human resources. It is an essential programmer for economic growth and development of the society. Education is an instrument of social change. The role of education is to transform a static society into a vibrant with a commitment to development and change. Education demands due attention for the development of the society. Mahatma Gandhi was of the opinion that education is the basic tool for the development of consciousness and reconstruction of the society. Education plays an effective role in political modernization and democratization of a given society.

Tribal Context of India : India represents a culturally plural society in all respects. A large number of ethnic, religious and linguistic groups constitute the cultural mosaic of the country. These groups differ enormously in their overall socio-cultural features. The mainstream Indian society is characterized by the existence of an inherent caste structure. The tribal people are popularly known as 'adivasi' which means the "original inhabitants" of the country. They are regarded as the people indigenous to the soil. A majority of them live in mountainous and isolated forests and hilly regions. Hence, they are also known as 'Vanvasi' (forest dwelling people).

According to the article 342 of the Constitution of India, the scheduled tribe represents the tribes or tribal communities, which may be notified by the president for special privileges for a period of the world. They are more like the Indigenous or Native Peoples in other parts of the world. Tribal in India refer to a group of people who claim themselves as indigenous to the soil, generally inhabit forest and hilly regions, largely pursue a subsistence level economy, have great regard for traditional religious and cultural practices, believe in common ancestry and have strong in-group ties. Based on several indicators of socio-economic development and cultural transformations in their life, tribal people have been classified in a number of ways. A dominant classification based on economic activities put them in four distinct categories namely hunting-gathering group, rudimentary agricultural group, irrigation agricultural group and urban, industrial wage earning group.

India has the second largest tribal population. According to the Census of 2001, the scheduled tribes constitute 8.1 per cent of the Indian population, amounting to 83.6 million people. The Anthropological Survey of India in its people of India project (K.S. Singh, 2002) listed 623 tribal communities out of which about 573 are notified as scheduled. They are spread over the entire country but are most heavily concentrated in central, eastern and north-eastern India. Two broad types of scheduling namely area based and community based exist for tribes. Areas under the Fifth Schedule belong to nine major states of the western and central regions of India extending from Maharashtra in the west to Jharkhand in the east. Vulnerable tribal populations of some states such as West Bengal, Karnataka, Tamil Nadu and Kerala are however left out. The Sixth Schedule applies to tribal areas in the States of the North East.

Unlike the relatively dispersed SC population, about 90 per cent of the STs are found in a few States. Orissa and Madhya Pradesh

account for more than 20 per cent of the total ST population. More than 50 per cent live in Parliamentary constituencies where they form a majority. They are defined partly by habitat and geographic isolation, but more on the basis of socio-religious, linguistic and cultural distinctiveness. The STs occupy a belt stretching from the Bhil region of western India through the Gond districts of central India, to Jharkhand and Bengal where the Mundas, Oraons and Santhals predominate. There are also pockets of ST communities in the Andamans. North East India has a large proportion of the ST population, including the different Naga sub-tribes (NCERT, Position Paper, National Focus Group, 2007).

Tribes represent to differing levels, oppositional cultural principles of organizing life which reflect varying histories of assimilation and exploitation (Omvedt, n.d.). Colonialism marked a turning point in the history of the tribals. The economic interests of the colonists required large scale acquisition of natural resources, reducing tribals to positions of economic and cultural subservience vis-à-vis non-tribal communities. Forced absorptions continue to take place at the behest of aggressive and dominant economic and political forces. Anthropologists have more often than not classified tribes according to various stages of cultural development, which provide a broad idea of intra tribal variations. Some remain distinctive societies, cultures and identities in a socially significant sense. Some belong to the old autocracy for example the powerful Bhils and the wealthy Santhals, Oraons and Mundas who have won historical battles of cultural content (A.R. Desai, 1969). Yet others are looked upon by caste and peasant societies as 'backward' Hindus, ST only in name having been uprooted from the tribal mode of life by bonded slavery (National focus group).

The consequences of 'mainstreaming' through education and employment have impacted the tribals and they largely occupy the lower social rungs. Christian missionaries have

been responsible for spreading education among tribal population in various parts of the country- a development that has had diverse social and political consequences for the tribes. Political assertiveness and middle class entry have created among the STs a gap between tribal elites and the rest. However, the magnitude of the Christian impact as a motive force to modernization has varied between the tribal regions (Ahmad, 2003). On the whole small sections of tribal groups have benefited, while majority remain impoverished. Capitalist developmental onslaught on the tribal way of life by the Indian state and by national and global business interests has brought about further economic ruin for the STs. Large scale alienation and dispossession of land and natural resources and displacement due to mega development projects such as big dams, power plants have pushed the tribals into conditions of economic deprivation. Those who once led a bountiful existence now struggle for basic livelihoods (K.S. Chalam, 1993).

Tribal Education in India : Studies carried out in the initial decades after Independence and in particular, the landmark report of the Commission of SC and ST of 1986-87 showed that education progress till the mid 1980's was slow and uneven (A.R. Kamat, 1985; Government of India, 1990, 1998). Literacy levels are a crude indicator of overall educational progress and also serve as an index of opportunities for education provided and availed in the past. Literacy rate for the ST stand at 34.76 per cent in 2001. The ST rural female literacy rate has doubled since 1991 but is still the lowest of all at 32.4 per cent in 2001. A nation wide study conducted in mid 1970's came to the conclusion that while significant strides had been made there was still a 'long way to go' as far as their educational progress was concerned (S. Chitnis, 1981).

Education Policy for Tribal Development : In pursuance of the directives of the Constitution and the special provisions made therein for the scheduled tribes, the Government of India has

been implementing special programmers for the socio-economic development of the tribal groups. The broad objectives of these programmes have been to develop these traditional communities so as to enable them to secure for themselves an equitable and rightful place in the national system. In 1959 Nehru in his foreword to Verrier Elwin's work titled, "Philosophy for NEFA", set out the basis of the national policy on tribal development. This has remained its Magna Carta, its 'Panchasheel' till today:

1. People should be allowed to develop on the lines of their own genius and nothing should be imposed upon them.
2. Tribal rights on land and forests should be respected.
3. Induction of too many outsiders into tribal areas should be avoided.
4. There should be no over administration of tribal areas as far as possible and
5. The results should not be judged by the amount of money spent but by the quality of the human character that is involved.

The momentum of progress of education among STs increased. The Government and Voluntary Organizations initiated efforts in this regard. The Government took various steps to promote and protect through various welfare schemes which operated from Central and State levels. Special provisions were made in the Constitution for the creation of Schedule Tribes and Scheduled Areas and a 'protective discrimination' policy was pursued for their development. The basic thrust of the policy was to attain the all-round development of the tribals with the purpose of bringing about a socio-economic transformation in the tribal societies as well as to reduce the vast inequalities between them and others.

Apart from the affirmative actions, provisions have been made in all the five year plans with rest of the people on socio-economic fronts. The first plan aimed at inducing changes in

all spheres of tribal life through community development. The second plan focused on reducing economic inequalities. During this plan 43 Special Multipurpose Tribal Blocks were created and emphasis was laid on education, health, agriculture, communication and housing programmers. On the recommendations of the Elwin Committee (1959) these Blocks were converted to Tribal Development Blocks for integrated development in the third plan and the same principle was followed through various programmers to provide equality of opportunity. The fourth plan adopted a regional approach and stress was put on raising the standard of living of the people through measures which also promote equality and social justice. Six pilot projects in Andhra Pradesh, Bihar, Madhya Pradesh and Orissa were setup with a separate Tribal Development Agency.

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RURAL DEVELOPMENT IN INDIA PRE-INDEPENDENCE

Dr. Gulnar Vilku

Pre-Independence Experiments in Rural development :- Prior to the independence in 1947, various individuals and institutions made experiments in rural development from time to time. The model village in Sunderban (Bengal) by Sir Daniel Hamilton in 1903, the Sriniketan experiment of Thakur Rabindranath Tagore in 1920, Brayne's Gurgaon experiment in 1921, Krishnamachari's Baroda Reconstruction Movement in early 1930s, Gandhiji's experiment in Champaran (1917) and Sevagram in 1936, and The Firka Development Scheme in Madras State in 1946 are a few prominent initiatives that had substantive bearing on the future rural development programmes. The information available on these early projects is scanty and is mostly based on the recollections of the social workers involved in these experiments.

Rural development traces back its history to the Seventeenth Century when voluntary efforts to serve the mankind were initiated. A religious society of people known as 'Friends' or 'Quakers' had emerged as a movement in this direction for the first time in England and then in other parts of the world in rapid strides. It aimed at providing service to mankind transcending bonds of religion, territory and culture. The Quaker was a kind of rebel. In the mid of the seventeenth century, the main plank of the Quaker movement was that every human being has infinite dignity, that he is worthy of reverence simply because he is a human being and therefore, a temple of God. The main spirit behind this movement has been one of the selfless service and sacrifice and it runs like a wire, as it were among the exponents of the Quaker faith. The Quakers constituted the international group, functioning on a global level. Since the very inception of their movement, the Quakers devoted themselves to the alleviation of human miseries, resulting from

wars and natural calamities like famines, earthquakes, etc. The Quaker service to India was brought by Rachel Metcalfe. She left England in the year 1866 and came to India with meager resources and with no previous arrangements for launching a project of social reconstruction. In last quarter of the nineteenth Century, a few more quakers arrived in India to actively participate in reconstruction of the society. But the unfortunate part was that the famines of 1895-96 and 1899-1900 converted these Quakers into simple relief workers. It was at the beginning of the twentieth century that a training point was recorded in the history of rural reconstruction work when the Rasulia compound at the outskirts of Hoshangabad was acquired and the Rasulia workshop for learning was established. It was in this compound that a popular Hoshangabad was later developed. The trainees of the workshop manufactured furniture and supplied the same to the local market. Even today some of the furniture available in the Collectorate office and on the Hoshangabad railway station was manufactured in that workshop in those early days.

A stage then arrived in 1920 when the Rasulia workshop had to be closed down mainly on account of an exit of the then grown up children from it. Beside, the Quakers had also carved out the two villages of Laki and Makoria from jungle in nearby areas of Hoshangabad and were pre-occupied with problems of inhabitants of these settlements. A new phase started in the year 1932 when Hilda Cushman visited India and opened a new chapter in the history of Rural development. Using her profound knowledge of working as a Warden of a university 'settlement' in Bristol and Manchester and as a quaker relief worker in France and Poland she conceived of the idea of an Indian rural settlement which could be named as Quaker

Ashram. She established the Ashram with an intention that it should serve as a forum for exchange of ideas for the Indians and the English and for all other drawn from different parts of the world. Besides extending a variety of services to the villages through trained workers, young and old, fully equipped for both mental and manual work, it was deemed that the Ashram would grow into a living witness to the possibility of International co-operation and Goodwill.

The first attempt for rural development in India was made in 1885 with an ultimate objective of bringing immediate relief and development of rural areas in Baroda. In 1922, the Swaraj Ashram was established at Baroda by Maganlal Gandhi. The Ashram aimed at preparing for non-cooperation, and the civil disobedience movement launched by the Indian National Congress under the leadership of Gandhi. The resolution for non-cooperation was passed earlier in September 1920 at the Calcutta Congress under the President ship of Lala Lajpat Rai. boycott of foreign goods and mass publicity for use of home-made Khadi clothes. It was thought that boycott of goods in particular might not affect adversely the British trade. But spinning and weaving as an instrument for training in the qualities of self-reliance and self-confidence would definitely bring about a favourable impact on rural development.

Moreover, with the start of the Reform movement by Adivasis during the period 1915-20, the Government suffered heavy losses in revenue, sales of liquor by contractors reduced, drastically and the Adivasis also refused to do the agricultural work on low wages. In 1935, reconstruction centers were organised at several places, but start of the Second World War in September 1939 thwarted the progress of achievement of these centre. 'Grow More Food' campaign was started in 1939 with a view to augmenting the level of food production through planning and implementation of short term and long term improvement programmes in agriculture. Besides, a good number of projects aiming at community

development were introduced in different parts of the country by the Governments of states/union territories. The next important step was taken by the KisanSabha under the leadership of the Communist party worker Mrs. Godavari Parulekar in 1945. For the first time, Adivasis made slogans against exploitation by landlord, money landers, and contractors. As a result, the Minimum Wages Act was brought under enforcement in Forties to safeguard the interest of Advasis working for forest contractors and plantation owners. And since 1947, the Government started to encourage formation of cooperative labour contract societies for forest workers.

These centres made systematic efforts for development of life and society of specific rural Communities and tried to make full use of technological knowledge. And by the end of the Forties of twentieth century a number of such centres based on well defined principles and approaches of community development were going on in various parts of the country. Some of these centres were started by the Government of sub-national level and some others were initiated by the great individuals and private organisations including Christian missionaries, Gandhian Constructive workers and independent voluntary associations.

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The Issues and Threats lies in between the opportunities in Medical Tourism of India: A critical and suggestive analysis Of this untapped potential industry

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Abstract :- Indian Healthcare is one of the fastest growing service sectors in our country. It is also the most lucrative market in terms of revenue and employment. It attracted the momentum and interest of foreign players to enter this sector through their capital investment and technological collaborations. Indian health sector is also known for its affordability to crores and crores of its population as well as foreign medical tourists. This vast untapped market invites the multinationals to focus on the opportunities provided by its fertile base of a huge population, fast urbanization and also the prevalence of the diseases. After the permission of 100% FDI in hospitals and health sectors the size of this Indian health Industry estimated of around Rs. 17 lakh crore in year 2020 which was recorded around Rs. 2.7 lakh crore industries in year 2010. A more than 9% annually growth of hospital industry makes it more valuable. The objective of this research paper to present the trends of the industry status towards the Foreign Direct Investment as well as to underline the possible challenges in midst of glittering opportunities.

Keywords :- Foreign Direct Investment, Health Care Sector, Health Insurance, health infrastructure, Technologies, services, Internal and External Challenges.

Introduction :- The Indian healthcare industry is expanding rapidly and fortunately it was not so affected by the recession as the other industries were in recent days. This health care sector is very much ready for the expansion and significant

growth due to the expected rise in medical tourism, which in India is growing more than a growth rate of around 27% during the year 2009 to 2012. This market is valued for a worth of around Rs. 1.9 lakh crore and by the end of the year it is expected to rise by a yearly 30% growth. As this much high expectations also raise the requirements of up gradation in the standards of services in comparison to global markets. The recent health sector reforms and the liberalization policy in India have now created a new profit generation opportunity in this sector. The rising demand of the quality as well as the quantity of this sector cannot be fulfilled by the present composition of public and private sector health care sectors. This untapped market can be the greatest attraction for the corporate interested in this industry. This sector is already predominantly privatized and accounts for more than 8/0% of the total expenditures on health care in our country. This becomes more important when we find that almost 80% hospitals are managed by private sectors.

This health care industry India is structured in independent, privately run hospitals and health care centres which accounts a major share of the industry. Keeping this view the Government of India has allowed 100% FDI under the automatic route. This series of benefits also includes the tax holidays and lower tariff rates for medical equipments. Hence no government approval is required to as long as the Indian company files with the regional offices of the RBI within 30 days of receipt of inward remittances

and file the requires documents along with form FC-GPR with that office within 30 days of issue of shares to the non resident investors as the new changes in this sector are recorded after post January 2000 reforms in regard to the FDI. These reforms benefits to whole health care industry which comprises of the sub sectors of hospitals, medical infrastructures, medical devices, clinical trials, outsourcing, telemedicine, health insurance and medical equipments.

In our country presently we have a team of 5 lakh of Doctors, 9 lakhs of Nurses and around 13.7 lakh of beds and have a highest number of medical and nursing colleges at 303 and 3904 respectively. The most lucrative and important is that the cost of medical treatment in India is one tenth that compared to costs of US and Europe.

According to the Department for Industrial Policy and Promotion (DIPP) the total estimated FDI inflow into India in the hospitals and diagnostics sector for the period April 2000–April 2011 was around Rs. 6000 crore. This organisation is a part of the Ministry of Commerce and Industry and which is responsible for formulating the FDI policy in the country. The various major policy and promotion imitated by DIPP as some of them can be quoted here.

National Rural Health Mission (NRHM) :- National Rural Health Mission (2005–12) was set up in 2005 to ensure provision of effective healthcare to the country's rural population, especially in Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Manipur, Mizoram, Meghalaya, Madhya Pradesh, Nagaland, Orissa, Rajasthan, Sikkim, Tripura, Uttaranchal and Uttar Pradesh. As per the Ministry of Health & Family Welfare's annual report for 2011–12, the initiatives under NRHM have contributed to reducing the maternal mortality rate (MMR), infant mortality rate (IMR) and total fertility rate (TFR). The IMR has declined by 3 points to 47 per 1,000 live births in 2010; the MMR declined from

254 in 2004–06 to 212 in 2009; the TFR declined from 2.9 in 2005 to 2.6 in 2009.

Automatic FDI :- India's foreign investment policy is very liberal for hospitals. Since January 2000, FDI is permitted up to 100% under the automatic route for the hospitals sector in India. Approval from the Foreign Investment Promotion Board (FIPB) is required only for foreign investors with prior technical collaboration, but allowed up to 100%.

Priority status :- The government also allots priority to proposals of greater social relevance such as hospitals, life saving drugs and equipment.

National Urban Health Mission (NUHM): This mission was set up in 2005 to address the healthcare needs of slum dwellers across urban India; there are nearly 4.26 crore slum dwellers spread across 640 towns and cities in India.

Rise in funding for the sector :- The government has increased the plan allocation for public health spending to USD 5.96 billion in 2011–12 from USD 4.97 billion in 2010–11. Further, the Ministry of Health and Family Welfare has decided to increase health expenditure to 2.5% of GDP by the end of the 12th Five-Year Plan, from the current 1.4%.

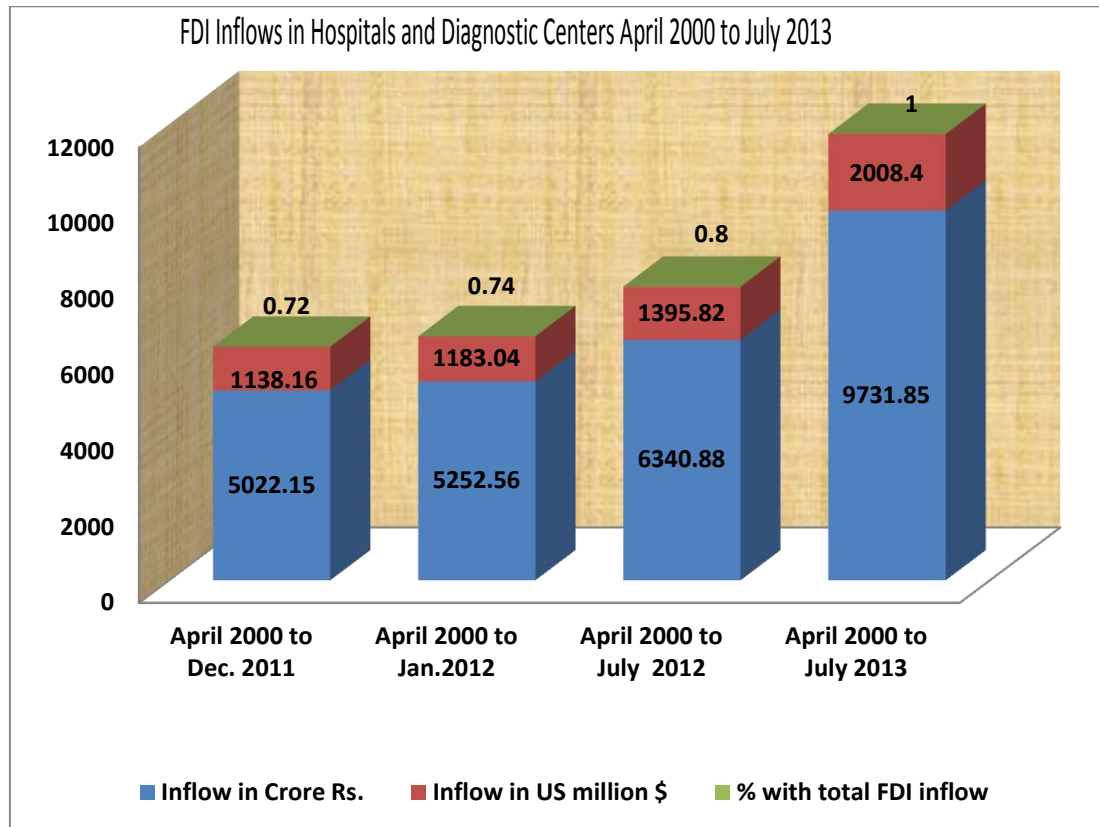
Encouraging policies :- The government is also encouraging the growth of this market through policies such as a reduction in import duties on medical equipment, higher depreciation on life-saving medical equipment (40%, up from 25%), and a number of other tax incentives.

Reduction in customs duty :- Customs duty on life-saving equipment has been reduced to 5% from 25%, and is exempted from countervailing duty. Import duty on medical equipment has been reduced to 7.5%.

We find a significant role of foreign players in the development of hospital sector. As FDI is permitted up to 100% in the automatic route for

hospital sector. The following chart is showing the positive increasing trend in this sector. There is a

increase in inflows of FDI and also in percentage with total FDI.



Source : Compiled from Fact Sheet on Foreign Direct Investment (FDI)

Objective of the Study :-

- (1) To outline the various opportunities in FDI in Indian Health Care Sectors.
- (2) To study the need of FDI in health care sector.
- (3) To trace out the trends of Foreign Direct Investment in health sectors in India.
- (4) To understand the economic impact of FDI in Indian health care sector.

Major contributor in Indian Health sector :- We are finding that the many foreign players have shown their keen interest in this sector and comparative a lucrative large market. Some of the major players are like Pacific Healthcare of Singapore, Columbia Asia Group, Wockhardt Hospitals, Steris a US based medical equipment company and also Amcare Labs an affiliate of

Johns Hopkins International of the US, which has set up a diagnostic laboratory in Hyderabad with Applo group. These foreign players, have also shown their interest in establishing research and development centres in India like Abort Laboratories which has announced plans to set up an Research and Development centre in collaboration with Syngene, a contract research subsidiary of Biocon Ltd., to develop nutrition products in India; US pharma company Merck, which is known as MSD outside of the US and Canada, plans to set up a laboratory in New Delhi for developing vaccines at an estimated cost of USD 133.93 million.

In addition, India is now acknowledged as the premier destination for medical tourism, owing to cheaper costs and treatments in the

country. According to industry estimates, the market size of medical tourism in India is growing at over 25% annually at over USD 2.5 billion. The segment's growing business potential prompted the ITC Group to set up the 58-room Fortune Park Lake City business hotel at the Jupiter LifeLine Hospitals complex in Thane, near Mumbai, to serve medical tourists. Most international patients are from Africa, SAARC and West Asia. Patients requiring higher-end tertiary care are now coming to India for cardiology, orthopaedics, neurology, oncology and organ transplants. Affordability of treatment is a big pull factor — treatment in India costs just 10% to 20% of what it costs abroad.

Domestic hospitals have a long-standing reputation in the healthcare sector; some of the prominent private Indian hospital chains that offer world-class medical treatment include Max Healthcare, Fortis, Escorts Healthcare, Moolchand Hospital, Manipal Group of Hospitals, Woodlands Multispeciality Hospital, Anandlok Hospital, Jitendra Narayan Ray Sishu Seva Bhavan and General Hospital, Apollo Group of Hospitals, Sarvodaya Hospital, Suguna Ramaiah Hospital, Chinmaya Mission Hospital, Manipal Hospitals.

Opportunity in Indian Health sector :- If we probe into the present situation regarding the opportunities in India one big name definitely would be of Medical tourism in India. The growth rate of Medical tourism in India during the course of 2009-2012, is remarkable and records around 27%. Looking into the ever increasing demand of medical tourism and large number of clinical trial activities in our country there is immense requirement to upgrade the service standards and efforts should be made towards bringing the level of services equal or closer to the services provided on global standards. This gap in providing the services which would match with the global standards requires a change in the outlook and behaviour, thus creating best of the opportunities for all our investors to provide managerial and financial support.

In India if we think about health care investors and their opportunities the major sectors playing significant roles would be –

- Hospitals and Infrastructure.
- Health insurance
- Services requiring technology– investment in manufacturing of medical equipments.

Opportunities of Foreign Direct Investment in Indian Healthcare industry Considering these sectors as significant opportunities for the foreign investors, we can analyze as under - :

- **Opportunities FDI in Health insurance Sector :-** India has a large population which is still not covered till date under any sort of medical and health insurance. Probably the reasons may include lack of awareness, little or no knowledge, meagre importance, Casual approach, different outlook towards life, setting up priorities and the list goes on and on. Though many insurance and health care companies boast of selling up of numerous policies and insurance covers including life and risk cover all over India but the number of people subscribing or taking up the policies are still very few or negligible in numbers, and the population having no coverage still holds a majority.
- **Hospitals and Infrastructure :-** Presently there is a huge requirement and demand of Hospitals both tertiary care and specialty care hospitals in India along with latest technologically developed medical equipments. The Gap between the requirement of beds and availability of beds in the hospitals in our country is quiet evident and needs to be worked out strategically. Government along with private players can handle this situation pretty well.
- **Services requiring Technology :-** India though a developing nation still prominently holds a large rural and semi rural areas having deficiency of Medical aids, doctors, physicians, medicines, nurses in totality Medical and health care facilities. Thus the

result is poor, weaker, starved, and unhygienic and malnutrition masses. In order to cater to the needs of these common masses telemedicine can be considered as an effective solution to fill up the deficiency or lacuna present in the field of health care services and infrastructure in these areas.

Challenges

Global Challenges :- In a developing country like India many uncertainties are revolving around the health care industry regarding current reforms, policies, rules and regulations which try to put a check and curb the ideas, potential and number of overseas investors in this field mainly posing limitations for our foreign direct investors.

Basically, for any new entrant in our country as an investor one needs a detailed study and analysis of our health care set up, health care industry as a whole, existing players in the market, complete and in depth knowledge of our local market, culture, management styles, financial and managerial control and all the other critical and important issues which in itself is a big challenge.

Privatization in health care industry is also posing as a challenge as it requires reforms which give rise to internal problems. The private players have an active participation in establishing and opening up of hospitals but face limitations if we talk about scope. Hence overseas investors may find difficulty in expansion.

As mentioned earlier the medical and hospital business requires a lot of detailed and in depth study of the local market of our country which poses as a challenge for any foreign investing company, thus making an entry a little difficult.

The investors can form joint ventures or partnerships as a better way of entering our markets and establishing hospitals but off course the difficulties and problems would be to carry out and maintain the relationships as issues related to

finance, control, management styles, functioning styles, thought process, difference in expectations levels might arise in Partnerships and joint ventures.

Yet another challenge posed to foreign investors in health care sector in our country are other lucrative and competing destinations which creates a better impact in the minds of foreign investors simply because they are familiar, better understandable, clear in their policies, rules, regulations, clarity and brevity of mission and vision, transparent and containing congenial environment. Investors look into the overall picture and situations rather than only the health care sector. The government of our country still does not have the clear cut vision for health care sector as it does not perceive health care industry as a core industry and on top of that system suffers from corruption, inefficient rules and regulations, opaque regulatory framework and unhealthy environment. In totality we can say that all these factors impose negative impact on foreign direct investors.

Internal Challenges :- There are a few domestic factors which pose challenge to the foreign investors when it comes to establishing hospitals and providing medical facilities. Many investors are of the opinion that this business is capital intensive requiring huge amounts or doses of Capital as investments, long gestation periods simply wastage of time, energy and resources, relatively lower returns and high running costs.

In our country FDI in hospitals includes heavy amount as initial investment s, other related factors, post- establishment related operational issues, which all have an account in affecting the returns to investment.

As stated earlier our country is still not ready with the actual roadmap of Medical and healthcare industry and simply deficient of proper infrastructure. The total number of hospitals required are far high as compared to the present

number of hospitals, the same happens with the number of beds required and the number of beds available at present. High cost of setting up beds and long gestation periods are posing tough challenge to foreign investors.

Currently the most challenging factor towards Foreign direct investment is the deteriorating value of Rupee which has directly made an impact on the import cost of the surgical equipments and has helped in creating a hike by 30% and the consumables has arose to 35% from 25%. Now, the Investors are much focussed and just concentrating on increasing the number of beds rather than going for a full fledged expansion programme.

Medical treatment, aid and care now days in our country is 'not a cup of tea' for poor people rather it is only available to the people who are rich, who can afford it cause it is highly expensive, and only a few people have insurance cover who can go for private treatments and medical checkups regularly.

One more challenge which FDI faces is the division of actual availability and actual requirement of beds in rural and urban areas. If we look into the report of McKinsey and Company there will be requirement of around 3.8-4.2 beds per 1000 people in urban areas while this number is very negligible if it comes to rural requirement of bed density it is only 1.0-1.2. Growth in the urban areas will be achieved in a better way through Private investments.

Findings and Suggestions :

- The foreign investors find it attractive, lucrative and preferable to invest in big cities or urban areas and selected investment sites or locations. Definitely Indian health care industry projects as a great sector and attracts FDI as a huge ocean of opportunities.
- The local government should support the FDI to have a positive and good effect.

- According to many foreign investors one of the best sectors to invest their money is Hospitals which come under Indian health care industry which can offer them huge and bulk profits.
- Foreign investors may plan for Joint ventures and they should be supported for this option.
- If we look into the opinions of most of the professionals the cost of medical treatment and regular checkups in India is much lower as compared to other developed nations which definitely gives a positive appeal to FDI.
- Healthcare industry caters to one of the major finance related issue of return on investment as it is much better as compared to any other nation, which can add 'a feather in the cap'.
- Many professionals are of the opinion that our country suffers from poor infrastructure regarding health care and medical aids, thus Investors both Foreign and Domestic should facilitate and assist in making the system able, efficient and effective.
- Our system suffers from Poor and delayed treatments which can cause situations of Life and death so investors have an golden opportunity to guard, help and facilitate the Medical and Health care industry and prove their worth as reliable, Cost effective and best facilitators.

Conclusion :- Although there are many factors present in our Medical and health care sector serving as innumerable opportunities including demand and supply, Bridging the gap between demand and supply, Increasing per capita income, Increased rate of returns, Changing Consumer Behaviour there are still many challenges also coming in the path of FDI like non supportive attitude of local government, Local or private players, Typical environment, Deteriorating value of rupee and the list continues, still billions of population act as a driving force to FDI in Indian Health care industry.

The huge population promises great opportunities to all the FDI and investors abroad

and domestic thus need of the hour is focus on the Indian healthcare Industry and make the best out of it and give the public right to healthy living.

Multinational Players can go for joint ventures and partnerships and enlarge their medical and healthcare market. They can provide great opportunities to the people belonging to the medical community, other players and common masses. The medical assistance can be provided at affordable prices.

It should be made evident that cost of medical treatments in India are lower as compared to other developed nations thus our people should be given better treatment and medical facilities at affordable prices within the boundaries of our country.

Last but not the least the economic development of our country would boost up through the impact of increasing Foreign Direct Investment in Indian health care sector.

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THE CONCEPT OF ARTHANAREESAWAR IN ABROAD

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Arthanareeswarar is a composite androgynous form of Siva and his consort God's Parvati. This form is shown as a fusion of half-male and half-female forms, split down in the centre. The right half is depicted as Siva, while the left half shows the female form of God's Parvati. The very name Arthanareeswarar implies 'the Lord who is half-woman'.¹ This form of Siva is also referred to as Ardhanarineshwara, Gaureshwara, Naranaari, Parangada and Ammiappan. Since Arthanareeswarar represents the perfect synthesis of male and female forms, it also embodies the Prakriti and the Purusha, the feminine and masculine energies of the cosmos and also illustrates how Sakti, the Sacred Feminine, is inseparable from Siva, the male principle of God. This form also symbolizes the all-pervasive, all-enduring nature of Lord Siva.

The concept of Arthanareeswarar has a profound inner meaning. The deity symbolizes the optimal balance of the male and female energies in this world and also indicates that they are essentially inseparable forces, which are complimentary to each other and must work together to maintain equilibrium.² It shows the unity in the opposites of Purusha and Prakriti. Purusha is the passive force of the universe, while Prakriti is the active, dynamic force. Both these forces must embrace and fuse with each other to generate and sustain the universe. This idea is also brought forth by the union of Linga of Siva and the Yoni of the Devi, thus giving rise to the birth of the entire cosmos. The concept of Arthanareeswarar is also suggestive of Kama or lust, which gives rise to procreation.

The Spiritual Concept :- The concept of Arthanareeswarar indicates that 'totality lies beyond duality' and the essentially equal nature of both the masculine and feminine energies. It talks of both being part of the Supreme Being, being two equal parts, making the whole. Siva's half part holding a rosary indicates asceticism, while Parvati's half holding the mirror is an embodiment of the highly material and illusory world.³ The fusing of these two opposites indicates that both the material and spiritual spheres have to coexist in one's life, for it to be complete. Siva and Sakti are inseparable and interdependent. This indicates that both these opposing forces are one and the same and cannot be regarded as two individual identities.

Many cultures of the world also believe that hermaphrodite icons such as the Arthanareeswarar also symbolize fertility and limitless growth. Siva embracing Parvati is associated with the boundless reproductive ability of Mother Nature herself. The supposedly opposing forces then become so non-dual, that it would finally become impossible to locate the masculine in the feminine and vice-versa. Usually, the Sakti half is located to the left of the Arthanareeswarar and Siva is shown on the right side. Traditionally too, the wife is seated to the left of the husband and hence, she is known as 'Vamangi'. The right side is often associated with masculine traits and cerebral functioning such as logic, direction, systematic thought and so on, as also with valour and related traits. The left side is related to the heart, therefore is also associated with typical feminine characteristics such as creativity, intuition and so on.⁴

The Vamabhaga or the left side is also indicative of being the 'inferior' side, embodying dependence in a relationship, while the right is considered to be the more dominant side, being 'superior' in bhoga or material indulgence, which is usually symbolized by the female form. Siva is regarded as the dominant half. That is probably why Nandi, Siva's vahana is almost always shown as the vahana for the Arthanareeswarar as well and not the Devi's lion. Of course, as mentioned earlier, some Shakta schools consider the Devi the more dominant half and that is why, she is also portrayed as being on the right side of the male half-form of Siva.

Worship of Arthanareeswarar in Abroad :- Arthanareeswarar, which is a popular aspect of Siva, is found in some Siva shrines in India and in South-east Asia as well. In fact, evidence even suggests that there may have been an Arthanareeswarar cult in existence at some point of time in India. However, this never went on to become an established sect. Followers sometimes worship Arthanareeswarar in order to attain salvation from this material world. Here, the Linga is considered the Paramatma and the devotee, the Jeevatma, which tries to reach the Supreme One. In fact, the 9th Century Nayanar saint Manikkavachakar has compared God's Parvati to the devotee yearning for the grace of the Lord. The Nayanar saints of Tamil Nadu gave the deity an exalted status in their culture.⁵ The Ardhanarineshwara is very popular as well. To date, one can hear this hymn or watch it being performed in music and dance recitals. The renowned poet Kalidasa states that Siva and Sakti are both interdependent and inseparable. Many sects of Tantra Shastra consider the hermaphrodite form of the Arthanareeswarar as their tutelary deity, as it shows the divine union between the Prakriti and the Purusha.

Concept of Arthanareeswarar in China :- The concept of Arthanareeswarar is very similar to the Chinese concept of Yin and Yang. The Yin Yang symbol describes how seemingly polar forces are

actually intertwined with and interdependent on each other and how they are actually complimentary to each other. Like in India, Chinese philosophy also believes that opposites exist not in actuality, but only in relation to each other. This philosophy reflects in everything they do and is actually a way of life with them. It essentially forms the vital principle of many forms of traditional Chinese Medicine, Chinese Martial Arts and so on. They think of the stark opposites of female and male; high and low; dark and light and so on as different manifestations of Yin and Yang respectively. Yin and Yang, much like the Parvati and Siva forces of the Arthanareeswarar, are 'complimentary opposites' and are equal halves of a greater whole. They are responsible for creating and sustaining the universe and are part and parcel of the dynamic system of the universe as we know it. Yin is considered to be the feminine power, symbolizing softness, gentleness and passivity. It is hence often associated with water, the earth, the moon and night-time. Yang, on the other hand, embodies masculinity and is hence fast, aggressive, focused and sharp. It is usually associated with powerful forces such as the sky, the sun, fire and daytime.³³ There may come a time when one of the halves may appear to become stronger than the other and more forceful. But on closer examination, one would see that this process would show ebb and flow over a long period of time and in the end, result in a perfect balance in the universe. When a certain process in this universe reaches its peak, the tide begins to ebb, until it stops altogether, only to create a new wave of activity. The concept of Yin and Yang is usually symbolized by the Taijitu symbol, by which it is popularly identified across cultures of the world.

Historical Significance of the Temple :- Arthanareeswara Temples, one of the 64 manifestations of Siva, representing the unity of Lord Siva and God's Parvati, is enshrined in this revered hill temple of great significance, accessible by a motorable road. This temple is regarded as the 4th of the 7 Tevara Stalams in the Kongu

Region of Tamil Nadu. Ancient walls, mandapams and sculptured pillars add to the awe that this temple perpetuates, on top of the hill.⁶ The motorway and the renovated Rajagopuram are of recent origin. True to the name Nagagiri, there is a 60 feet long snake carved on the hill. This can be seen by the steps path the sanctum faces the West, entrance to it is from the South. A majestic image of Ardhanareeswarar adorns the sanctum. There is a water spring at the foot of the image which is said to have been divinely manifested (Uli Padaa Uruvam). My note- The priest showed us the third padam. There are inscriptions here from the times of Parantaka Chola, Gangaikonda Chola, the Vijayanagar and Mysore Kings and the Nayaks.

In Silapathikaram, Ilango Adigal referred Tiruchengode as "Chengodu" and that "it has numerous holy ponds and enjoys popularity and prosperity". Kannagi after burning Madurai finally reached Tiruchengodu hill and she was taken by pushpak viman and went to heaven and kannagi vizhla is celebrated with pomp and glory every year. Sambandar composed the Tiruneelakandapatikam here, to help rid fellow travelers of an affliction. Muthuswamy Dikshitar has sung of this shrine in Ardhanareeswaram in Kumudakriya.⁷ The Tiruchengottuvelavar shrine to Lord Subramanyar attracts a number of pilgrims. There is a big sanctum for Lord Vishnu with Sree Devi and Bhoodevi. Saptha mathurs are also installed in the temple. Navagraha are also installed in the temple. While we enter to the left side Ganapathi is installed in the open, facing east, with Nagaraja and Nagayakshi on either side.

Sengodu Velavar Sannathi :- Acclaimed as 'Kodimada Chenkunrur' in the Thevaram verses, Thiruchchengu is one of the foremost places of worship of Lord Siva. The temple at Thiruchchengu faces west and is atop a hillock. The name Sengodu comes from the fact that the hill appears red in colour. The temple is at a height of about 1900 feet above sea level. One can reach the top on foot by climbing 1250 steps or by road transport through the paved roads. There are

several mantapams or resting spots for devotees en route to the top.

On reaching the hill top, one is awe-struck by the majestic 5-tier Raja Gopuram in the north. The high walls surrounding the temple run across a length of 260 feet east-west and 170 feet north-south. The tower on the western side has three levels. One can get into the temple from the entrance in the north, walk down a flight of about 20 steps and reach the outer praaharam (the walkway or passage). Puranic speak proposes that Goddess Sakti meditated upon Lord Siva here and attained the honour of being a part of his body (Ardhanareeshwara). There is also a temple of Sri Kailashanathar at the bottom of the hill.

The main deity is addressed as 'Ardhanareeswarar' or 'Mathorubagan'. Standing as tall as 6-feet, half-man and half-woman, he has an imposing presence, and is believed to have been naturally formed (Swayambhu) untouched by chisel or hammer. His matted locks bundled up to a crown, his head bejeweled with the silvery moon, his neck and chest adorned with strands of the sacred rudraksha and a shimmering 'thali' (the nuptial necklace worn by a bride to show she is married), Mathorubagan is armed with a club or Dhandaayudham. He faces westward. Since Mathorubagan is Siva and Shakti as one, the deity is draped in dhoti on the right and a saree on the left. The left foot adorns an ankle.

Beneath the moolavar's holy feet is a small spring called the Deva Theertham that never dries. On Vaikasi Vishakam day, Thirukkalyana Vaibhavam, the marriage ceremony of the Lord is conducted. The priests pose as Swami and adorn Ambal with the 'thali', the nuptial thread. This practice is followed since there is no separate idol for Amman.

The shrine of Lord Muruga in the northern corridor is of prominence. Praised and prayed to as Sengottu Velavar, Muruga stands facing east, blessing his devotees with a grand

darshan. The temple activities include a daily pooja for Sengottu Velavar at ucchikaalam (noon) with abhishekam and special offerings. The Tamizh Saint-poet, Arunagirinathar has sung the greatness of this Muruga in his Thiruppugazh verses. The grand and ornate mantapam in front of the Sengottu Velavar shrine is home to spectacularly carved pillars, embellished with intricately crafted sculptures, showcasing the greatness of art and sculpture of the period and also serving as a testimony to the skills of ancient sculptors.⁸

The Lingam that was worshipped by Amman to become one with the Lord is located inside the main sanctum. This divine lingam is brought and worshipped along with Ardhanareeswarar only during the three main rituals of the day - morning, noon and evening poojas. The goddess herself is considered to be performing the pooja. Special abhishekam is performed at ucchikaalam. Mythological narratives suggest that the Shiva at Thiruchchengodu was worshipped by MahaVishnu, Adishesan and many other gods. If one would take the steps to the top, en route is enshrined Naagar, the snake God, carved on rock. He is believed to have great power and the shrine attracts devotees from all over the country, who are seeking remedy from Naaga dosham.

Adi Keshava Perumaal :- Maha Vishnu as Adi Keshava Perumaal has an exclusive temple here. During the auspicious days of Brahmotsavam, Adikeshava Perumal is venerated with an extravagant 10-day festival, that commences with flag-hoisting and culminates in Kalyana Vaibhavam and the car festival, Ther. On the night of Shivaratri, four iterations of pooja at different times of the day (popularly known as nalu-kala pooja) are offered, which is of special significance. On the 11th day of the lunar cycle (Ekadashi), Adikeshava Perumal blesses his devotees with Garuda Sevai.

Lord Ardhanareeswarar is considered to be the Lord of the birth star, Sadhayam. The

fortunes of those born under Sadhaya Nakshatram are said to be in his hands and hence, special pooja is offered on these days. Devotees can offer their prayers to the Lord on this day to overcome any misfortune.

The temple with its art, sculpture and architecture stands as one of the finest examples for the greatness of ancient Tamil sculpture. The hallmark of the outer praaharam is the arrangement of 30 monolithic granite pillars with exquisitely sculpted statues of soldiers riding horses and yaalis (mythical creatures that are half-lion and half-elephants, of immense power).

The mantapam in front of the Sengottu Velavar sannidhi has several unique and noteworthy sculptures of Veerabhadrar, Manmathan, Rathi, Kali. These are monoliths too. The stunning workmanship in the rock carvings of a lotus bent over its stalk, parrots, chains and chain links on the roof top of this mantapam leaves one in awe of the conception, talent, planning and execution. The garbha graham or the sanctum of Lord Nageshwara is again bedecked with breath-taking sculptures. The pillars in the mantapam adjoining the sanctum are also carved with warrior statues on horses, yaalis, similar to the ones in the outer corridor. Thiruchchengodu Ardhanareeswarar temple is thus a treasure trove of ancient fine art and sculpture which we need to cherish and preserve for eternity.

We all know that Lord Narasimma moorthy, after tearing up the stomach of monster Iraniyan, drank his blood, and losing peace, became restless. Witnessing this, Lord Siva took the form of a bird and went on to pick the Narasingam, carried him to the sky and shook him well. The stored blood spilled out, and Narasingam returned to the original look of Lord Perumal. Lord Thirumal, getting relieved from the sin came to Kodi Maada Sengundroor, built a lake, took bath in the same and prayed to Lord Shiva and Parvathi. In this holy place, the temple got created with the

Lord in it. This is how the historic epic of Tiruchengodu is described.⁹

Aadhikesavaperumal temple has an entrance facing east. Moolavar stands as a stone statue, and gives Darshan to devotees. Lord Aadhikesavaperumal, having Neela Devi and Bhoodevi to his left and right is a visual treat. The Bali Peetham, or sacrificial altar, Karuda Azhwar, and Hanuman are seen in front of the main idol. 400 years ago, in 1608 AD, the temple was renovated by the then ruler of Sangagiri Durkam, Maari Rajendhra Mahiban.

Navagraha :- The Graha (Sanskrit: Graha "seizing, laying hold of, and holding" or Navagraha (Sanskrit, "nine houses") are deities in Hinduism and Hindu astrology. There are nine Graha. They include the Sun, the Moon, Mars, Mercury, Jupiter, Venus, and Saturn, and the ascending and descending lunar nodes, respectively known as Rahu and Ketu.

The Navagraha are :-

1. Surya (a.k.a. Ravi), the Sun
2. Chandra (a.k.a. Soma), the Moon
3. Mangala, Mars
4. Budha, Mercury
5. Guru Jupiter
6. Shukra, Venus
7. Shani Saturn
8. Rahu
9. Ketu

Temples that incorporate or are dedicated to one or all nine of the Navagraha are found in different parts of India, such as in Tamil Nadu.¹⁰

Saptha Kannimar Padal :- The Saptha Kannimar Padal is one of the sub-sections of Arul Nool which was the secondary scripture of Ayyavazhi. The author of the content is unknown. This contains the event's background and reason for the birth of the seven virgins in the world. Below are the names of Saptha Kannimar:¹¹

1. Brameshwari
2. Gowmari

3. Varaghi
4. Vaishnavi
5. Saamundi
6. Maheshwari
7. Indhirani

Dwarka :- Dwarka is a small city and a municipality of Devbhoomi Dwarka district in the state of Gujarat in northwestern India. It is located on the western shore of the Okhamandal Peninsula on the right bank of the Gomti River. Dwarka is one of the foremost Chardhams, four sacred Hindu pilgrimage sites, and is one of the Sapta Puri, the seven most ancient religious cities in the country. Dwarka is often identified with the Dwarka Kingdom, the ancient kingdom of Krishna, and is believed to have been the first capital of Gujarat. The city's Dwarkadhish Temple dedicated to Krishna was originally built around 2,500 years ago, but was destroyed by Mahmud Begada rulers and subsequently rebuilt in the 16th century. The temple is also the location of Dwaraka matha, also called Sharada Matha/Peeth and "western peeth", one of the four peeths (Sanskrit: "religious center") established by Adi Shankaracharya. As an important pilgrimage centre for Hindus, Dwarka has several notable temples, including Rukmini Devi Temple, GomtiGhat, and Bet Dwarka. There is also a lighthouse at the land end point of Dwarka. Dwarka's economy relies heavily on pilgrims and tourism but is supplemented by the production of millets, ghee (clarified butter), oilseeds, and salt, which are transported from its port.¹³

Pali Peedam :- Pali Peedam - Pali means sacrificing. Temples have peetam between Rajagopuram and Dwajastambam, where cooked rice with water is offered by priests to the guarding deities (Kshetrabalakas), after the naivedyam and Aradhanam to the Pradhana Devatha. Bhakthas entering the temples shall give away the six animal qualities, by prostrating before this Pali Peetam, thereby approach the God with open mind. Giri offers Pali peetam made of black stone made with precision as per agama standards for installing in new temples. This blog is collection

of Hill Temples from all ages from different religions and countries. I always wonder why temples were built on top of mountains. My strong belief is that benefits of meditation and pranayama are obtained as such when we climb high mountains.¹³

Kodimaram (Flagstaff) :- Hindu Agama Shastras compare a Temple to the human body. Just as an individual soul is enveloped by five kosas or sheaths - (Annamaya, Pranamaya, Manomaya, Vyanamaya and Anandamaya) - the Deity installed in the Temple (representing the Supreme Spirit) is also enveloped by five prakaras. Just as our gross body has five sections - head, neck, chest, legs and feet - a Temple also has five corresponding sections. The Garbhagriham or sanctum Sanctorum represents the head; the Sanctum is the Soul or the Jiva of the body; the Vimana over the anctum represents the tip of the nose. Ardhmandap in front of the Sanctum represents the neck; Maha Mandapam, the chest; Prakaras around the Sanctum represents our five senses: the palibida where nivedana is offered to the deity represents the naval; the Kodimaram represents the Jeevadhara; and the Gopura, the main gateway of the temple, represents the feet.¹⁴

The main parts of a temple are:

1. Garbhagraha (Sanctum Sanctorum) containing the image of God.
2. The Vimana over the Sanctum.
3. Ardhmandap in front of the Sanctum.
4. Prakaras around the Sanctum.
5. The Gopura, the main gateway of the temple.

Indian temple is only a reflection of the physical form of the human body. According to the Tirumular "our body is a temple". According to the Kathopanishad "This body of ours is a temple of the Divine."

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A Study of Cost and Returns Paddy and Banana in Thoothukudi District

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INTRODUCTION :- India is an agricultural country, which is endowed with abundant natural resources. The development of agriculture to its fullest potential is, therefore the king-pin of the India economy. Agriculture growth has direct impact on poverty eradication. Its development also helps in containing inflation, raising agricultural wages and increasing employment generation. Still agriculture remains the largest employer with about 60 per cent of the population depending on agriculture for its livelihood. Now census 2011 says there are 118.9 million cultivators across the country on 24.6% of the total workforce of our 481 million.

Agriculture in India is undergoing transformation. Traditional technology is slowly giving way to modern technology. This transformation to new technology and techniques bring to the fore new problems and thus offers new opportunities and new avenues of research to agricultural economists. The 'New strategy' for agricultural development, which was initiated in 1966, in essence called for the implementation of High Yielding Varieties Programme (HYVP) in all districts selected under Intensive Agriculture District Programme (IADP) and allied schemes. The strategy was concerned with higher productivity of crops per acre, but with multiple cropping, the HYVP has assumed 'crucial importance' in the Planning Commission's agricultural development strategy.

There is a great impact of Green Revolution on the power structure at various levels and the issues of taxation of agricultural incomes. In the year 1966, the implementation on

technological change in High Yielding Varieties Programme (HYVP) in all districts selected under Intensive Agriculture District Programme (IADP) scheme was introduced. The strategy was concerned with higher productivity of crops but with multiple cropping, the HYVP has assumed 'crucial importance' in the Planning Commission's agricultural development strategy. The most interesting feature of the new agricultural strategy was that the movement for scientific agriculture and programme for research and extension received fresh stimulus. A three dimensional approach towards agricultural development was chemical technology that guaranteed minimum paddy as an incentive to agricultural production. Technological change or the new strategy proposes to make a new technological breakthrough in India which comprises the introduction of new and HYVP of improved seeds, increased application of the recommended dose of fertilizers and extension of the use of pesticides that can save crop from destruction by insects. This technological change brought spectacular changes in the agriculture production of our country. The increase in production of food grains recorded after 1966-67 is described as Green Revolution. The rapid introduction of HYVP of paddy and wheat and their multiplied effects on other crops justify the name Green Revolution.

PADDY PRODUCTION: THE GLOBAL SCENARIO :-

Rice is also the most important crop to millions of small farmers who grow it on millions of hectares throughout the region, and to the many landless workers who derive income from working in these farms. In the future, it is imperative that rice production continue to grow at least as rapidly as

the population, if not faster. Rice research that develops new technologies for all farmers has a key role to play in meeting this need and contribution to global efforts directed at poverty alleviation.

Agricultural population densities on Asia's rice producing lands are among the highest in the world and continue to increase at a remarkable rate. Rapid population growth puts increasing pressure on the already strained food – producing resources. The aggregate population of the less developed countries grew from 2.3 billion in 1965 to 4.4 billion in 1995. Asia accounted for 60 Percentage of the global population, about 92Percentage of the world's rice production, and 90Percentage of global rice consumption. Even with rice providing 35-80Percentage of the total calories consumed in Asia and with a slowing of growth in total rice area, rice production more than kept up with demand in 2000. The largest producing countries – China, India, Indonesia, Bangladesh, Vietnam and Thailand – together account for more than three quarters of world rice production.

The world's annual rough rice production, however, will have to increase markedly over the next 30 years to keep up with population growth and income induced demand for food.

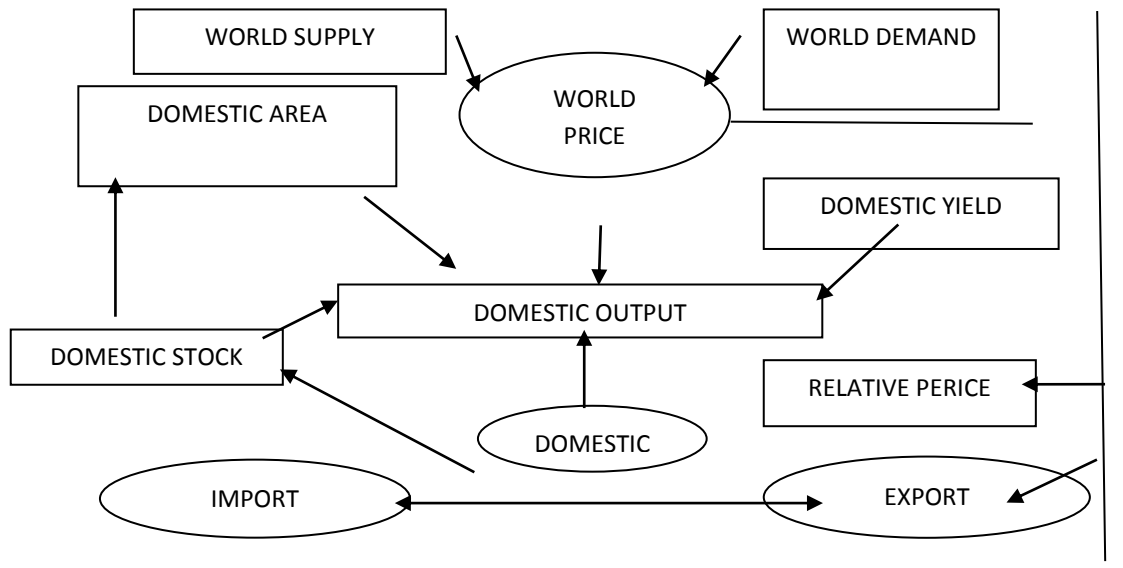
The principal paddy producing countries of the world are China, India, Japan, Bangladesh, Thailand, Myanmar, Vietnam, Brazil, South Korea, Philippines and the United states. Asia alone accounts for 90 to 92 per cent of world rice area and production. According to the food and Agriculture organization (FAO) of the U.N., 80 per

cent of the world rice production comes from 7 countries. Table 1.2 shoes the worldwide rice production by countries during the year 2009-2010. There has been a major decline in world rice production since late 2007 due to many reasons including climatic conditions in may top rice producing countries as well as policy decisions regarding rice export by the governments of countries with considerable rice production.

PADDY PRODCUTION IN INDIA :- It is highly significant to note that one third of the world's rice area is in India namely 83 million hectares. The above mentioned area is in almost all the states of India but mostly concentrated in the river valleys, deltas and low-lying coastal areas of North Eastern and Southern India. The rice producing states are Assam, West Bangal, Bihar, Madhya Pradesh, Orissa, Andhra Pradesh, Tamil Nadu, Kerala, Mysore, Maharashtra, Gujarat, Uttar Pradesh, Jammu and Kashmir which together contribute over 95 per cent of the country's rice production. Of these states, West Bangal, Orrisa, Andhra Pradesh, Tamil Nadu and Bihar are the major rice producing states.

PADDY PRODUCTION IN TAMIL NADU :- Tamil Nadu is one of the major rice producing states in India. Rice being the sample food crop of Tamil Nadu, it is extensively cultivated in all the districts of the state. The area under rice cultivation is around 22 lakh hectares, accounting for one third of the gross cropped area of the state. The total rice production in the year 2000-2001 amounted to 75 lakh tones.

FLOW DIAGRAM OF WORLD EXPORT OF RICE



Source: Indian Journal of Agricultural Economics, Vol. 58, No.1 Jan – March 2003

IMPORTANCE OF BANANA :- Paddy occupies a prominent place in Indian agriculture. The area under paddy in the country is the largest, accounting for about one-third of the world's area under the crop. Next to China, India ranks second in terms of its production.

Paddy is cultivated in almost all the states of India. The major paddy growing states are Punjab, Haryana, Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Jammu and Kashmir, Madhya Pradesh, West Bengal, Orissa, Bihar, Karnataka and Kerala which together account for 95 per cent of the total paddy supply in the country.

Since Independence the Indian Government has been emphasizing the importance of agricultural development. The sector was given top priority in the first five years plan. The first approach to agricultural development was extensive cultivation.

In the second plan also agriculture was included in the priority sector. In spite of the numerous efforts made by the Government to bridge the gap between demand and supply of food grains, attainment of self sufficiency in food

seemed a far cry. So American experts from the Ford Foundation were invited by the central Government in the latter half of the second five year plan to study and recommend measures to improve the agricultural situation in the country through increase in production and productivity.

It recommended a selective and intensive approach among farmers and districts which led to the winding up of the extensive programmes. Based on the report, a new strategy called the Intensive Agricultural District Programme (IADP) was launched in 1960-61.

The IADP package included better seeds and implements, a balanced dose of fertilizers and pesticides and recommendations about proper soil and water management. Initially the programme was introduced in the best seven districts of the country. Later on eight more districts were brought under the purview of the programme in 1962-63.

The New Agricultural Strategy (NAS) was initiated in 1966. Under its policies were formulated to utilize and promote high yielding varieties of food grains in all districts selected

under the IADP and IAAP schemes. The NAS was first introduced in the khariff season 1966. It also comes to be known as the High yielding varieties programme (HYVP).

IMPORTANCE OF BANANA :- Banana is one of the most familiar and important of all tropical fruits. From its original home in the humid tropics of India of Malaya, it has spread all over the tropical world.

To speak about our generation our ancestors used to say the slogan as “ValayadiValai”, because plantain is the symbol of auspicious (or) good things. It occupies a pride important place in ancient. Tamil literature, as one of the “N.Muthiahpuram” (Three fruit plantain, mango, Jackfruits). The banana is an part and parcel of the Indian culture. It is used as a symbol of prosperity during auspicious occasions.

Kautillya’s “Arthasastra” of the 3rd century B.C refer to it and the famous Ajanta and Ellora painting depict bananas on a number of panels. The sangam literature of the second century also to the use of Banana during auspicious occasions. The fruit is highly nutritious and all part of the plant the leaves, stem, core of the stem, the flower and the roots are used for various purpose.

VARIETIES OF BANANA :- There are many varieties of Banana but, only a few are of commercial importance such as Dwarf Cavaandish, Robustra, Poovan, Rasthali, Hill banana, Nendran, Monthan, Ney poovan, Kadali and Red banana. Robusta banana are gaining importance over other

varieties because of high yield and their acceptance in foreign market and thus a source off exchange earner for India.

Robusta has very yielding potential. Rasthali verity is more drought tolerant than other varieties. Heavy rain also does not affect the trees. This variety is very tasty and nutritious. This variety is used in some special function such as temple festival, Marriage day etc., Rasthali is earning a higher income to the farmers.

Objectives of the Study :- The main objectives of the study are,

1. To study the socio- economic conditions of the paddy and banana cultivators in Study area.
2. To analyze the cost and return structure of paddy and banana cultivation in the study area.
3. To find out the relationship between the input, output and profit of paddy and banana crops.

Hypotheses :-

1. There are no relationship of cost and return of paddy.
2. There is positive relationship of cost and return of Banana cultivation.
3. There is no significant improvement in income due to paddy and Banana cultivation.

Cost of Returns structure of Paddy :- The per acre average coast and returns structure of Marginal, small and large farmers cultivating of paddy, are furnished in Table

Table – 5.7
(inRs.)

S.No	Cost component	Marginal Farmers	Small Farmers	Large Farmers
1.	Human Labour (including Family Labour)	216,000	264,000	321,600
2.	Bullock Labour	94,500	115,500	140,,700

3.	Chemical Fertilizer	222,300	271,700	330,980
4.	Pesticide cost	23,250	27,500	33,500
5.	Seed Cost	26,706	50,600	61,640
6.	Farm manure	117,600	154,000	187,600
7.	Harvesting	84,000	110,000	134,00
	Cost – 'A'	784,356	993,300	1,210,020
8.	Rent	113,500	16,500	20,100
9.	Interest as fixed capital excluding land cost) land revenue, less and taxes	1133.5	1375	1675
	Total – cost 'C'	798,978.5	1,011,175	1,231,795
	Yield per car in Kg	126,360	154,440	188,132
	Gross Returns (Rs)	1,579,500	1,930,500	23,51,650
	Net Returns (Rs)	780,521.5	919,325	11,19,855

Source: Field Data

Cost and Returns structure of Paddy :- It is understood from table 5.7 that the marginal farmers produced 126,360 kgs of paddy and earned RS.1,579,500 per acre while their net returns per acre were Rs.780,521.5. In the case of small farmers, the yield per acre was 154,440 kgs and they realized RS.1,930,500 per care as gross as gross returns while their net returns per care was Rs.919,325. In the case of large farmers, the yield per acre was 188,132 kgs and they realized Rs. 2,351,650 per acre as gross returns while their net return per acre was Rs. 1,119,855. It indicates that the large farmers were getting higher yield and there by higher net income than marginal and small farmers in the case of paddy.

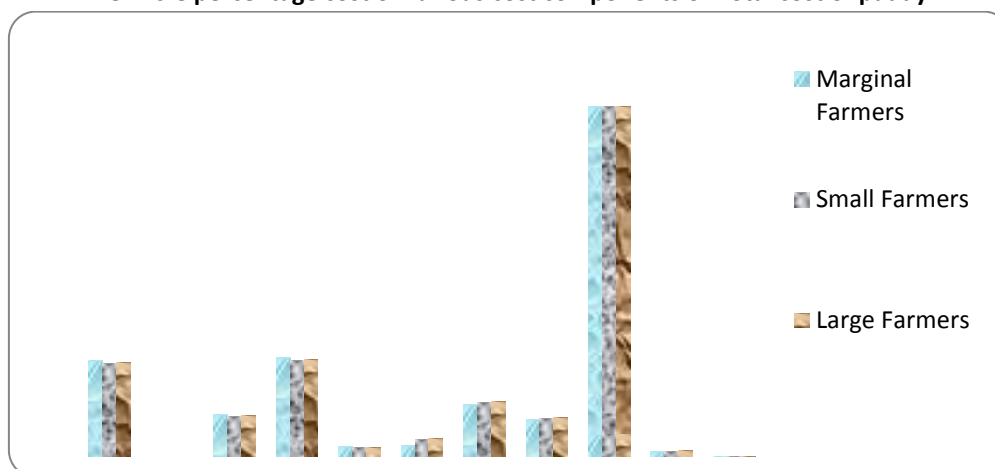
The cost analysis reveals that the per acre total cost, that is operational cost of cultivation for marginal farmers, worked out to Rs.784,356, the small farmers, worked out to RS.993,300, whereas

it was Rs.1,210,020 for large farmers. It is observed that total cost incurred was found higher in the case of large farmers compared to marginal and small farmers.

The cost of human labour forms the major component of the total cost of production for all marginal, small and large farmers. Next to human labour, the amount spent on the use of chemical fertilizers occupied the major portion in the total cost of production. It came behind the cost of farm manure, pesticides seed cost and bullock labour. The costs of all the inputs except bullock labour were found to be higher for large farmer than for small farmers and marginars. Thus, it is inferred from the analysis that the large farmers were found more efficient than the marginal farmers and small farmers, both cost wise and return wise.

Diagram 5.1

Per Acre percentage cost of various cost components of Total cost of paddy



Cost of Returns structure of Banana :- The per acre average cost and returns structure of

marginal, small and large farmers cultivating of banana are furnished in Table

Table – 5.9
(inRs.)

S.No	Cost component	Marginal Farmers	Small Farmers	Large Farmers
1.	Human Labour (including Family Labour)	2,22,000	3,30,000	3,51,000
2.	Bullock Labour	1,33,200	1,98,000	2,10,600
3.	Chemical Fertilizer	5,77,200	8,58,000	9,12,600
4.	Pesticide cost	55,500	82,500	87,750
5.	Seed Cost	5,18,000	7,70,000	8,19,000
6.	Farm manure	2,59,000	3,85,000	4,09,500
7.	Cost – 'A'	17,64,900	26,23,500	27,54,450
8.	Rent	11,100	16,500	17,550
9.	Interest as fixed capital excluding land cost) land revenue, less and taxes	1,110	1,650	1,755
	Total – cost 'C'	17,77,110	26,41,650	27,73,755
	Yield per car in Kg	37,000	55,000	58,500
	Gross Returns (Rs)	46,35,000	68,75,000	73,12,500
	Net Returns (Rs)	28,47,890	42,33,350	45,38,745

Source: Field Data

Cost of Returns structure of banana :- It is understood from Table that the marginal farmers produced 37,000 kgs of banana and earned Rs.4,625.00 per acre while their net returns per acre were Rs. 28,47,890. In the case of small

farmers, the yield per acre was 55,000 kgs and they realized Rs.68,75,000 per acre gross returns while their net returns per acre was Rs.42,33,350. In the case of large farmers the yield per acre was 58,500 kgs and they realized Rs.73,12,500 per acre

as gross returns while their net returns per acre was Rs.43,38,745. It indicates that the large farmers were getting higher and there by higher net income than marginal and small farmers in the case of banana.

The cost analysis reveals that the per acre total cost, that is operational cost of cultivation for marginal farmers, worked out to Rs.17,64,900, the small farmers, worked out to Rs.26,23,500, where as it was Rs.26,23,500, whereas it was 27,54,450 for large farmers. It in observed that total cost incurred was found higher in the case of large farmers compassed to marginal and small farmers.

The cost of human labour forms the major component of the total cost of production

for all marginal, small and large farmers. Next to human labour, the amount spent on the use of chemical fertilizers occupied the major portion in the total cost of production. It came behind the cost of farm manure, pesticides seed cost and bullock labour. The costs of all the inputs excepts bullock labour were found to be higher for large farmer than for small farmers and marginars. Thus, it is inferred from the analysis that the large farmers were found more efficient than the marginal farmers and small farmers, both cost wise ad return wise.

Per Acre percentage cost of various cost components of total cost of Banana :- The percentage of various cost of various cost components of total cost (Cost C) is presumed in Table

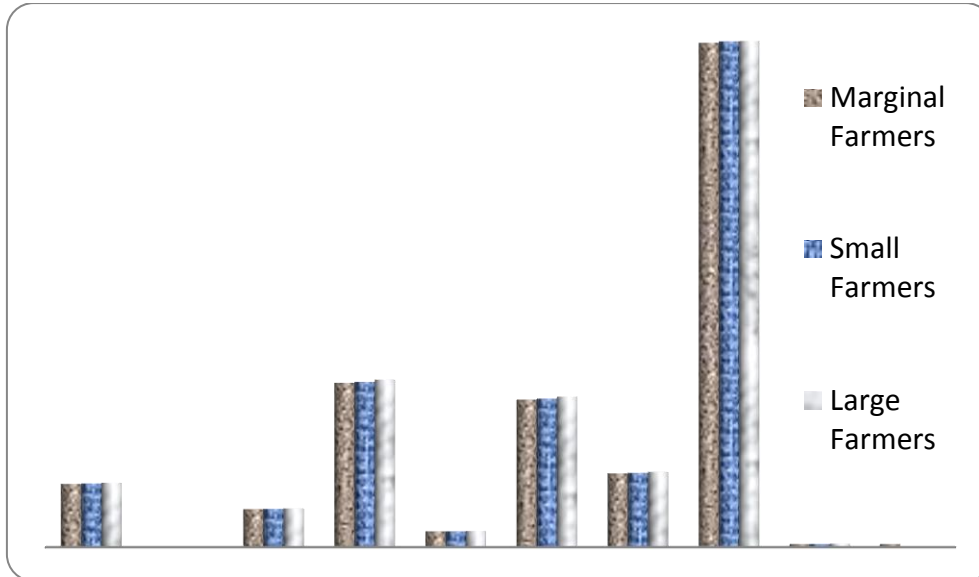
Table- 5.10
(inRs.)

S.No	Cost component	Marginal Farmers	Small Farmers	Large Farmers
1.	Human Labour (including Family Labour)	12.49	12.57	12.74
2.	Bullock Labour	7.50	7.55	7.65
3.	Chemical Fertilizer	32.48	32.70	33.13
4.	Pesticide cost	3.12	3.14	3.18
5.	Seed Cost	29.15	29.35	29.73
6.	Farm manure	14.57	14.68	14.86
7.	Cost – 'A'	99.02	99.30	99.31
8.	Rent	0.62	0.62	0.63
9.	Interest as fixed capital excluding land cost) land revenue, less and taxes	0.62	0.06	0.06
	Total – cost 'C'	100	100	100

Source: Field Data

Diagram - 5.2

Per Acre percentage cost of various cost components of total cost of Banana



SUGGESTIONS :- It is suggested on the basis of the findings that the extension service officials may improve technical efficiency by advising the farmers on input application at the proper time as recommended.

The farmers in the study area were of the opinion that they could not achieve the maximum yield due to severity of diseases and pest attacks. It is suggested that the farmers should be educated properly to apply the pesticides at the prescribed level and this may be done through the agricultural department officer attached to the panchayat unions.

To sum up, a long term arrangement should be worked out by the Government of Tamilnadu, to protect the interest of paddy producers and consumers and also to improve the production of paddy in the study area. It is also very essential to see that the price offered to farmers is related to the cost of production. Further, a new mechanism has to be innovated to break the stagnation in the production of paddy through adoption of most modern methods of

cultivation and to ensure stable remunerative prices to the farmers.

In rainfed eco-system, farmers are using much less fertilizers per unit cropped area, hence an awareness is required to be created among the farming community about balance use of fertilizers to increase their productivity. Improved technology is generally adopted for irrigated rice. Even in the predominantly irrigated parts of the country, full potential of high yielding varieties is not realized. There is bright prospects for tapping considerable portion of untapped remaining potential.

Due to drought and erratic rainfall, rice cultivation in uplands is always found risky and uncertain. Varietal improvement still remains the major strategy for increasing productivity in upland areas. Therefore, scientists are required to take up this matter seriously so that the low productivity of upland rice can be improved to a greater extent. A proper research programme is required to be carried out for improving physiological efficiency of the plant for better photosynthesis efficiency and translocation so as

to reduce sterility under low light intensity, thereby increasing productivity.

More number of cold tolerant high yield varieties are required to be developed and popularized for different altitudes of hill regions. Leguminous crops may be included in the cropping system in order to improve the soil fertility.

Saline, alkaline and acidic soils may be reclaimed by application of soil ameliorants. Use of Bio-fertilizers such as red soil may be encouraged among the farmers for supply of nitrogenous nutrient and their by reducing the cost of chemical nitrogenous fertilizers.

The line showing in upland rice areas through suitable seeding devices is required to be made popularized for desired plant population. This will facilitate to control weeds and also to carry out intercultural operations. To encourage the Integrated Pest Management approach for effective control of pests and diseases by emphasizing the need based application of pesticides. Strong extension network for effective transfer of latest technologies, improvement of credit and market facilities and crop insurance are required for rained lowland ecology.

Sustainability from both ecological and economic point of view of important aspects for increasing rice productivity in different eco-systems. Existing development activities are appeared to be inadequate for dissemination of advance/improved production technology among the farmers to increase productivity of rice in different rice growing regions of the country. Therefore developmental activities are required to be strengthened suitably achieving sustainable growth in rice productivity and production.

CONCLUSION :- Thus, it is concluded from the analysis that large farmers are economically more efficient than small farmers irrespective of varieties of banana cultivation in the study area. This could be due to the better supervision and

more efficient farm management favored by the smaller size of operational holdings. This indicated that apart from efficient allocation of inputs. Direct supervision and farm management are crucial determinants of economic efficiency.

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Glyceraldehyde 3 Phosphate Dehydrogenase : A Potent Housekeeping Gene of Caprine Fibroblast Cells

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Abstract :- Glyceraldehyde - 3 - phosphate dehydrogenase (GAPDH) have been frequently considered as constitutive housekeeping gene for RT-PCR and used to normalize changes in specific gene expressions. It is generally thought to be expressed in all cells of the organism at similar levels because it is assumed that these genes are required for the maintenance of basic cellular function as constitutive genes. In the present study, we compared the expression profile of commonly used housekeeping gene, GAPDH, in the transfected and non-transfected Caprine fibroblast cell line by using real-time RT-PCR. Our results showed that GAPDH mRNA is expressed in all cells at a comparable level.

Key Words :- Glyceraldehyde - 3 - phosphate dehydrogenase, GAPDH, Caprine fibroblast, Housekeeping gene.

Introduction :- Analysis of gene expression is fundamental to biological research. Up regulation and down regulation of gene became a prominent method to evaluate the effect and function of that particular gene. Overexpression or downregulation of a gene using short interfering RNA (shRNA) are often validated by reverse-transcription and quantitative PCR analysis using an appropriate housekeeping gene as an internal control. The possible direct or indirect effects of a miRNA on the expression of housekeeping genes are often overlooked (Sikand et. al., 2012). Among many housekeeping genes, expression of GAPDH has been used extensively for normalization of gene expression data. This gene has been frequently considered as

constitutive housekeeping gene for RT-PCR (Mori et.al., 2008).

The aim of present investigation was to investigate the expression level of housekeeping gene GAPDH to identify its expression level in normal and transfected cell. Since a relative change in gene expression is determined as a normalized ratio of the target mRNA to the amount of housekeeping mRNA, it is important that the expression of housekeeping gene (GAPDH) should not be affected by experimental conditions.

Methodology :- Caprine fibroblast cell culture Caprine fibroblast cells were isolated aborted fetus. Tissue sample was transferred into DMEM media (15% FBS, Invitrogen) and cut medially, exposing the basal epidermis on both sides. Any cartilage observed was removed and skin tissue piece was chopped into small pieces of 1mm². Tissue blocks were transferred into a 25-cm² tissue culture flask (Falcoon) in the medium and kept in CO₂ incubator at 37⁰C (Freshney, 2000).

Transfection of Fibroblast Cells :- 24 hr before transfection, 1.5x10⁵ cells per well were seeded in 12 well plate with fresh DMEM without antibiotics so that they would reach 80-90% confluent on the day of transfection. Lipofectamine 2000 Reagent was used as the transfection reagent. To test the transfected cells for GAPDH expression the anti-mycostatin shRNA plasmid was used as external test shRNA. The transfection was performed in a ratio of 1:3 (DNA complex: Lipofectamine). Thereafter, cells were incubated at 37°C in a CO₂ incubator for 48 hours. Mock transfected cells, i.e.

cells treated with transfection reagent only were used as negative control.

RNA Extraction and cDNA Synthesis :- Total cellular RNA was isolated 48 hours after transfection using Mini RNA Isolation II Kit as per the manufacturer's instructions. 10µl of RNAs were reverse transcribed with RevertAid first strand cDNA synthesis kit using random hexamers in a total volume of 20µl.

Quantitative Real Time-PCR (qRT-PCR) Analysis :- Quantitative real-time PCR (qRT-PCR) was performed (ABI Prism 7300) using power SYBR green PCR master mix (ABI, USA), following the manufacturer's protocol. The reactions were carried out in triplicate in a 12 µl reaction volume in a 96-well plate format. The expression level of GAPDH was obtained as Ct values which was compared with mock transfected cells.

Results and Discussion :- Glyceraldehyde-3-phosphate dehydrogenase (GAPDH) encodes a member of the glyceraldehyde-3-phosphate dehydrogenase protein family. This gene has long been recognized as an important enzyme for energy metabolism and the production of ATP and pyruvate through anaerobic glycolysis in the cytoplasm (Nicholls et.al., 2012). In addition to this long established metabolic function, GAPDH has been implicated in several non-metabolic processes, including transcription activation, initiation of apoptosis, ER to Golgi vesicle shuttling, and fast axonal, or axoplasmic transport (Tarze et.al., 2007; Zala et.al., 2013).

Quantitative gene expression data are often normalized to the expression levels of control or so-called "housekeeping" genes. An

inherent assumption in the use of housekeeping genes is that expression of the genes remains constant in the cells or tissues under investigation (Barber et.al., 2005). GAPDH is one of the most commonly used reference genes and a great majority of the most important scientific journals concerns its use through what is often referred as "classical". The use of GAPDH in many studies brings good results (Stewart et.al., 2008). Caprine fibroblast cells also showed the similar results that the GAPDH expression did not affected by the experimental conditions (Jain et.al., 2010; Singh et.al., 2012).

This study presents data describing the expression of mRNA for GAPDH in shRNA transfected and mock transfected cell. GAPDH is one of the most common housekeeping genes and is often used to normalize gene expression data. To evaluate the effect of experimental treatments on GAPDH mRNA levels, equal amounts of cDNA were used in each PCR reaction. It can be seen that threshold cycle (Ct) values of GAPDH quantified from cDNA obtained from different clones of transfected cells and mock transfected cell were almost similar. The Ct values of GAPDH gene expression was almost same and uniform among the transfected and mock transfected cells (Fig 1). The Ct value of Control group was 18.08 while the Ct of shRNA transfected clones were 17.35, 16.66 and 17.67. This expression level indicated a comparable level of GAPDH gene. The data presented here showed that there are almost constant levels of GAPDH mRNA expression across the samples and this gene can be used as a housekeeping gene for the transfection studies on Caprine fibroblast cells.

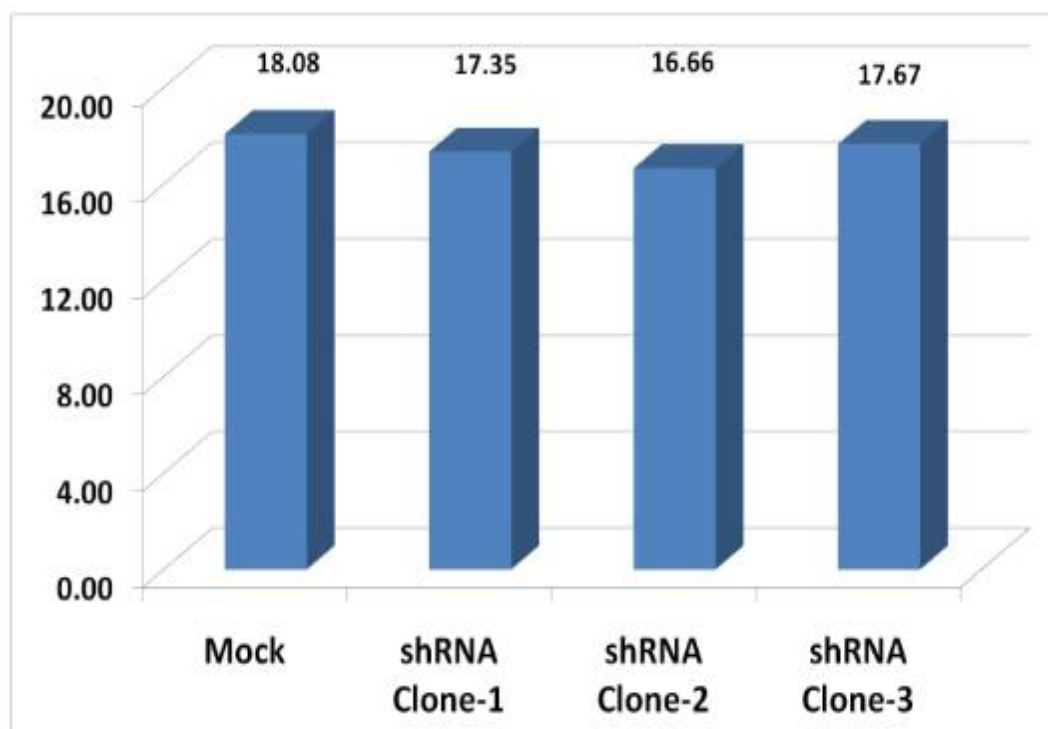


Figure 1: Uniform expression of Housekeeping gene GAPDH in all 3 transfected clones and control (Mock) group.

Conclusion :- In conclusion, the data presented here showed that the expression of GAPDH, one of the most commonly used housekeeping gene was almost similar in transfected and non-transfected Caprine fibroblast cells. We have shown that within-cell type the mRNA expression levels of GAPDH is almost constant. As GAPDH gene expression is not affected by the transfection in our study. Thus we concluded that normalizations of the gene expression data in Caprine fibroblast cell using GAPDH as a housekeeping gene is acceptable.

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Financial Scheme and Credit Facility of Agriculture Produce

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Introduction :- Finance in Agriculture plays a vital role. Technical inputs are very important for agriculture it can be purchased only by money or funds. In India the main problem before the farmers is that there is always scarcity of funds that hinders help in the production of food crops. So, looking seriously into this matter the government along with many organizations is playing an effective unit to provide finance to such farmers. Also, many banks today are playing an important role in this regard.

Professional money lenders were the only money lenders till 1935, but now a days there are lots of public and private banks entered in Indian agriculture finance market for assisting Indian farmers some of them are State bank of India, central bank of India, Bank of India, etc. These banks play a very important role for agriculture finance, they provide lots of schemes for agriculture point of view for assisting farmers so they can overcome financial weakness and can make available technical inputs for their crops.

Contribution of agriculture in Indian economy :- Agriculture growth rate in India GDP had been growing earlier but in the last few years it is constantly declining. Still, the Growth Rate of Agriculture in India GDP in the share of the country's GDP remains the biggest economic sector in the country so we have to provide supporting pillar to agriculture from time to time.

Sources of Agriculture Finance :- Sources of agricultural finance can be divided into two categories:

Non institutional sources :- Money Lenders, Traders, Commission agents, Landlords At the time of independence the most important source of agricultural credit was the moneylenders. Moneylenders accounted for as much as 71.6 % of rural credit. The prominent position of moneylender is due to non availability of other source. Therefore moneylender exploits the farmer in number of ways as we have seen in Bollywood films. Therefore govt. has undertaken various steps to regulate activities of moneylenders. For the purpose, various legislations were enacted.

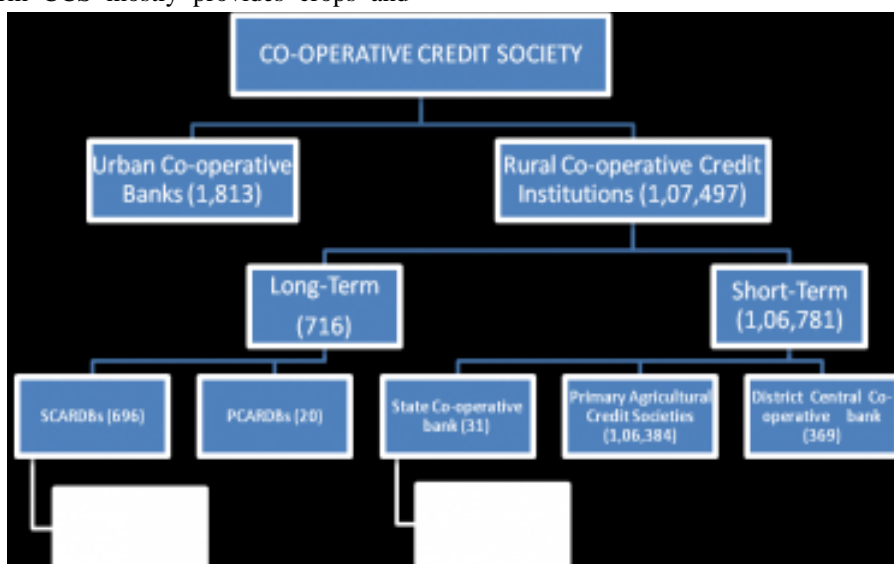
Institutional sources :- Co-operative Credit Society, Commercial Banks, Regional Rural Bank, National Bank for Rural and Agriculture development (NABARD) are the Institutional sources of finance which was introduced for the upliftment of the agriculture sector in Indian economy and by which farmer can acquire funds facility in systematic and lawful manner due to major governmental involvements. These two sources are active according to farmer's needs in present arena, in past decades there was a poor condition of farmer they were bound to use non institutional sources for agriculture but after commencement it has become totally in farmer's favor. Co-operative society provides facility to the wider range in both rural and urban sector of agriculture.



Yearly commencement of Institutional financial sources

Co-operative Credit society for agriculture finance :- The co-operative credit society (D) for agriculture finance comprises two main components in India, viz, urban co-operative bank and rural co-operative credit institutions. In which Rural Co-operative credit society provide long term and short term credit facility to rural area’s farmers. The short term CCS mostly provides crops and

other working capital loans primarily for a short period to farmers and rural artisans where as the long CCS focus on providing typically medium and long term loans for making investments in agriculture, rural industries and lately housing.



SCARDBs; State Co-operative Agriculture and rural Development Bank’s
PCARDBs; Primary Co- operative Agriculture and rural development Bank’s

Comparative study for agriculture finance scheme :- There are lots of finance scheme for agriculture produce by banks which provides time to time fund facility for crops so there is need for comparative study for acquiring better finance scheme for agriculture produce specifically banks are active in providing various kinds of schemes such as :-

State Bank of India provides a wide range of financial schemes for agriculturalists. These schemes include crop loans, Produce Marketing Loan Scheme, Loan Against Warehouse Receipts, Kisan Credit Card Scheme, agricultural term loans, Land Development Scheme, Minor Irrigation Scheme, Farm Mechanisation Scheme, Financing Of Combine Harvesters, Kisan Gold Card Scheme, Land Purchase Scheme, Krishi Plus Scheme, Arthias Plus Scheme, Dairy Plus Scheme, Broiler Plus Scheme, Finance To Horticulture, Lead Bank Scheme and Agri Business Heads Scheme. The Bank also provides Micro Finance through Self Help Groups and loans through 30 regional rural banks.

Other banks performing a significant role are:-

1. **Allahabad Bank** – Allahabad Bank offers the Kisan Credit Card and Kisan Shakti Yojana Scheme. The Kisan Credit Card is a unique scheme for farmers through which they can draw a cash loan for crop production as well as domestic needs from the card-issuing branch within the sanctioned limit. The Kisan Shakti Yojana provides farm investment credit, as well as personal/domestic loans including repayment of debt to moneylenders. The permissible loan limit will be 50 per cent of the value of land or 5 times the net farm income, whichever is lower, less the outstanding amount, if any, in Agril.

1. **Andhra Bank** - provides facilities to farmers like AB Kisan Vikas Card, AB Pattabhi Agricard, AB Kisan Chakra, rural godowns, agri clinics, agri service centres, self help groups and solar cookers. They also provide other schemes such as Kisan Sampathi, tractor financing, Kisan Green Card, Surya Sakhti and loans to dairy agents.

2. **Bank of Baroda** - offers farmers the Baroda Kisan Credit Card. It also has schemes for the purchase of agricultural implements, heavy agricultural machinery like tractors, irrigation and other infrastructure. Bank of Baroda also finances the development of agri industries like horticulture, sericulture, fisheries, dairy and poultry.
3. **Bank of India** - has a Kisan Credit Card Scheme that helps farmers raise short-term funds for agriculture and other farm-based activities, on an on-going basis, with very flexible and friendly repayment terms. It also offers an agricultural loan for development of agriculture related industries, purchase of machinery and other agricultural purposes.
4. **Bank of Maharashtra** - offers agriculturists a Mahabank Kisan Credit Card and financial schemes for digging new wells, purchasing harvesters, livestock, vehicles and land. Repayment terms for different agricultural loans range from three to fifteen years.
5. **Canara Bank** - provides Kisan Credit Cards. Limits up to 50,000 have no margin while those above 50,000 have a margin of 15 to 20 percent. Other than this, Canara Bank provides a wide array of financial schemes for different agricultural purposes.
6. **Central Bank of India** - The Central Kisan Credit Card is a credit service provided to farmers on the basis of their holdings for purchasing agricultural inputs. Only those farmers having a good track record for the past 2 years with the bank as a borrower or depositor and who are not defaulters to any credit institution would be considered for loans.
7. **Corporation Bank**- offers a range of loan schemes to farmers. They are the Corp Gram Mitra Yojana, Corp Arthias Loan Yojana, Corp Kisan Tie-Up Loan Scheme, Corp Kisan Farm Mechanisation Scheme and Corp Kisan Vehicle Loan Yojna.
8. **Dena Bank** - Dena Bank has sponsored 2 Regional Rural Banks namely Dena Gujarat Gramin Bank in Gujarat and Durg Rajnandgaon Gramin Bank (DRGB) in Chhattisgarh. The bank has set up a Rural Development Foundation for training

unemployed youth in rural areas. Other financial schemes of the bank are the Dena Swacch Gram Yojana, Dena Kisan Gold Credit Card Scheme and the Dena Bhumiheen Kisan Credit Card Scheme.

9. **Indian Bank** - has a wide range of schemes for agriculturalists such as Swarojgar Credit Card, Gramin Mahila Sowbhagya Scheme, Kisan Bike Loan Scheme, Yuva Kisan Vidya Nidhi Yojana and Indian Bank Kisan Card Scheme.
10. **Indian Overseas Bank** - offers agri business consultancy services that include conducting feasibility and market studies, preparation of detailed project reports and formulation of rehabilitation packages for sick agro units.
11. **Oriental Bank of Commerce** - It has two agricultural projects - the Grameen Project and the Comprehensive Village Development Programme. The Grameen Project involves disbursing small loans ranging from Rs.75 onwards to mostly women. Training is also provided in villages in using locally available raw material to produce pickles and jams. The Comprehensive Village Development Programme focuses on providing an integrated package of rural finance to villagers to build up their village.
12. **Punjab and Sind Bank** - offers a range of financial schemes for farmers like the Zimidara Credit Card, tractor finance scheme, drip irrigation scheme, Kheti Udyog Khazana Yojana, vermi composting scheme, horticulture clinic and private veterinary clinic with dairy unit scheme.
13. **Punjab National Bank** - This bank has a special website called PNB Krishi for agriculturalists. It gives details on crop practices, plant protection, farm machinery, market prices and other farming news and activities. The website also provides a list of financial schemes offered by Punjab National Bank on production credit, investment credit, composite loans, animal husbandry and farm mechanization.
14. **UCO Bank** - This Bank provides the UCO Hirak Jayanti Krishi Yojana to meet the long-term credit needs of the farming community in rural areas for agriculture, allied activities as

well as for personal purposes. Only farmers below 60 years are eligible to apply. Minimum quantum of the loan is Rs.25,000/- and the maximum is Rs.5 lakhs.

15. **Union Bank of India** - Facilities provided to farmers include Kisan ATM Cards and special Kisan ATM Machines. These ATM's are easy to operate and do not require farmers to have a high level of literacy. They are voice enabled in the local language, have a touch screen monitor and work on a bio-metric authentication system like finger print verification.
16. **United Bank of India** - The range of financial schemes offered to agriculturalists include the United Krishi Laghu Paribahan Yojana, United Krishi Sahayak Yojana, United Gramyashree Yojana, Gramin Bhandaran Yojana and the United Bhumiheen Kisan Credit Card.
17. **Vijaya Bank** - This bank offers one comprehensive financial scheme known as the Vijaya Krishi Vikas (VKV) Scheme. This scheme provides a simple package to farmers to meet entire agricultural credit requirements such as crop production, investment credit and consumption credit. All farmers including owners, tenant cultivators, leased land farmers and sharecroppers are eligible for this scheme.

So, the banks are actively involved in providing finance to the agricultural sector which is sure to strengthen its position in the Indian market.

Sugession :- Agriculture is very important and most considerable point for economy effectiveness ,where in india has many opportunities due to agriculture sector which represent the indian most strenthen part in international market , there are lots of agriculture production which need expousure not only in inside the indian territory bur beyond from it for this finance institutes plays most important part so that crops and technical assistent can be easily available for them so that they can boost up agriculture product for the economic progress .there are lots of schemes has been lounched by government but there are no information towads the rural area , for that there must be pramotional programme by financial

institution so that they can easily avail funds and crops facilities.

Conclusion :- As we have examined that banks are playing major role in the upliftment of farmers and specifically agricultural sector it is required to device many more such schemes that will strengthen us as an agricultural economy . It will motivate farmers to undertakes more and more farming activities which shall improve the financial status of our Indian agricultural . there has been came vital attention towards the financial sector for Indian agriculture by government which provided lots of facilities , programmes and scheme so that private and public banks can easily provide funds to our farmers. As we know that India is place where farming take part in biggest sector as compare to other sectors so after contribution of banks and government it has become quite easy to raise the standards of agriculture.

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Evaluation of total saponin content in methanolic extracts of *Cymbopogon citratus*, *Ocimum sanctum* and *Trigonella foenum-graecum* : A comparative study

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Abstract :- The study includes evaluation of primary metabolites in methanolic and petroleum ether extracts and total saponin content estimation in three medicinally important herbs *Cymbopogon citratus*, *Ocimum sanctum* and *Trigonella foenum-graecum*. The phytochemical analysis was performed by standard methods and the total Saponin content estimation was determined by spectrophotometric method using Diosgenin as standard.

Keyword :- *Cymbopogon citratus*, *Ocimum sanctum*, *Trigonella foenum-graecum*, Saponin.

Introduction :- Bioactive constituents in plant extracts have been used in different traditional medicines for treatment of various diseases. *Cymbopogon citratus* commonly known as lemon grass, belongs to family Poaceae. *Ocimum Sanctum* Linn., commonly known as holy basil or tulsi is an aromatic plant which belong to family Lamiaceae. *Trigonella foenum-graecum*, fenugreek is also a very important medicinal plant which is used in our daily diet. It belongs to family fabaceae. All these plants are being used by human beings in their daily diet because of their medicinal value which is due to the phytoconstituents in them. Keeping in view the importance of these plants the present study was designed to compare the phytochemicals present in them and quantitative estimation of saponin.

Materials and methods

Collection of plant material :- *Cymbopogon citratus*, *Ocimum Sanctum* and *Trigonella foenum-graecum*, leaves were collected from Bhopal,

Madhya Pradesh. Identified by Head, Department of Botany, Saifia College of Science, Bhopal.

Preparation of plants extracts :- The plant material was defatted by petroleum benzene. For Preparation of extracts the leaves of plant were macerated with methanol:Distilled water (8:2).

1] Phytochemical Screening (C.K.Kokate, et al., 2006)

1)Test for saponins

Froth test :- The extract was diluted with few ml of distilled water in graduated cylinder and its is shaken vigorously for 15 minutes. The formation of layer of foam which remains present even after keeping the graduated cylinder for 5 minutes indicates the presence of saponins

2)Test for glycosides

Bortrager's test :- To 3 ml of test solution add dilute sulphuric acid and filter it after heating it for some time. To the filtrate, equal volume of benzene or chloroform was added and shaken well. The organic layer was separated and ammonia was added to it. Formation of pink to red colour in ammoniacal layer indicated presence of anthraquinone glycosides.

Legal's test :- 1 ml of test solution was dissolved in pyridine. 1ml of sodium nitroprusside solution was added and made alkaline using 10% sodium hydroxide solution. Formation of pink to blood red colour indicated the presence of cardiac glycosides.

3)Test for alkaloids :- For this make a acidic solution of extract and do the test

Mayer's test : To 2-3 ml of filtrate, few drops of Mayer's reagent were added along sides of tube.

Formation of white or creamy precipitate indicates the presence of alkaloids.

Hager's test : To 1-2 ml of filtrate few drops of Hager's reagent were added in a test tube. Formation of red precipitate indicates the presence of alkaloids.

4) Test for tannins and phenolic compounds

Ferric chloride test :- To aqueous solution of extract 2 ml of 5% ferric chloride solution was added. Formation of blue, green or violet colour indicates the presence of phenolic compounds.

5) Test for flavonoids

Lead acetate test :- The extract was treated with few drops of lead acetate solution. Formation of yellow precipitate may indicate the presence of flavonoids.

Alkaline reagent test :- The extract was treated with few drops of sodium hydroxide separately in a test tube. Formation of intense yellow color, which becomes colourless on addition of few drops of dilute acid, indicate presence of flavonoids.

6) Test for triterpenoids and steroids

Salkowski's test :- The extract was treated with chloroform and filtered. The filtrate was added with few drops of concentrated sulphuric acid, shaken and allowed to stand. If the lower layers turns red, sterols are present. Presence of golden yellow layer at bottom indicates the presence of triterpenes.

Liebermann-Burchard's test :- The extract was treated with chloroform. To this solution few drops of acetic anhydride were added, boiled and cooled. Concentrated sulphuric acid was added

through the sides of the test tube. Formation of brown ring at the junction of two layers, if upper layer turned green, indicate presence of steroids and formation of deep red colour indicate presence of triterpenoids.

II] Quantitative estimation of Saponin :-

estimated by using method of (SIM EE WEI, 2011)

- To prepare standard curve 50, 62.5, 75, 87.5, 100, 112.5 and 125.5 µg/ml of the standard saponin solution were placed into test tubes and the volumes were made up to aqueous methanol (80%, 0.25 mL). Standard saponin solution prepared by dissolving 10mg of diosgenin in mixture of methanol and distilled water (16:4).
- To the aliquots for each tube, vanillin reagent (8%, 0.25 mL) was added and sulphuric acid (72% v/v, 2.5 mL) added slowly on the inner side of the wall.
- The solutions were mixed well and the tubes were transferred to a 60° water bath. After 10 mins incubation, the tubes were cool in ice cold water bath for 3-4 mins.
- The absorbance was measured at 544nm against the reagent blank. 0.1 g of freeze dried sample was dissolved in aqueous methanol (80%, 0.1 mL). 0.25 mL of aliquot was taken for spectrophotometric determination for total saponins at 544nm.

The Line of regression from diosgenin was used for estimation of unknown saponin content.

Results :- The phytochemical characteristics of the plants is summarised in table 1

Table 1 : Phytochemical constitution

	Plants					
	Cymbopogon citratus		Ocimum sanctum		Trigonella foenum-graecum	
	PE	ME	PE	ME	PE	ME
Saponins	--	+	--	+	--	+
Glycosides	--	--	--	+	--	--
Alkaloids	--	--	--	--	--	--
Tannins and Phenolics	--	--	--	+	--	--

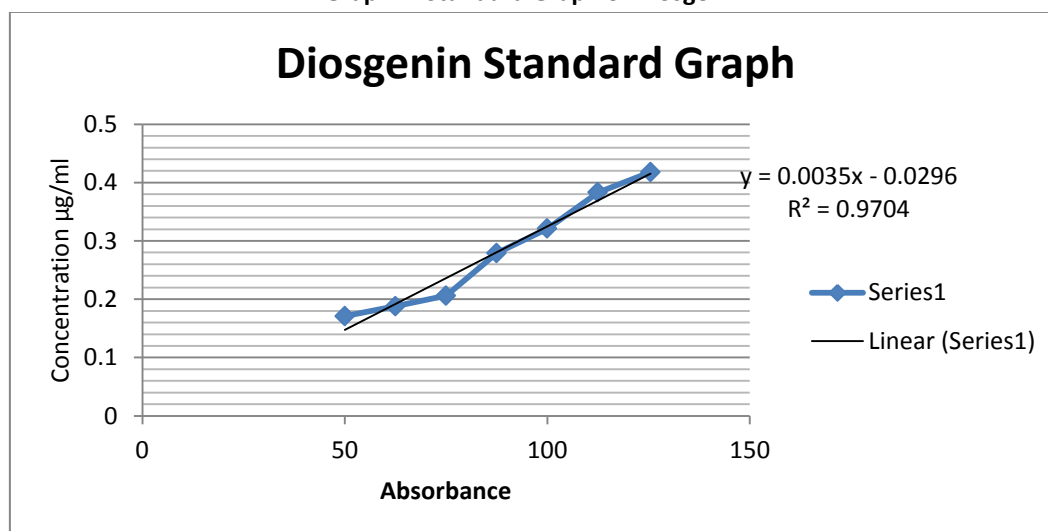
Flavonoid	--	+	--	+	--	+
Triterpenoids	+	--	+	--	+	--
Steroids	+	+	+	+	+	--

+ = Presence , -- = Absence , PE= Petroleum benzene extract ,ME = methanolic extract

Table 2: Standard Reading of Diosgenin

S.No.	Conc. (µg/ml)	Absorbance			Mean Value
		Reading 1	Reading 2	Reading 3	
1	50.0	0.172	0.171	0.171	0.171
2	62.5	0.189	0.188	0.188	0.188
3	75.0	0.207	0.205	0.207	0.206
4	87.5	0.279	0.279	0.280	0.206
5	100	0.321	0.321	0.321	0.321
6	112.5	0.384	0.384	0.383	0.383
7	125.5	0.418	0.419	0.418	0.418

Graph 1: Standard Graph of Diosgenin.



From standard curve of diosgenin line of regression was found to be $Y=0.003x-0.029$ and $R^2 = 0.970$. Thus the goodness of fit was found to be good for selected standard curve . By putting the absorbance of test sample ($y=$ absorbance) in line

of regression of above mentioned diosgenin we get the following concentration of Saponin in plants, it was observed that *Trigonella foenum-graecum* has highest quantity among the three.

Sr. No	Plant	TSC (mg/g)	Std Dev.
1	<i>Cymbopogon citratus</i>	79.66	±0.196
2	<i>Trigonella foenum-graecum</i>	84.66	±0.196
3	<i>Ocimum sanctum</i>	61.22	±.381

Discussion :- The phytochemical constituents is summarized in Table 1. The bioactive compounds of tulsi and lemon grass are known to act by different mechanism and exert microbial action (Shinde et al., 2015). The other species of tulsi, *Ocimum gratissimum* linn., *Ocimum americanum* linn., and *Ocimum basilicum* has also been reported to contain the bioactive compounds and suggests its importance in medicinal use (Chaudhury et al 2011). GC-MS analysis has revealed that *Ocimum Sanctum* leaves contains mainly eugenol and caryophyllene (Devendran et al., 2011). When compared to aqueous extract methanol extract of tulsi possess more phytoconstituents (Sadul et al., 2012). A wide range of chemical compounds including eugenol, euginal, urosolic acid, carvacrol, linalool, limatrol, caryophyllene, methyl carvicrol are also present in tulsi (Rahman et al., 2011).

Cymbopogon citratus leaves is one of the medicinal plants since they contains cardiac glycosides, tannins, phlobotannins and flavonoids (Joshua et al., 2012). Its essential oil are considered safe for human consumption (Christopher et al., 2014). The antibacterial activity of lemon grass has also been reported (Asaolu et al., 2009) (Omotade 2009). Ethnopharmacology evidence shows that it also possess a wide array of properties that justifies its use for pest control, in cosmetics and as anti-inflammation agents (Avoseh et al., 2015). It has also claimed to be anti-inflammatory, vasorelaxing, diuretic, remedy in treating ringworm infestation, for nervous, gastrointestinal disturbances, fevers and hypertension (Nambiar et al., 2012). It has also been shown by the studies that furostanol glycosides is obtained from fenugreek seeds which serves as a precursor of diosgenin, which is very important for pharmaceutical industry (Sharma M. et al. 2014). Its antimicrobial has also reported (Alluri N. et al. 2014). The presence of various phytochemical like alkaloids, protein, starch is also shown (Anitha R. et al. 2012). Study has also shown antioxidant, anti-tumor, anti-helminthic activity of fenugreek (Yadav R. et al 2011).

Conclusion :- The present study revealed that methanolic extract of *Cymbopogon citratus* contain carbohydrates, saponins, flavonoids and steroids. The extract of *Ocimum sanctum* contain carbohydrates, glycosides, saponin, tannin, flavonoid and steroid. The extract of *Trigonella fornum-graecum* contains carbohydrates, saponins, flavonoids, and tannins. The petroleum benzene extract of all the three plants contains triterpenoids and steroids. Thus illustrating the qualitative richness of *Ocimum sanctum* extract over *Cymbopogon citratus* and *Trigonella foenum-graecum*. In the evaluation of total Saponin, highest amount is observed in *Trigonella foenum-graecum* as compared to *Cymbopogon citratus* and *Ocimum sanctum*.

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Classification of Sachin Dev Burman's Few Film Song Based on Taal and Raga

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Abstract :- This paper investigates different songs of Sachin Dev Burman to classify them according to different Taal and Raga. Sachin Dev Burman is a famous music director in Indian film industry. He had lot of contribution to Indian music. This Taal and Raga analysis will be helpful for the readers to understand the style of his song and compose more song based on these styles. The characteristics of few Taal and Raga used in his songs are explained in this paper.

I. Introduction :- Sachin Dev Burman was a great music director of Indian film industry in nineteenth century. More than thirty years, he had given so many contributions in Indian film industry. He received Padma Shri from the president of India for his contribution in music. He also achieved 'Asian film society award', 'National award', 'Second film fare award', 'Sangeet Natak Akademy award' for his extra ordinary contribution in music. He composed different songs based on different Taal and Raga.

Any song or music is generally organized in Laya with any special Matra. The Taal is formed with all those special Matra. The classification of Matra is different depending upon different Taal and those classes are marked as Som, Tali, Khali. If the numbers of matra in any class are same, then it is called as Samapadi Taal. Neither it is called as Bisampadi Taal. As an example, Dadra taal has 6 matra with chanda 3/3. Therefore it is named as Samapadi. Jhaptal has 10 matra, with Chanda 2/3/3/3. That's why it is called as Bisampadi.

The word Raga came from Sanskrit 'Ranaj dhatu'. That means the main principle of Raga sangeet is to give joy. Though in the ancient time, the term 'raga' is found, however there is no

similarity with present raga sangeet. Raga is developed so many time before than that. There are different types of raga. The number of swar to form one raga is not less than 5 and not more than 7. The swars in the raga is not always in order. Raga has both ascending and descending order. The swars of raga should entertain the listeners, neither it will not be considered as Raga. Because Raga is developed only to sing. The naming of Raga is not followed by the naming of that. Every Raga has both badi and sambadi. The Raga should also have evolution of Rasa. There should also be a definite time to present Raga.

Different songs of S. D. Burman is based on different Taal and Raga. It is also found that his different song follows same Taal and Raga. This paper investigates his different songs to determine the Taal and Raga of some of his songs. The paper is organized as follows. The next section gives the details of those songs, analysed in this paper. Section III gives the classification of the songs based on Taal. Section IV presents the classification of the songs based on Raga. Section V explains the notation analysis of few songs and how they belong to any particular Taal. Section VI represents the characteristics of different Raga and how different song of S. D. Burman is under any particular Raga. Section VII gives a conclusion of this paper.

II. Details of the analysed song :- Many Bollywood songs are composed under the direction of S. D. Burman. Most of the songs became very hit and popular to the audience. Some of those hit songs have been analysed in this paper to classify them into different taal and raag. The details of those songs are listed below:

1. Sunri pawan: This song is from the movie Anurag, released in 1972, this song was sung by Lata Mangeshkar and its lyrics was written by Anand Bakshi.
2. Piya bina piya bina: This song belongs to the movie Abhimaan. This film was released in 1973. The singer and lyricist of this song are Lata Mangeshkar and Majrooh Sultanpuri.
3. Nadiya kinare: This song is composed in the movie Abhimaan in 1973. The singer is Lata Mangeshkar and lyrics was written by Majrooh Sultanpuri.
4. Tere mere milan ki yeh raina: This song is composed in the movie Abhimaan, which is released in 1973. The lyrics of this song was written by Majrooh Sultanpuri.
5. Kora kagaz tha ye man mera: It is composed in the movie Aradhana in 1969. It was sung by Lata Mangeshkar and Kisore Kumar both. The lyrics was written by Anand Bakshi.
6. Chanda hain tu mera suraj hain tu: This song is also from the movie Aradhana. Artist is Lata Mangeshkar and lyricist was Anand Bakshi.
7. Poochona kaise nain bitayi: This was from the movie Meri surat teri ankhen, released in 1963. The artist was Manna Dey and lyrics was written by Sailendra.
8. Dheere se jana khatiyen: This song is composed in the movie Chupa Rustam in 1973. Artist- Kishore kumar, Lyricist- neeraj
9. Phoolon ke rang se: This is from the movie Prem Pujari in 1970, Artist- Kishore kumar.
10. Khilte hain gul yahan: It was from the movie Sharmilee, released in 1971, Artist- Kishore kumar.

III. Classification of different songs based on Taal

SI No	Taal name	Song
01	Dadra Taal	<ol style="list-style-type: none"> 1. Sunri pawan, pawan purbaiya 2. Piya bina piya bina 3. Nadiya kinare herai aayi kangna 4. Kora kagaz tha ye man mera 5. Chanda hain tu mera suraj hain tu 6. Dheere se jana khatiyen 7. Phoolon ke rang se 8. Khilte hain gul yahan
02	Trital Taal	<ol style="list-style-type: none"> 1. Poochona kaise nain bitayi
03	Teora Taal	<ol style="list-style-type: none"> 1. Tere mere milan ki yeh raina

IV. Classification of different songs based on Raga

SI No	Raga Name	Song
01	Bhairavi	Sunri Pawan, pawan purbaiya
02	Rageshri Mishra	Piya bina piya bina
03	Pilu Mishra	Nadiya kinare herai aayi kangna
04	Pahadi Mishra	Kora kagaz tha ye man mera, Phoolon ke rang se dil ki kalam se
05	Bhupali Mishra	Chanda hai tum era suraj hai tu
06	Ahir Bhairav	Poochona kaise main rain bitayi
07	Khambaj Mishra	Tere mere milan ki yea raina, Dheere se jana khatiyen
08	Bhimpalasee	Khilte hai gul yahan

V. Analysis of songs based on Taal :- The notation of few of the songs are analysed in this section to find out the Taal of those songs.

1 Dha	2 Dhi x	3 Na	4 Na	5 Ti O	6 Na
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x = Tali, O = Khali

A. Dadra Taal :- Dadra Taal has 6 Matra with 3/3 Chanda. This Taal has one Tali and one Khali. Its 1st Matra has som and 4th Matra has khali.

The song Sunri Pawan belongs to Dadar taal. The notation of this song is as follows.

S - - Sun - ri x	P - - pa - - O	P - - wa - - x	P M - n - - O	P Dha - pa wa n x	Dha P M pu - r O
M - M ba - i x	- - - - - ya O	Ga - M mai - hu x	- M - - aa - O	Ga Ga Dha ke - li x	P M Ga aa l be O
Ga M Ga - li - x	^{ga} R - ^{Re} S tu - sa O	S R - he li - x	^S N N - me - ri O	- - S - - ba x	- S - - n - O
M - - ja - - x	M Ga - - sa - O	- Ga Re - - - x	Re Ga S thi aa - O	- - S - - - x	S Re N tu - - O
S M Ga ban ja - x	P M Dha - - - O	P M Ga - - sa x	Ga Re S - thi aa O		

From the notation of this song, it can be decided that the Taal of this song is Dadra.

B. Teora Taal :- Teora Taal has 7 matra with 3/2/2 chanda. The classes of this Taal are of 3 and 2 Matra. The number of Matra are not same in these classes, that's why it is called as bisampadi Taal. This Taal has no Khali. 1st Matra has Som and 4th and 6th Matra has Tali.

1 Dha	2 Den	3 Ta	4 Tit	5 Kat	6 Gadi	7 Gan	1 Dha
x			2		3		x

The song Tere mere milan ki yea raina belongs to Teora Taal. The notation of this song is as follows.

M M - P	P -	P - Dha	^{Dha} P - Ś Ś	^S N - Dha	PM - G
Te re -	me -	re -	mi l a	n ki	ye -
M P -	- -	- -	PN N -	N -	NŚ -
r ai na	- -	- -	ne ya -	koi -	gul -
					^S N Ś - NŔ
					khi - la

^{Ṛ} S -	^S N - Dha	^{Dha} M - P P	P - Dha	Dha P - ^Ś
- -	yen gi	ka bhi to	chan chal	hai - te re
^Ś Dha	^Ś - N Dha	P Dha - P	M Ga -	- - M
- -	ne	- -	n a	- - -
M - P	P - - P	P - ^N	^N Dha - PMG	
dekho na	- -	de kho	na - -	

From the notation of this song, it can be decided that the Taal of this song is Teora.

C. Trital taal :- Trital has 16 Matra with 4/4/4/4 Chanda. The 1st Matra in this Taal has Som, the 5th and 13th Matra has Tali, 9th Matra has Khali. Trital has 3 numbers of Tali and 1 number of Khali.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1
Dha	Dhin	Dhin	Dha	Dha	Dhin	Dhin	Na	Tin	Tin	Ta	Dha	Dha	Dhin	Dhin	Dha	Dha
Dha				Dha												
x				2				O				3				x

The song Poochona kaise maine rain bitayi belongs to Teora Taal. The notation of this song is as follows.

S Dha Dha Dha	Dha Ni Pa Pa	M M - Ga	Ma Re - S
poo cho - na	kai - se mai	ne rai - n	bi ta - e
Re Sa Dha N	Re S S Re	M M M - M	Pa M Ga Re
e k pa l	Jai se e k	jug bi - ta	- - - -
Re S Dha N	Re S S Re	M M M - M	M Dha Dha -
e k pa L	jai se e k	jug bi - ta	ju g bi -
Dha - ^Ś N	Dha M Ga M	Re S M M	M M Dha -
te - - mo	he ni nd na	aa i u ta	ja le di -
P M P Dha	N ^Ś Ṛ ^Ś	Ṛ Ṛ Ṛ Ṛ	Ṛ Ṛ Ṛ Ṛ
Pa k u ta	Man me ra	Fi r bhi na	ja ye me re
^Ś Ṛ M Ga Re ^Ś			
gha r ka andhera			

VI. Analysis of song based on Raga :- The characteristics of different Raga used in S. D. Burman's song is explained in this section. The explained Ragas are Khambaj Raga, Bhairavi Raga, Ahir Bhairav Raga.

A. Khambaj Raga :-

Ascending order- S G M P D N Ś
Descending order- Ś N D P M G R S
That- Khambaj
Jati – Sarav sampurna
Badi – Ga, Sambadi – N
Anga – Purbanga
Time – 9:00 PM – 12:00 AM (Night 2nd prahar)
Nature – Chanchal
Pakar – N D M P D, M G

The songs 'Tere mere milan ki yea raina' and 'Dheere se jana khatiyar' are based on this Raga. From the notation analysis of the song 'Tere mere milan ki yea raina', it is found that all the swars of Khambaj Raga is there in this song. Moreover, some extra swars are also used in this raga. That's why it is called as khambaj Mishra raga.

B. Bhairavi raga :-

That: Bhairavi
Ascending order- S R G M P D N Ś
Descending order- Ś N D P M G R S
Jati – Sampurna - Sampurna
Badi – M / Sambadi - S
Anga – Uttaraanga
Nature – Chanchal
Time – 1st Prahar, 6:00 AM – 9:00 AM
Pakad – M G S R S $\frac{D}{o}$ $\frac{N}{o}$ S

The songs 'Sunri Pawan' is based on this Raga. From the notation analysis of this song, it is found that all the swars of Bhairavi raga are there in this song. That's why this Raga is Bhairavi raga.

C. Ahir Bhairav :-

That: Bhairav
Ascending order- S R G M P D N Ś
Descending order- Ś N D P M, G R S

Jati – Sampurna - Sampurna
Badi – Madhyam (M)
Sambadi – Sa
Nature – Santa and Gambhir
Anga- Uttaraanga
Time – 1st Prahar, 6:00 AM – 9:00 AM
Pakad – S $\frac{N}{o}$ $\frac{D}{o}$ $\frac{N}{o}$ $\frac{R}{o}$ - S G M P D
N D P G P M G M $\frac{R}{o}$ - R S

The song 'Poochona kaise maine rain bitayi' is based on this Raga. From the notation analysis of this song, it is found that all the swars of Ahir Bhairav raga are there in this song. That's why this Raga is Ahir Bhairav raga.

VII. Conclusion :- Different popular songs composed by S. D. Burman are analysed in this paper. The few most popular song is chosen for this analysis. These songs are classified into different Raga and Taal. A detail notation analysis of three songs has been presented in this paper. The characteristics of some used Taal, Raga are also presented here and it is explained how these songs are related to them. This will give a clear idea to the readers to know the characteristics of Sachin Dev Burman's song.

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INCOME ANALYSIS OF MP TOURISM HOTELS IN MADHYA PRADESH

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The state of Madhya Pradesh has a good potential to be a large market for travel, tourism and hotel industry. It offers a diverse portfolio of niche tourism products - cruises, heritage, adventure, medical, wellness, sports, MICE, eco-tourism, film, rural and religious tourism. Madhya Pradesh has been recognized as a destination for spiritual tourism for domestic and international tourists. The state has been continuously awarded for its performance in tourism for many years. In this achievement the contribution of hotel industry cannot be neglected as the tourists who arrive have to stay at some accommodation units like hotel, motel, bungalows, heritage hotels etc.

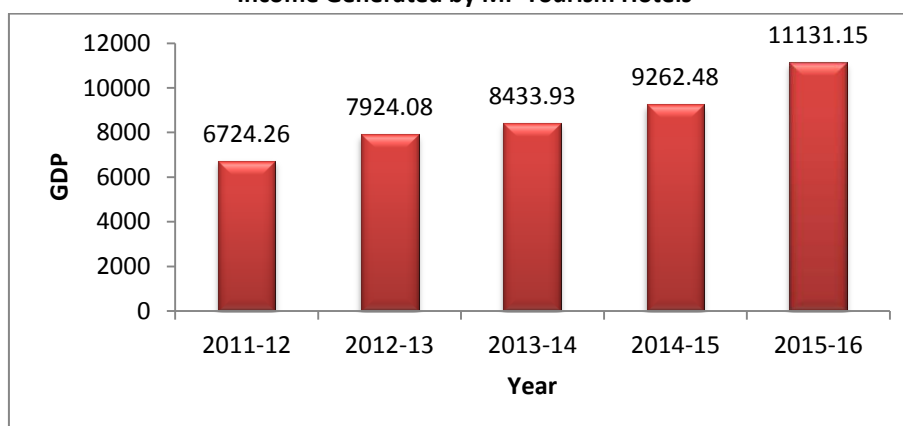
In Madhya Pradesh, total 1283 accommodation units were available during the year 2011/2012, including 24084 rooms. 10379 numbers of employees were working in the 1283 accommodation units. Out of 1283 accommodation units, 383 were less than 11 rooms, 518 were between 11-20 rooms and 382 were above 21 rooms. Out of 1283 accommodation units, 49 were Star Hotels, 1142 were Non-Star Hotels, 49 were Dharamshala / Gurudwara and 89 were others. Out of 49 5 were 5 Star Dlx. Hotels, 3 were 5 star Hotels, 2 were 4 star Hotels and 9 were 2 star Hotels and 8 were 1 star hotel. Out of 1283 accommodation units maximum (762) numbers of the accommodation units were owned by Proprietor / Partnership.

The following table shows the income earned by MP Tourism hotels in the state -

Table 1
Income Generated by MP Tourism Hotels

Year	Income Generated (Lakh Rs.)
2011-12	6724.26
2012-13	7924.08
2013-14	8433.93
2014-15	9262.48
2015-16	11131.15
2016-17	11502.19
Source : M.P. Tourism Department	

Graph 1
Income Generated by MP Tourism Hotels



Thus it is clear from the above table and graph that there is a rise in income generation of MP Tourism hotels. It has increased more than 80% from the year 2011-12 (6724.26 lakh) to 2015-16 (11131.15 lakh). Thus there is a trend of

growth regarding income generation of MP Tourism hotels in Madhya Pradesh.

No. of Hotels and their Occupancy ratio in M.P. :-

The following table and graph show the number of hotels and their occupancy ratio during the year 2011-12 to 2015-16 in Madhya Pradesh.

Table 2

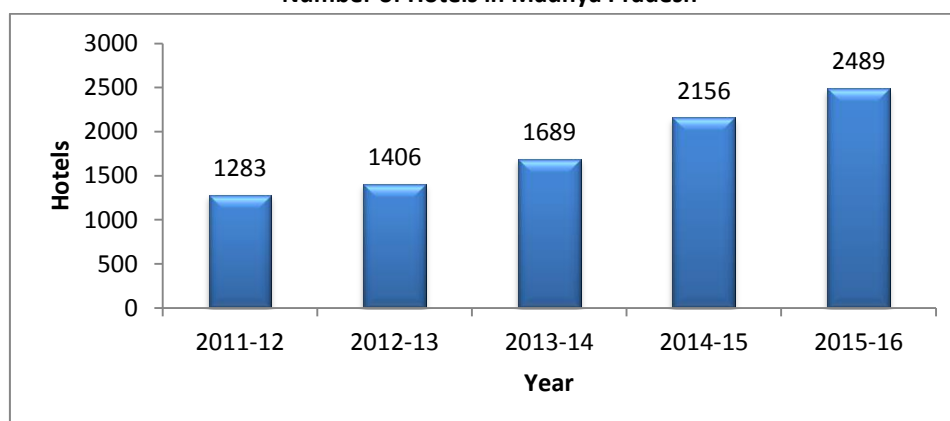
Hotel Demographics in M.P.

Year	No. of Hotels	Guests Cheked in	Occupancy Ratio
2011-12	1283	7775787	53.33
2012-13	1406	9058971	54.15
2013-14	1689	11056982	56.12
2014-15	2156	12568930	57.23
2015-16	2489	12906586	57.99

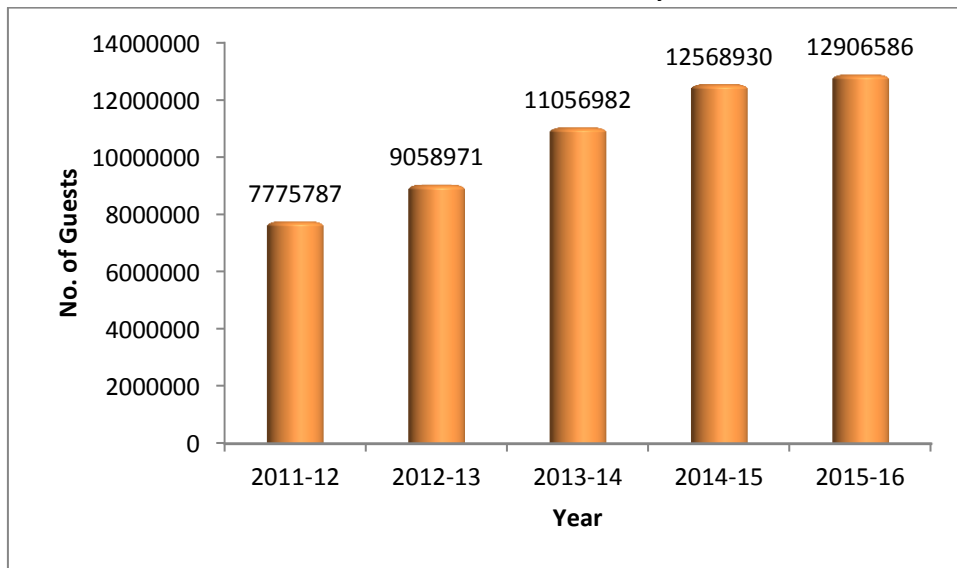
Source : M.P. Tourism Department

Graph 2 (a)

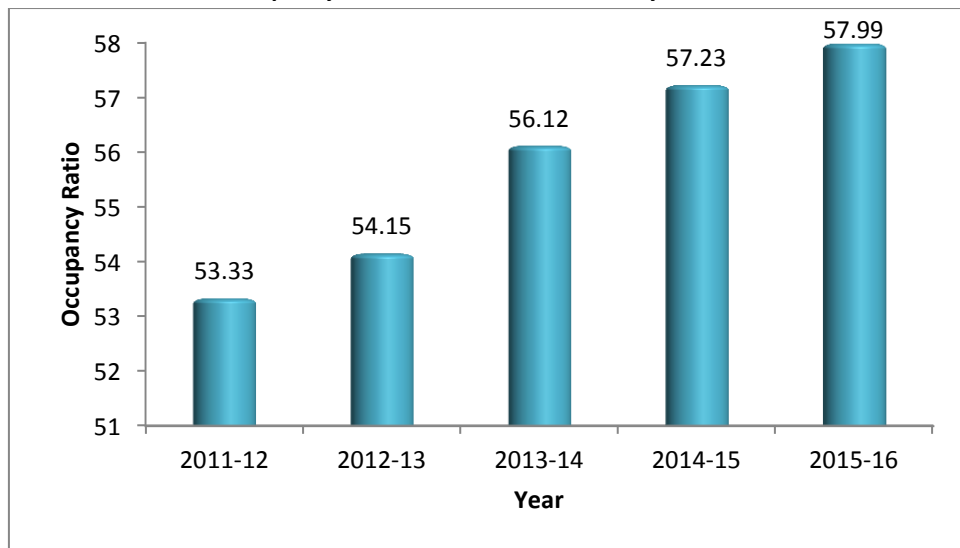
Number of Hotels in Madhya Pradesh



Graph 2 (b)
Checked-in Guests in the Hotels of Madhya Pradesh



Graph2 (c)
Occupancy Ratio in the Hotels of Madhya Pradesh



The above table and graphs clearly indicate that there is a steady growth in terms of number of hotels check-in guests and occupancy ratio in the hotels of Madhya Pradesh. There is almost double growth in 5 years in the number of hotels. The number of check-in guests in the hotels have also increased to about 90% and there is a growth of more than 5% in the occupancy ratio. This clearly shows that there is a growth in every aspect of hotels in the state of Madhya Pradesh.

The above analysis clearly proves that there is an increase in the number of hotels in Madhya Pradesh and this is not a slight increase. The number of hotels is almost double in a period of five years. Thus there is a remarkable increase in number of hotels in M.P. since last few years.

Hence the above details clearly indicate that with the development of economic aspect of the state, the hotel industry has also progressed

and it will continue its growth in the coming years with huge prospects in tourism growth as the tourism department is achieving excellence and getting various awards since past few years.

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ROLE OF EMPLOYEE SATISFACTION IN AN ORGANIZATION

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If any organization wants to draw out the best employees than it should provide best means to satisfy the need and requiremets of its employee. Employee satisfaction is though a psychological term but it has a practical and physical impact on the performance of employees and productivity of that organization.

Various surveys have shown that employee satisfaction plays a pivotal role in performance of the candidate. To facilities employees satisfaction, it is essential to understand its meaning. Employees satisfaction if of utmost important not only for employees but it is equally important for the prganization for which employee is working as well.

Measuring the satisfaction of their employees is one of the significant activity in any organization in present time. As each organization is eager for the success, more productive, better performance. Business leaders and many other theorists realized that it has a very strong bonding between satisfied and motivated employees and success of their business.

Satisfaction is the psychological concept to understand it. We can make use of monetary value to as the measure satisfaction.

Employee Satisfaction : The Success Factor :- Satisfied employees always have positive impact on their performance, 'they shine', they are the one who 'go the extra mile' and give strength to their team, department and ultimately their organization. If employees are unhappy or dissatisfied, they create pervasive atmosphere of hostility and ill will spread throughout the workplace. These low morale employees can cost too much to their organization. It can reflect in

decrease productivity, absenteeism, employees turnover, conflict and grievance and wastage of time and material, unwanted errors, lack of coordination among them.

It is possible to create an environment where employees are motivated to do their jobs to the best of their abilities and communication satisfaction to everyone around them when management takes the time to learn, motivates employees to do their best work and contributes to a sense of well being and satisfaction.

As HR profession, to make our work easier, it is important to have satisfied employees. Some employees are self motivated but some employees need to be inspired.

To get success in having a efficient work force HR professional must inspire the employee satisfaction in given areas:

- **Positive Work Environment** – An upbeat workplace is a necessity. Encouraging one another, avoiding micromanagement, giving positive feedback and ensuring positive criticism; all of them make work environment for employees like, more than survive, they can thrive.
- **Provide Competitive Benefits** – Employees look for other opportunities with firms that are more generous. As fair wages are important but competitive **benefits are also critical to keep your workforce satisfied** i.e. benefits such as flex time, paid holidays and personal days are important factors to employee satisfaction.
- **Employee Orientation** – To have satisfied employees is to make sure they are pleased from the get-go. Thorough orientation

will ensure expectations that are realistic and proper on boarding encourages positive attitudes and can reduce turnover.

- **Track Job Satisfaction** – To know about the satisfaction of your employees, offer anonymous surveys online or mobile to effectively track how employees feel about benefits, recognition, supervisor feedback. This allows you to improve and monitor satisfaction levels to reduce turnover and save the company cost.
- **Workforce Engagement** –For employees to be satisfied, they must feel they are part of the organization. They should contribute in goal setting and how they fit in the corporation fabric to increase work satisfaction.
- **Develop Skills** –Employees have more potential than their current level of functionality. To fulfill their potential by training opportunities, mentoring, online courses or external training it will increase employee satisfaction.
- **Recognition & Rewards** – Employees need to be recognized and rewarded for their performance. Implement a formal program company-wide to recognize top achiever in every job category. Healthy competition can boost morale, encourage hard work and increase satisfaction and retention.

The link between these issues arose from the premises of their service profit chain which includes :

- Internal service quality drives employee satisfaction.
- Employee satisfaction drives loyalty.
- Employee loyalty drives productivity.
- Employee productivity drives value.
- Value drives customer satisfaction.
- Customer satisfaction drives customer loyalty.
- Customer loyalty drives profitability and growth of company. Employee Satisfaction is having wider meaning.

Need and Importance :- Employees are the most essential and biggest assets for any organization. Employee satisfaction is a concerned term for the employee as well as organization itself.

It is important for the employees in following ways :

- When employees get the satisfactory services from the organization initially, he tends to believe that same treatment would be offered in long run.
- Employees start feeling a sense of responsibility towards the organization.
- Employee would start taking interest in his work instead of worrying about other issues.
- He deals with customers in a better way and builds strong relations with them.
- They would try to produce better results in order to get appreciation from the company.

Employee satisfaction is important for the organization in following ways :

- It enhances employee retention and the company does not need to train employee repeatedly.
- The overall productivity of the company is increased and it assists in achieving the goals of the company.
- When employees are satisfied with their job they deal with customers in better manner and thus customers satisfaction is achieved to great extent.
- It helps the organization in getting better services and products from its employees.
- Money spent on training new candidates can be save extensively.

All these points have great impact on the financial services organization where goodwill and credit greatly depend on the satisfaction of the customers.

Factors Influencing Employee Satisfaction :- A number of factors are responsible for employee satisfaction in any organization. List of such factors are as under:

- Goodwill or the recognition of the organization in society is one of the utmost importance to the employee to attach with it.
- The aims and objectives of the organization while supporting the achievements of employee likely to affect employee satisfaction.
- Financial factors like salary and wages are also important to contribute the satisfaction of employee.
- Employee satisfaction level is greatly affected by the rewards and penalties received in job.
- Employee level of satisfaction is also affected by the relationship of employee with his superiors, colleagues and subordinates in the organization. Suitability of job with the employee personality is also one factor affecting the employee satisfaction. Employee Satisfaction level is maintained if they receive good working conditions and working environment in an organization.

Hence in the present context it is strongly realized that the most valuable resources of any organization is its employees. Staff well-being and employees level of satisfaction has been found to have direct impact on organizational performance and ultimately organization success; dissatisfied employees are unlikely to foster a satisfied customer base, dissatisfied customer directly impact on the organization's goodwill. Thus, measurement of the staff satisfaction is an integral part of developing the customer trust in them.

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Critical Analysis of Direct Cost of Health Care in India

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Abstract :- The direct cost of health care is measured in terms of the direct outlays for prevention, detection, and treatment. In India, dual burden of disease together with skewed rapid economic growth pose serious health care cost issue in the country. Health expenditure in India accounts for less than 5% of the Gross Domestic Product (GDP), with out of pocket (OOP) payments constituting the single largest component of total health expenditure. Thus, the present paper attempts to address socio-economic differentials in the direct health care cost of the households in India. The study uses unit level data from 71st round of NSSO (2014-15) on Key Indicators of Social Consumption in India: Health. We used descriptive analysis to find out the monthly per capita total health expenditure by different socio-economic groups in India. Also bi-variate analysis has been carried out to find out percentage of household consumption out of total monthly per capita consumption expenditure (MPCE) on health. Results suggest that health expenditure increases with an increase in the number of elderly in the household. Also, household expenditure on health is relatively more in urban area, Hindu religion household, among 'others' social groups, highest wealth quintile in comparison to their counterparts. It is also found that the household in urban area is spending slightly higher share of MPCE on health than their rural counterparts. Similarly, increasing the number of members in the household from 1-3 to more than 10 reduces expenditure on health from 26% to 13% of MPCE. Households in the poorest wealth quintile spend approximately 30% of their total household expenditure on health in comparison to richest which spend only 18% of total expenditure on health. Thus, it can be concluded that the poor, elderly, laborer and marginalized households are incurring relatively high expenditure on health. Based on the findings, it is suggested to increase the public spending on health especially to protect poor, marginalized, and elderly.

Introduction :- Health is an important form of human capital. Good health is important not only

to personal and societal well-being but also to the economy. India is undergoing the demographic, epidemiological and economic transition. On demographic front the life expectancy at birth in India has increased from 50 years in 1972 to 66 years in 2010 and likely to be 69 years by 2020 (Office of the Registrar General and Census Commissioner 1999, 2006, 2012). Similarly, the total fertility rate has declined from 5.5 children per woman in 1970 to 2.5 in 2010 (Office of the Registrar General and Census Commissioner 1999, 2012). Also, 17 of the 29 states have reached the replacement level of fertility and life expectancy at birth is increasing in for every state of India. Along with demographic transition the country is experiencing the epidemiological transition; shift from communicable to non-communicable disease. The disease pattern has shifted from communicable to non-communicable diseases and the older adults face an increasing health risk (RGI 2009; WHO 2010). Also, the country has recorded higher economic growth; more than 6% growth in GDP in last two decade and reduction in the consumption poverty (Planning Commission 2009-10, Ministry of Finance 2011).

The increase in longevity along with reduction in fertility has resulted significant increase in older population, both in size and proportion. The estimated number of older population (60 years and above) was 77 million in 2001 and likely to be 143 million by 2021 (Office of the Registrar General and Census Commissioner 2004, 2006). The growth rate of older population is significantly higher than that of general population. The increase in elderly population has several economic and social implications both at micro and macro level. At the micro level, individual and families face loss of income, increase in consumption expenditure due to falling health, lack of engagement in meaningful

activities, lack of protection to life and property and inadequate housing. At the macro level, it increases the expenditure on pension and health care and affects economic growth (reduction in size of working population). Among other things, the increase in elderly population would have large effects on health expenditures, both public and private (Fuchs 1998a; Mahal and Berman 2001). In India, dual burden of disease together with skewed rapid economic growth pose serious health care cost issue in the country.

The increase health spending is generally associated with improved health and increasing productivity. The increasing importance of health proves that it is no longer an ordinary good, but the large positive externalities associated with health spending makes health spending a clear merit good (Chandrasekhar and Ghosh 2012). A merit good is a good that society values and judges that everyone should have regardless of whether an individual wants them. Unlike developed countries, the health expenditure in India is largely met by the households; 78% health expenditure are made by household compared to 20% by public (National Health Accounts 2004-05). Evidences also suggest that health expenditure tends to be catastrophic for many individual and families (Berki 1986) and pushes many families to medical poverty trap (Whithead et al. 2001). In addition, the rising cost of health care makes health services unaffordable to many poor individuals and families. Recent study also indicates that increase public spending can reduce the out-of-pocket (OOP) expenditure on health care (Mohanty and Srivastava 2012).

Need for the study :- In the context of changing demographics, economy and regional disparities with level of development, it is interesting to examine the pattern of household health spending in India. In this context this study has been conceptualised with the following rationale. First, the size and proportion of elderly population in India will increase in coming years. This will increase the demand for health services and

inevitably increase the health expenditure. Second, the health spending in India is largely financed by household. However, given the increasing political commitment, the public spending on health is likely to increase (High Level Expert Group Report for Universal Health Coverage for India, Planning Commission 2011). The recent High Level Expert Group Report for Universal Health Coverage for India (HLEG report) has recommended increase in health spending from 1% of GDP in 2010 to 3% of GDP by 2020. Hence, the allocation of public resources for health care of elderly assumed greater significance. In this context, analysing the pattern of health services over time will guide us on understanding the pattern of health spending in India.

Objectives :- The study has been carried out with the broader objective of analyzing direct cost of health care in India. However, the specific objectives of the study are the following:

- 1) To analyse the socio-economic differentials in health care cost in India over time.
- 2) To analyse the socio-economic differentials in percentage share of health care cost in monthly per capita consumption expenditure in India over time.

Data and Methods :- The study uses two rounds of health data collected by NSSO surveys. The NSSO, under the Ministry of Statistics and Programme Implementation of the Government of India provides periodic data on various issues such as consumption expenditure, employment and unemployment, migration, disabled persons, morbidity & health care, participation in education, condition of the aged, etc. The National Sample Survey Organisation (NSSO) has been collecting information on various facets of the Indian economy through nationwide sample surveys to assist in socioeconomic planning and policy-making. The National Sample Survey (NSS) made its first attempt to collect information on morbidity in the 7th round (October 1953 - March 1954). We have used the latest two rounds of

health data of NSSO, i.e., 60th round and 71st round collected in 2004 and 2014 respectively. The number of household surveys in 60th round were 47,302 in rural and 26,566 in urban area. The number of household surveyed in 71st round were 36,480 in rural and 29,452 in urban area.

The direct cost of health care is measured in terms of the direct outlays for prevention, detection, and treatment. The detailed question about health care cost include questions about doctor's/surgeon's fee, medicines, diagnostic tests, bed charges, other medical expenses, transport for patient and other non-medical expenses. These all costs were added up to arrive at total health care expenditure.

We have used two dependent variables:

- 1) Per capita Health Expenditure
- 2) Health expenditure as percentage of monthly per capita consumption expenditure which is defined as:

$$\frac{\text{Health Expenditure}}{\text{Monthly Per capita Consumption Expenditure}} \times 100$$

Bi-variate tables are used to understand the socio-economic differentials in health care cost in India between 2004 and 2014. Descriptive analysis is carried out to analyse the socio-economic differentials in percentage share of health care cost in monthly per capita consumption expenditure in India over time.

Results :- Table 1 portrays the socio-economic and demographic differentials in per capita health expenditure and monthly per capita consumption expenditure in India for the year 2004 and 2014, prices being inflated for the year 2014. We find an increase in the monthly per capita health expenditure with increasing number of elderly in the household for both 2004 and 2014. But when prices are taken at real terms, we find there been higher monthly per capita health expenditure in 2004 in comparison to 2014. There is higher health expenditure in urban area (Rs 483.48 in 2004 and

Rs 564.51 in 2014) in comparison to rural area (Rs 286.31 in 2004 and Rs 325.60 in 2014) for both 2004 and 2014. But the health expenditure in rural and urban area has increased 13% and 16% respectively in 2014. Similarly, the health expenditure decreases with increasing household size and the highest increase of 18% is seen in the household size of 4-6. Hindu household is incurring higher health expenditure in comparison to Muslim household and there has been an increase of 54% and 37% in the monthly per capita health expenditure from the year 2004 to 2014 for Hindu and Muslim household respectively. For social groups we find an increase of 30% and only 18 % in health expenditure by SC/ST household and other social group household. The wage-earner household has been found incurring highest health expenditure of Rs. 491.35 in 2004 and Rs. 191.86 in 2014 in comparison to their counterparts. And the increment in health expenditure from 2004 to 2014 is highest for wage-earner household (42%) and self-employed households (41%). We find an increase in the health expenditure with rising MPCE quintiles from poorest (Rs 225.11 in 2004 and Rs 341.10 in 2014) to richest (Rs 601.97 in 2004 and Rs 735.63 in 2014). There has been an increase of 52% and 22% in health expenditure from 2004 to 2014 for poorest and richest MPCE quintile households.

The monthly per capita consumption expenditure has increased with increasing number of elderly in the household from no elderly in the household (Rs 1379.89 in 2004 to Rs 1930.53 in 2014) to two and more elderly (Rs 1719.62 in 2004 to Rs 2483.76 in 2014). The urban area has higher MPCE (Rs 2746.73) in comparison to rural (Rs 1691.40) and an increase of 52% and 49% in MPCE is seen from 2004 to 2014. With increasing household size, the MPCE shows a declining trend, though an increase of 55%, 51%, 36% and 38% is observed from 2004 to 2014 in for household size of 1-3, 4-6, 7-9 and 10 and more. The Hindu household are spending Rs 2287.66, i.e., 8% higher than Muslim household (Rs 2111.52) in 2014. The SC/ST household are.

Table 1: Socio-economic and Demographic differentials in Per capita Health Expenditure (monthly) and Monthly Per capita Consumption Expenditure in India, 2004-14 (at 2014 prices)

Characteristic variables	60th Round			71st Round		
	No of observations	Per capita Health Expenditure	Monthly Per capita Consumption Expenditure	No of observations	Per capita Health Expenditure	Monthly Per capita Consumption Expenditure
No of elderly in household						
0 elderly	7314	379.28	1379.89	26580	373.35	1930.53
1 elderly	3352	493.67	1500.74	10345	425.91	2130.82
2 & more elderly	182	774.06	1719.62	5939	530.06	2483.76
Place of Residence						
Rural	19522	286.31	1115.66	23039	325.60	1691.40
Urban	10857	483.48	1847.86	19830	564.51	2746.73
Household size						
1-3	5205	698.43	1864.84	9333	756.55	2883.72
4-6	15819	293.40	1301.78	24218	348.20	1963.04
7-9	6357	224.03	1081.26	7161	206.06	1465.22
10+	2998	170.55	959.31	2157	170.30	1322.36
Religion						
Hindu	24168	338.26	1300.21	13633	521.54	2287.66
Islam	3716	260.17	1288.48	9599	357.38	2111.52
Others	2495	533.17	1733.00	17224	356.89	1799.85
Social groups						
SC/ST	7916	195.31	977.34	11858	254.84	1492.06
Others	22458	389.85	1442.06	31011	461.27	2252.72
Household type						
Labourer	9288	275.42	1174.73	8791	236.44	1459.96
Wage earner	6168	345.03	1560.59	10263	491.35	2574.38
Self-employed	11742	276.06	1204.30	20594	389.31	1981.31
Others	3154	787.95	1798.38	3221	871.75	3099.10
MPCE Quintile						
Poorest	6611	225.11	746.15	8196	341.10	1138.27
Poorer	6387	288.82	933.00	9006	309.61	1372.83
Middle	6283	296.06	1129.23	8152	302.43	1704.83
Richer	4743	322.24	1439.92	8554	366.86	2151.09
Richest	6282	601.97	2526.48	8956	735.63	4000.60

Source: Calculated from unit data of 60th Round and 71st Round of NSSO, 2004 and 2014

Spending 33% and 34% lower than other social group households in 2004 and 2014 respectively. Largest increase in monthly per capita consumption expenditure is seen in the wage earner (65%) and self-employed (65%) household followed by labourer household (24%). The MPCE of richest quintile is 3.3times (in 2004)

and 3.5times (in 2014) higher than poorest quintile. An increase of 58% in MPCE in richest quintile is observed in 2014 and increase of 53% is observed in poorest quintile.

Table 2 portrays the socio-economic and demographic differentials in the health

expenditure as percentage of monthly per capita consumption expenditure in India for the year 2004-14. We find that, with increasing number of elderly in the household, the percentage expenditure of total consumption on health increases. Thus, the household with no elderly member incurred 27.49% out of total MPCE on health and the household with two and more elderly incurred 45.01% in 2004. In 2014, out of total MPCE the household with no elder member incurred 19.34% and household with 2and more elderly incurred 21.34% on health. The urban household are incurring higher percentage of monthly consumption on health (26.16% in 2004 and 20.55% in 2014) than the rural counterpart (25.66% in 2004 and 19.25% in 2014). With increasing household size from 1-3 to 10 and more, the percentage of household consumption on health decreases from 37.45% in 2004 and 26.24% in 2014 to 17.78% in 2004 and 12.88% in 2014. The Hindu household are incurring greater

share of household consumption on health (26.02% in 2004 and 22.80% in 2014) than their counterpart Muslim household (20.19% in 2004 and 19.83% in 2014). Among social groups, the SC/ST household incur less on health than their counterparts. In 2004, the labourer household incurred highest share of their consumption on health (23.45%) followed by self-employed (22.92%) and wage-earners (22.11%). But in 2014, the self-employed household incurred highest share of their consumption on health (19.65%) followed by wage earners (19.09%) and labourer household (16.20%). Though the richest quintile was spending highest on health, it constitutes only 23.83% of their total consumption in 2004 and 18.39% in 2014. For the poorest quintile, the share of health in total consumption stood at 30.17% in 2004 and 29.97% in 2014 and for poorer household it stood at 30.96% in 2004 to 22.55% in 2014.

Table 2: Socio-economic and Demographic differentials in the health expenditure as percentage of Monthly Per capita Consumption Expenditure in India, 2004-14

Characteristic variables	2004	2014
Number of elderly in household		
0 elderly	27.49	19.34
1 elderly	32.89	19.99
2 & more elderly	45.01	21.34
Place of Residence		
Rural	25.66	19.25
Urban	26.16	20.55
Household size		
1-3	37.45	26.24
4-6	22.54	17.74
7-9	20.72	14.06
10+	17.78	12.88
Religion		
Hindu	26.02	22.80
Islam	20.19	16.93
Others	30.77	19.83
Social groups		
SC/ST	19.98	17.08
Others	27.03	20.48
Household type		
Labourer	23.45	16.20
Wage earner	22.11	19.09

Self-employed	22.92	19.65
Others	43.81	28.13
MPCE Quintile		
Poorest	30.17	29.97
Poorer	30.96	22.55
Middle	26.22	17.74
Richer	22.38	17.05
Richest	23.83	18.39

Source: Calculated from unit data of 60th Round and 71st Round of NSSO, 2004 and 2014

Findings & Conclusion :- There has been an increase in the monthly per capita health expenditure from 2004 to 2014 with an exception of elderly member household, for which the per capita health expenditure decreases for 2014. The urban area, Hindu household and wage earner household has been incurring higher incidence of health expenditure in 2004 and 2014 in comparison to their counterparts. Increasing household size decreases health expenditure for both years 2004 and 2014. An improvement in wealth (MPCE) quintile increases health expenditure for 2004 and 2014. The monthly per capita consumption expenditure also shows similar trends as that of monthly per capita health expenditure and increases with increasing number of elderly member in the household. MPCE is also higher for urban, Hindu, other social groups, wage earners and richest wealth quintile households.

Analyzing health expenditure as percentage of consumption expenditure suggests increasing share of consumption expenditure on health with increasing number of elderly member in the household. Urban, Hindu, Labourer and Poorer MPCE quintile households are incurring largest share of their household consumption on health in comparison to their counterparts which is true for 2004 as well as 2014. Also, increasing members in the household leads to a fall in the share of health expenditure in both years 2004 and 2014.

Based on these findings, it is suggested to increase public spending on elderly, labourer and poor households so as to protect them from falling

into medical poverty trap and to protect against catastrophic health expenditure.

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