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Dr.Eswari Ramesh

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Book : **Leading Socio-Economic Issues in the Making of New India: Challenges, Ways and Means**

Editors: Dr.K.Sudarkodi
Tmt.K.Sathya Bama
Dr.L.Kokila Devi
Dr.Eswari Ramesh

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Organizing Coordinator

Organized by

P.G. and Research Department of Economics
Queen Mary's College (Autonomous)
Chennai, Tamil nadu, India

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Dated: 11th September 2017



MESSAGE

Thiru CH.Vidyasagar Rao, Hon'ble Governor of Tamil Nadu is pleased to learn that as a part of the Centenary year Celebrations the Indian Economic Association and Post Graduate & Research Department of Economics, Queen Mary's College (Autonomous), Chennai is organizing an international Seminar on "Leading Socio-Economic issues in the making of New India: Challenges, Ways and Means" and is bringing out a souvenir in commemoration.

Hon'ble Governor conveys his warm felicitations to Dr.K.Sudarkodi, Convenor, Associate Professor & Head, Post Graduate & Research Department of Economics, Management, Principal, Faculty, Staff and Students, Queen Mary's College, Chennai and wishes the International Seminar "Leading Socio-Economic issues in the making of New India: Challenges, Ways and Means" all success.

Prl. Secretary to Governor

To
Dr.K.Sudarkodi
Convenor,
Associate Professor & Head,
Post Graduate & Research Department of Economics,
Chennai: 600 004.

Dr. C. Rangarajan

Former Chairman, Economic Advisory Council
to the Prime Minister
Former Governor, Reserve Bank of India

Chairman
Madras School of Economics
Gandhi Mandapam Road, Kottur
Chennai 600025

September 7, 2017



Message

I am indeed happy to know that Queen Mary's College, one of the leading institutions of higher learning in Chennai is hosting a Conference on "Leading Socio-Economic Issues in the Making of New India: Challenges, Ways And Means". The theme of the Conference is most appropriate as India is on the threshold of a new era of growth. Over the last seven decades, the Indian economy has done well on many counts. Post liberalization, the country has moved to a higher growth path, even though the current slowdown is causing concern. We need to get over this phase as quickly as possible and move on to achieve the full potential of our economy.

It is important to remember that growth is the answer to many of our socio-economic problems. Growth does not automatically result in improving the socio-economic conditions of the poor and vulnerable. Growth is necessary but not sufficient. We need to address the problems of the deprived directly. It is this two fold path of accelerating economic growth on the one hand and on the other mounting programmes focused on improving the conditions of the poor that we need to follow.

I am sure that the three day Conference so meticulously organized by Queen Mary's College will address all the issues that arise in the making of New India, an India that all Indians will cherish. I wish the Conference all success.

C. RANGARAJAN

THE INDIAN ECONOMIC ASSOCIATION

Prof Sukhadeo Thorat
Ph.D., D.Litt., D.Sc.
President

4 September 2017



MESSAGE

I am glad to know that the Post-Graduate and Research Department of Economics, Queen Mary's College, Chennai, Tamil Nadu, is organizing an international conference on "Leading Socio-economic Issues in the Making of New India: Challenges, Ways and Means" in collaboration with Indian Economic Association, during 13-15 September 2017.

I note that the international conference intends to provide a platform for the interaction of economists, administrators and policy makers to discuss the issues that arise, challenges to be faced, and the strategies that need to be formulated for the emergence of New India, while emphasizing on the need to reinvest and rediscover the nation state. The conference is also expected to seek to draw from international experience and exposure, the challenges that the New India is likely to face and the strategies that will have to be formulated to overcome the challenges and suggest various ways and means that are necessary to achieve the 'NEW INDIA' envisioned.

I wish the Conference all success.

Sukhadeo Thorat

Dr. K. Sudarkodi
Associate professor & Head
Post Graduate & Research Department of Economics
Queen Mary's College
Chennai – 600 004.

Professor Emeritus, Jawaharlal Nehru University, New Delhi
Distinguished Professor, Savitribai Phule University, Pune (Maharashtra)
K.R. Narayanan Chair for Human Rights & Social Justice, Mahatma Gandhi University, Kerala (Honorary)
Managing Trustee, Indian Institute of Dalit Studies, New Delhi
***Address for Correspondence*:** Professor Emeritus, Centre for the Study of Regional Development, School of Social Sciences, Room No. 125, SSS-III, Jawaharlal Nehru University, New Delhi-110067

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M.Sc., B.Ed., M.Phil., Ph.D.,
Director of Collegiate Education &
State Coordinator - NSS

Telephone : +91-44-28212090
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Date : 28-08-2017



MESSAGE

I am very happy to know that the Queen Mary's College(Autonomous), Chennai – 600 002 has organised an International Conference on "Leading Socio-Economic Issues in the making of new India: Challenges, Ways and Means" from 13.09.2017 to 15.09.2017.

The main aim of organizing this conference to provide a platform for the Educationalist and the research scholars to analyze the leading issues of the Indian economy is highly remarkable. It gives me immense pleasure to know that the renowned academicians and the Economist from various neighbouring countries have been invited to deliver the keynote address and the special lectures.

The deliberations and the outcome of the Conference should be recorded and put into action by all the stakeholders.

I extend my appreciation to the Post Graduate & Research Department of Economics of the college for having organized this Conference. I convey my best wishes for the successful conduct of the programme and congratulate the efforts of all those involved in this venture.

Director of Collegiate Education

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UNIVERSITY OF MADRAS

(Established under the Act of Incorporation XXVII of 1857-Madras University Act 1923)
(State University)

CHEPAUK, CHENNAI - 600 005



Prof. P. DURAISAMY
Ph.D., D.Econ.Sc. (Paris)
Vice - Chancellor

Message

I am glad to know that the Queen Mary's College (Autonomous) Chennai, is planning to conduct a seminar on "Leading Socio Economics Issue in the Making of New India: Challenges, Ways and Means" to be held during 13th-15th September 2017 in collaboration with Indian Economic Association.

On this happy occasion I extend my warm greeting to the Principal, Organising Secretaries, Faculty Members, Administrative Staff and the students of the Queen Mary's College for their effort to bring out this souvenir.

The themes chosen for the seminar are not only of topical interest but of immediate relevance for policy making. I am sure that the conference will provide an excellent opportunity to discuss on various contemporary economic issues.

I am sure that this event will bring many Economists to the Department of Economics, Queen Mary's College and facilitate to improve its academic programmes.

Wishing the conference a grand success.

P. Duraisamy

[P.DURAISAMY]

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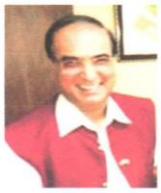
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प्रो.(डॉ.) मदन मोहन गोयल
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(Institution of National Importance by the Act of Parliament No. 35/2012)
Ministry of Youth Affairs and Sports, Government of India
Pennalur, Sriperumbudur - 602 105, Tamil Nadu



Message

My dear Principal Dr. S. Santhi Ji

Hare Krishan

I am glad to learn from your email dated August 31, 2017 that a souvenir is being published on the occasion of International Conference on "Leading Socio-Economic Issues in the making of New India: Challenges, Ways and Means" during 1 September 13-15 2017 at Queen Mary's College, Chennai with the collaboration of the Indian Economic Association.

To my mind, food in India is politics and not economics. India's food economy has taken a complete U turn since independence; from food shortage, via comfortable food self-sufficiency, back to food deficiency again. The politics and economics associated with the issues regarding non-agricultural uses of land are deplorable. To maintain food self-sufficiency and gaining food security is the biggest policy challenge faced by the Indian Government in the coming years. We need to forecast the demand of food grains requirement of the country in the next decade by adopting FAO norms and how much quantity of food grains will be supplied in the next decade to maintain food self-sufficiency.

By believing in the phrase, 'Jai Jawan Jai Kisan', we need to face the challenges caused by internal threats and terrorism of various kinds including unemployment, under employment and suicides by farmers. The only practical solution of these problems is to make military services compulsory for five years for the youth with status of HRD activity which will bring discipline to Indian economy in one sense or the other. We need to bring more land under cultivation for which we may think of nationalization of agriculture by acquiring land as advocated by Dr. B.R. Ambedkar. We can hand over such land to army to develop military farms which possess the potential to do wonders in terms of bringing discipline on the one hand and more barren land under cultivation to ensure rainbow revolution.

I trust that the souvenir will be an asset for the participants with positive implications for all of us. I wish the seminar all success and convey my best wishes to all of you.

mmohan
Sep. 04, 2017
(M.M. Goel)

Shri S Nagoor Ali Jinnah
Chief General Manager
NABARD, Tamilnadu Regional Office,
Chennai.



Message

I am delighted to learn that Queen Mary's College (Autonomous) Chennai is organizing the International Conference on "Leading Socio-Economic Issues in the making of New India: Challenges, Ways and Means". The theme and the topics included viz. Growth Enablers, Digital & transport connectivity, Public private partnership, Instruments of Social change with a focus on innovation in Agricultural growth etc. are very relevant in today's context. NABARD has been the growth enabler and has pioneered many innovative Development initiatives. The doubling of farmers' income by the year 2022 is one of the focus areas for NABARD in the coming years. NABARD has also been supporting Govt. of Tamil Nadu towards renovation and restoration of water bodies which will improve irrigation facilities.

I am sure that the deliberations of the Conference will give an insight into the problems and also the possible solution. The inputs will be useful for the Policy makers and other stake holders and the steps initiated will result in ushering sustainable rural prosperity and happiness.

We wish the Conference a great Success!!!!

Estd. 1914

QUEEN MARY'S COLLEGE (Autonomous)

(Affiliated to University of Madras)

Mylapore, Chennai - 600 004, Tamil Nadu

Dr. S. Santhi.
Principal
Queen Mary's College(A)
Chennai-04



Message

I am extremely happy that the Post Graduate and Research Department of Economics, Queen Mary's College is organizing a three days International seminar on "LEADING SOCIO ECONOMIC ISSUES IN THE MAKING OF NEW INDIA: CHALLENGE, WAYS AND MEANS" to be held during 13th-15th September 2017 in collaboration with Indian Economic Association.

Organizing an International seminar on the Contemporary topic will certainly enrich and boost the academic pursuit of the institutions in particular and the participants in general. It will provide opportunity for the Students, Teachers, Researchers and the Policy makers drawn from different discipline to discuss and deliberate the issues related to making a New India.

On this Happy occasion I extend my warmest greeting to the organizing Secretary, Faculty members and students of the department of Economics for their splendid effort in bringing out their souvenir. I am sure that this mega event will bring laurels to the Department of Economics as well as the college. I wish the conference a grand success.

Dr.(Tmt). S. Santhi.

PRINCIPAL

Dr. K. Sudarkodi
Convener
Associate professor & Head
Post Graduate & Research Department of Economics
Queen Mary's College,
Chennai



MESSAGE

Queen Mary's College is the first women's college in Chennai City and is one among the first three colleges for women in the country. It was started in 1914 by the British government as the Madras College for Women. With a modest intake of 33 women students at the time of its inception, it has over the 100 years of its existence, grown phenomenally from an intermediate to a tertiary level institution and on to a full-fledged esteemed institution. Today it caters to over 4000 students. The college was re-accredited with the highest grade "A" by NAAC in 2015. The college plays a vital role in education and empowerment of girl children.

The Department of Economics is one of the **founding** departments of the college. The department began its journey in the year 1914. Post Graduate, M.Phil and Ph.D., Degree courses were added in the years 1980, 1993 and 2016 respectively. To cater to the needs of the students, shift II classes were started in the year 2007. Conferences, seminars and workshops are organised regularly by the department to enhance knowledge in learning and teaching of Economics.

It is a matter of great pride to organize an International Seminar in collaboration with the prestigious Indian Economic Association, as a part of the Centenary Year Celebrations of Post Graduate & Research Department of Economics, Queen Mary's college and Indian Economic Association. This seminar intends to provide a platform for the interaction of economists, administrators and policy makers to discuss the issues that arise, challenges to be faced, and the strategies that need to be formulated for the Making of New India.

I extend my sincere thanks to our Principal, Dr. Anil Kumar Thakur, General Secretary & Treasurer,IEA, Dr. Tapan Kumar Shandlya, President, IEA and Dr. B.P. Chandramohan, Vice President, IEA, for their help and constant support. I extend my sincere thanks to all delegates for their enthusiastic and overwhelming response. I wholeheartedly acknowledge the immense contribution and sincere work of the Staff members of the Department of Economics, Colleagues and well wishers.

Dr. K. Sudarkodi
Convener

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AN ANALYSIS OF TARGETED PUBLIC DISTRIBUTION SYSTEM IN ANDHRA PRADESH

Dr. SHAIK AMEER
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Department of Economics,
Centre for Distance Education,
Acharya Nagarjuna University.

I. INTRODUCTION

Food security has been a cause of concern for most of the developing and underdeveloped nations. Providing nutrition to the poorest of the poor still remains a major challenge which demands the attention of the State, Civil Societies and other related organizations. Public Distribution System has been operational for more than five decades, yet, barring a few southern states, access to resources and utilization of commodities has been low and it has hardly impact the nutritional status of the targeted population. In these decades the scheme has been revised and modified to improve performance and to meet the central objective of providing food security to the eligible population of the country. The performance of Public Distribution System and tries to look into different factors affecting the entire process. The Public Distribution System which was introduced as a positive intervention by the state aims to make essential commodities available to the poor and marginalized sections of the society on a regular basis. It aims to offer the commodities at a price which is relatively lesser than the market price. The major objective of the Public Distribution System was to help the poor, weaker and vulnerable sections of the society against the rising prices of commodities thereby ensuring equality. The Public Distribution System is often termed as means for ensuring food security for all.

Public Distribution System was so named because it was a scheme which was undertaken by the government or any public authorities. It was aimed at meeting the food requirements of the weaker sections that were not able to fend for themselves owing to the huge market fluctuation of pricing of several important commodities. The essential commodities such as food grains (rice, wheat, pulses), sugar, kerosene oil etc. are provided under this Public Distribution scheme. There has been a scarcity of the resources owing to increase in population which has resulted in time to time government action to provide items at affordable price to the beneficiaries.

Targeted Public Distribution System:(TPDS)

In June 1st1997, the Government of India launched the Targeted Public Distribution System (TPDS) with focus on the poor. Under the TPDS, States are required to formulate and implement foolproof arrangements for identification of the poor for delivery of food grains and for its distribution in a transparent and accountable manner at the FPS level. The scheme, when introduced, was intended to benefit about 6 crore poor families for whom a quantity of about 72 lakh tons of food grains was earmarked annually. The allocation of food grains to the States/UT's was made on the basis of average consumption in the past i.e. average annual off-take of food grains under the PDS during the past ten years at the time of introduction of TPDS.

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The National Food Security Bill (NFSB) was passed by both houses of Parliament and was given a nod by the President on September 12th2013 and has now become an Act. The legislation is a landmark and perhaps the largest food security program in the World. The food subsidy cost of implementing the FSA is estimated at Rs. 124,502 crores for the fiscal year 2013-14. The cost is estimated to increase to Rs. 140,192 and Rs. 157,701 crores in 2014-15 and 2015-16respectively.The incremental food subsidy over and above the existing Targeted Public Distribution System (TPDS), which is the additional cost to the budget, is estimated at Rs.23,951 cores. This is equivalent to 0.2 per cent of GDP.

Brief History of Andhra Pradesh:

In February 2014, the Andhra Pradesh Re organization Act, 2014 bill was passed by the Parliament of India for the formation of Telangana state comprising 10 districts and in Andhra Pradesh 13 districts. Hyderabad will remain as a joint capital for 10 years for both states.

Andhra Pradesh is one of the country's south eastern coasts. The state is the 8th longest state in India covering an area of 61,855 sq.m. According to 2011 cencus the state is 10 th largest by population with 49,386,799. The state has the 2 nd longest coastal line of 972 k.m. There are 2 Regions which are more often referred as Seemandhra by the news media. There are 13 districts with 9 in costal Andhra and 04 in Rayalaseema. The GSDP of Andhra Pradesh was Rs.2953.3bilion in 2012-13.The growth in state was mainly driven by the Agriculture, Industry and Service sectors.

Literacy rate of 72.87 per cent (male literacy stands at 81.59 per cent while female literacy is at 62.46 per cent. The state also claims an outstanding sex ratio of 978 Rural sex ratio 994, Urban sex ratio 1,004. Out of the total population of Andhra Pradesh only 29.47 per cent people live in the urban areas while a massive 70.53 per cent of the population lives in villages (Census 2011).Andhra Pradesh is Agriculture rich and has a long coastline . Although the State Agricultural annual growth rate 5.90 per cent, Industrial Sector annual growth rate 5.25 per cent and Service Sector annual growth rate 8.48 per cent as on 2014-15.

The poverty head count ratio of the stats is 21.9 per cent in India (2014-15) and the number of poor in the state of Andhra Pradesh has been estimated to about 21.1 per cent (2014-15). The Global Hunger Index of the state is 23.8 (2007) which is more than that of the entire country estimated at 23.3 (2007). Considering the figures above the task of ensuring food security in the state has been a tremendous challenge for the state government.

Agricultural productivity of the state has been on a decline with more people opting for other jobs rather than being agricultural farmers. Despite several efforts by the government in providing opportunities to the farmer at various levels like providing loan at subsidized interest rates, cheap and high quality seeds, severe hunger and malnutrition poses a serious threat to development of the state. To ensure minimum food security to the poor the government has made several policy reforms in the Public Distribution System as initiated by the government of India after independence. livelihood activities while the SC communities earn their livelihood by being dependent on caste based activities passed down since generation. But due to varied factors comprising of both man made (deforestation, industrialization etc.) and natural (flood, cyclone, droughts etc.) the livelihood of the above mentioned communities are at stake. So, ensuring food security through the Public Distribution System is the best alternative for the poor and the marginalized sections of the society.

Agricultural productivity of the state has been on a decline with more people opting for other jobs rather than being agricultural farmers. Despite several efforts by the government in providing opportunities

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to the farmer at various levels like providing loan at subsidized interest rates, cheap and high quality seeds, severe hunger and malnutrition poses a serious threat to development of the state. To ensure minimum food security to the poor the government has made several policy reforms in the Public Distribution System as initiated by the government of India after independence.

Public Distribution System in Andhra Pradesh

Andhra Pradesh State Civil Supplies Corporation Ltd. is a State Agency appointed by the State Government for lifting of Rice and Wheat from FCI and Levy Sugar from Factories under PDS. It is the responsibility of the Corporation to undertake transportation, storage and delivery of the stocks under PDS at the door steps of the Fair Price Shop Dealers. The transportation of stocks from FCI/Factories to MLS Points is called Stage-I transportation, which is being undertaken through the District-wise Transport Contractors appointed separately for food-grains and Levy Sugar.

The transportation from MLS Point to the door step of the Fair Price Shop Dealer is called Stage-II transportation, which is being undertaken through Corporation Vehicles and Stage-II contractors appointed by the Collectors (CS) on approval of the rates by Head Office.In some Districts, direct lifting of food-grains is also being undertaken from certain FCI godowns to Fair Price Shops within a radius of 25 KMs. by avoiding Stage-I transportation and handling charges.

In Andhra Pradesh, Fair Price Shop Dealers themselves are directly lifting the stocks from MLS Points. Total Ration Cards in Andhra Pradesh 1.30 croes and bogus Ration Cards removed 8 lakhs, Pending Bogus Ration Cards were 20 lakhs White Ration Cards in this state 1.13 cores. Total FP shops 28,953 (as on 30-11-2014) located. Every 1,725 persons allotted one FPS and each FPS 450 Ration Cards were allotted. The Government of Andhra Pradesh allocation of funds in 2015-16Budget. The funds are Rice Subsidy Rs.2300 cores, Deepam Policy Rs.78.60 cores, TPDS Management funds Rs. 44 cores and Annapurna Scheme Rs. 01 core..

Significance of the Study

The Public Distribution System in Andhra Pradesh is established to meet the basic needs of the community who cannot afford to depend upon the market forces alone to obtain supplies of essential commodities. It also involves a heavy outgo in the form of subsidies from the public exchequer both at the Central and State Government levels. Hence it is imperative that the system needs to work at its peak efficiency. However, there have been several complaints about the system through the mass media as well as through direct representations to the authorities concerned. Some of these complaints relate to broad policy issues like geographical coverage, population coverage, commodity coverage, extent of subsidy, etc. and many others relate to operational issues like Non-availability of commodities at the shop level, under weighted, bogus cards, poor quality, etc. In the past as well as to a great extent even Now, most of the decisions involving the Public Distribution System have been based on the experience and intuition of officials and the political compulsions of the Government of the day.

Objectives of the Study

1. The study broadly evaluates the Public Distribution System of Andhra Pradesh among various APLBPL and AAY beneficiaries, specifically the objectives are:
2. To evaluate the issues related to access, utilization and perception of PDS among APL and BPL beneficiaries.
3. To examine the process of procurement, storage and distribution of commodities in Andhra Pradesh.

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4. To study respondents' opinion about cash transfer in place of subsidized food grains among APL and BPL beneficiaries.

Methodology of the Study:

To fulfil the objectives of the study primary data has been collected from 100 APL and 100 BPL and 100 AAY respondents, who were purposively selected from the service users visiting the Fair Price Shops between urban and rural area of the districts in Guntur and Vizianagaram. The identity of the key persons has been kept anonymous to ensure confidentiality. Both Qualitative and Quantitative techniques of research has been used in this study. Interviews have been qualitatively analyzed and interpreted.

Purposive sampling method has been used for data collection because participants were available for survey only during fixed days at the Fair Price Shop in Guntur District and Viazianagaram. All the respondents were residents of this districts Urban and Suburban areas residents. They had ration cards and ranged between the age group of 20-79 years. The participants were selected irrespective of their gender.

Data has been collected both from primary and secondary sources. Primary data was collected from 300 beneficiaries using semi-structured household interview schedules. Interview schedule contained 75 questions. The first part of the schedule dealt with the demographic profile of the participant and the remaining sections had both open and close ended questions based on the objectives of the study. It included open ended questions on the history of TPDS, current scenario of TPDS in the district and their suggestions for improvements in the existing scheme. Some secondary information was also collected from Census 2011 to crosscheck the background of the study. The present study were conducted depend upon highest and lowest ration card at district level. i.e., Guntur District is highest and Vizianagaram were lowest ration card holders in Andhra Pradesh.

Review of Literature:

Balakrishnan et al. (1997) studied the effect of the quality of products provided under public distribution system on consumer switches between open market and PDS. The increase in the issue price increases the cost of PDS grain and forces the customers to switch to the open market however the effect is not always direct. Open market was found to be principle source of supply and PDS did not cover most of the households and failed to satisfy the demand.

Mooij (2001) tried to understand why the Public Distribution System failed in the undivided Bihar (Now Bihar and Jharkhand). Political involvement in misallocation of funds, provision of licenses, distribution of cards led to a system of wide spread anarchy and institutionalized corruption, the roots of which are very difficult to tackle. Open involvement of mafia, rangdars, and purposeful blindness of the bureaucrats is a major reason for disempowering the poor and marginalized families who are the rightful recipients of the services. It calls for an urgent reform in the political and socio-economic condition of the state to ensure that the benefits reach the targeted population.

Ramaswamy et al. (2002) studied the inefficiency of state institutions in controlling food prices and managing public distribution system with implications on quality of the products, supply chain and recipient's status. The paper proposes methods to test demand switches from PDS to open market based on quality of the commodities provided. The outcome of the study shows that demand switches will not occur as long as the market price of food grains remains higher than the subsidized grains. Quality of the product becomes the determining factor when the price of the open market is similar to that of the subsidized commodities. The state needs to

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coordinate the price factor as well as the quality of the grains in order to improve procurement.

Bhat et al. (2012) attempted to study the efficiency of PDS in Kashmir. They found a lot of misappropriation in supplies of PDS. They observed that ration shop owners had less profit and often sold their goods in the open market to earn more. The ration shops owners were also involved in misappropriation of supplies and provided much less to the consumers. The supplies were also of lower qualities and were not provided to the beneficiaries on time. They suggested that proper monitoring should be in place so that corruption could be minimized. They proposed that a minimum level of social security must be provided to the old, sick and disabled so as to ensure they do not go hungry.

Chandanshiv et al. (2013) carried out study in Maharashtra found that problems like leakage and benefits given to the Non-poor are a result of exclusion of eligible beneficiaries from the PDS list. They also suggested that PDS can be made universal if it includes other commodities like millets, cereals, pulses and edible oils. They also justified the Notion that PDS alone cannot satisfy the food requirement of the people and advocated the fact that the poor must be empowered to full benefits of programs like PDS. They also cited examples of problems originating due to cash transfer such as unfair exclusion, unjustified inclusion, administrative loss, and possible leakages. They argued that cash could be used for procuring non- food item like liquor which would deny the basic foundation on which PDS stands upon, i.e. giving food security to one and all.

Demographic Profile of the Respondents:

Table-01 District Wise Fair Price Shops And Ration Cards In Andhra Pradesh:

Name of the District	Fair price shops (000.0)	White Ration Cards (in lakhs)	Pink Ration Cards (in lakhs)	Anthyodaya Cards (in lakhs)	Annapurna Cards (000.0)	Total Ration Cards (in lakhs)
Guntur	2973	1,281,568	154,126	82,202	1407	1,519,303
Chittor	2872	900,433	135,827	91,416	1226	1,128,902
East Godavari	2668	1,397,338	167,476	86,674	1612	1,653,100
Krishna	2564	1,081,869	167,306	70,170	638	1,319,983
Anantapur	2513	938,543	82,390	112,485	1300	1,134,718
Visakhapatnam	2228	1,005,183	212,805	77,522	1362	1,296,872
West Godavari	2214	1,046,773	113,178	73,683	1603	1,235,237
Kurnool	2186	1,009,675	73,679	60,946	1511	1,145,811
Prakasam	2135	800,764	87,143	52,157	1036	941,100
Srikakulam	2056	702,175	58,409	52,881	1379	814,844
Nellore(PSR)	1990	715,003	111,473	66,143	1058	893,677
Kadapa (YSR)	1814	663,129	78,057	62,326	1142	804,654
Vizianagaram	1529	549,227	44,975	90,184	1247	685,633

Source: District Handbook As on May-2015

Table-01 clearly indicates that, out of 13 districts in Andhra Pradesh highest ration cards located in East Godavari district White ration cards 1,397,338 and Pink , Anthyodaya and Annapurna cards highest in the same district followed by Guntur district 1,281,568 are White ration cards and all cards second position in the state. White ration cards very less in Vizianagaram district 549,227 pink ration cards are also less in this district and fair price shops are low only 1529 in this district. Annapurna cards are low in Krishna district followed by Prakasam district. Fair price shops highest in Guntur district.

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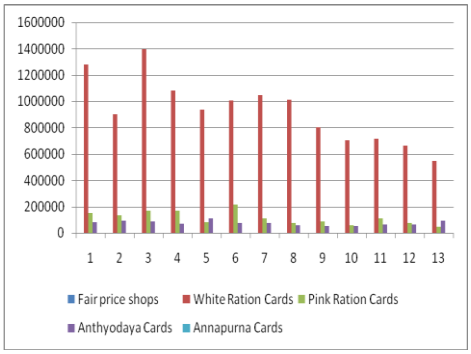


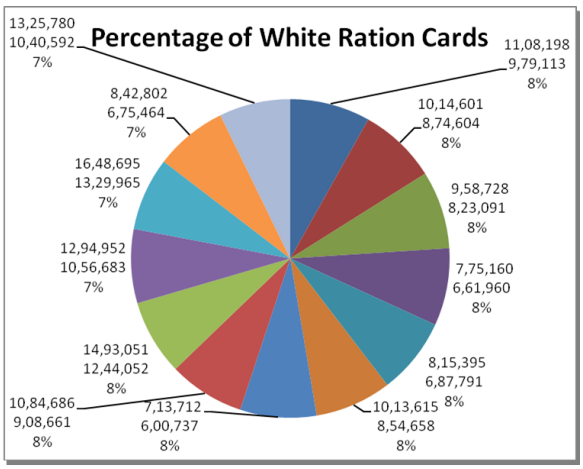
Figure 1: District Wise Fair Price Shops And Ration Cards In Andhra Pradesh:

Table-02Percentage of white ration cards to total ration cards

S. No.	Name of the District	Total Ration Cards (in lakhs)	White Ration Cards (in lakhs)	Percentage of White Ration Cards
01	Anantapur	11,08,198	9,79,113	88.4
02	Prakasam	10,14,601	8,74,604	86.2
03	Kurnool	9,58,728	8,23,091	85.9
04	Srikakulam	7,75,160	6,61,960	85.4
05	Kadapa	8,15,395	6,87,791	84.4
06	Chittor	10,13,615	8,54,658	84.3
07	Vizianagaram	7,13,712	6,00,737	84.2
08	West Godavari	10,84,686	9,08,661	83.8
09	East Godavari	14,93,051	12,44,052	83.3
10	Krishna	12,94,952	10,56,683	81.6
11	Guntur	16,48,695	13,29,965	80.7
12	Nellore	8,42,802	6,75,464	80.1
13	Visakhapatnam	13,25,780	10,40,592	78.5
Combined		1,40,89,375	1,17,37,371	83.3

Source: District Handbook of Statistics Andhra Pradesh As on May-2015

Table-02 shows that highest total number of ration cards in Guntur district 16,48,695 and highest white ration cards in the same district (13,29,965). Another highest in East Godavari district total cards 14,93,051 and white ration cards 12,44,052 total 83.3 per cent white ration cards in total cards. Vizianagaram district is the lowest ration cards to remaining districts (7,13,712) and 6,00,737 white ration cards. Highest ration cards 88.4 per cent in Guntur district and lowest ration cards in Visakhapatnam district 78.5 per cent.



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Table-03 Percentage of pink ration cards to total ration cards

S. No.	Name of the District	Ration Cards Total (in lakhs)	Pink Ration Cards (9n lakhs)	Percentage of Pink Ration Cards
01	Visakhapatnam	13,25,780	2,12,482	16.0
02	Guntur	16,48,695	2,42,065	14.7
03	Krishna	12,94,952	1,77,497	13.7
04	Nellore	8,42,802	1,11,299	13.2
05	East Godavari	14,93,051	1,62,808	10.9
06	Kadapa	8,15,395	78,076	9.6
07	West Godavari	10,84,686	1,01,794	9,4
08	Prakasam	10,14,601	87,241	8.6
09	Chittor	10,13,615	84,363	8.3
10	Vizianagaram	7,13,712	58,900	8.3
11	Kurnool	9,58,728	74,083	7.7
12	Srikakulam	7,75,160	58,336	7.5
13	Anantapur	11,08,198	54,*429*	4.9
Combined		1,40,89,375	15,03,373	10.7

Sources: Source: District Handbook of Statistics Andhra Pradesh As on May-2015

Table-04 Percentage of Anthyodaya and Annapurna Ration Cards to Total Ration Cards

S. No.	Name of the District	Total Ration Cards in lakhs)	Anthyodaya and Annapurna Ration Cards (in lakhs)	Percentage of Anthyodaya and Annapurna Ration Cards
01	Vizianagaram	7,13,712	54,075	7.6
02	Chittor	10,13,615	74,594	7.4
03	Srikakulam	7,75,160	54,864	7.1
04	West Godavari	10,84,686	74,231	6.8
05	Anantapur	11,08,198	74,656	6.7
06	Nellore	8,42,802	56,039	6.6
07	Kurnool	9,58,728	61,554	6.4
08	Kadapa	8,15,395	49,528	6.1
09	East Godavari	14,93,051	86,191	5.8
10	Visakhapatnam	13,25,780	72,706	5.5
11	Prakasam	10,14,601	52,756	5.2
12	Krishna	12,94,952	60,772	4.7
13	Guntur	16,48,695	76,665	4.6
Combined		1,40,375	8,48,631	6.0

Source: District Handbook of Statistics Andhra Pradesh As on May-2015

Table-04 shows that, majority of the ration cards Anthyodaya and Annapurna Ration Cards in East Godavari district are 86,191 cards 5.8 per cent of total cards in the district followed by Guntur district 76,665 Anthyodaya and Annapurna Ration Cards and 4.6 per cent in total cards per cent.In Andhra Pradesh this cards highest in Vizianagaram district are 7.6 per cent and lowest in Guntur district is 4.6 per cent.

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Table-05 Social conditions of the respondents

S.No.	Particulars	Frequency	%	No	Particulars	Frequency	%
A	Age			E	Area		
01	Below-20	043	14.34	15	Urban	143	47.67
02	20-30	106	35.33	16	Rural	073	24.33
03	30-40	074	24.66	17	Semi-Urban	084	28.00
04	40-50	047	15.67	Total		300	100.00
05	50 Above	030	10.00	F	Marital Status		
Combined		300	100.00	18	Married	157	52.34
B	Religion			19	Unmarried	105	35.00
06	Hindu	167	55.66	20	Widow	021	07.00
07	Muslim	092	30.67	21	Divorced	017	05.66
08	Christian	039	13.00	Combined		300	100.00
09	Others	002	oo.67	G	Educational Qualifications		
Combined		300	100.0	22	Illiterate	093	31.00
C	Caste			23	Primary	058	19.34
10	BC-A.B.C.D.E.	139	46.34	24	Secondary	071	23.66
11	SC	124	41.33	25	Inter	046	15.33
12	ST	o37	12.33	26	And Above	032	10.67
Combined		300	100	Combined		300	100.00
D	Particulars	Frequency	Per cent	H	Particulars	Frequency	
13	Joint family	189	63.00	27	Male	197	64.66
14	Nuclear family	111	37.00	28	Female	103	34.34
Combined		300	100.00	Combined		300	100.00

Source: Primary Data

An analysis of Table -05 shows that, out of 300 respondents majority 106 (35.33 per cent) are in age group of 20-30 years followed by 74 (24.66 per cent) in age group 30-40 years. About 47(15.67 per cent) respondents are 40-50 years.43 (14.34 per cent) respondents are the age of below 20 years followed by 30 (10.00 per cent) respondents age above 50 years.167 (55.66 per cent)respondents belong to Hindu religion. 92 (30.67 per cent) belong to Muslim's.39 (13.00 per cent) belong to Christians .Only 2 (0.67 per cent) belong to other religions. Majority of the respondents 139(46.39 per cent) belongs to BC category followed by 124(41.33 per cent) belong to SC's .Remaining 37(12.33 per cent) are ST's. The present study to cover Urban area informal labourers are highest 143(47.67 per cent) followed by 84(28.00 per cent) respondents are semi-urban areas. Remaining 73(24.33 per cent) are Rural areas. The big majority 157(52.34 per cent) respondents are married.105 (35.00 per cent) are unmarried. And 212(7.00 per cent) respondents are widowed. Only 17(5.66 per cent) respondents are Divorced. Out of 300 respondents 93(31.00 per cent)are who do not know read and write. Studied up to primary level 58(19.34 per cent) And 71 (23.66 per cent) are studied secondary level followed by46(15.33 per cent) are Inter level. Remaining 32(10.67 per cent) studied Graduate level. Majority of the respondents are males followed by females.

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Table-06.Economic Conditions of the Respondents

S. No	Particulars	Frequency	Per cent	No	Particulars	Frequency	Per cent
A	Family size			D	Mode of House		
01	Below-3	112	37.33	13	Katcha	137	45.66
02	3-5	078	26.00	14	Pacca	119	39.67
03	5-7	053	17.67	15	All Katcha	044	14.67
04	7 Above	057	18.00	Combined		300	100.0
Combined		300	100.00	E	Monthly Income (In.Rs.)		
B	Number of Earning Members			16	Below-3000	054	18.00
05	Below-2	063	21.00				
06	2-4	077	25.66	17	3000--6000	123	41.00
07	4-6	126	42.00	18	6000-9000	094	31.34
08	6 Above	034	11.34	19	9000 Above	029	09.66
Combined		300	100.0	Combined		300	100.0
C	Type of House			F	Mode of Transport		
09	Own	081	27.00	20	By Walk	089	29.67
10	Rented	127	42.34	21	Bicycle	046	15.33
11	Government	068	22.66	22	Bus	092	30.66
12	Occupied	024	O8.00	23	Auto	073	24.34
Combined		300	100.0	Combined		300	100.0

Table-06 clearly indicates that, out of 300 respondents majority 192(37.33 per cent) family size below 3 members. 78(26.00 per cent) respondents family size 3-5 members. About 57 (18.00 per cent) respondent family size above 7 members followed by 53(17.67 per cent) family size 5-7. Number of earners in the family of the study area. 126(42.99 per cent) are 2-4 members. And 63(21.00 per cent)are only 2 members. Remaining 34(11.34 per cent)are above 6 earners. Majority of the respondents covered in the study 127(42.34 per cent) stay in rented house 81(27.00 per cent)are stay in own houses followed by 68(22.66 percent)are living in Government housesw.137(45.66 per cent) of respondents made of houses has katcha typed.119(39.67 per cent) houses are pacca building. Remaining 44(14.67 per cent) houses are all katcha typed. Monthly income earned by the informal labourers in the present study reveals that 123(41.00 per cent) labourers monthly earning Rs.3000-6000.Another 94(31.34 per cent) earning Rs. 6000-9000. 54 (18.00 per cent)earning as below as Rs. 3000. Only 29 (9.66 per cent) respondents earning Rs.9000 above. Mode of transport utilized to the respondents is showed in this table. Majority of the respondent 92(30.66 per cent) are using Bus facility. 89(29.67 per cent) respondents walk. Another 73(24.34 per cent) are using Auto Rickshaw followed by 46(15.33 per cent) using bicycle facility.

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Table-07 Number of Years of Possession of Ration Cards Among BPL, APL and AAY Beneficiaries

S. No	No. of Years	BPL Beneficiaries	APL Beneficiaries	AAY Beneficiaries	Total	Per cent
01	Below 2	12 (12.0)	07 (07.0)	39 (39.0)	58	19.34
02	2-4	27 (27.0)	18 (18.0)	20 (20.0)	65	21.67
03	4-6	39 (39.0)	24 (24.0)	08 (08.0)	71	23.66
04	6-8	10 (10.0)	19 (19.0)	27 (27.0)	56	18.67
04	8-10	04 (04.0)	23 (23.0)	06 (06.0)	33	11.00
05	10-12	06 (06.0)	09 (09.0)	00 (00.0)	15	05.00
05	Above 12	02 (02.0)	00 (00.0)	00 (00.0)	02	00.66
Combined		100 (100.0)	100(100.0)	100(100.0)	300	(100.00)

Source: Primary Data

Table-07 shows that ,majority of the respondents are possession of ration cards within the period of 4-6 years 39.0 per cent and followed by 27 respondents. APL respondents are possession of ration cards 4-6 years period (24.0 per cent). 23.0 per cent respondents are possession of ration cards within the period of 8-10 years. AAY respondents possession of ration cards 39.0 per cent within the below 2 years. 27.0 per cent respondents are possession of ration cards 6-8 years. Among the all categories of beneficiaries possession of cards 71 (23.66 per cent) 4-6 years. 65 (21.67 per cent) of the respondents are 2-4 years. 56 (18.67 per cent) respondents are 6-8 years. Followed by 58 (19.34 per cent) of the respondents below 2 years.

Table-08 Preference for Gains Transfers among APL, BPL and AAY Beneficiaries (In. Months)

S. No.	Preference of Cash Transfers	APL Beneficiaries	BPL Beneficiaries	AAY Beneficiaries	Total Respondents	Per cent
01	Yes	057 (57.0)	073 (73.0)	079 (79.0)	209	69.67
02	No	043 (43.0)	027 (27.0)	021 (21.0)	091	30.33
Combined		100 (100.0)	100 (100.0)	100 (100.0)	300	(100.0)

Source: Primary Data

In the above table-08 analysis that, 57.0 per cent of the total APL respondents demonstrated inclination towards cash transfer, while 73.0 per cent BPL and AAY 79.0 per cent respondents felt a need for cash. This shows that the need for cash transfer is much more for the APL category than the BPL and AAY category. It can be observed from the above tables that nearly 27.0 per cent of the BPL respondents were not satisfied about opting for cash in place of grains. This shows that TPDS is termed as a much stronger food security measure for the BPL rather than the APL and AAY respondents.

Table-09 Amount of Cash Required Among APL BPL And AAY Respondents (In .Months)

S. No.	Amount of Cash In. Rs.	APL Beneficiaries	BPL Beneficiaries	AAY Beneficiaries	Total	Per cent
01	100-200	04 (04.0)	17 (17.0)	28 (28.0)	049	16.33
02	200-300	23 (23.0)	39 (39.0)	41 (41.0)	103	34.34
03	300--400	31 (31.0)	37 (37.0)	24 (24.0)	092	30.67
04	400-500	13 (13.0)	05 (05.0)	07 (07.0)	025	08.33
05	500-Above	29 (29.0)	02 (02.0)	00 (00.0)	031	10.33
Combined		100(100.0)	199(100.0)	100(100.0)	300	(100.0)

Source: Primary Data

The Table-09 indicates that, Around 41.0 per cent of the AAY respondents felt the need of rupees 200-300 expenditure so as to meet the extra food requirements of their family members, while 39.0 per cent of the BPL respondents felt the need for the same.29.0 per cent APL respondents felt the need of rupees 500 and above spent on food items. In the study area respondents out-of-pocket expenditure for procuring food grains remains a major problem. So no matter how much food is provided to the beneficiaries at subsidized prices still the need for extra cash is felt among all. The need for more money is felt by the APL respondents because they get fewer

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amounts of commodities for monthly use than their BPL and AAY counterparts.

Table10 Monthly Cash Transfers of APL, BPL and AAY Respondents

S. No.	Monthly Cash Transfers	APL Beneficiaries	BPL Beneficiaries	AAY Beneficiaries	Total	Per cent
01	Below-1	02 (02.0)	19 (19.0)	48 (48.0)	69	(23.00)
02	1-2	12 (12.0)	21 (21.0)	24 (24.0)	57	(19.00)
03	2-3	19 (19.0)	34 (34.0)	21 (21.0)	74	(24.66)
04	3-4	54 (54.0)	26 (26.0)	07 (07,0)	87	(29.00)
05	4 -Above	13 (13.0)	00 (00.0)	00 (00.0)	13	(04.34)

Source: Primary Data

Table-10 evident that nearly 34.0 per cent of the BPL respondents felt the need for cash transfers 2-3 times a month while 54.0 per cent of the APL respondents felt the 3-4 times a month 24.0 per cent of the respondents felt the need of cash transfers below 2 times in a month.. Again the need of frequent cash transfers can be attributed more to the APL respondents owing to less quantity of items received by them on a monthly basis. It was found that 66.0 per cent of BPL households have a bank or post office account as opposed to 79.0 per cent of the APL households. The nearest Bank or Post Office for is within 1-2 km for 79.0 per cent APL and 66.0 per cent BPL and 42.0 per cent AAY respondents. So distance of bank did not play an important role in opting for cash transfers as the banks are present within minimum of 1-2 km from their homes. A large number of respondents complained about the attitude of the bank officials. Use of e-pass system introduced in Andhra Pradesh and Biometric Cards also came up as a new method of monitoring.

Table-11Mode of receiving cash transfer among APL, BPL and AAY beneficiaries

S.No.	Mode of Transfer	APL Beneficiaries	BPL Beneficiaries	AAY Beneficiaries	Total	Per cart
01	Direct Cash	05(05.0)	12(12.0)	08(08.0)	025	(08.33)
02	Account Transfer	71(71.0)	64(64.0)	54(54.0)	189	(63.23)
03	No Account Holders	22(22.0)	13(13.0)	32(32.0)	067	(22.23)
04	Not Benefited	02(02.0)	11(11.0)	06(06.0)	019	(06.21
Combined		100(100.0)	100(100.0)	100(100.0)	300	(100.0)

Source: Primary Data

Table-11indicates that, majority 71 (71.0 per cent) of the APL respondents felt that they would like to receive the cash transfer in form of direct cash while 64.0 per cent of the BPL respondents felt the need to receive cash transfer in their account directly and 254.0 per cent of the AAY respondents felt the need to receive in their account. This suggests that if cash is received directly in hands of BPL beneficiaries their utilization can be less than APL and AAY beneficiaries who want their cash to be transferred to their bank accounts. It is important to know that directly transferring cash in to the hands of the beneficiaries will result in severe corruption and malpractices. It can be also speculated that extra cash will be used in buying non- food grain commodities rather than food grain commodities.

Table-12 Distance of TPDS outlet to houses of the respondents

S. No.	Distance of TPDS Outlet (in. k.m.)	APL Beneficiaries	BPL Beneficiaries	AAY Beneficiaries	Total	Per cent
01	Below-1	63 (63.0)	49(49.0)	23 (23.0)	135	(45.00)
02	1-2	14 (14.0)	21 (21.0)	35 (35.0)	070	(23.34)
03	2-3	05 (05.0)	17 (17.0)	19 (19.0)	041	(13.66)
04	3-4	16 (16.0)	05 (05.0)	10 (10.0)	031	(10.33)
05	4- Above	02 (02.0)	08 (08.0)	13 (13.0)	023	(07.67)
Combined		100 (100.0)	100 (100.0)	100(100.0)	300	(100.0)

Source: Primary Data

Table-12 shows that, majority of the APL respondents felt that out of 100 (63.0) per cent below 1. k.m. and 16.0 per cent respondents within 3-4 kms. Followed by 14.0 per cent respondents are1-2 kms. In comparison

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with BPL beneficiaries out of 100 (49) BPL respondents 21 did not feel the need of cash over grains whose homes were within 2 kilometres from the Fair Price shops and 05 respondents felt 3-4 kms. This shows that distance of TPDS outlet from their respective homes could not be considered a reason for cash transfer. AAY beneficiaries felt that distance between outlets to houses 1-2 kms(35.0 per cent).

Table-13Quality of food grains received among apl, bpl and aay beneficiaries

S. No.	Quality of Gains	APL Beneficiaries	BPL Beneficiaries	AAY Beneficiaries	Total	Per cent
01	Very Good	09(09.0)	19(19.0)	24(24.0)	052	(17.34)
02	Good	46(46.0)	28(28.0)	51(51.0)	125	(41.66)
03	Average	23(23.0)	22(22.00	07(07.0)	052	(17.34)
04	Poor	22(22.0)	31(31.0)	18(18.0)	071	(23.66)
Combined		100(100.0)	100(100.0)	100(100.0)	300	(100.0)

Source: Primary Data

Table-13 revels that, Out of 100 APL respondents 46 felt the need of cash transfer owing to the good quality of grains while 22.0 per cent feel poor quality items are being supplied by the government. So there was a marginal difference between accepting cash over grains and not accepting it owing to average quality of grains provided at the TPDS outlet. Similar results were also obtained while taking in consideration APL respondents which showed that quality of grains did not matter while considering cash over grains. The BPL respondents felt that 31.0 per cent food grains are poor quality.AAY beneficiaries felt that 51.0 per cent good quality of food grains available at TPDS outlets. Thus, overall TPDS outlets 41.66 per cent respondents feel good quality of food grains available at FP.Shops.

Table-14 Total Transit Time from the TPDS Outlets among APL, BPL And AAY Beneficiaries

S. No.	Total transit Time from FP.Shops (in. hrs)	APL Beneficiaries	BPL Beneficiaries	AAY Beneficiaries	Total	Per cent
01	Below-1	64(64.0)	23(23.0)	16(16.0)	103	(34.34)
02	1-2	15(15.0)	56(56.0)	31(31.0)	102	(34.00)
03	2-3	12(12.0)	19(19.0)	46(46.0)	077	(35.66)
04	3 Above	09(09.0)	02(02.0)	07(07.0)	018	(06.00)
Combined		100(100.0)	100(100.0)	100(100)	300	(100.0)

Source: primary Data

Table-14 also found that out of 100 APL respondents 64.0 per cent preferred cash in place of grains even if time taken by them to go and come back from the TPDS outlet was below 1 hour. 15.0 per cent respondents did not prefer cash even though it took them 1-2 hours for going and coming back from the TPDS outlet. One possible reason for wanting cash could be reducing the time wasted every month on a particular date for procuring food grains. The wasted time could be also utilized for doing other productive work. Out of 100 BPL respondents 56.0 per cent of them said to a cash transfer scheme even if the time taken to come and go back from the TPDS dealer was within 1-2 hours. 23.0 per cent of them took below 1 hour for the to and fro journey from the TPDS dealer and preferred cash over grain subsidies. So the distance of the FPS shop doesn't play an important role in opting for cash transfers while the respondents are not able to procure TPDS commodities on time. Out of 100 AAY respondents 46.0 per cent 2-3 hours spend at FPS.

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Table-15 Attitude of TPDS Dealer among APL, BPL And AAY Respondents

S. No.	Attitude of the TPDS - dealers	Combined Response	
		Yes	No
1.	Fair	194 (64.6)	106 (35.34)
2.	Satisfactory	231 (77.0)	069 (23.0)
3.	Unfair	089 (29.6)	211 (70.34)
4.	Neutral	123 (41.0)	177 (59.0)
Combined		(100.0)	(100.0)

Source: PrimaryData

Table-15 reveals that Attitude of the TPDS dealer played an important role in cash transfer as nearly 231 (77.0 per cent) respondents out of 300 felt that the behaviour of the TPDS dealer was satisfactory towards them. Out of 300 (64.66 per cent)) respondents were in favour of fair relations. 123 (41.0 per cent) were Neutral of their opinion.

II. SUMMARY AND FINDINGS

This paper helped in throwing light on the status of TPDS in Andhra Pradesh. The objectives of this paper were to evaluate the issues related to access, utilization and perception of TPDS among APL, BPL and AAY beneficiaries, to examine the process of procurement, storage and distribution of commodities in Andhra Pradesh and to study respondents' opinion about cash transfer in place of subsidized food grains among APL and BP land AAY beneficiaries. The major findings and solutions have been discussed below.

Rice holds primary importance when compared with the two other produces, namely, wheat and kerosene, because people here are predominantly consumers of rice and very little wheat. Kerosene is used as a fuel for cooking, is the second most important product as it has replaced the need to collect firewood for day-to-day cooking and is thus very important for the respondents. On an average people living above poverty line receive 7 kgs of wheat every month and 4 litres of kerosene, and people living below poverty line receive 25 kgs of rice, 10 kgs of wheat and 4 litres of kerosene. PDS has succeeded in securing minimum food requirements yet it is often insufficient for large families. For a low income level family this out of pocket expenditure takes a toll on their finances

APL candidates have owned ration card for a longer duration and their number of service users is also higher than BPL. As expected they seem to be more privileged than the people living in poverty. However, APLs also agreed to have paid a bribe for acquiring ration card but a higher number of BPL respondents had to pay a bribe for it. The issue of corruption within the system remains a major reason behind the dissatisfaction of the service users.

Respondents gave positive feedback about the functioning of the Fair Price Shops in terms of timing and opening but were largely dissatisfied with the attitude of the distributors. Another problem was the deficiency of cash at the time of purchase. Everybody was interested in buying the commodities from Fair Price Shops but lacked the means. Another complaint that persisted within both the groups was about the quality of grains that was provided to them. It was unanimously agreed that the quality of the product ranged from poor to average and was a major reason for switching over to open markets. Cash transfer has been chosen by all the respondents as the future forward. It was important to note the reasons behind this shift in order to understand the underlying causes of failure. The possible reasons are discussed below.

It can be concluded that for a family size of more than 3 out of a total 50 APL beneficiaries nearly 32 beneficiaries felt that the quantity of rice supplied to them is not sufficient to meet family needs. It became

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evident that nearly 60% of the BPL respondents felt the need for cash transfers more than 4 times a month while 92.0 per cent of the APL respondents felt the same. Poor economic situation has prompted this shift in choice.

Thus, given the prevailing dissatisfaction among the respondents that became evident during this survey, it is the duty of the policy makers to keep them updated with the requirements with respect to the family size and grain proportions as well as quality of the goods to ensure that the scheme satisfies those groups that are largely unhappy with its performance. There is immense potential in the scheme to emerge as the best food security measure provided issues around corruption, mismanagement and general State apathy is dealt with.

Policy Recommendations for Existing TPDS

The current system takes in to consideration the different categories of beneficiaries according to the older census which was held a decade long back. The need of the hour is to include beneficiaries who are really eligible to be on the list. By this a huge number of exclusion and illegal inclusion errors can be corrected. There has been rampant supply of illegal cards to multiple family members of the same households; this has to be corrected

First so that the benefits of the TPDS system can go to those for which it is intended to be. TPDS is a mainly pro poor but there should be also more focus on the APL beneficiaries also. The amount of entitlements for the APL categories should be increased. Regarding cash transfers it should be ensured that money is given into their accounts directly instead of direct cash so that corruption can be curbed. Due to rising trends of prices of several commodities extra cash should be given in accordance with the food subsidies incurred. Cash along with monthly food grain entitlements can be a better way of increasing the current efficiency of the system. There should be more necessary items included in the TPDS list rather than the items which are generally given. The current system is efficient enough if all the stakeholders understand their responsibilities and work together. The vision of ensuring food security for the poor can be made more productive if the above made suggestions are taken in to purview of the current system.

- Good Quality of Rice should be supply.
- Per head quantity of food item increased.
- Fair Price Shops open round the year.
- Fair Price Shops were increased.

Government Control and monitoring on fair price shop. e-POS (Point Of Sale) system should implement immediately. TPDS has a large exclusion error and doesn't reach most of the poor Storage and warehousing capacity increasing. Biometric system should implement for Ration card holders at Fair Price Shops. The FPS-wise information on delivery and receipt should be computerized at the block level for onward transmission and monitoring.

It is proposed that the retail PDS outlets be handed over to cooperatives or self-help groups (SHGs) of the poor, wherever possible. These SHGs/ Cooperatives may be helped to get bank finance to run their FPS outlets.

Late arrival of food grains at FPS is an important constraint in the timely distribution of TPDS grains.

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A STUDY ON MSMES IN TAMIL NADU

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Abstract

Food the income generated in a large number of small enterprises is distributed more extensively in the country than the income generated in a few large enterprises. The distinguishing features of the Micro, Small and Medium Enterprises (MSME) arecapital light, skill light, labour-intensive technique of production, mobilisation of latent/local resources, manufacture of exportable products, shorter gestation period and development of traditional art and craft, thereby accelerating the rural industrial development. Now, this MSME Sector is said to be the second highest in employment and is expected to increase the share of manufacturing sector in GDP from 16% in 2016 to 25% in 2022.The major products produced by the MSMEs are electrical products, engineering products, auto ancillaries, leather products, chemical products, garments, textiles, jewelleries and so on.Viewed from this perspective, the major objectives of the study are:

To highlight the role of MSMEs in production and employment generation

To analyse the growth of MSMEs in Tamil Nadu

To describe the type of institutional support offered to MSMEs in Tamil Nadu.

I. INTRODUCTION

Classification of MSMEs

According to the MSMED Act, 2006, the MSMEs are classified into two broad categories as, manufacturing and service enterprises. The classification of the MSMEs, on the basis of their investment on plant and equipment (excluding land and building) is explained in Table 1. Classification of MSMEs

According to the MSMED Act, 2006, the MSMEs are classified into two broad categories as, manufacturing and service enterprises. The classification of the MSMEs, on the basis of their investment on plant and equipment (excluding land and building) is explained in Table 1.4

Table 1 Classification of MSMEs

Category	**Investment Level**	
	Manufacturing Enterprises	**Service Enterprises**
Micro	Below Rs.25 Lakhs	Below Rs.10 Lakhs
Small	Rs.25 Lakhs – Rs.5 Crores	Rs.10 Lakhs – Rs.2 Crores
Medium	Rs.5Crores – Rs.10 Crores	Rs.2 Crores – Rs.5 Crores

Source: Annual Policy Note, 2017-18, Demand No.44, Micro Small and Medium Enterprises Department, Government of Tamil Nadu, p.8

Role of the MSME Sector in Production and Employment

The MSME sector has recorded a high rate of growth in terms of both production and employment, thereby ensuring more equitable distribution of national income and an effective mobilization of the scarce resources of capital and skill which might otherwise remain unutilized as shown by Table 2 given below.

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Table 2 Growth of MSMEs in Tamil Nadu

Year	Registered Units (Numbers)	Investment (Rs. Crores)	Production (Rs. Crores)	Employment (Numbers)
2007 – 08	27,209	2547.14	8739.95	2,42,855
2008 – 09	32,049	3557.89	13,354.86	2,94,255
2009 – 10	41,799	3214.22	10,880.01	1,51,743
2010 – 11	57,902	5872.37	12500.86	4,05,233
2011 – 12	70,758	7429.59	15,496.00	5,02,381
2012 – 13	83,348	8,751.54	17,503.08	5,83,436
2013 – 14	1,16,393	18,939.87	16,832.25	4,94,990
2014 – 15	1,43,104	24,349.65	59789.70	6,51,180
2015 – 16*	1,42,136	34,411.90	59,332	8,15,315
2016 – 17	2,67,310	36,221.78	NA	18,97,619

Source: Annual Policy Note, 2017-18, Demand No.44, Micro Small and Medium Enterprises Department, Government of Tamil Nadu, p.84.

Note: NA-Not Available

Table 2 reveals growth trends in relation to the number of units registered, investment, production and employment in the MSME sector. Registered units increased from 27,209 in 2007-08, to 2, 67,310, in 2016-17.In the same way, investment rose from 2547.14 crores to 36,221.78 crores, during the same period. Production grew more than 6 times, from 8739.95 crores in 2007-08 to 59,332 crores, during the period, 2015-16. Further, MSMEs are labour intensive and, therefore, create immediate large scale employment per unit of capital employed. Thus, employment in the MSME sector had increased by more than 9 times, from 2, 42,855 in 2007-08, to 18, 97,619, in 2016-17.

Problems of MSMEs

The organizational pattern of the MSMEs places them at a distinct disadvantage vis-a-vis the large scale sector. Some of the problems faced by the MSMEs are mentioned below:

Problem of raw material in the form of absolute scarcity, poor quality and high cost

Problem of finance due to scarcity of capital in the country and weak credit worthiness of small units

Problem of marketing due to competition from large scale sector

Problem of under-utilization of capacity due to inadequate power supply

Other problems like, technological obsolescence, lack of organized market channels, imperfect knowledge of market conditions and so on.

Institutional Support to MSMEs

Accessibility of the institutional support is essential to create the economic environment more favourable to small scale business or industry. The MSME Department of Tamil Nadu provides institutional support to MSMEs through the organizations as mentioned below:

- The Commissionerate of Industries and Commerce
- The Tamil Nadu Small Industries Development Corporation Limited (TANSIDCO)
- The Tamil Nadu Small Industries Corporation Limited (TANSI)
- The Tamil Nadu Entrepreneurship Development Innovation Institute (EDII-TN)
- Cooperative Sector Institutions such as, Tamil Nadu Industrial Cooperative Bank (TAICO)
- The Commissionerate of Industries and Commerce

It promotes the development of industries in general and MSMEs in particular. The District Industries Centres (DICs) in the 32 districts are

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controlled by this Commissionerate. DICs offer a number of services to the MSMEs, such as –

- Creating awareness on viable activities
- Preparing of project profiles
- Getting financial assistance from banks
- Statutory clearances from government offices
- Sanction and payment of eligible subsides

The Tamil Nadu Small Industries Development Corporation Limited (TANSIDCO)

The TANSIDCO was set up in 1970, under the Companies Act, 1956, to provide quality infrastructure and cater to the primary developmental needs of the MSMEs, such as,

- Procuring and distributing scarce raw materials
- Supplying machinery at hire purchase system
- Providing marketing assistance

Constructing industrial estates/sheds on an economic scale in "suitable sites with facilities of water, transport, electricity, bank, post office, first-aid, technical guidance and common service facilities" (Alexander, 1963).

- Extending management assistance to production units
- Providing seed capital assistance on behalf of the State Government
- The Tamil Nadu Small Industries Corporation Limited (TANSI)

TANSI was established in 1965, under the Companies Act, 1956, by taking over 64 industrial units which were regulated by the Directorate of Industries and Commerce. Currently, TANSI has 24 production units all over Tamil Nadu and 2 show rooms in Namakkal and Trichy.

So many TANSI Units come under ISO-9001:2008 Certification, as mentioned below:

- TANSI Pump Unit, Ambattur
- TANSI Tools and Engineering Works, Trichy
- TANSI Fabrication Works, Palani
- TANSI Fabrication Works, Rajapalayam
- TANSI Fabrication Works, Vellore
- Tamil Nadu Paints and Allied Products Limited, (TAPAP), Ambattur

The value of the products and materials supplied by the TANSI, to various departments in Tamil Nadu during the year, 2016-17 are furnished in the following table.

Table 3The value of the products and materials supplied by the TANSI, to various departments in Tamil Nadu, 2016-17

Products and Materials Supplied by the TANSI, to various Departments in Tamil Nadu	**Value** (Rs. Crores)
Line materials to TANGEDCO[1]	12
Dual desks to various government schools through School Education Dept[*]	7
SLM[2] kit to upper primary schools under the scheme of SSA[**]	2
Lab furniture to government colleges through Higher Education Dept	3.50
Compactors to High Court, Chennai	2
Steel and wooden furniture under the scheme of ICDS[***]	2
Steel and wooden furniture to Animal Husbandry Dept	1
Steel and wooden furniture to DET[****]	1
Office furniture to Law University	1
Office furniture to Public Works Dept	0.78

Source: Annual Policy Note, 2017-18, Demand No.44, Micro Small and Medium Enterprises Department, Government of Tamil Nadu, p.69.

Note : 1 Tamil Nadu Generation and Distribution Corporation Limited,2 Students Learning Maths * Department,**Sarva Shiksha Abhiyan, ***Integrated Child Development Service ****Directorate of employment and Training

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The Tamil Nadu Entrepreneurship Development Innovation Institute (EDII-TN)

(EDII-TN) was established in 2001 as a not for profit society, administered by the MSME Department, Government of Tamil Nadu. Since inception, EDII-TN has provided training to 1.45 lakh entrepreneurs.

Tamil Nadu Industrial Cooperative Bank (TAICO)

TAICO Bank was started in 1961with 44 branches functioning all over the state to cater to the financial requirements of the industrial cooperative societies as well as to extend all types of loans to MSMEs in the state.

MSME Development Programmes

Marketing Assistance

- The marketing assistance services rendered by the government to the MSMEs are described below:
- Exemption of earnest money deposits for participation in tenders
- Granting of 50% of hall rent as subsidy for participation in exhibitions conducted by MSME Associations
- Assistance for marketing under a common banner or brand name.
- Upgradation of Technical Skill
- Diploma courses on technical skill are offered by various government institutions in Tamil Nadu, as listed below:
- Government Technical Training Centre, Guindy, Chennai
- Institute of Tool Engineering, Dindugal
- Institute of Ceramic Technology, Virudhachalam and
- Government Scientific Glass Training Centre, Coimbatore.
- Awards to Entrepreneurs and Banks

The following awards are offered to the best entrepreneurs by the government of Tamil Nadu as incentives to promote MSME sector.

Table 4Awards to Entrepreneurs and Banks

Award Particulars	Cash Prize (in Rs.)	Momento (worth Rs.)
Best Entrepreneur at State Level	50,000	10,000
Best Entrepreneur at State Level for Agro - based Industries	50,000	10,000
Best Entrepreneur at State Level for Quality and Export	50,000	10,000
Best Women Entrepreneur at State Level	50,000	10,000
Best Entrepreneur at DistrictLevel	-	10,000
Chief Minister Award to the Bank which extends financial Assistance	-	30,000 (I Prize) 20,000 (II Prize) 15,000 (III Prize)

Source: Annual Policy Note, 2017-18, Demand No.44, Micro Small and Medium Enterprises Department, Government of Tamil Nadu, p.32.

Besides these awards, incentives are offered to 10,073 MSMEs which have availed MOUs during the Global Investors Meet, conducted by the government of Tamil Nadu in 2015, for an investment of Rs.16, 532.67 crores.

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Subsidies Offered to MSMEs

Table 5 Subsidies Offered to MSMEs, 2016-17

Subsidy Particulars	**Amount Allotted/Utilized** (in Rs. lakhs)	**No. of Units**
Capital subsidy	41000	8402
VAT[1] subsidy	684.63	390
Generator subsidy	800	587
LTPT[2] subsidy	664.16	857
UYEGP[3]	3375	5368*
PMEGP[4]	3425.80	1395*

Source: Annual Policy Note, 2017-18, Demand No.44, Micro Small and Medium Enterprises Department, Government of Tamil Nadu, p.32.

Note: 1 Value Added Tax, 2 Low Tension Power Tariff subsidy, 3 Unemployed Youth Employment Generation Programme, 4 Prime Minister Employment Generation Programme, * No. of persons.

Table 5 shows that, among the various subsidies offered to the MSME sector, capital subsidy amounting to Rs.41000 lakhs, occupies the predominant place in extending assistance to the highest number of 8402 enterprises in the MSME sector. Capital subsidy of 25% on plant and machinery up to a maximum of Rs.30 lakhs is offered to all new micro enterprises functioning in the state and all new small and medium enterprises belonging to the following 13 thrust sectors of the state :

- Electrical and electronic industry
- Leather and leather goods
- Auto parts and components
- Drugs and pharmaceuticals
- Solar energy equipment
- Gold and diamond jewellery for exports
- Pollution control equipments
- Sports goods and accessories
- Cost effective building material
- Readymade garments
- Food processing
- Plastic
- Rubber products

II. CONCLUSION

The MSMEs in developing economies contribute much to poverty eradication, rural development and balanced regional development. If this MSME sector is properly nurtured by entrepreneurs, government officials and financial institutions, it will boost the capital formation and some of the smaller units may grow to be medium and large industries, thereby enhancing the output of agriculture, industry and services for ultimate raising of the G.N.P.

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IMPACT OF INDIA'S FOREIGN TRADE WITH ASEAN ON ECONOMIC GROWTH OF INDIA

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Abstract

ASEAN is fourth largest trading partner with India. India's percentage share of exports to ASEAN had increased significantly during last two decades. The growth rate on exports to ASEAN was negative during Asian crisis, subprime crisis and weakening global demand in the recent past. The worst shock was during Asian crisis. India's imports from ASEAN had lesser negative growth rates compared to its exports. There is consistent increase in the percentage share of India's imports from ASEAN since post subprime crisis. Therefore, India has negative net exports with ASEAN for last two decades. It has increased multifold since last decade. The study employed the Augmented Dickey Fuller (ADF) test for unit root to test stationarity of the data, and variables were found to be integrated in mixture of order zero and one. Autoregressive Distributed Lag (ARDL) Approach to Cointegration Model was applied to examine whether the variables are cointegrated or not, Bound Test findings shows the presence of long run association between the variables. Long run estimates showed the presence of a positive and significant relationship between India's Exports to ASEAN and its economic growth. In the short run the impact of Exports to ASEAN with one lag had negative significant impacton GDP of India.

I. INTRODUCTION

India has shared a close relationship with ASEAN countries since the time of its independence. It started expanding its influence in the Southeast Asian region during the 1950s by supporting the Indonesian struggle for independence and involving itself in the Indochina crisis in the 1960s. It also signed friendship treaties with Indonesia, Myanmar and the Philippines and consolidated its bilateral and diplomatic relations with them. However, with the signing of an "IndiaSoviet Peace and Friendship Cooperation Treaty", relations between India and ASEAN took a downturn. Through the 1980s, relations between India and ASEAN were uncertain and plagued by various political and diplomatic differences which resulted in a compromise of economic relations between them.However, with the collapse of the Soviet Union, India embarked on re-orienting its foreign policy priorities. India initiated its Look-East policy and began reviving its economic relations with Southeast Asia. ASEAN too realized the importance of India as the third-largest economy in Asia and an emerging regional power and saw its significance for ASEAN's political and economic future. Trade is one of the principal channels of India's economic integration with ASEAN. With large potential for India and ASEAN countries to develop trade relations, it is one of the primary areas of concentration on both sides. This is especially

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relevant as there is growing consensus that India's economic structure, being services oriented, is largely complementary to the manufacturing-oriented economies in ASEAN. Trade between ASEAN and India has increased over the past decade, keeping in line with efforts towards economic integration by both sides. One can observe the sharp rise in cumulative exports from India to ASEAN since 2002.

Literature Review

K.Raja Reddy (2005) focuses mainly on India's 'Look East' policy. The papers explore the causes which led to the launching of this policy. Some papers review the success of the policy as well as the challenges attached with it.

Nagesh Kumar et al (2006) address the issues concerning trade liberalization in both regional and multilateral contexts and goes on to examine the prospects for investment flow and trade in financial services and information and communication technology. It also deals with the potential of sub-regional cooperation and the strategic implications of India–ASEAN cooperation which have hitherto received insufficient attention in the literature. India-ASEAN partnership observe the scholars, could also be important building bloc of the emerging broader regional economic cooperation in Asia viz. an Asian Economic Community.

P.V. Rao(2008) is based on the successful implementation of India's 'Look East' policy and how it has shaped the country's relations with ASEAN. The various authors argue that the success of India's 'Look East' policy, as evidenced by intensifying political dialogue, expanding trade and steadily growing people-to-people contacts between the two regions, is because India has responded to national and regional relations.

Ganganath Jha (2008) analyses India and ASEAN relationship. He discusses historical and current cooperation between them briefly and highlights India-ASEAN economic relations and summit level partnership. He further examines China's role in India and ASEAN relationship. The role of ARF and defence relationship is also taken up briefly.

Snehalata Panday (2011) observes that India's 'Look East' policy has resulted in India's economic and strategic partnership with the ASEAN member countries as well as Australia, Japan, Korea, US and Europe. 'Look East' policy's impact has been positive on infrastructure and economic development of northeastern states following India's engagement with ASEAN.

Objectives

This study is based on the following objectives –

- To analyze the trends in Foreign Trade of India with ASEAN.
- To findthe share of ASEAN countries trade with India.
- To identify the impact of India's Exports and Imports withASEAN on Economic Growth of India.

Methodology

The study is based on published sources of data collected from the Ministry of Commerce, Reserve Bank of India's Handbook of Statistics of Indian Economy, Economic Survey and UNCTAD website.

Period of Study

The study is focusing on the impact of India's foreign trade relationship with ASEAN since the Asian crisis 1997. Thereforestudy is undertaken for a period of 20 years from 1997-98 to 2016-17.

Tools Used For Analysis

The study employed the Augmented Dickey Fuller (ADF) Test for unit root, Autoregressive Distributed Lag (ARDL) Approach to Cointegration Model using EViews.

Model Specification

The model is specified as:

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1. GDP = f (EXP_ASEAN) 2. GDP = f (IMP_ASEAN)

Where: GDP – Real Gross Domestic Product, EXP_ASEAN – Exports to ASEAN from India, IMP_ASEAN – Imports from ASEAN to India

Note* All variables are in their log form.

Findings and Discussion

The percentage share of exports, to ASEAN was 7.09 percent in 1997-98 and it was 11.25 percent in 2016-17. The percentage share of exports to ASEANout oftotal exports had an increase by 4.16 percent in the last two decades. With respect to imports from ASEAN countries it was 8.19 percent in 1997-98 and10.57 percent in 2016-17. The percentage share of imports from ASEAN countries out of total exports had an increase by 2.38 percent in the last two decades.

The Asian Crisis had severe impact in ASEAN bloc. The demand got plunged which brought down the annual growth rate of 1998-99 to a negative 25 percent. The imports from ASEAN didn't face negative impact as India was not highly affected due to the crisis. There was a decline in the growth rate during 1999-00 and 2000-01. The impact of the crisis had an impact in their production which caused a decline in growth rate. In 2000-01 imports from ASEAN had negative growth rate of 5 percent. The negative growth rate in India's Exports to ASEAN was witnessedagain during post subprime crisis. Although, there was decline in growth rate of imports from ASEAN due to lack of demand in India during subprime crisis, there was no negative growth rate. In 2015-16, there was negative growth rate in exports and imports from ASEAN.

Table 1: India's Foreign Trade with ASEAN

Year	EXP_ASEAN	% Share in Total Exports	AGR	IMP_ASEAN	% Share in Total Imports	AGR
1997-1998	916,032.54	7.09		1,262,280.47	8.19	
1998-1999	685,741.73	4.91	-25.14	1,816,349.10	10.19	43.89
1999-2000	969,569.78	6.08	41.39	2,005,938.59	9.31	10.44
2000-2001	1,331,143.70	6.54	37.29	1,894,750.91	8.21	-5.54
2001-2002	1,648,716.13	7.89	23.86	2,092,348.88	8.53	10.43
2002-2003	2,235,155.58	8.76	35.57	2,492,441.46	8.39	19.12
2003-2004	2,675,167.42	9.12	19.69	3,415,632.18	9.51	37.04
2004-2005	3,785,878.10	10.09	41.52	4,095,353.47	8.17	19.90
2005-2006	4,609,447.17	10.10	21.75	4,818,583.66	7.30	17.66
2006-2007	5,707,646.89	9.98	23.82	8,191,877.46	9.75	70.01
2007-2008	6,593,187.52	10.05	15.51	9,124,477.50	9.01	11.38
2008-2009	8,652,513.72	10.29	31.23	11,942,145.40	8.69	30.88
2009-2010	8,590,247.20	10.16	-0.72	12,221,977.80	8.96	2.34
2010-2011	11,665,785.26	10.26	35.80	13,943,932.60	8.28	14.09
2011-2012	17,592,624.27	12.00	50.81	20,122,994.63	8.58	44.31
2012-2013	17,941,925.71	10.98	1.99	23,331,605.17	8.74	15.94
2013-2014	20,017,906.47	10.51	11.57	24,959,453.10	9.19	6.98
2014-2015	19,448,105.38	10.26	-2.85	27,340,515.51	9.99	9.54
2015-2016	16,474,619.81	9.60	-15.29	26,074,356.82	10.47	-4.63
2016-2017	20,832,014.43	11.25	26.45	27,246,733.28	10.57	4.50

Source: Ministry of Commerce

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Impact of Foreign Trade with ASEAN on Economic Growth of India

Owing to the fact that time series data is used, in order to avoid spurious regression, the series are first checked whether they are stationary or not. A series is said to be stationary if it is time invariant. To do this, the study employed the ADF Unit Root Test and the result is presented in Table 2.

Table 2ADF Unit Root Test Result

Variables	Level			First Difference			Order
	None	Intercept	Int &T	None	Intercept	Int &T	
GDP	2.59	0.25	-4.60*	-	-	-	I(0)
EXP_ASEAN	3.43	-1.08	-0.85	-1.21	-4.32**	-5.65**	I(1)
IMP_ASEAN	4.54	-1.00	-1.45	-2.46*	-3.84*	-3.73*	I(1)

Source: Author's own computation using EViews.

H0:Unit root in series.

**and* denotes rejecting H0 at 1% and 5% significance respectively.

Table 2- presents the result of the ADF unit root test. Under the ADF test, the null hypothesis of non-stationarity (unit root) is rejected if the test statistic is more negative than the critical values. If a variable is found to be stationary in its raw form without any transformation, it is said to be integrated of order zero i.e. I(0), but if a variable only become stationary after taking its first difference, it is said to be integrated of order one i.e. I(1). From the result above, it can be seen that GDP(Gross Domestic Product) was found to be stationary in its level form. IMP_ASEAN and EXP_ASEANvariable was found to be stationary only after taking their first difference. From the above it is confirmed that variables are integrated of different order, i.e. it is a mixture of I(0) and I(1) variables.

Impact of Exports to ASEAN on Economic Growth of India

In a situation where the variables are integrated of different orders, the next step in econometric analysis is to check for the presence of long run relationship among the variables. To do this, Pesaran et al (2001) proposed the Bound testing to Cointegration Approach to test the presence of long run relationship (cointegration) among the variables.The impact of exports to ASEAN on economic growth of India is test through bound test.

Table 3 Bound Testing Result.

Bound Test F-Statistic	Critical Values		
		I(0)	I(1)
4.943	5%	4.94	5.73
	2.5%	5.77	6.68
	1%	6.84	7.84

Source: Author's own computation using EViews

H0: There is long run relationship among variables.

Table 3presents the ARDL bound testing result, the decision rule of rejecting the null hypothesis of no cointegration (no long run relationship) as given by Peseran et al (2011) is if the test statistic is greater than the upper bound. From the Bound testing result above, the test statistic is found to be greater than the upper bound critical values at 5%, thereforethe null hypothesis is rejected and it is concluded that the variables are cointegrated i.e. they have long run relationship.Exports to ASEAN have long run relationship with Gross Domestic Product of India.

Long Run and Short run Relationship

Having confirmed the presence of cointegration, the next step in the analysis is to estimate the long run relationship among the variables. The result is presented in the Table 4.

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Table 4 Long Run Relationship Estimation Result

Variables	Coefficients	T- Statistic
EXP_ASEAN	0.323	15.376
C	15.005	45.789
F – Stat (Prob)	2695.366	

Source: Author's own computation,

H_0: There is no long run relationship

**and* denotes rejecting H_0 at 1% and 5% significance respectively.

From the above, we can thus extract our long run co-integration equation as:

Cointeq = GDP - (0.323*EXP_ASEAN + 15.005)

Table 4 shows the result of long run relationship among the variables i.e. the nature and magnitude of the impacts of independent variable on the dependent variable. From the result presented, EXP_ASEAN was found to have a positive effect on GDP at 5 percent significant level. Since our variables are in their log form, a percentage change in Exports to ASEAN countries leads to 0.323 percent change in GDP.

Table 5 Short Run Estimates and Error Correction Model

Variables	Coefficients	T – Statistic
D(GDP(-1))	0.409	1.812
D(EXP_ASEAN)	-0.031	-1.072
D(EXP_ASEAN(-1))	-0.063	-2.765*
CointEq(-1)	-0.200	-3.136**

Source: Author's own computation,

**and* denotes rejecting H0 at 1% and 5% significance respectively.

Table 5 above shows the short run estimates of the model as well as the Error Correction Term (ECT). The ECT is also known as the speed of adjustment, it captures the speed at which the economy converges to long run equilibrium in a period of one year (depending on the type of series used for analysis) following a shock in the economy. The ECT coefficient is found to be -0.200which implies that about 20 percent convergence towards long run equilibrium is completed in a period of one year.

The short run relationship between EXP_ASEANand GDP was found to be insignificant at 5 percent significance level. The relationship between EXP_SAARC with one lag and GDP was found to be significantly negative in the short run at 5 percent level of significance. A percentage change in the EXP_SAARC with one lag leads to a 0.063 percent decrease in GDP in the short run.

Impact of Imports from ASEAN on Economic Growth of India

The impact of imports from ASEAN on economic growth of India is test through bound test.

Table 6 Bound Testing Result.

Bound Test F-Statistic	Critical Values		
		I(0)	I(1)
1.119	5%	4.94	5.73
	2.5%	5.77	6.68
	1%	6.84	7.84

Source: Author's own computation using EViews

H0: There is long run relationship among variables.

Table 6presents the ARDL bound testing result, the decision rule of rejecting the null hypothesis of no cointegration (no long run relationship) as given by Peseran et al (2011) is if the test statistic is greater than the upper bound. From the Bound testing result above, the test statistic is found to be lesser than the upper bound critical values at 5%, therefore the null hypothesis cannot be rejected and it is concluded that the variables are not cointegrated i.e. they don't have long run relationship. Imports fromASEAN have no relationship with Gross Domestic Product of India.

Residual Diagnostics

There are certain properties in which the residuals of a regression model must satisfy for it to be adjudged as fit for acceptance. The conditions are; the residuals must be normally distributed, it must be free from serial correlation and finally, it must be homoscedastic i.e. it must have constant variance. To examine whether or not the residual is free from

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serial correlation, the study adopted the Breusch LM Serial Correlation test. To identify whether the residuals are normally distributed, the Jarque Bera Normality test was applied, while to test if residuals are homoscedastic or not, the Breusch-Godfrey Hetroskedasticity test was applied. The results for the model India's exports to ASEAN impact on economic growthare presented in the Appendix (1), (2), (3).The results for the model India's imports from ASEAN impact on economic growth are presented in the Appendix (4), (5), (6).From the results presented in Appendix, the null hypothesis of all the tests is accepted if the probability value is greater than 0.05. The obtained values were greater than 0.05 in all the three tests. Therefore, it is concluded that our models have residuals which are normally distributed and free from serial correlation and heteroscedasticity.

II. CONCLUSION

The findings in the short run and long run are different. In the long run, Exports to ASEAN countries have a positive impact on the economic growth of India whereas it is insignificant in the short run. The exports to ASEAN with one lag have negative impact on economic growth of India. The imports from ASEAN do not have significant impact on India's production capacity. The increase in exports to those nations does contribute to the economic growth of the country. India should augment its exports to have better economic condition in the long term.

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THE IMPACT OF FOREIGN DIRECT INVESTMENT ON THE INDIAN ECONOMIC

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Abstract

FDI in India encompasses a vital role in the economic process and development of India. FDI in Asian country innumerous sectors will achieve intensification in economy through formation of jobs. In this paper the study examines the major features of FDI and also checks the impact of various economic indicators which help to pull the inflow of FDI in Indian economy. The purpose of the study is to find out the status of inflows of FDI in post and pre Liberalized period."For Indians FDI is a responsibility, it means to First Develop India, for global investors FDI is an opportunity in the form of Foreign Direct Investment. FDI play an important role in economic development of a nation. A country's technology level and sectoral development is depending upon the level of FDI inflows. The purpose of this study is to analyze the trend of FDI equity inflows in different sectors and regional offices. This paper also helps to know the share of top investing countries in FDI equity inflows in India. In order to obtain the objectives of this study, we used secondary data for the periods of 2000-2013. The secondary data has been collected from various journals, books, Newspapers and websites etc. The maximum FDI inflows can be seen in the Service and construction sector while telecommunication, computer hardware and drugs sector attract the equal FDI equity inflows i.e. 6% of total FDI inflows. FDI inflow into the country during the Post Liberalization period. Further, the trends of FDI inflow into the country are projected for a period of five years from 2010-11 to 2014-15 using Autoregressive Integrated Moving Average (ARIMA) forecasting technique. The paper tries to examine the various set of factors which influence the flow of FDI Identifying the causes for low inflow and suggestive remedial measures to increase the flow of FDI in India with that of other developing nations in the world.

KeyWords: Determining factors, Foreign Direct Investment,Equity Inflows; Sectors

I. INTRODUCTION

Foreign Direct Investment (FDI) in India is the major monetary source for economic development in India. Foreign companies invest directly in fast growing private Indian businesses to take benefits of cheaper wages and changing business environment of India. Economic liberalisation started in India in wake of the 1991 economic crisis and since then FDI has steadily increased in India.[1][2] It were Manmohan Singh and P. V Narasimha Rao who brought FDI in India, which subsequently generated more than one crore jobs.According to the Financial Times, in 2015 India overtook China and theUS as the top destination for the Foreign Direct Investment. In first half of the 2015, India attracted investment of $31 billion compared to $28 billion and $27 billion of China and the US respectively

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FDI play an important role in economic development of a nation. A country's technology level and sectoral development is depending upon the level of FDI inflows. Basically, foreign direct investment (FDI) is that investment which is done by a company of another country into different business of a country either by buying and taking the controlling of a company in the country or by growing operations of an existing business in that country. With the help of FDI, the foreign direct investors can acquire the voting power or right of an enterprise by making FDI there. Investors invest there to avail a lot of benefits such as to take advantage of cheaper wages, benefits in taxation and some others privileges offered by the host country

Such investments can take place for many reasons, including to take advantage of cheaper wages, special investment privileges (e.g. tax exemptions) offered by the host country. On the other hand, FDI is also beneficial to the host country like FDI help in employment generation and reduce poverty, capital formation and increase in the level of standard transfer of new technology, increase in tax revenues etc. Mainly, host countries provide privilege for FDI investment into infrastructure, information technology, research & development and other projects to boost development.

Objectives

1. To study the trends and pattern of flow of FDI
2. To assess the determinants of FDI inflows
3. To evaluate the impact of FDI on the Indian economy
4. To know the flow of investment in India
5. Foreign direct investment in India: FDI and Economic Growth

The historical background of FDI in India can be traced back with the establishment of East India Company of Britain. British capital came to India during the colonial era of Britain in India. After Second World War, Japanese companies entered Indian market and enhanced their trade with India, yet U.K. remained the most dominant investor in India. Further, after Independence issues relating to foreign capital, operations of MNCs, gained attention of the policy makers. Keeping in mind the national interests the policy makers designed the FDI policy which aims FDI as a medium for acquiring advanced technology and to mobilize foreign exchange resources. With time and as per economic and political regimes there have been changes in the FDI policy too. The industrial policy of 1965, allowed MNCs to venture through technical collaboration in India. Therefore, the government adopted a liberal attitude by allowing more frequent equity.

In the critical face of Indian economy the government of India with the help of World Bank and IMF introduced the macro-economic stabilization and structural adjustment program. As a result of these reforms India open its door to FDI inflows and adopted a more liberal foreign policy in order to restore the confidence of foreign investors. Further, under the new foreign investment policy Government of India constituted FIPB (Foreign Investment Promotion Board) whose main function was to invite and facilitate foreign investment

Starting from a baseline of less than USD 1 billion in 1990, a recent UNCTAD survey projected India as the second most important FDI destination (after China) for transnational corporations during 2010-2012. As per the data, the sectors which attracted higher inflows were services, telecommunication, construction activities and computer software and hardware. Mauritius, Singapore, the US and the UK were among the leading sources of FDI to the country.

According to GYANPRATHA – ACCMAN (Journal of Management, Volume 5 Issue 1, 2013) FDI for 2009-10 at US$ 25.88 billion was lower by five per cent from US$ 27.33 billion in the previous

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fiscal. Foreign direct investment in August dipped by about 60 per cent to approx. US$ 34 billion, the lowest in 2010 fiscal, industry department data released showed. In the first two months of 2010-11 fiscal. FDI inflow into India was at an all-time high of $ 7.78 billion up 77%from $4.4 billion during the corresponding period in the previous year.

In 2013, the government relaxed FDI norms in several sectors, including telecom, defence, PSU oil refineries, power exchanges and stock exchanges, among others. In retail, UK-based Tesco submitted its application to initially invest US$ 110 million to start a supermarket chain in collaboration with Tata Group's Trent. In civil aviation, Malaysia-based Air Asia and Singapore Airlines teamed up with Tata Group to launch two new airline services. Also, Abu Dhabi-based Etihad picked up a 24 per cent stake in Jet Airways that was worth over Rs 2, 000 crore (US$ 319.39 million).

India has received total foreign investment of US$ 306.88 billion since 2000 with 94 per cent of the amount coming during the last nine years.

In the period 1999–2004, India received US$ 19.52 billion of foreign investment. In the period 2004–09, foreign investment in the country touched US$ 114.55 billion, further increasing to US$ 172.82 billion between 2009–September, 2013.

During FY 2012–13, India attracted FDI worth US$ 22.42 billion. Tourism, pharmaceuticals, services, chemicals and construction were among the biggest beneficiaries.

The January–November period in 2013 witnessed mergers and acquisitions deals worth US $ 26.76 billion in India, according to a survey by tax advisory firm Grant Thornton.

Determinants of FDI Inflow To India

The FDI inflows into India have gone up especially in the post-reform period. The share of FDI inflows to India is not significant when it is compared to other developing economies. However, India is a competitor in the market for FDI inflows with the other developing countries. In this context, it is pertinent to assess the determining forces of the FDI inflows into India so as to take policy initiative to create a favorable atmosphere for FDI. Thus, the present section tries to explore the determining factors of FDI inflows into India at the macro level and the factors are known as the pull factors of FDI inflows.

TABLE 1: Estimated FDI Inflows In India During 2010-11 To 2014-15

(amount rs. In cr.)

Year	Estimated Amount	% of Growth in FDI over Previousyear	**95% Confidence Limit**	
			Lower CL	**Upper CL**
2010-11	178,110	1	146,101	210,120
2011-12	172,800	-3	111,528	234,071
2012-13	165,622	-4	79,279	251,966
2013-14	160,380	-3	55,166	265,595
2014-15	159,161	-1	41,180	277,142

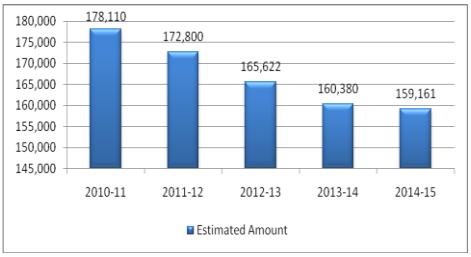
Source: SIA, Newsletter, various issues and compiled by the author

Table 1 shows a marginal increase of one percent in FDI inflow as when compared to the period 2009-10. Then from the period 2011-12 to 2014-15 a downtrend of FDI inflow is observed. FDI inflow into India is estimated to be Rs.172800 crore in 2011-12 as against Rs.178110 crore in 2010-11, that is, the growth trend of FDI inflow into the country shows a decline of 3 percent in 2011-12 as when compared to 2010-11. This fall in FDI inflow into the country is expected to further decline during 2012-13, that is, a 4 per cent decline will be anticipated as against the previous year. During 2013-14 and 2014-15, the fall in growth rate of FDI inflow is found to be reduced to 3 percent and one per cent as against the previous

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years. The projection of FDI inflow in India for the next five year period from 2010-11 to 2014-15, shows that FDI into the country will have a downward trend from 2011-12 onwards. Therefore, Government should take suitable steps to overcome this situation.

Figure 1. Estimated FDI inflows in India during 2010-11 to 2014-15



Source: Based on Table 1.

Table 2. FDI Inflows in India

(Amount US$ in Millions)

Financial year (April-March)	Total FDI inflow	Percentage growthover previous year
2009-2010	37745	-10
2010-2011	34847	-8
2011-2012	46553	34
2012-2013	36860	-21

Source: RBI Bulletin

Above Table presents the inflows of FDI for the period of 2000-2013. The results show that there is large fluctuation in the pattern of FDI inflows. In the year of 2001-2002, there is a positive increase in the value of FDI inflows due to various reasons such as heavy demand of Indian consumers, liberalized government policy, communications facilities but after this period the value of FDI is decreased. The value of FDI is increased from the period of 2004 to 2008 but after this value of FDI is decreased due to decline in the money value of rupees.

Table32. Sectors Attracting Highest FDI Equity Inflows

(Amount in Rs. Crores)

Sectors	**FDIInflow**	**Percentages of Total FDI Inflow**
Service	178046	19
Construction	103140	11
Telecommunication	58797	6
Computer Hardware And Software	54019	6
Drugs & Pharmaceuticals	54333	6
Chemicals	42567	5
Automobile Industry	42746	4
Power	37336	4
Metallurgical Industries	35904	4
Hotel & Tourism	33954	3

Source: RBI Bulletin

FDI Inflows in Different Sectors in India

Table 2 shows the trend of FDI equity inflows in different sector from the period of April 2000- July 2013 in India. The results revealed that maximum contribution (28 percent) ofFDI inflows in service sector. After this investors' prefer to invest in construction industry (16 %), telecommunication (9 %), computer software and hardware (9%) and drugs & pharmaceuticals (9%) because these sectors are more profitable as compared to others. Services sector includes financial, banking, insurance, non-financial, outsourcing, R&D, courier, tech. testing and analysis.

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Table, 4: FDI inflow, GDP and FDI/GDP ratio inIndia (1991-92 to2011-2012)

Years	FDI Inflow (in rupees crore)	Growth rate of FDI inflow (%)	GDP	Growth rate of GDP (%)	FDI as a percentage of GDP
1991-92	409	-	1099072	-	0.037213
1992-93	1094	167.4817	1158025	5.36389	0.094471
1993-94	2018	84.46069	1223816	5.68131	0.164894
1994-95	4312	113.6769	1302076	6.39475	0.331163
1995-96	6916	60.38961	1396974	7.28821	0.49507
1996-97	9654	39.58936	1508378	7.97467	0.640025
1997-98	13548	40.33561	1573263	4.30164	0.86114
1998-99	12343	-8.8943	1678410	6.68337	0.735398
1999-00	10311	-16.4628	1786525	6.44151	0.577154
2000-01	12645	22.63602	1864301	4.35348	0.67827
2001-02	19361	53.1119	1972606	5.80942	0.981494
2002-03	14932	-22.8759	2048286	3.83655	0.729
2003-04	12117	-18.8521	2222758	8.51795	0.545134
2004-05	17138	41.43765	2388768	7.46865	0.717441
2005-06	24613	43.61652	3254216	36.2299	0.756342
2006-07	70630	186.9622	3566011	9.58126	1.980644
2007-08	98664	39.69135	3898958	9.33668	2.530522
2008-09	122919	24.58343	4162509	6.75952	2.953003
2009-10	123378	0.373417	4493743	7.95756	2.745551
2010-11		88502		-28.2676	
2011-12		173947		96.5458	
Total		577002		42598695	

Source: RBI Bulletin.

The above table shows the FDI inflow and GDP in India from the year 1991-92 to 2011-2012(post-liberalization period). The table states that India had showed a large amount of FDI inflow. It showed that FDI inflow has been increased by more than 210 times during the study period because the FDI Inflow has been increased from Rs. 409 crore in 1991-92 to Rs. 173947 crore in 20011-2012. Due to technological up gradation, access to global managerial skills and practices, optimal utilization of human and natural resources, making Indian industry internationally competitive, opening up export markets, providing backward forward linkages and access to international quality goods and services the Indian Government has used many steps to attract more FDI. The highest amount of FDI was received in the year 2011-2012, amounting to Rs. 173947crore. The highest growth rate of FDI inflow is in the year 2006-07 i.e., 186.9622 percent. The table also shows that FDI as a percentage of GDP was less than one until 2005-06 after then it is increasing year after year.

Government initiatives

The Government of India has amended FDI policy to increase FDI inflow. In 2014, the government increased foreign investment upper limit from 26% to 49% in insurance sector. It also launched Make in India initiative in September 2014 under which FDI policy for 25 sectors was liberalized further. As of April 2015, FDI inflow in India increased by 48% since the launch of "Make in India" initiative. India was ranking 15th in the world in 2013

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in terms of FDI inflow; it rose up to 9th position in 2014. While in 2015 India became top destination for foreign direct investment

Sector Wise Investment

1) Infrastructure

10% of India's GDP is based on construction activity. Indian government has plans to invest $1 trillion on infrastructure from 2012–2017. 40% of this $1 trillion is to be funded by private sector. 100% FDI under automatic route is permitted in construction sector for cities and townships.

2) Automotive

FDI in automotive sector was increased by 89% between April 2014 to February 2015. India is 7th largest producer of vehicles in the world with 17.5 million vehicles annually. 100% FDI is permitted in this sector via automatic route. Automobiles shares 7% of the India's GDP.

3) Pharmaceuticals

Indian pharmaceutical market is 3rd largest in terms of volume and 13th largest in terms of value. Indian pharma industry is expected to grow at 20% compound annual growth rate from 2015 to 2020.100% FDI is permitted in this sector.

4) Service

FDI in service sector was increased by 46% in 2014 to 2015. Service sector includes banking, insurance, outsourcing, research & development, courier and technology testing] FDI limit in insurance sector was raised from 26% to 49% in 2014.

5) Railways

100% FDI is allowed under automatic route in most of areas of railway like High speed train, railway electrification, passenger terminal, mass rapid transport systems etc. Mumbai-Ahmadabad high speed corridor project is single largest railway project in India, other being CSTM-Panvel suburban corridor. Foreign investment more than Rs. 90,000 crore(US$13 billion) is expected in these projects.

6) Chemicals

Chemical industry of India earned revenue of $155–160 billion in 2013.[28] 100% FDI is allowed in Chemical sector under automatic route. Except Hydrocyanic acid, Phosgene, Isocyanides and their derivatives, production of all other chemicals is de-licensed in India.[29] India's share in global specialty chemical industry is expected to rise from 2.8% in 2013 to 6–7% in 2023.

7) Textile

Textile is one major contributor to India's export. Nearly 11% of India's total export is textile. This sector has attracted about $1647 million from April 2000 to May 2015. 100% FDI is allowed under automatic route. During year 2013–14, FDI in textile sector was increased by 91%. Indian textile industry is expected reach up to $141 billion till 2021.

8) Airlines

Foreign investment in a scheduled or regional air transport service or domestic scheduled passenger airline is permitted to 100, with FDI up to 49% permitted under automatic route and beyond 49% through government approval or airport modernization, 100 % FDI will be allowed for existing airport under automatic route.

II. CONCLUSION

FDI plays an important role in the long-term development of a country not only as a source of capital but also for enhancing competitiveness of the domestic economy through transfer of technology, strengthening infrastructure, raising productivity and generating new employment opportunities. India emerges as the fifth largest recipient of foreign direct investment across the globe and second largest among all other developing countries (World Investment Report 2010). The huge market size,

availability of highly skilled human resources, sound economic policy, abundant and diversified natural resources all these factors enable India to attract FDI. Further, it was found that even though there has been increased flow of FDI into the country during the post liberalization period, the global share of FDI in India is very less when it is compared to other developing countries. Lack of proper infrastructure, instable government and political environment, high corporate tax rates and limited export processing zones are considered to be the major problems for low FDI into the country. To overcome this situation, the Government should revise the sectoral cap and bring more sectors under the automatic route. Further, India should sign the agreement of Double Taxation treaties with other countries in order to increase bilateral trade. Therefore, there is an urgent need to adopt innovative policies and good corporate governance practices on par with international standards, by the Government of India, to attract more and more foreign capital in various sectors of the economy to make India a developed economy.

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INDIA'S EXPORTS: TRENDS IN COMPOSITION AND POLICY IMPLICATIONS

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I. INTRODUCTION

Foreign trade has a vital role to play in economics development of a nation. A developing economy has to break vicious circle of poverty, attain self-sustained growth and transform itself into an industrialized one from the agrarian level. For this, it required resources which can be had only through foreign trade, namely through exports and imports. Export constitutes the key factor in deciding the sustained rate of economic growth. Countries have to create export surplus by specializing factor endowments and producing on a large scale with minimum cost. Further export industries, in their turn, stimulate home industries and increase their productivity. Export trade plays a dynamic role in converting the domestic resources into more productive forms of capital and machinery and thereby helps capital formation quickly. Export sector helps in the process of economic development.

Review of Literature

The review of literature is important for inductive reasoning, locating and contesting all the relevant literature on exports. The reviews are arranged in chronological order. Baldwin's (1989) model, one of the two sectors in each country is assumed to face demand shocks while the other sector does not. Unlike the latter, the former thus requires access to the financial system to diversify risk. Because it allows for a decreased risk premium, a high level of financial development primarily benefits the risky sector. Therefore, the pattern of trade between the two countries crucially depends on differences in financial development. Having a relatively well developed financial system allows a country to specialize in the risky good while having a weakly developed financial system leads to specialize in the non-risky good. Help man (1991), consider how trade and industrial policies affect the long-run rates of innovation and growth. Trade liberalization also enables cheaper and easier access to foreign technologies and global capital and makes possible greater international exchange of information. Lowering of trade restrictions makes possible the import of capital and intermediate goods which embody superior technology and this helps in reducing costs and also in turn increasing productivity growth in the sector which uses this product.

Grossman and Help man(1992) argue that technological change can be influenced by a country's openness to trade. Openness to trade provides access to imported inputs, which embody new technology and increases the size of the markets facing producers which in turn raises returns to innovation and affects a country's specialization in research intensive production. Thus a country's openness leads to improvements in domestic technology; helps the production process become more efficient and culminates in productivity improvements. Rodrik (1992) has pointed out that it is possible to argue analytically that a protected

market, by ensuring a larger market share for the domestic producers, will make it worthwhile to invest in productivity enhancing technology. Haddad (1993) observes that firms closest to the maximum levels of efficiency tended to have high share of exports. Further, it was observed that exports were driving higher productivity growth and not the other way around. Harrison (1994)has attempted to explore the relationship between market power, productivity and trade reforms. Using a panel of 246 firms for the period 1979-87, the study shows that assuming perfect competition and constant returns to scale leads to underestimating the gains in productivity from the trade reforms.31 Two of the approaches to measuring the impact of trade policies show a positive association between more open trade policies and higher productivity growth. Several theoretical arguments suggest that export participation allows firms to lessen the severity of their financial constraint (Greenway et al., 2007). First, exports may facilitate firms' access to international financial markets and provide them with the opportunity to better diversify their risk and sources of financing. Second, provided that national financial conditions are not perfectly correlated, export participation could make firms less dependent on the domestic business cycle. Finally, being present in a foreign market can also be interpreted as a favorable signal concerning the productivity of the firm and its ability to face export-specific costs. This may improve its access to capital providers and its financial conditions.

Chaney's (2008) contribution is based on the notion that firms' productivity plays a key role in firms' decision to export. Productivity does not only affect firms' competitively on foreign markets. It also determines the amount of profit earned from domestic activities and firms' ability to cover upfront export costs. The author thus distinguishes three categories of firms. Firms with a very low productivity do not export because they are not competitive enough to sell abroad. Conversely, as they are competitive and generate large profits from their domestic activities, high-productivity firms export whatever the level of available external finance. Finally, firms with an intermediate level of productivity are potentially viable in foreign markets. But as they do not generate enough profit to cover upfront costs, they cannot export due to financial constraint. At the aggregate level, export flows thus decrease with the amount of liquidity available for constrained firms and increase with the number of constrained firms in the economy.

Levchenkoetal. (2009) find that neither the amount of credit extended to firms by suppliers nor the amount of credit extended by firms to customers can explain the observed decline in international trade. However, their trade credit indicators are obviously biased because they not only refer to international but also to domestic trade. Pham (2010) confirms this result using a smaller sample of 29 Asian countries between 1994 and 2008. Overall, the existence of a bidirectional causality between trade and finance has important implications. Notably, it implies the existence of a vicious circle when a financial crisis occurs because since the subsequent contraction in trade flows may in turn deepen the financial crisis. Manova (2013) finds that financial frictions also affect extensive margins as financially constrained firms decrease the volume of their exports to reduce their variable costs and borrowing. Finally, aggregate exports increase with the quality of contract enforcement in the domestic economy. They also decrease with the level of sector's vulnerability, proxies by the proportion of fixed costs which have to be covered by external finance and the level of pledge able tangible assets.

Objectives

1. To examine the India's export from 1950-1951 to 2015-2016(Apr-Nov) and its growth percentage.

2. To know about the India's export of goods and services and percentage share in Gross Domestic Product. (GDP) from 1990-2014.

3. To know about exports of agriculture goods, manufactured goods and other goods from 1960-1961 to 2015-2016 (Apr-Nov) in India.

Methodology

Secondary Data have been used. The data were collected from the Directorate General of Commercial Intelligence & Statistics (DGCI&S), Economic Survey, Reserve Bank of India Bulletin. The established statistical tools Karl Pearson's Coefficient of Correlation has been used in the study. The Trend line and Bar-Diagrams has been carved out based on the India's exports of goods and services and percentage share in GDP and Classification of India's exports and exports of crude petroleum and mineral oil lubricants.

Analysis of the pattern of Export

Table No.1 India's Exports from 1950-51 to 2015-2016 (Rs.in Crores)

YEAR	Exports Including re-exports	Growth Percentage
1950-51	606	24.9
1951-52	716	18.2
1952-53	578	-19.3
1953-54	531	-8.1
1954-55	593	11.7
1955-56	609	2.7
1956-57	605	-0.7
1957-58	561	-7.3
1958-59	581	3.6
1959-60	640	10.2
1960-61	642	0.3
1961-62	660	2.8
1962-63	685	3.8
1963-64	793	15.8
1964-65	816	2.9
1965-66	810	-0.7
1966-67	1157	42.8
1967-68	1199	3.6
1968-69	1358	13.3
1969-70	1413	4.1
1970-71	1535	8.6
1971-72	1608	4.8
1972-73	1971	22.6
1973-74	2523	28
1974-75	3329	31.9
1975-76	4036	21.2
1976-77	5142	27.4
1977-78	5408	5.2
1978-79	5726	5.9
1979-80	6418	12.1
1980-81	6711	4.6
1981-82	7806	16.3
1982-83	8803	12.8
1983-84	9771	11
1984-85	11744	20.2
1985-86	10895	-7.2
1986-87	12452	14.3
1987-88	15674	25.9
1988-89	20232	29.1
1989-90	27658	36.7
1990-91	32553	17.7
1991-92	44041	35.3
1992-93	53688	21.9
1993-94	69751	29.9
1994-95	82674	18.5
1995-96	106353	28.6
1996-97	118817	11.7
1997-98	130100	9.5
1998-99	139752	7.4
1999-2000	159095	13.8
2000-2001	203571	28
2001-02	209018	2.7
2002-2003	254913	22
2003-04	293367	15.1
2004-05	375340	27.9
2005-06	456418	21.6
2006-07	571779	25.3
2007-08	655864	14.7
2008-09(P)	840755	28.2
2009-2010	845534	0.6
2010-11	1136964	34.5
2011-12	1465959	28.9
2012-13	1634318	11.5
2013-14	1905011	16.6
2014-2015	18,96,348	-0.5
2015-2016 (Apr-Nov)	1273323	-12.5

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Regression of Exports on Years

Summary Output						
Regression Statistics						
Multiple R	0.659035	-	-	-	-	
R Square	0.434326	-	-	-	-	-
Adjusted R Square	0.425203	-	-	-	-	
Standard Error	307654.1	-	-	-	-	-
Observations	64	-	-	-	-	-
ANOVA						
	df	*SS*	*MS*	*F*	*Significance F*	
Regression	1	4.51E+12	4.51E+12	47.60386	3.21E-09	
Residual	62	5.87E+12	9.47E+10			
Total	63	1.04E+13				
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-2.8E+07	4126282	-6.85393	3.85E-09	-3.7E+07	-2E+07
Year	14363.41	2081.787	6.899555	3.21E-09	10201.97	18524.84

Exports = -2.8E+07 + **14363.41***Year

Model is significant at 5% level (F=47.604, p < 0.05).

As every additional year increase 14363.41 unit increases in exports.

From the table 1, it is inferred that the exports increased and also growth percentage also increased in the years 1966-1967(42.8%), 1973-1974 28%,1974-75 31.9%,1976-77-27.4%;1988-89-29%; 1989=1990-36.7% 1991-1992-35%, 1993-1994 29-9%,1995-96-28.6%.2004-2005-27.9%;2010-2011-34.5%;2011-2012 28.9%. But decline in the growth percentage in the year 1952-53 -19.3% is due to partition of the country and impact of second world war. 1956-57 also witnessed negative growth of -0.7% due to diversification of exports and export promotion drive did not materialize. 1985-1986 has also seen negative growth of -7.2% on account of policies of indiscriminate liberalization being followed by the congress government**.** There is positive correlation between the export and its growth percentage from 1950-51 to 2015-2016. Correlation value is 3 %.

Table.No.2 India's Exports of Goods and Services and Percentage Share in GDP from 1990-2014

Year	Percentage of GDP
1990	6.9
2000	12.8
2006	21.1
2007	20.4
2008	23.6
2009	20.0
2010	22.0
2011	24.5
2012	24.5
2013	25.3
2014	22.9

Source: World Bank Development Indicators.

Regression of Export on Growth Rate

Summary Output						
Regression Statistics						
Multiple R	0.431536	-	-	-	-	
R Square	0.186224	-	-	-	-	-
Adjusted R Square	0.173098	-	-	-	-	
Standard Error	11.39222	-	-	-	-	-
Observations	64	-	-	-	-	-
ANOVA						

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	df	*SS*	*MS*	*F*	*Significance F*	
Regression	1	1841.358	1841.358	14.188	0.00037	
Residual	62	8046.532	129.7828			
Total	63	9887.89				
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-561.003	152.7934	-3.67164	0.000504	-866.433	-255.573
Year	0.290364	0.077087	3.766696	0.00037	0.136269	0.444459

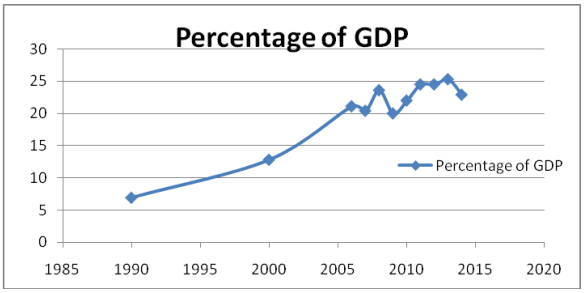
Growth Rate= -561.003 + 0.290364*Year

Model is significant at 5% level (F=14.188, p < 0.05).

As every additional year increases 0.290364 unit increases in export growth rate

The exports share was just 6.9 % in the year 1990 and doubled in the year 2000 and increased to 21.1% and maintained around 20-25 % till the year 2014. It peaked to 25% in the year 2013.

Chart No 1 India's Exports of Goods and Services and Percentage Share in GDP from 1990-2014.



Source: World Bank Development Indicators

Table 3: The India's export performance of goods and services and its share in percentage of GDP from 1990 to2014.

Classification of India's Exports

(Rs.inCrores)

Commodities	1960-61	1970-71	1980-81	1990-91	2000-01	2010-2011	2011-2012	2011-2012(Apr-Nov)	2012-2013(Apr-Nov)	2013-2014	2014-2015	2015-2016(Apr-Nov)
Agriculture and Allied Products	284	487 (31.7)	2057 (30.6)	6317	28582	111383 (9.7)	1,80,279 (12.4)	1,00,120 (10.7)	1,42,269 (14)	260953 (13.7)	240642 (12.7)	136283 (12.2)
Ores and minerals	52	164 (10.7)	414 (6.2)	1497	4131	39098	40953 (3.4)	24413 (2.6)	20148 (2.0)	34859 (1.9)	28618 (1.5)	14988 (1.3)
Manufactured goods	291	772 (50.3)	3747 (55.8)	23736	160723	789433	964388 (69.0)	624536 (66.9)	656290 (64.5)	1207865 (63.4)	1266205 (66.7)	826650 (73.3)
Petroleum products ,Mineral fuel and lubricants	7	13 (0.8)	28 (0.4)	948	8822	192639	273231 (16.8)	178939 (19.2)	192048 (18.9)	392225 (20.6)	350993 (18.5)	133057 (11.9)
Total Exports	**642**	**1535 (100)**	**6711 (100)**	**32553 (100)**	**203571 (100)**	**1142922 (100)**	**1465959 (100)**	**933050 (100)**	**1017819 (100)**	**1905011 (100)**	1896348 (100)	1119303 (100)

Note: Figures in brackets are percentage of total.

Source : DGCI&S, Kolkata.

P : Provisional

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The table 3 shows that exports of India are broadly classified into four categories namely 1)Agriculture and allied products which include coffee, tea and mate, oilcake, tobacco, cashew kernels, spices, sugar, molasses, raw cotton, rice, fish and fish preparation, meat and meat preparations, vegetable, fruits, vegetables and pulses and miscellaneous processed food. (ii) Ores and minerals include manganese ore, mica and iron ore. (iii) Manufactured goods include textiles, readymade garments, jute manufacture leather and footwear, leather products, handicrafts, including carpets and handmade gems and jewelry, chemicals and allied products, machinery transport and metal manufactured including iron and steel. (iv) Petroleum products mineral fuel and lubricants. The table shows the traditional exports depend upon agriculture and mineral wealth accounted for 42.4 percent of total exports in 1970-1971 their share has however declined to 14.2 in 2014-2015. As against it, the share of manufactured goods has gone from 50% in 1970-71 to 66.7 percent in 2014-2015. Obviously the structure of industrial exports changing in favour of manufactured goods. Petroleum products, mineral fuels lubricants export have also increased 18.5% in 2014-2015 from 8 per cent in 1970-1971.

Table No.4 Classification of India's Exports (Rs.in Crores)

Commodities	1995-96	2000-01	2001-02	2002-03	2003-04	2004-05
Agriculture and allied products	20344	27288	28144	32473	34615	38078
Ores and Minerals	3930	5267.4	6020	9659.9	10884	22818
Manufactured goods	79433	156858	159146	194764	222828	272872
Petroleum products, mineral fuel and lubricants	1517	8541.7	10106.6	12469	16397	31404
Total Exports	106353	203571	209018	255137.3	293366	375339

Commodities	2005-06	2006-07	2007-08	2010-11	2011-2012	2012-13	2013-14	2014-15	2015-16
Agriculture and allied products	45220	57392	74094	111383	180279	142269	260953	240642	136283
Ores and Minerals	27288.3	31686	36716	39098	40953	20148	34859	28618	14988
Manufactured goods	321260	384261	414457.7	789433	964388	656290	1207865	1266205	826650
Petroleum products, mineral fuel and lubricants	51532	84520	114191	1926319	273231	192048	392225	350993	133657
Total Exports	456417	571779.3	655863.5	1142922	1465959	1017819	1905011	1896348	1119303

Source: Directorate of general of commercial intelligence and Statistics 2007 and RBI Hand book

Regression on Agriculture and Allied Products

Regression Statistics							
Multiple R	0.667452	-	-	-	-		-
R Square	0.445493	-	-	-	-	-	-
Adjusted R Square	0.410836	-	-	-	-		-
Standard Error	62705.42	-	-	-	-	-	-
Observations	18	-	-	-	-	-	-
ANOVA							
	df	*SS*	*MS*	*F*	*Significance F*		
Regression	1	5.05E+10	5.05E+10	12.85444	0.002475		

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Residual	16	6.29E+10	3.93E+09				
Total	17	1.13E+11					
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	
Intercept	-7145507	2013230	-3.54927	0.002671	-1.1E+07	-2877649	
Year	3609.731	1006.812	3.585309	0.002475	1475.385	5744.077	

Agriculture and allied products = -7145507+ **3609.731***Year

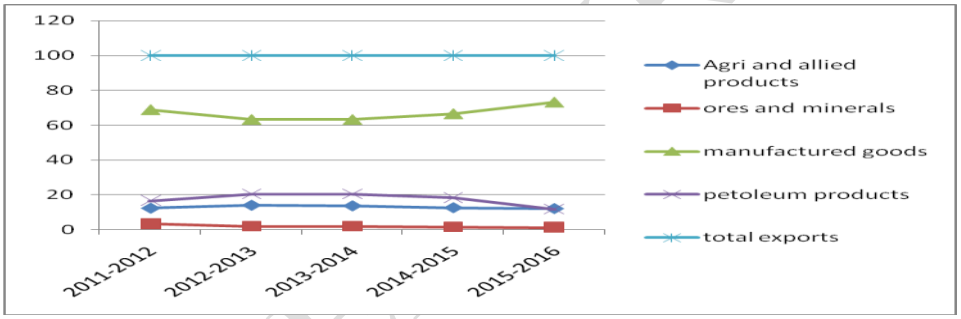
Model is significant at 5% level (F= 12.854, p < 0.05).

As every additional year increases 3609.731 unit increases in agriculture and allied products.

Figure Chart No. 2. Classification of Exports from 2011-2012 to2015-2016(Percentage value)

Commodities	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016(Apr-Nov)
Agriculture and allied products	12.4	14	13.7	12.7	12.2
Ores and minerals	3.4	2	1.9	1.5	1.3
Manufactured goods	69	63.4	63.4	66.7	73.3
Petroleum products	16.8	20.6	20.6	18.5	11.9
Total exports	100	100	100	100	100

Source : DGCI&S, Kolkata.
P : Provisional



All the products exports were reduced during the 2015-2016 because only the eight months period of data is given. But manufactured goods exports increased from 66.7% to 73% from 2014-2015 to 2015-2016. Agriculture and allied activities export were more or less stable over the period. The ores and minerals exports were reduced over the above period. The petroleum products exports were fluctuated over the period.

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Table No.5. Exports of Principle Agricultural and Allied Products (Rs.in Crores)

Commodities	1960-61	1970-71	1980-81	1990-91	2000-01	2010-2011	2011-12	2012-13(P)	2013-2014	2014-2015	2015-2016(Apr-Nov)
Coffee	7	25	214	252	1185	3013	4535	3055	4799	4973	3241
Tea and mate	124	148	426	1070	1976	3354	4079	2767	4873	4171	3134
Oil Cake	14	55	125	609	2045	11070	11796	7636	17070	8129	2574
Tobacco	16	33	141	263	871	3985	4006	2422	6134	5869	3763
Cashew Kernels	19	57	140	447	1883	2853	4450	2695	5134	5622	3402
Spices	17	39	11	239	1619	8043	13220	11035	15146	14848	10531
Sugar andMolasses	30	29	40	38	511	5633	8971	7600	7326	5522	4901
Raw Cotton	12	14	165	846	224	13160	21624	7400	22338	11643	5902
Rice	---	5	224	462	2943	11586	24109	20406	47087	48028	25572
Fish and fish preparations	5	31	217	960	6367	11917	16585	12850	30627	33688	21627
Meat and meat preparations	1	3	56	140	1470	8960	14111	10675	27163	30128	18034
Fruits,veg. and pulses(Excl.Cashew kernals Processed fruits and Juices)	6	12	80	216	1609	6350	7587	5033	10779	9045	5665
Miscellaneous processed foods(inclu.processed fruits and juices)	1	4	36	213	1094	3669	5491	4468	11590	13037	8993
Total	284	487	2057	6317	28582	111393	180279	142269	260953	240642	136283

From the table 5, we infer the principal exports of agriculture and allied products.

Coffee, Tea and Mate: Tea and coffee are important items of Indian exports. Tea had first position in our exports in certain years. Tea exports further picked to touches Rs.124 crores in 1960-61. But its contribution rose into Rs.4873crores in 2013-2014. But declined in Rs.4171 crores in 2014-2015. Coffee exports have been steadily on increase from 1960-61 to 2011-2012. (Rs.7crores to Rs.4535 crores) but it declined to Rs.3055crores during 2012-2013.

Oilcake, Tobacco and Cashew kernels: During 1960-61 oil cake exports is in increasing trend from Rs.14 crores to Rs. 1,796 crores in 2011-2012. But later picked up to touch Rs. 17,070 crores during 2013-2014. But it has been tremendous decline in Rs.8129 crores in 2014-2015. Tobacco exports have been more or less steadily from 16 crores in 1960-1961 to Rs.4006 crores in 2011-2012. But later it rose to Rs.6134 crores during 2013-2014. Cashew kernels exports have been rising more or less steadily during the year from 1960-1961 to 2011-2012 but it peaked to Rs. 5622 crores in 2014-2015.

Spices, Sugar and Molasses and Raw cotton: these exports of spices were increased Rs.30 crores in 1960-1961. They jumped to Rs.13,220crs in 2011-2012 but delined in the year 2012-2013 and 2014-2015 that is Rs.11,035crs and Rs.14,848crs. When compared to previous year.

Sugar and molasses have been rising more or less steadily overtime from 1960-1961 in Rs.30 crores to Rs.8971crs. in 2011-2012. But exports are as low as Rs.5522crs.registered in the year 2014-2015.Raw cotton has also seen increasing trend over the period of 1960-1962 to 2011-2012 but tremendous decrease in the year 2012-2013 Rs.7400crs. But increased in 2013-2014 Rs.22,338crores,but further declined in 2014-2015(Rs.11,643crs.).

Rice: Rice exports have been in increasing trend over the period of 1970-1971 to 2014-2015 that is from

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Rs.5crores to Rs.48,028 crores. Because of green revolution, India became self-sufficient and made it possible.

Fish, Fish Preparations, Meat and Meat Preparations: Fish, Fish preparation exports have been in increasing trend over the period of year from 1960-1961 to 2014-2015 that is Rs.5 crores to Rs. 33,688 crores. Meat and Meat preparation exports have been in increasing trend over the period of year from 1960-1961 to 2014-2015 that is Rs.1 crore to Rs. 30,128 crores. But it has registered low Rs. 10,675 crores in the year of 2012-2013. Impact of industrialization caused this increasing trend.

Fruits, Vegetable and Pulses and Miscellaneous processed foods: - India exports fruits, vegetables and pulses India earned Rs.6crores in 1960-1961 but exports of fruits, vegetables and pulses rose to Rs. 10,779 crores. in 2014-2015.Miscellaneous processed food even up to 1980-1981 exports in Rs.36crores but these exports started to pick up by 1990-1991 they were of the order of Rs.213 crores. During 2014-2015 these exports have shot up Rs.13037crores.

Table No.6. Exports of Manufactured Goods in India (Rs.in Crores)

Commodity	1960-61	1970-71	1980-81	1990-91	2000-01	2010-11	2011-12	2012-2013	2013-2014	2014-2015	2015-2016(Apr-Nov)
Textile Fabrics and manufactures(Inclu. carpets and hand,made)	73	145	933	6832	---	-----	-----	-------	(Excl.carpet and handmade)41581	(Excl.carpet and handmade)42456	(Excl.carpet and handmade)27379
Cotton yarn,fabrics,made –ups etc.,	65	142	408	2100	16030	13160	21624	7400	58663	57832	38435
Readymade garments of all textile materials	1	29	550	4012	25478	52861	65613	43635	90718	102943	70730
Coir yarn and manufactures	6	13	17	48	221	726	1018	702	1397	1743	1019
Jute manufactures incl.twist and yarn	135	190	330	298	932	2092	2226	1427	2428	2242	2102
Leather and leather manufactures inclu.leather footwear,leather travel goods and leather garments	28	80	390	2600	8914	17818	22973	17014	34732	37853	24277
Handictrafts(incl.carpets and handmade)	11	73	952	6167	5097	5877	5383	4297	16241	16728	13183
Gems and Jewellery	1	45	618	5247	33734	184420	214889	156336	250353	252208	167570
Chemicals and allied products	7	29	225	2111	22851	131544	177872	139140	217055	228282	158270
Machinery,transport and metal manufactures including iron and steel	22	198	827	3872	31870	226805	279702	196474	374951	433868	260021
Total(Manufactured goods)	291	772	3747	23736	160723	789433	964388	656290	1207865	1266205	826650

Economic Survey 2012-2013, 2014-2015, and 2015-2016

Textile Fabrics and Manufactures: In recent year textile fabrics and manufactures have been shown significant improvement. Textile fabrics exports of Rs.73 crores in 1960-61 increased Rs.42,456rores in 2014-2015.

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Cotton, Yarn, Fabrics, made-ups: During the period of 1960-61 the cotton yarn and manufactures exports were Rs.65 crores . On account of relatively high cost in Indian textile industry. India found difficult capture the international market. In the post devaluation period exports of cotton textile increased on account of competitiveness in the international market. During 1990-1991 to 2014-2015 exports of cotton (Yarn and manufactures) improved from Rs.2100 crores to Rs.57832 crores.

Readymade Garments of all textile material: In recent years, the exports of cotton apparel or readymade garments have been shown significant improvement. These exports were Rs.1 crores in 1960-61. They jumped to Rs.25478 crores in 2000-2001. During 2014-2015 these exports were Rs.1,02,943crores. This indicates the increasing importance of this item in our exports.

Coir and yarn manufactures: Though its contribution to total manufactures is very less, it has raised from just one crore in 1960-61 to Rs.1730 crores in 2014-2015. This reflects the domination of urban industry over rural industry.

Jute manufactures include twist and yarn: The export of jute manufacture has steadily increased from Rs.135 crores in 1960-61 to Rs.2242 crores in 2004-2005. In 1960-1961, jute manufacture held top spot among the manufacture goods, but in the year 2004-2005, top spot less taken by machinery, transport and metal include iron and steel.

Leather and Leather manufacture: This item is exported to the extent of Rs.37,583crores in the year 2014-2015. This has seen a steady rise from Rs.28 crores from the year 1960-1961 with steep rise in the millennium year. (Rs.8914 Crores in 2000-2001).

Handicrafts: Exports of this item increased from Rs.11 crores in 1960-61 to 16,728 crores in 2014-2015. After globalization in 1990-1991, there is steep increase from Rs.952 crores(1980-81) to Rs.6167 Crores.

Gems and Jewllery: Just one crore worth of this item was exported in year 1960-61, steep increase was witness during the decades 1981-1990 and 1991-2000. In the year 2014-2015, it rose to Rs.2,52,208crores is about 20% of total export of manufactured goods.

Chemical and allied products: The export of chemical and its allied products increased from 7 crores in 1960-61 to Rs.228282 Crores in 2014-2015 i.e. about 18-20% of total manufactured goods export.

Machinery, Trandport and Metalpreparation: This export forms about 40% of total manufactures export. This has gradually increased from Rs.22Crores in 1960-1961 to Rs.3872 Crores in 1990-1991. Then, in next two decades, it maintained 40% of total manufactures export. In the next it had about 30% share in total export of manufactures. Again in the next two decades, it rose to 40%.

TableNo.7 Export of Ores and Minerals in India

Commodity	1960-61	1970-71	1980-81	1990-91	2000-01	2010-11	2011-12	2012-13	2013-2014	2014-2015	2015-2016
MICA	-	16	18	35	64	189	238	187	306	342	233
IRON ORE(Million Tonne)	17	117	303	1049	1634	21416	22184	6327	9481	3211	564
Ores and minerals (Total)	52	164	414	1497	4139	39098	40953	20148	34859	28618	14988

Economic Survey 2012-2013, 2014-2015, and 2015-2016

Mica: Export of this item stood at 342 Cr. In 2014-15. This is an increase from 16 Cr. In 1970-71.

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Iron Ore: Iron export has increased from 17 million tone in 1960-61 to 3211 Million Tonnes in 2014.-15.It reached 21416 in 2010-11 and 22184 in 2011-12, but in the year 2012-13 decreased 6327 Million Tonnes, increased to 9481 Million Tonnes in 2013-14 and again decreased to 3211 Million Tonnes. in 2014-15.

Ores and Minerals(Total): Export of Ores and minerals increased from 52 Million Tonnes to 39098 in 2010-11 and peaked to 40953 in the year 2011-12. It was 28618 in the 2014-15.

Table No.8 Exports of Crude Petroleum Products and Mineral fuel and lubricant

(Value in Rs.in Crores)

Year	Amount
1960-61	7
1970-71	13
1980-81	28
1990-91	948
2000-01	8822
2010-11	1,92,639
2011-12	273231
2012-13(Apr-Nov)P	196474
2013-2014	392225
2014-2015	350993
2015-2016(Apr-Nov)	133057

Economic Survey 2012-2013, 2014-2015, and 2015-2016

The table 8 shows that increase in the exports of mineral fuels and lubricants including coal have been significant. These exports were just Rs.7 crores in 1960-1961, Rs.13 crores in 1970-1971,Rs.28 crores in 1980-1981, Rs.948 Crores in 1990-1991, Rs.8822 crores in 2000-2001, Rs.1,92,639 crores in 2010-2011,Rs.2,73,231 crores in 2011-2012.Rs.1,96,474 crores in 2012-2013, Rs.39,225 crores in 2013-2014, Rs.3,50,993 crs. in 2013-2014, and Rs.1,33,057 crs. in 2015-2016(April to November). This indicates the increasing importance of this item in our exports

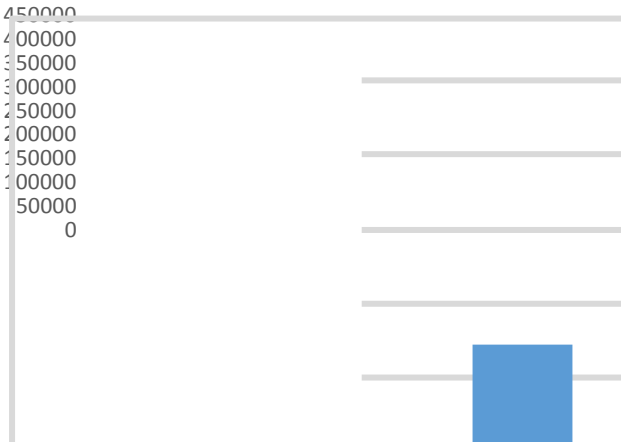
Chart No.3 Exports of Crude Petroleum Products

and Mineral fuel and lubricant (Value in Rs.in Crores).

2011-12	273231
2012-13(Apr-Nov)P	196474
2013-2014	392225
2014-2015	350993
2015-2016(Apr-Nov)	133057

Economic Survey 2012-2013, 2014-2015, and 2015-2016

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Findings

- The study points out the positive correlation between the exports and growth percentage from 1950-1952 to 2015-2016 period.
- The study shows that as exports of goods and services and percentage share in GDP increases from 1990-2008, and 2010-2015, but decreases in the year 2009 and2014.
- India has traditionally been an exporter of agriculture raw material and manufacture based on agricultural raw materials. There has been continuous decline in the export share of agriculture raw material and allied products. Due to impact of industrialization, there has been increase in the share in export of manufactured goods and also petroleum and petroleum products.
- India's exports of oil cake and raw cotton have decreased about 50% in the year 2014-2015. This is one of the reasons to affect the export percentage in the year 2014-2015. But, sugar and molasses decreased from 2012-2013.but other exports in agriculture and allied products such as coffee,cashew kernels,rice,fish and fish preparations,meat and meat preparations and miscellaneous processed foods are vary only slightly increased in the year 2014-2015.
- The export of non-traditional items gained importance since 1960 due to impact of industrialization. These items are textile fabrics, readymade items,coir yarn and manufactures, leather and leather manufactures including leather footwear,leather travel goods and leather garments, handicrafts,gems and jewellery, chemical and allied productsand machinery,transport and metal manufactures including iron and steel. But, items such as cotton yarn and fabrics and jute manufactures including twist and yarn fluctuated.
- The mica exports have seen increasing trend, but iron ore declined suddenly in the year 2014-2015. This is also another reason for decline in the export in the year 2014-2015.
- The export of mineral fuel and lubricants petroleum products have increased but had a decline in the year 2014-2015.

Suggestions and Policy Implications in India:

Government gives top priority to export, which stimulates foster economic growth.

1. Duty Drawback Scheme is one of the measures in the past. This scheme may also be extended to indirect exporters.

2. The availability of short term and long term credit is crucial to the exporters. This will help in small and medium enterprises in India, which will also help in favour of export growth.

3. The Government should simplify the rules and regulation related to exports. At the same time, government should improve the information collection and dissemination about the foreign

markets and requirements for exporting. The government should provide information about product standards, technical requirements to the exporters.

4. The Indian Government should provide improve the productivity and technical content of domestic goods and provide incentives to nurture innovation through the various export promotion council. The Government should also provide technical training and the entrepreneurial training through the various export promotional council. The Government banks should facilitate easy access credit. The Government of India should strive to build the country's image in foreign markets and also frame monetary and fiscal policies to boost up exports.

II. CONCLUSION

Indian economy has witnessed change in export scenario from the one dominated by Agriculture and its allied products to the one dominated by Manufactured goods. The large expansion of export in engineering goods is partly result of pick up in the demand in industrial countries and partly due increased production of engineering goods. Sharp decrease oil cakes and raw cotton during the year 2014-15 needs to be addressed. The export of textile, cotton yarn, fabrics, and jute manufacture has also reduced during the year 2014-15. So, technical and financial assistance are to be provided through Textile Export Promotion council and proper export policy measures for this sector are also to be considered.

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MGNREGA – ACOMPARITIVE STUDY ON EMPLOYMENT GENERATION AND WOMEN'S PARTICIPATION IN TAMIL NADU AND KERALA

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Abstract

The Mahatma Gandhi National Rural Employment Guarantee act of India(MGNREGA) was passed to provide for enhancement of minimum wage security of the households in rural areas in the country, by providing at least by hundred days of guaranteed wages- employment in a every year to every household whose women members to do unskilled manual work.

This study analyses the impact of Mahatma Gandhi National Rural Employment Guarantee act on rural women and its role in generating employment opportunities in rural poor by conducting a comparative study between Tamil Nadu and Kerala. And also reveals the real impact of MGNREG in the state of Tamil Nadu &Kerala in terms of financial inclusion of the rural poor, particularly women, SC and ST populations through employment generation. Most importantly, women have been empowered by bargaining power in terms of wage rate.

Key Words: Mgnrega, Women Empowerment, Employment Generation.

I. INTRODUCTION

The Mahatma Gandhi National Rural Employment Guarantee act of 2005 (MGNREGA) aims at "enhancing the livelihood security to the people in rural areas by guaranteeing hundred days of wages- employment in a financial year to a rural household whose adult members volunteers to do unskilled manual work".

The development of rural India is an imperative for inclusive and equitable growth and to unlock the huge potential of the population that is presently tapped in poverty with its associated deprivations. Many policy makers have recommended various measures for the development of rural India, since independence .Their study reveals that major portion of unskilled labours is located in rural India. For proper development and obligation of the man power in the rural areas, they have suggested various measures and programs for the upliftment of poor in rural areas. One such program implemented and followed very successfully is the MGNREG act, Prof. Jean Druge who is well known as father of MGNREG scheme for the especially unskilled manual work force.

The Mahatma Gandhi National Rural Employment Guarantee scheme (MGNREGS) was the first ever Act internationally that guarantee wages, employment and minimum level of livelihood security to the people in rural areas.

MGNREGA is a flagship programme of government of India that typically provide unskilled workers with short term employment on public works. It guaranteeing hundred days of wages-employment in a financial year to a rural household whose adult members volunteers to do unskilled manual work and also seeks to create durable assets to augment land and water resources, improve rural connectivity and strengthening the livelihood resources base of the rural poor.

Methodology and Data Sources

A detailed literature survey on the contribution MGNREGA towards rural employment and a comparison between two states, namely Tamil Nadu and Kerala from paper and articles of peer received journals was made and a data base was created. The objectives of the study have been verified by using secondary data.

Growth Performance of MGNREG in Tamil Nadu

The MGNREGP was launched on 02.02.2006 and was initially implemented in six districts viz., Cuddalore, Dindigul, Nagapattinam, Sivagangai, Thiruvannamalai and Villupuram from 2.2.2006 onwards and in four more districts viz., Thanjavur, Thiruvarur, Thirunelveli and Karur from 1.4.2007 onwards. The scheme was extended to the remaining 20 districts of the state which are: Ariyalur, Dharmapuri, Perambalur, Pudukottai, Ramanathapuram, Namakkal, Vellore, Thoothukudi, Virudunagar, Salem, Erode, Thiruchirapalli, Kancheepuram, Theni, Tiruvallur, Madurai, Nilgiris, Kanniyakumari, Coimbatore, Kirhnagiri, and Tiruppur. This Included385 blocks 12,524 panchayats and 79,336 villages.

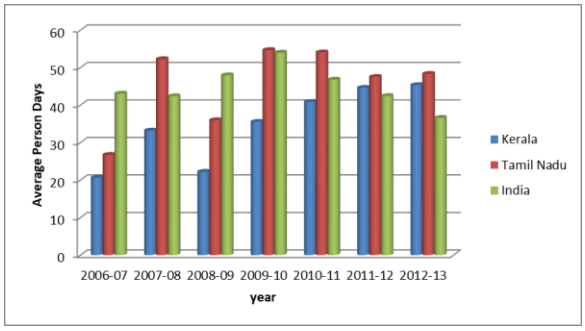
Mahathma Gandhi national rural employment guarantee scheme (MGNREGS) in Tamilnadu ensures 100 percent unskilled manual works. To improve the quality of assets create under MGNREGS and to enhance the livelihood opportunities of the rural masses, the state has institutionalized an approach of resource convergence by inter weaving MGNREGS with other public works programs. The manual work needs to create sustainable assets that promote to economic and infrastructure development of village. Up to 2010-11 the major works taken up were large water bodies and community assets. The state has successfully implemented MGNREGS in collaboration with Agriculture, fisheries, horticulture and Nirmal Bharat Abhiyan (NBA) etc., the MGNREP is given more priorities to employment opportunity of rural people in Tamilnadu. MGNREP provided household employment to 62, 39,073 people in Tamilnadu during the period of 2006-07 to 2013-14.

The number of household hold employment has increased from 683481 in 2000-01 to 6239073 in 2013-14. Due to favor of government policies, the participation of person days of women also increased.

Table: 1 Average Person Days per Household Created under MGNREGS.

STATES	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Kerala	20.63	33.21	22.22	35.54	40.85	44.61	45.34
Tamil Nadu	26.74	52.25	35.97	54.67	54.05	47.51	48.32
India	43.06	42.37	47.95	53.99	46.79	42.40	36.59

Source: www.mgnregs.nic.com



Performance of MGNREG in Kerala

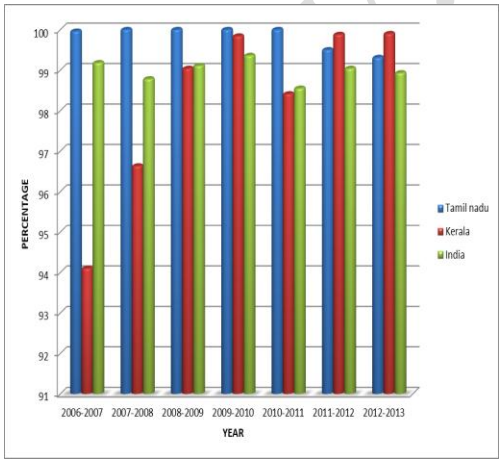
In Kerala, MGNREGA has been implemented in three phases. The 1st phase of the program was initiated in February 2006 in the rural areas of two districts – Palakkad and Wayanad. The programme was extended to Kasaragod and Idukki by February, 2007 in second phase and to the remaining 10 districts by January 2009 in third phase, in conformity with the Act the state government has issued guidelines for implementation of the scheme. This programme came to be known as a Kerala State Rural Employment Guarantee Scheme (KSREGS). Kerala has one of the highest unemployment rates in the country. But most of the unemployed are educated. Thus MGNREGA has somehow a limited application in tackling the problem of unemployment among the poor of Kerala.

In the state of Kerala, the performance is good when we take the indicator of providing employment as against employment demand which has been increased from 94.45 percent in 2006-07 to 99.84 percent in 2009-10 and further to 99.90 percent in 2012-13 which can be seen in table. 2 and in figure 2. But the problem in Kerala is different, as we above mentioned that Kerala's problem of unemployment is educated rather than involuntary. As people are educated, they are reluctant to do an unskilled manual work providing under MGNREGS. Whenever people hear about MGNREGS they are registered under the scheme, but half of the registered household do not demand the job.

Table: 2 Employment provided as against employment demanded under MGNREGS(percent)

STATES	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Tamil Nadu	99.96	100	100	100	100	99.5	99.31
Kerala	94.1	96.63	99.04	99.84	98.41	99.88	99.9
India	99.18	98.78	99.11	99.36	98.55	99.04	98.93

Source: www.mgnregs.nic.com



Comparitive Approach in Tamil Nadu &Kerala – Women's Participation

More women than men work under the national programme that guarantees employment to rural people. In the current fiscal till October, women availed of more than 50 per cent of employment created under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Their participation has been growing since the inception of the Act in 2006.

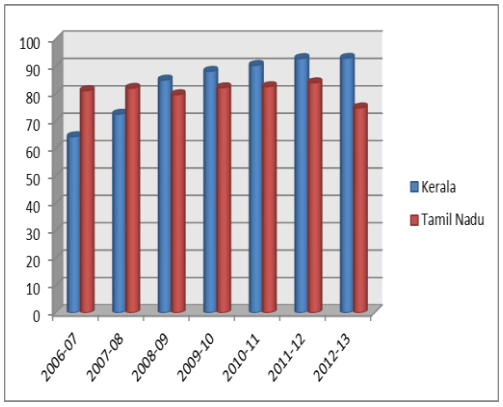
Women's participation in MGNREGA points at some unique and often contradicting aspects. First, states not known for women's participation in workforce are reporting a high number of women joining the programme. In Kerala, where women account for about 15 per cent of the workforce, Under the Act they take up 79 per cent of the employment created. In Tamil Nadu with low share of women in workforce have 82 per cent women workers under MGNREGA. Kerala (92.95 %) followed by Tamil

Nadu (74.84%) have marked high percent of women participation during the financial year 2012 -13. Participation of women has increased significantly.

Table: 3 Women participation under MGNREG

States	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Kerala	64.31	72.55	85.01	88.19	90.36	92.85	92.95
Tamil Nadu	81.11	82.00	79.66	82.19	82.59	84.01	74.84

Source: www.mgnrega.com.in



Under the Act, a household is guaranteed 100 days of manual employment in a year. Adult members can share this guarantee and the wage is same for man and woman. While men migrate to towns and cities, women are left behind to work under MGNREGA. The Act increases household income since earlier women used to get less wages than men.

Women take up this opportunity as economic freedom. More than wage parity the Act focuses on water conservation. It allows members belonging to the Scheduled Caste and Scheduled Tribe communities to take up work in their own fields and get paid for that. Women participating in the programme are reviving their degraded farms or making provision for water through other works.

More than 90 per cent of woman workers are farm labourers or cultivators. A substantial part of their work is unpaid because they work in their farms. MGNREGA has changed this.

In Kerala and Tamil Nadu, history of women mobilisation for schemes and campaigns seems to have contributed to their higher participation. Campaign for social audits, in which women play a major role, has contributed to enhanced awareness and increased participation under MGNREGA. The state's MGNREGA work sites have good facilities for children and women. In Kerala, management of work sites and other logistics for implementation is placed in the hands of women self-help groups under the poverty eradication mission Kudumbashree.

Participation of SC And ST Persons In Mgnregs

In India, important social groups such as scheduled castes and scheduled tribes that are at the lowest rung of the social and economic hierarchy together constitute about 23 per cent of the total population. However, their shares in the development outcomes are far too low in terms of resource endowments as well as for human development indicators. Their presence is disproportionately high in groups such as agriculture labour households, small and marginal farmers as well as unorganized workers. Poverty and vulnerability is also high among these groups compared to other social groups. Given this situation, MGNREGS appeared to be a critical source of employment for the rural poor, particularly categories such as distressed families from SC and ST. several studies reported that majority of MGNREGA beneficiaries came from the vulnerable social groups (SCs, STs, and OBCs), landless agricultural labourers and women.

At the all India level, SC and ST together constitutes for more than 50 percent of total employment days created. There is steady growth in participation of SC families over the period of time. In kerala the participation of SC sand STs is concerned; it shows a decreases from 20.1percent to 15.26percent and12.39 percent to2.59 percent during 2006-07 to 2012-13 and in Tamil Nadu alsoshows a

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decreases from 56.06 percent to 28.19 percent and 2.37 percent to1.31percent during 2006-07 2012-13

Table: 4 Participation of SC and ST under MGNREGS (Percent) in Kerala

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
SC	20.1	14.76	19.47	16.77	17.04	14.31	15.26
ST	12.39	13.03	9.26	5.33	3.44	2.37	2.59

Source: www.mgnrega.com.in

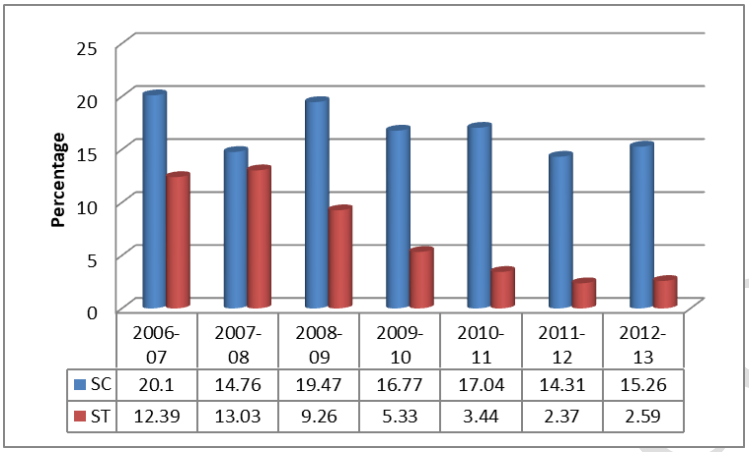
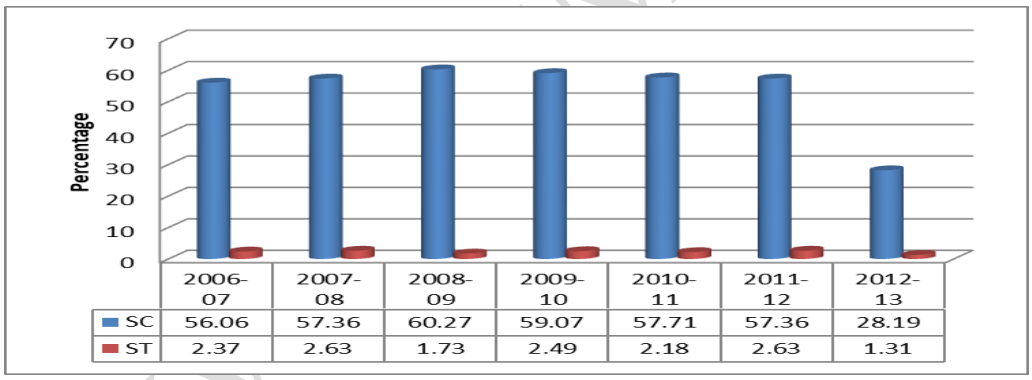


Table: 5Participation of SC and ST under MGNREGS (Percent) in Tamil Nadu

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
SC	56.06	57.36	60.27	59.07	57.71	57.36	28.19
ST	2.37	2.63	1.73	2.49	2.18	2.63	1.31

Source: www.mgnrega.com.in



II. Conclusion

Mahatma Gandhi National Rural Employment Guarantee act MGNREGA 2006 is landmark legislations in Indian history of social security legislation after independence. Enacted after a successful struggle for employment guarantee legislation, it is a partial victory toward a full- fledged right to employment in any developing country context .This legislation has been bringing about a silent revolution in rural areas of the country. MGNREGA act for the first time brings the role of the state as provider of livelihood within the reach of the beneficiaries themselves. In Tamil Nadu and Kerala it has made a drastic change by providing employment opportunities to the masses especially the women in rural areas.

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SUSTAINABLE AGRICULTURE AND OF IRRIGATION PRACTICES IN INDIA

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Abstract

Agricultural sustainability implies the maintenance of the quantity and quality of agricultural produce over very long periods of time. Apart from good seeds, agricultural productivity depends on soil health, irrigation water quality and quantity. Stable growth of agriculture necessitates consistent growth of irrigation potential in the country, since the sector is still remaining a 'gamble of monsoon'. Irrigation would continue to play an unquestionable role in achieving food self sufficiency, creating grain surpluses, stabilizing food prices, sustaining agricultural growth, absorbing labour force in rural areas, and alleviating rural poverty; all of which are vital for food security. For this purpose, central, state, district and local governments have ensured voluntary public code of conduct to minimize the risk of over use of underground reservoirs and protect their water quality. The ultimate success of irrigation practices depends on certain regulatory measures by the government and public participation through keen awareness.

I. INTRODUCTION

Agriculture is the mainstay of Indian economy. The share of agriculture in terms of domestic product has come down to about 12 per cent in 2014-15, while its share in employment and providing livelihood is still quite considerable, as more than 50 per cent of the population depends on this sector. Thus, it becomes paramount to improve upon the status of agriculture in order to increase the income level and thereby the living standard of the rural population. In this sense, stable growth of agriculture possesses the key for a balanced and more inclusive growth of the economy. Stable growth of agriculture necessitates consistent growth of irrigation potential in the country, since the sector is still remaining a 'gamble of monsoon'. In this chapter, the development of irrigation is analysed at both the national level and also in Tamil Nadu.

Role of Water

Water is a major factor constraining agricultural development, especially in a developing country like India and there has been much discussion on how to use economic instruments to allocate irrigation water in an efficient, equitable and sustainable manner. In the policy domain, there has been a categorical shift from supply-side approach (dominated largely by government decisions) toward a demand-side approach (with more of user participation), in order to generate more crop per drop. However, imperfect markets or absence of markets for irrigation water in developing countries undermine its true opportunity cost. As a result, policy makers find it difficult to formulate suitable water pricing policies and design other institutional reforms to meet the increased water requirements of the farmers, and to recover the full cost. Thus, estimating the economic value that farmers place on incremental changes in irrigation water becomes vital in the process of deciding the

economic viability of new irrigation projects (Joshi et al, 2003).

In many parts of the world both the free distribution and under pricing of water have led to inefficient allocation of the scarce resource. Both under pricing of water and lack of cost recovery mechanisms in government managed irrigation systems had resulted in poor operation and maintenance. Actions are necessary to use the water sustainably and manage the tank irrigation systems in South India. One strategy is to reduce water demand by adopting water conservation programs and improving water use efficiency, while another strategy involves a water pricing policy. This policy has the advantage that the income could be used to finance developments like the operation and maintenance of irrigation system. Pricing of water can also be considered as a pre-requisite for sustainable use of water resources. The underlying principle of irrigation water pricing in relation to sustainability concerns is that it should reflect the benefits forgone in the future from using a unit of water today which refers to the opportunity cost of irrigation water(Rajapure and Kothari, 2016).

Sustainable of Agriculture

Agricultural sustainability implies the maintenance of the quantity and quality of agricultural produce over very long periods of time. Apart from good seeds, agricultural productivity depends on soil health, irrigation water quality and quantity. Two-thirds of India's agriculture is in rainfed areas and therefore, agriculture is referred to as a 'gamble with monsoon'. In more recent years, monsoon has become even more erratic on account of possible climate change-induced vagaries. On the other hand, over use of water mainly due to free or low cost electricity has resulted in exploitation of water resource. Exploitative agriculture offers great danger if carried out with only an immediate profit or production motive. Intensive cultivation of land without conservation of soil fertility and soil structure would lead, ultimately, to the springing up of deserts. Irrigation without arrangements for drainage would result in soils getting alkaline or saline (Ministry of Agriculture, 2010).

Unscientific tapping of underground water will lead to the rapid exhaustion of this capital resource. Water is considered as the most critical resource for sustainable agricultural development worldwide. Irrigated areas will increase in the forthcoming years, while fresh water supplies will be diverted from agriculture to meet the increasing demand of domestic use and industry. Furthermore, the efficiency of irrigation is very low, since less than 65 percent of the applied water is actually used by the crops. The sustainable use of irrigation water is a priority for agriculture in arid areas, which can be done through better water management techniques. Better management usually refers to improvement of water allocation and/or irrigation water efficiency with the help of scientific methods of water application that includes drip irrigation and sprinkler irrigation (World Bank/Government of India, 2006).

Irrigation Practices and Agricultural Development

Irrigation would continue to play an unquestionable role in achieving food self sufficiency, creating grain surpluses, stabilizing food prices, sustaining agricultural growth, absorbing labour force in rural areas, and alleviating rural poverty; all of which are vital for food security. Given India's unique food security policy, there is a growing need to manage water for agriculture. Given the political economy of growth based on urbanization and industrialization, there will be a greater pressure to allocate an increasing quantum of water for industrial and municipal uses (Dhawan, 2002). This will pose a threat to food security at the aggregate level. The problems would be acute in semiarid Gujarat, Tamil Nadu, Rajasthan and Maharashtra, which also experience ever increasing

demand for water in all sectors. The increasing resource degradation problems such as groundwater depletion, water logging, salinity, and land degradation would add to the challenges. Mainly, food security of the poor will be at risk, as they would face severe resource constraints not only in accessing water, but also in investing in land and water management (Bhatty, 2007).

Source-Wise Irrigation in India

The changing trends in the different sources of irrigation in an area explains the effort taken by the Government in augmenting the irrigation potential over the years and also the way in which the pattern has undergone changes. Table – 1 provides the data pertaining to the source-wise irrigation in India since 1950-51.

It is inferred from the table that the proportion of area under canal irrigation has increased from 39.78 per cent in 1950-51 to 42.05 per cent in 1960-61, but has declined continuously since then and came down to the level of 24.64 per cent in 2010-11. The total area under canal irrigation has however, increased initially from 8.30 mha in 1950-51 to 17.45 mha in 1990-91, then declined consistently and came down to 15.67 mha in 2010-11. The area under tank irrigation has declined in both absolute and proportion-wise over the period. The total area, though has increased initially from 3.61 mha in 1950-51 to 4.56 mha.

*Table – 1 Source-wise Irrigation in India, 1950-51 to 2010-11**

Year	Canals	Tanks	Tube Wells	Other Wells	Others	NIA
1950-51	8.30 (39.78)	3.61 (17.33)	Nil	5.98 (28.67)	2.97 (14.23)	**20.85 (100)**
1960-61	10.37 (42.05)	4.56 (18.49)	0.14 (0.55)	7.16 (29.01)	2.44 (9.89)	**24.66 (100)**
1970-71	12.84 (41.28)	4.11 (13.22)	4.46 (14.34)	7.43 (23.88)	2.27 (7.29)	**31.10 (100)**
1980-81	15.29 (39.49)	3.18 (8.22)	9.53 (24.62)	8.16 (21.08)	2.55 (6.59)	**38.72 (100)**
1990-91	17.45 (36.34)	2.94 (6.13)	14.26 (29.69)	10.44 (21.73)	2.93 (6.11)	**48.02 (100)**
2000-01	15.97 (28.96)	2.46 (4.45)	22.57 (40.94)	11.26 (20.42)	2.89 (5.23)	**55.08 (100)**
2001-02	15.27 (26.88)	2.19 (3.86)	23.24 (40.93)	11.73 (20.66)	4.36 (7.68)	**56.67 (100)**
2002-03	14.04 (26.17)	1.80 (3.36)	23.48 (43.76)	10.66 (19.87)	3.67 (6.83)	**53.78 (100)**
2003-04	14.45 (25.31)	1.96 (3.43)	26.69 (46.75)	9.69 (16.97)	4.30 (7.53)	**57.09 (100)**
2004-05	14.77 (24.94)	1.73 (2.92)	25.23 (42.60)	9.96 (16.82)	7.54 (12.73)	**59.23 (100)**
2005-06	16.72 (27.48)	2.08 (3.42)	26.03 (42.78)	10.04 (16.50)	5.97 (9.81)	**60.84 (100)**
2006-07	17.03 (26.84)	2.78 (4.38)	26.94 (42.46)	10.70 (16.86)	6.00 (9.46)	**63.45 (100)**
2007-08	16.75 (26.51)	1.97 (3.12)	28.50 (45.10)	9.86 (15.60)	6.11 (9.67)	**63.19 (100)**
2008-09	16.88 (26.52)	1.98 (3.11)	28.37 (44.58)	10.39 (16.33)	6.02 (6.46)	**63.64 (100)**
2009-10	14.98 (24.18)	1.58 (2.55)	28.38 (45.82)	9.99 (16.13)	7.01 (11.32)	**61.94 (100)**
2010-11	15.67 (24.64)	2.00 (3.14)	28.55 (44.89)	10.51 (16.53)	6.87 (10.80)	**63.60 (100)**

Note: Figures in Million Hectares and those in brackets are percentage to NIA. NA – Not Available.
* Irrigation data is available only upto 2010-11.

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1960-61, it has declined since then and has come down to 2 mha in 2010-11. Its share in NIA has gone up from 17.33 per cent in 1950-51 to 18.49 per cent in 1960-61, but has decreased to 3.14 per cent in 2010-11. In the absence of any concerted efforts by the Government in enhancing the role of canal and tank irrigation in the country over the years, the structure of irrigation has shifted towards well irrigation and especially towards tube well irrigation. This also implies the fact that augmenting the extent of irrigation has been left to the poor farmers, as the state has been withdrawing from the same. In 1950-51, tube well irrigation was not known much in the country, as it has no share in the NIA. In 1960-61, tube well irrigation was practised to the extent of 0.55 per cent of the NIA, which has increased to 44.89 per cent in 2010-11. In the same way, the total area under tube well too has increased from 0.14 mha in 1960-61 to 28.55 mha in 2010-11.

There has been a similar trend in the expansion of irrigation by other wells which include open or surface wells. Its total area has gone up from 5.98 mha in 1950-51 to 10.51 mha in 2010-11. The proportion of area under the irrigation of other wells, however, has declined from 28.67 per cent in 1950-51 to 16.53 per cent in 2010-11. This indicates that though the pattern of irrigation has moved in favour of well irrigation, within well irrigation, open or surface wells cannot be sustained in the long run, since it should be dug deeper in every passing year. This forces the farmers, especially those who can afford, to shift towards tube well irrigation. This method of irrigation is not only highly expensive, but also highly unsustainable in the long run, as it should also be dug deeper and in that process, drives away the neighbouring small and marginal farmers, for whom the water table becomes 'unreachable'. The proportion of area under other sources like streams and other water ways has accounted for 14.23 per cent in 1950-51, which has declined sharply to 5.23 per cent in 2000-01, but has also increased equally sharply to 10.80 per cent in 2010-11. This suggests that the basic structure of irrigation in the country has undergone major shift over the years. The combined share of canal and tank irrigation which was more than 50 per cent until 1970-71, has given way to well irrigation (both tube well and surface well) in the later period, as it now accounts for more than half of the NIA in India.

Sustainable Water Management

It considers conservation of all water resources using appropriate technologies and their use with social acceptability, economic viability, and eco-friendliness. Under the head of social acceptability, cross subsidization of available water needs to be made into legitimate interregional (rural versus urban) and inter-sectoral (agricultural versus industrial) needs. Such considerations ahead of the scarcity will provide flexible practices in irrigation management (Goal et al, 2014). Otherwise, politically oriented and ill-considered decisions tend to aggravate human sufferings, cattle perishing, agricultural stagnation or decline and reduced industrial output, cumulatively affecting GDP adversely.

Under aridity, consideration of low moisture carrying capacity of the ecosystem in right perspective needs irrigation in small dosages and at higher frequency so that immediate hardships out of aridity are minimized (Sarwar and Bastiaanssen, 2001). This is a case of moderate contingency arising out of water scarcity.

Drought being a natural, but temporary imbalance in the availability of moisture caused by lower than the average rainfall over the years, its uncertain frequency, limited duration and severity of sunlight aggravate the rate of evapo-transpiration, resulting into diminished moisture availability for plants to sustain. Severity of such situation needs application of soil conditioner (Chaudhari and

Kothari, 2009) and DI at night time so that due to water-holding capacity of the soil conditioner, crop is sustained at a minimal loss due to evapo-transpiration, providing the hope of livelihood, especially for rural and economically weaker population. This is a case of immediate contingency due to acute water scarcity (Pereira, 1999).

Desertification in a large measure is man-made problem over longer duration, carried forward from the past in the availability of water. While drought aggravates desertification, recycling of water for human and cattle consumption and recycling for irrigation provides a workable strategy to arrest the rate of desertification and thereby human hardships. This appears an extremely difficult contingency, being permanent in nature and scope, requiring irrigation scheduling (Teixiera et al., 1995). This is a case of chronic contingency.

II. CONCLUSION

Water scarcity has huge implications for health, hygiene, sanitation, drinking water, agriculture and industry. Therefore, equitable distribution of this scarce resource has been accorded prime consideration in form of sustainable irrigation, which serves as a springboard to provide food for public consumption as well as industrial raw materials. For this purpose, central, state, district and local (village level) governments have ensured voluntary public code of conduct to minimize the risk of over use of underground reservoirs and protect their water quality. Therefore, water extraction, conveyance, storage and delivery infrastructure is being augmented, pricing of water considered to reflect its net cost and delivery made at reduced pressure and reduced frequency. Agriculture being the major user of water, besides reliance on rain-fed irrigation, gradually surface or flood irrigation is being replaced by sub-surface microirrigation, which has inherent capacity to double the acreage under irrigation, without loss to agricultural output. To reduce water use and transform saline soil into a productive matrix, sustainable water management is made through the enhanced use of farmyard manure, soil conditioner, which permit reduced use of water and at the same time soil fertility, is enhanced over 3-4 year duration. Everything said and done, the ultimate success of irrigation practices depends on certain regulatory measures by the government and public participation through keen awareness.

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A STUDY ON MEDICAL TOURISM IN CHENNAI CITY WITH RESPECT TO QUALITY OF TREATMENT

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Abstract

Medical tourism is broadly defined as the act of traveling to obtain medical care in another country or region of the same country where specialized or economical medical care is available complemented with well-being and recuperation of acceptable quality with the help of support system. Chennai is known as the capital hub of medical tourism in India. Many travelers around the globe are considering Chennai to be the best Medical tourist place in quality as well as in the cost and technology. India is the leading country in attracting the medical tourist visitors. The medical tourists who came for treatment have also enjoyed the rich culture and heritage in our country and have tried to explore places and learn our rich culture. Medical Tourism in India is also a multibillion dollar industry where the service providers for the medical tourists have increased and the service sector contribution to the GDP is also increasing. The quality of service in the hospitals in Chennai is considered to be the best, when compared to the world class level of treatment. In this paper we explain about the quality of treatment in the Chennai hospitals and the satisfaction level of the international patients with the SPSS statistical tools.

Keywords: Medical Tourism; Chennai; Health Care Quality; International Patients.

I. INTRODUCTION

Medical tourism is part of tourism where the patients move in search of better treatment from their home country to other country to receive the best treatment at the lower cost. Globalization has caused many countries to evaluate their economical strengths and weaknesses, as well as reassess products or services in which nations can benefit. A recent trend has shown that people from developed countries are seeking treatment from the health professionals from developing countries due to the distinct cost advantage and the possibility of combining leisure with well-being. This preferential shift is broadly termed as 'Medical Tourism'. Medical tourism is a phrase created by travel agencies, international medical agencies and the mass media around the world to describe the rapidly-growing practice of travelling across international borders to obtain health care services at its optimum price. Medical tourism is emerging as a major source for inflow of foreign currencies in developing countries, especially India. It serves the twin needs of the ailing patients as well as the economically developing destination countries. Health tourism is emerging as a new term which can be interchangeably used for medical tourism for its wider scope and applicability. Chennai is known as the medical hub of India.

Definition

"When a person, whose primary and explicit purpose in traveling is to obtain medical treatment in

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foreign country, excluding: emergency tourists, wellness tourists, expatriates seeking care in their country of residence, patients travelling to neighboring regions to the closest available care" – McKinsey, 2008

Lee and Spisto (2007) have defined medical tourism in a simple context as a "travel activity that involves a medical procedure or activities that promote the well- being of the tourist"

II. REVIEW OF LITERATURE

Rao (2005) He has explained that a substantial number of foreigners are coming to India to avail the quality medical treatment at a cost much lower than that of other countries of the world , particularly in the field of Cardiology, Cardiac surgery, Join replacement, Ophthalmology, Pathology Indian system of medicine.

Dr. Sampad Kumar Swain (2006) opined that the destination image is influenced with the two important attributes of tourist behaviour, one is atmospheric and another is environmental attributes. Atmospheric attributes are related to the climate, weather, temperature, humidity etc. and the environmental encompass the socio-cultural, economic, political aspects of a destination. The push-pull construction of idea generation has been taken as a model to assess the range of attributes that motivate the desire of to go on holiday as per the destination choice. Push factors are socio-psychological factors that motivate the individual to travel and the pull factors are qualities of destination that attract the tourist such as infrastructure or cultural attractions.

Monica (2007),explained thatmedical tourism is one in which international patients travel across boundaries for his or her health care and medical desires. It is often outlined as the provision of cost effective personal treatment unitedly with the tourism industry for patients needing surgical and alternative kinds of specialized treatment.

Objectives

1. To assess the socio-economic factors involved in selecting Chennai as the destination by the Medical Tourists.

2. To give suggestions and solutions to improve the quality of Medical Tourism in Chennai.

Methodology

The study deals with both primary and secondary data

1. Primary data is collected through questionnaire.

2. Secondary data is collected from Books, Journals, Internet, and Magazines, Newspaper and the reports the data is represented by bar diagram, pie-chart etc.

Sample Size:

A part of the population is selected for study is called a sample. The selection of group of individuals or items from a population in such a way that this group represents the population is known as sample. Sample size is 100.

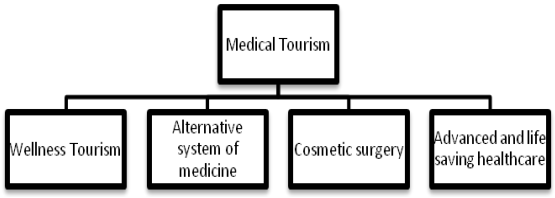
Trends in Medical Tourism in Chennai

Medical Tourism is rapidly growing all over the world by raising many health management issues. Many countries, including India, are very much interested in developing this type of tourism industry. Traveling abroad for one's health has a long history. The ancient Greeks and Egyptians went to hot springs and baths to improve their health. The new market report published by transparency market research "Medical tourism market (India, Thailand, Singapore, Malaysia , Mexico, Brazil, Taiwan, Turkey, South Korea, Costa Rica, Poland, Dubai and Philippines) – Global industry analysis, size, share, growth, trends and forecast, 2013-2019," the global medical tourism market was valued at USD 10.5 billion in 2012 and it is estimated to reach a market worth USD 32.5 billion

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in 2019 at Cumulative Aggregate Growth Rate of 17.9 Per cent from 2013 to 2019.

Medical Tourism Structure in India.



Reason for Chennai as Favourable Medical Tourist Destination:

Foremost is the cost factor. The medical costs in Chennai are one-tenth of the costs in western countries. For instance, a heart surgery costs $6,000 in India as against $30,000 in U.S. Similarly, a bone marrow transplant costs $26,000 in India as compared to $2, 50,000 in the U.S.

Secondly, foreign patients through Indian hospitals to pass up the long waiting list and queues in their native countries. Indian hospitals have always provided immediate attention to patients rather than asking them to wait for several months like in most western countries. Further, foreign patients need to tackle insurance and national medical systems in India as they have to in their native lands.

Chennai offers the best treatments in modern medicine and in every medical division such as cardiology, orthopedic surgery, eye care, gynaecology, cosmetic surgery and dental surgery. It also provides traditional methods of treatment such as Ayurveda, Homeopathy, Naturopathy and Yoga, Siddha.

Chennai's private hospitals have gained International recognition for their state-of-the-art facilities, laboratory facilities and diagnostic centers besides unsurpassed skills. Their technology and procedures are on par with hospitals in developed nations. Indian doctors working abroad have earned a good reputation for their skills sets and this also helped project an image of competent healthcare services in India.

Foreign international patients can get package deals including flights, transfers, hotels, treatment and post-operative vacation for their medical visits to India.

Many foreign medical tourists prefer to combine their leisure and relaxation visits to Chennai with healthcare.

Quality in the Treatment

Chennai has more number of hospitals that are offering world class treatments in nearly every medical sector such as cardiology and cardiothoracic surgery, joint replacement, orthopedic surgery, gastroenterology, ophthalmology, transplants and urology to name a few. The various specialties covered are Neurology, Neurosurgery, Oncology, Ophthalmology, Rheumatology, Endocrinology, ENT, Paediatrics, Paediatric Surgery, Paediatric Neurology, Urology, Nephrology, Dermatology, Dentistry, Plastic Surgery, Gynecology, Pulmonology, Psychiatry, General Medicine & General Surgery. For its quality of services and the infrastructure available, India is attracting a vast pool of tourists from the Middle East, Africa etc. As Indian corporate hospitals like Apollo, Max HealthCare, Fortis etc. are on par with the best hospitals in Thailand, Malaysia and Singapore there is scope for improvement, and the country is becoming a preferred medical destination.

Already 13 Chennai hospitals have been accredited by the Joint Commission International (JCI) which is the International arm of the Joint Commission Accreditation for Hospital Organizations (JCAHO). Accreditation and compliance with quality expectations are important since they provide tourists with confidence that the services are meeting international standards. Majority of the Indian Hospitals servicing Medical Tourists are accredited

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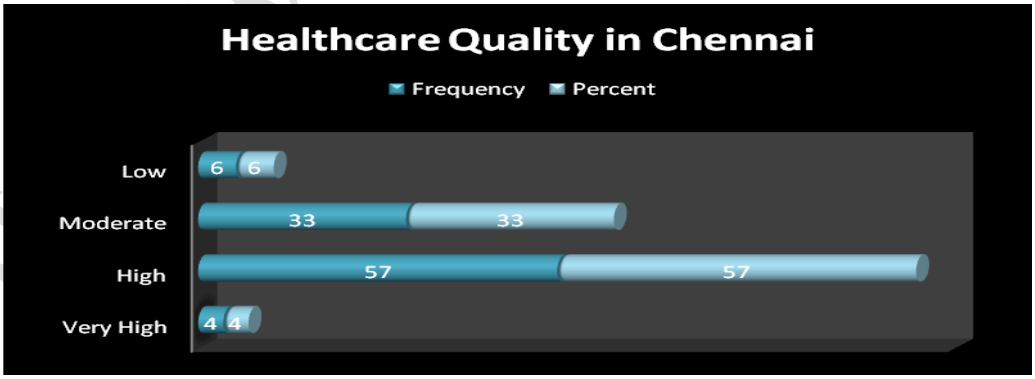
either by Joint Commission International (JCI) which is the world central body for accreditation for hospitals headquartered in USA and its accreditation is considered as a gold standard for health care. National Board for Accreditation of Hospitals and Health Care is governing body for JCI and follow International safety standards. India remains as a safe and a desired medical tourism destination. The figures indicate that foreign tourist Arrivals to India is increasing every year and similarly the medical tourists' arrival is growing by 30 % annually. There are two major components of the service quality in the health care sector - technical or mechanical quality and serviceable or functional quality. Technical equipment is at the core of the patients' diagnostic algorithm, while the functional quality of treatment by the doctors is measured by the service offered in the healthcare centers (such as the services of staffs, nurses and, most importantly, the doctors towards the patient and their assistants). The service quality in medical tourism industry is a vital part in attracting customers.

One of the fundamental barriers in accepting medical tourism is the perception of inadequate quality. An important key to overcome the barrier is to use the adequate marketing strategies and quality assessment via accreditation from an internationally recognized institution. Such accreditation is pivotal for strengthening confidence in the quality of healthcare.

So the assurance can be even stronger if accreditation is followed by an affiliation with reputable hospitals or health care systems in industrialized countries. Once healthcare providers are accredited and become a part of international referral networks, they can be appropriately rated for risks.

Table 1.: Quality of Health care in Chennai

Particulars	Frequency	Percent	Valid Percent	Cumulative Percent
Very High	4	4.0	4.0	4.0
High	57	57.0	57.0	61.0
Moderate	33	33.0	33.0	94.0
Low	6	6.0	6.0	100.0
Total	100	100.0	100.0	



Source: Primary Data

INTERPRETATION:

From the above analysis more than half of the respondents feel that health care quality is high in chennai, 33percent of the respondents feel that health care quality is moderate in Chennai, 6percent of the respondents feel that health care quality is low in Chennai and 4percent of the respondents feel that health care quality is very high in Chennai.

Hypothesis Testing

Non Parametric Tests (Qualitative Test):

Hypothesis:

To check whether the distribution of reason for selecting Chennai is the same across the categories of Quality Health Care in Chennai.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Reason for selecting Chennai is the same across categories of Quality of Health care in Chennai.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Interpretation

From the above analysis it is clearly identified that the Medical tourists prefer Chennai because of the High quality services that every hospitals are giving to their International patients. The above non-parametric analysis is made with the help of SPSS package version 20.

Suggestions

- To identify fake medical agencies and protect the medical tourists.
- To improve infrastructural facilities in Chennai so the connectivity of Chennai with other countries will be more feasible.
- The government must actively promote Chennai Medical tourism as it is considered as a major source of remuneration to Government.
- The government hospitals in Chennai must be maintained properly and quality of treatment should be regularly scrutinized.

III. REFERENCE

Chennai is known as Medical Hub of India, many people from different countries have started coming to India for medical treatment and Chennai is considered as an important centre for various India Medical System at lower cost and high quality. Chennai is situated in the south side of India where the transportation facilities are developing and all the places are connected with proper roadways, airways travel and waterways travel. Foreign Patients are making more efforts in applying visa to India because of complex process and procedures to enter India. Foreign patients feel that Chennai is best for its quality medical treatment at lower cost and there is no waiting period in getting treatment.

In order to maintain the high standards and to compete with the high competition emerging from new medical tourism destinations every year across world, it better for the government to take immediate actions and promote a healthy Medical Tourism in future.

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WILL ARTIFICIAL INTELLIGENCE EAT AWAY THE BENEFITS OF INDIAN DEMOGRAPHIC DIVIDEND

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Abstract

India is undergoing an important stage of demographic transition called demographic dividend. It is a double edged sword capable of being either a boon or a bane. More percentage share of population in the working age is a boon when we are able to make maximum skilled man power out of the working population and engage them in productive employment, if not the demographic bonus will become a bane. It is a more visible symptom in the last two decades that employment growth has remained almost stagnant while economy witnessed a rapid growth popularly called as jobless growth. Now artificial intelligence is fast displacing manpower in various sectors all over the world. Moreover artificial intelligence is more productive and cost competitive and therefore it is expected that artificial manpower will increasingly displace human power and hence the demographic transition towards having a larger share in working age will become an army of unemployed giving a caution to policy makers to foresee the situation and take suitable policies to counter it. Hence making the demographic bonus fit into the employment scenario of the future of India will be a daunting task.

The recent improvements in AI and the resulting implications for jobs, skills and society at large have few analyses on India's emerging economy. Indian economy aggressively trying to increase in human capital through Skill India and Make in India will not bring the desired results if government fails to realise the development of AI and its impact on employment and economic growth in the future. The present paper is an attempt to show the possible influence of artificial intelligence on the demographic transition in India. The paper separately describes demographic dividend and artificial intelligence for the purpose of studying the impact of artificial intelligence on demographic dividend. The sequential system of education and work is outdated in India. During the era of AI driven economy, jobs shift rapidly and skills are valuable but it will become obsolete soon. Digital India programme has the potential to develop AI technology and its adaptation in various fields bringing better productivity and output. AI's rapid diffusion begets both opportunities and challenges for India. Politics over technology such as AI could attract protests like those against the use of computers in the machine tools in the 1960s and in the banking in 1980s. AI is also an opportunity seen in the similar light as a means for India to take-off in to the future and a means for empowering Indian population. In this scenario an individual has the assurance that these skills are valued by the market. In this way India has to prepare for the challenges from a machine intelligence driven economy in the near future. The AI powered economy would eat away India's demographic dividend if its education policy fail to anticipate and sufficiently adapt for the future..

I. INTRODUCTION

India is undergoing an important stage of demographic transition called demographic dividend. It is a double edged sword capable of being either a boon or a bane. More percentage share of population in the working age is a boon when we are able to make maximum skilled man power out of the working population and engage them in productive employment if not the demographic bonus will become a bane. It is a more visible symptom in the last two decades that employment growth has remained almost stagnant while economy witnessed a

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rapid growth popularly called as jobless growth. The traditional economic theory exhibits a strong positive association between employment and output. It means that higher the economic growth more will be the level of employment. But the slow growth of employment may be due to automation or the incorporation of information technology in different sectors of the Indian economy. Now artificial intelligence is fast displacing manpower in various sectors. Moreover artificial intelligence is more productive and cost competitive and therefore it is expected that artificial manpower will increasingly displace human power and hence the demographic transition towards having a larger share in working age will become an army of unemployed giving a caution to policy makers to foresee the situation and take suitable policies to counter it. It is therefore necessary for the planners to find more productive employment opportunities for the teeming millions see to that artificial intelligence not eating a major share of it. Hence making the demographic bonus fit into the employment scenario of the future of India will be a daunting task.

The recent improvements in AI and the resulting implications for jobs, skills and society at large have few analyses on India's emerging economy. Indian economy aggressively trying to increase in human capital through Skill India and Make in India will not bring the desired results if government fails to realise the development of AI and its impact on employment and economic growth. The present paper is an attempt to show the possible influence of artificial intelligence on the demographic transition in India. The paper separately describes demographic dividend and artificial intelligence for the purpose of studying the impact of artificial intelligence on demographic dividend.

Demographic Transition

A favorable demographic transition starts with a decline in mortality, increase in longevity and healthier life for people. This will increase the productivity of human capital results in larger surplus for higher investment. Decreases in fertility rates reduce economic pressure at home thereby invest more on health and education. Lesser domestic work for women increases the participation of women in labour force that enhances their social status and empowerment. This social change occur cultural change and the society treats its members as valuable assets irrespective of gender. At present India is in the midst of a major demographic transition. It started in the late 1970s likely to last for another 30 years from now. The working-age ratio in 2004 was 58 percent in 2004; currently it is about 64 percent and it will reach 69 percent in 2040. It is expected that this will add over 300 million working-age adults during this period. This would make India the largest single contributor to the incremental global workforce over the next three decades.

Triggering of economic growth and improvement in the quality of life require lesser growth of population. Female education and labour market opportunities reduce the desired family size. Reduction in infant mortality and child mortality also influence the need for a small family. Declining fertility rates has resulted in a bulge in the share of working aged population. Lesser dependency ratio is the main reason for the demography to become dividend.

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Table: 1 Size and Age Composition of India's Population, 1991 to 2050

Age Group	1991		2001		2011		2050	
	Population(in million)	%	Population(in million)	%	Population(in million)	%	Population(in million)	%
0-14	312.4	37.2	363.5	35.3	372.4	30.7	328.2	19.8
15-59	464.8	55.4	585.6	56.9	729.9	60.2	996.3	60.1
60+	57.7	6.7	76.6	7.4	103.8	8.5	332.0	20.0
Age Not Specified	4.7	0.5	2.7	0.3	4.5	0.3	-	-

Source: www.censusindia.gov.in; for 2050 the projected population is taken from US Census Bureau

Demographic Dividend

From the pre-classical period onwards various theories find population as a strong factor influencing economic development. Most of them see population growth is detrimental to economic development. But Julian Simon (1981) argued that people are the ultimate resource, and a growing population is necessary for material advancement because people are not only consumers but they are producers as well. Bloom, Canning and Sevilla (2003) emphasise that it is not the size and growth but the age-composition of population that is closely associated with economic development. It indirectly acknowledges Demographic Dividend.

The Pathway of demographic Dividend

The productivity of factors generally guarantees a surplus after consumption. Garnering surpluses over consumption are needed for investment. For that a large proportion of working population tends to earn more and save more. Increased personal savings serve as a source of industrial investments. As the number of dependents in the population decreases, individuals can save more. More national savings increase the stock of capital and it leads to increased productivity. Demographic dividend argument shows that high savings are related to demographic factors like dependency, working age population and active population. Demographic transition of having a larger share of working age population is considered as demographic dividend or window of opportunity. Windows of opportunity is the period when the proportion of population under 15 years falls below 30 percent and the proportion of the people of 65 years and above is still below 15 percent (United Nations). For India it is projected that the demographic windows of opportunity will remain at least for 30-40 years from now on.

Dependency Ratio

The dependency ratio is defined as the ratio of actual non-workers to workers. Usually the share of the young and the elderly as a fraction of the population will come down more sharply when the share of working age population increases. At present the average of Indian is aged 29 years as compared to that of 37 years for China; 45 years for US and Europe; and 48 years for Japan.

High growth states such as Tamil Nadu, Karnataka, and Gujarat in 1991-2001 had a dependency ratio of 8.7 percent lower than that of the low growth states like Bihar, Madhya Pradesh, and Uttar Pradesh. The low growth states had an average annual growth rate 4.3 percentage points than high growth states. Higher dependency is lesser a demographic dividend in low growth states.

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Table :2 Trends in the dependency ratio in India (Medium Variant)

Period	Dependency Ratio	Child Dependency Ratio	Old Dependency Ratio
1950	73	67	6
1955	74	68	6
1960	76	70	6
1965	78	72	7
1970	79	72	7
1975	77	71	7
1980	74	67	7
1985	72	65	7
1990	69	62	7
1995	68	60	8
2000	64	56	8
2005	60	51	8
2025	48	36	12
2050	50	27	22

Source: Population division of the department of economic and social affairs of the United Nations secretariat, world population prospects, The 2004 Revision and World Urbanisation Prospects: The 2003 Revision, http://esa.un.org/unpp, accessed December 27, 2005.

Favourable Conditions

India is in a favourable position to reap the benefits of demographic dividend because of the following reasons.

1. India is in a higher growth trajectory for nearly two decades and it is expected to continue in future also.
2. There have been improvements in merchandise exports on the one hand and on the other the share of export of primary produces has been declining continuously.
3. India has become one of the attractive destinations of FDI and its rank of ease of doing business has improved very much in recent years.
4. India has a critical mass of skilled, English-speaking knowledge workers, especially in sciences.
5. India has a well-functioning democracy
6. India's domestic market is one of the largest in the world.
7. India has a large and impressive Diaspora
8. A well-developed financial sector
9. A broad and diversified science and technology (S&T) infrastructure
10. India can harness the benefits of the knowledge revolution to improve its economic performance

Employment Challenges of India

Though India has many bright spots in the economy, it has many challenges of which employment generation is the most serious. It is to be noted that majority of the jobs created in the industrial sector are in low productivity, non-contractual and in the unorganized sector, offering low incomes, little protection, and no benefit. In India over 92 percent of the work force is engaged in the informal sector. The scope of additional employment generation in the organised sector is rather limited. The categorisation of employment reveals that 56.8 percent of workforce belonged to self-employment, 28.9 percent to casual labour, and only 14.3 percent to regular wages.

Unless India make serious efforts in skilling our labour force in the areas where they have more job opportunities it is very difficult to reap the benefits of demographic demand. Unlike in the past the jobs in every sector, especially in the knowledge sector are subjected to technological change and automation characterised by artificial intelligence. In order to understand the issue better, a brief review of economic thoughts related to technology and automation will be useful.

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Economic Thoughts on Technology and Automation

Keynes of the view that rapid productivity will lead to job loss but in the long run this problem will be adjusted automatically. As Keynes put it "this entire means in the long-run (is) that mankind is solving its economic problem. The economic problem is not – if we look into the future – the permanent problem of the human race (Keynes, 1933).

James Albus, a famous Robotics researcher said "There is no historical evidence that rapid productivity growth leads to loss of jobs. In fact, quite the contrary, in general, industries that use the most efficient production techniques grow and prosper, and hire more workers, markets for their product, expand, and they diversify into new product lines (Albus, 1983). Albus expand this point "…there is not a fixed amount of work. More work can always be created. Work is easy to create. There is always more work to be done than people to do it. The problem is not finding plenty of work for both humans and robots; the wealth created by robot technology can distributed as income to the people who need it. If this were done, markets would explode, demand would increase, and there would be plenty of work for all able bodied humans, plus as many robots as we could build (Albus, 1983).

Herbert Simon claims that the law of comparative advantage "...shows, essentially that both people and machines can be fully employed regardless of their relative productivity. By adjustment in the relative price of labour and capital, respectively, it will come about that labour will be employed in those processes in which it is relatively more productive, capital in the process in which it is relatively more productive". He claimed that real wages will drop as the economy's productivity improves through mechanization. (Simon, 1977).

Equilibrium condition = (labour wage rate) X (average labour time required for producing 1 unit of output) 1+ interest rate X (average capital required to produce one unit of output) = 1

A labour saving technological change would lower the labour time required to produce one unit of output. "The long run impact of productivity will increase the real wage". Kelso, (1958) argues that "It is machines, not labour, that have became more productive, therefore, it is capital, rather than labour, that might more appropriately have received the extra reward.

Leontief in his input-output analysis show that automation will lead to a reduced need for human labour. Based on his dynamic input-output model (Faye Duch in, Leontief) opined "intensive use of automation over the next twenty years will make it possible to conserve about 10 percent of the labour that would have been required to produce the same bill of goods in the absence of automation. The impacts are specific to different types of work and will involve a significant increase in professionals as a proportion of the labour force and a steep decline in the number of clerical workers (1983).

People view that artificial intelligence increase unemployment. Leontief put it "Adam and Eve enjoyed before they were expelled from paradise, a high standard of life without working. After their expulsion they and their successors were condemned to eke out a miserable experience, working from dawn to dusk. The history of technical progress in the last 200 years is essentially the story of the human species working its way slowly and steadily back in to paradise. What would happen, however, if we suddenly found ourselves in it? With all goods and services provided without work, no one would be gainfully employed. Being unemployed mean receiving no wages. As a result, until appropriate new income policies were formulated to fit the changed technological conditions, everyone would starve in

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paradise. (Leontief, 1982). Some argue that at the initial stages of a critical period, large scale unemployment due to automation is inevitable.

Wassily Leontief says that, "...we are beginning a gradual process whereby over the next 30-40 years, many people will be displaced, creating massive problems of unemployment and dislocation. In the last century, there was an analogous problem with horses. They became unnecessary with the advent of tractors, automobiles and trucks. So what happened to horses will happen to people, unless the government can redistribute the fruits of new technology (Leontief, 1983).

Artificial Intelligence

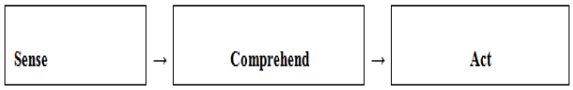
Developments in information technology led to the innovation of different categories of machines that can carry out tasks involving reasoning, judgment and perception that previously could be done only by humans. Important implications of this development has a potential to achieve massive reductions in employment of human labour as well as a rapid increase in the productivity of the sectors those making use of the technology. This has not been a sudden occurrence but this type of automation has been progressing at a rapid pace both technically and economically. As a result of this, labour force might feel threatened but enterprises find it as a boon because of its ability to increase productivity. Traditionally capital and labour are the two levers that are the drivers of production. All the combinations are not equally productive but a particular combination used to give the optimum level of output. This may change according to the change in the level of technology.

Across the globe GDP growth is determined by the stock of capital and labour. Innovations and technology change in the economy is captured by total factor productivity. In short, the latest developments in information technology get information as the new factor of production where increases in capital and labour no longer driving the levers of economic growth. The forthcoming discussion centred on the impact of Artificial Intelligence, an outcome of information technology on the economy and employment.

What is Artificial Intelligence

Artificial Intelligence (AI)isa term first coined in 1956 which is a branch of computer science that creates intelligent machines that work and reacts like humans. Information technology is considered as the 4th industrial revolution wherein Artificial Intelligence appears remarkable and path breaking. AI has almost surpassed human level performance but in future it can perform exponential human mental abilities. World over, in many developed countries expert systems and automatic planning programmes have been developed in AI research. The interesting situation is that business leaders and policy makers work toward a future with artificial intelligence (AI). The advance of AI is leading us to rethink fundamental economic relationships and how value is being created.AI is not a new field- much of its theoretical and technological underpinning was developed over 50 years by computer scientists – Alan Turning, Marvin Minosey, and John McCarthy.

Before the emergence information technology machines are used to act based on various instructions. Such machines do not have the ability to sense and comprehend. Hence machines were used to substitute labour only partially in the areas where they cannot completely displace labour. But such machines based on AI can out rightly reject the need of getting instructions from human being. They have all the qualities of human being as having the power to sense, comprehend and act.



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AI has achieved the status of a new factor and separated from the category of capital for various reasons. AI can drive growth in three ways. They are:

1. It can create new virtual workforce – called intelligent automation.
2. AI can complement and enhance the skills and ability of existing work forces and physical capital
3. AI can drive innovations – AI not only does things differently, they will also do different things for example driverless vehicles, drones etc.

Today AI has a number of applications such as playing games against humans, understanding human languages, virtual personal assistants, seeing, hearing and reacting to sensory stimuli, engaging in dialogue with people. They are super clever in specific areas. Many argue that AI has limited negative economic impacts but have a potential for substantial progress in economic growth. In due course more machines based on AI may be used even in traditional labour intensive areas like agriculture and handicrafts. AI therefore to have wide ranging applications such as predict cause- effect relationship from biological data, new drugs, self driving cars and protecting against fraud. In addition to this automatically drafting articles, translating text and speech and virtual personal assistants performing the functions of providing reminders, scheduling appointments, organizing their personal finance etc.

Labour scarce countries like USA, Japan, Germany, Austria, Netherlands and Sweden started using robots in various fields expected to double their economic growth rate by 2035. Despite this silver lining ssometimes AI could become humanity's biggest existential threat. It all depends on how we manage the transition to an era of AI.

Economic Field of AI

AI is of two types namely weak and strong artificial intelligence. Weak AI is used to complement human being in production activities, however strong AI is called Robotisation or machines replacing humans. Based on the economic field of AI, the functioning of AI has been classified under the following categories.

1. **Deep learning**

Machines learn mistakes while carrying out a task and avoid the same for the next time. This characteristic feature of AI surpasses the intelligence of humans without any additional cost.

2. **Robotisation**

Robotisation is a kind of mechanisation where Robots replace workers for carrying out a task. This feature of automation will substitute man by machine which has a tendency to create mass unemployment and displacement of jobs.

3. **Dematerialisation**

Another important characteristic of AI is dematerialisation. This will considerably reduce the use of materials hence it assures reliability, economy and resource conservation and pollution control. The best example is the enhanced possibility of contactless payments by smart Phones.

4. **Gig Economy**

Self -employment is typical for new generation employees for whom robots can be used as their income earning device.

5. **Crowd Working**
6. **Work on Demand**

Automation, Employment and Productivity

Future technologies will further simplify and routinize work tasks and reduce opportunities for workers. The implications of future technologies for employment are pessimistic. In short, displacing of work and downgrading of skill requirement undermine employment opportunities. Machines that have supported automation displace labour but these are capable of increasing productivity substantially leading to higher growth. Automation ultimately will expand the economy but at the cost of employment opportunities. Unlike the automation in mechanical

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engineering, Robotisation is the advanced form of automation capable of causing huge loss of employment opportunities.

The experiences of the developed modern economies show that the levels of unemployment in technically advanced societies have grown after the emergence of AI. Automation displaced blue collar employment partially after the industrial revolution. Rapid progresses of automation took place after the introduction of AI which has a telling impact on jobs in service sectors and management. Automaton displaced many white collar jobs inclusive of many managerial functions; decision making, reporting, communicating, coordinating, facts gathering etc face drastic cut in employment. Many companies opting for automation in order to reduce maintenance cost and labour cost. It is found that automation is faster and rapid in the information technology sector.

Advantages of AI

1. Production becomes cheaper
2. Productivity gains will improve living standard
3. Less manual or hard work
4. Employees might have more free time
5. Even they operate in risky and hard areas to reach without putting human at risk
6. It makes important talent pool in developing countries. Countries with highly qualified IT and women with better developed soft skills will be better placed.
7. If AI does create more worth, it can do the job without necessarily imply more jobs to human being
8. Unlike many labours saving technologies, AI is relatively very inexpensive.
9. There is an argument that there will always be a requirement for large amounts of human labour if demand for AI is potentially infinite.
10. But AI applications will lead to increase in the exponent of productivity. Super exponential increases in productivity will overtake finite levels of jobs very quickly.

Disadvantages

1. Surplus of low skilled workers in developing countries might turn into a curse.
2. Possible mass unemployment and mass migration in developing countries like India.
3. Since robots are becoming less expensive year after year, human manual labour will be replaced with robots.
4. Companies will likely to locate in places where they can find suitable highly qualified employees.

Potential Winners

1. Countries with good education systems undertaking research in digital solutions create new jobs.
2. Developing countries need better logistics and environmental technologies like smart cities to accommodate AI.
3. The gap between rich and poor continues to grow.
4. There are concerns for the future human work and employment.
5. Machines continue to improve their performance beyond human levels. Such a concern dates back in 1930s, when John Maynard Keynes postulated his technological unemployment theory explaining displacement effects.
6. Machines will be able to outperform humans at almost every task.
7. AI disruption of society is happening ten times faster and at 300 times the scale, i.e., 3000 times the impact.

In the short-run displacement effect may dominate. Following are some of the examples of the AI impacting employment.

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Automated clinical chemistry laboratory at Turbhe in Navi Mumbai operate a range of state of the art diagnostic equipment which can process up to 200,000 investigations in a night for Thyroid, Kidney and Liver diseases, testing 45,000 samples flown from 1300 collection centres in India – 1000 technicians did the job one decade ago-but today it is by 200 young technicians

University of Nanyang Technological University developed a robot receptionist on campus.

Automated Teller Machines (ATMs) significantly reduced job of number of bank clerks.

Potential Losses of the AI

1. Many companies producing in less labour cost countries will relocate their production.
2. Highly populated countries will face the problem of mass unemployment.
3. Job seekers are many, prospects are grim, with little job security and salaries. Many job seekers are found qualified but they are not skilled. Hence skilling for jobs will become an issue.
4. Unemployment will be on the rise hence employment creation will be one of the greatest challenges.
5. Traditional labour intensive industries will increase mechanized operations, making production more productive and profitable but job opportunities shrinks.

Direct Economic Impact

1. Indirect GDP growth through increased productivity in different sectors.
2. Increased revenues and employment within these existing firms create entirely new economic activity.
3. The extent of economic gains will be driven by the rate of diffusion of AI and its advancement. It will become an integral part of life.
4. AI has the ability to influence economic activity.

Impact of New Technology on Labour Market

1. Experiences in the Industrial Revolution were quite different from the labour market situation after the emergence of artificial intelligence.
2. Both blue-collar and white-collar jobs will be affected.
3. Employees can be replaced by intelligent algorithms.
4. Individual jobs will disappear.
5. New types of jobs will come into being, gradual transition by displacement and replacement.
6. Economic structures, working relationships, job profiles and working time and remuneration models will undergo major changes
7. There will be a fundamental transformation in the labour market, intellectual property, competition, labour and employment laws
8. Estimates reveal that 45 percent of day today activities can be automated
9. AI and robotics taking over as many as 5 million jobs by 2020.

Barriers to AI Proliferation in India

In fact Indian consumers are far ahead of the state in the use of AI. This is because of the simple reason that policy makers lagging behind exploiting AI for economic growth, national security and the like. The infrastructure necessary for the development of AI has not been given due importance by the policy makers. Besides lacking physical infrastructure, the AI in India also suffers from the necessary cultural infrastructure. The cultural change is in the form of innovation and the commitment to research beyond the organisational level. China being the most populated country developed formidable AI capabilities that could be a lesson for India both as an inspiration and as a model. Like a slow starter of economic reforms India is slow in understanding the power of AI. For achieving success in AI, India needs to develop its physical infrastructure and deep learning capabilities necessary to address the vast

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linguistic diversity; otherwise the machine intelligence will remain elusive.

With the advent of internet economy, there has been an increased investment in private sector in AI in India. But in Western European countries and in the USA the initiative actually has come from government. The commercial advancement has actually come from the labs of Google, IBM, Microsoft, and Face book. These countries also enjoy innovation clusters and a network of elite research universities, but India bestowed with none of these initiatives. Recently IIT Madras has carried out a publically funded research project and India is left with a few researchers specialising in AI. In India research of AI defence and national security is carried out by Defence Research and Development Organisation. In China defence research is carried out by the joint research of the public sector, Alibaba and Pan's team that surpasses Google's 'Deepmind'. But India's research programmes yet to pick up for a quantum leap to match China's progress.

AI opportunities have largely been driven by the private sector and have been focussed mainly on consumer sector.

AI was success in many developed countries like USA, South Korea, Western European countries and China.

USA and China have been in the race of AI technology development, India should not fall behind because India has enormous potential to use AI for economic and national security.

The number of transistors in computer chips doubles in every two years, which mean that computer power increases and the relative cost of computer hardware decreases at an exponential rate. The smaller, faster and less expensive hardware enables the computer to solve many complex problems (Moore's Law).

These computers are capable of learning from their own mistakes and so that they can improve their capabilities in recognition and deduction. The deep learning and neural networks, powering the way for recent innovations like the AlphaGO computer.

The striking unintended consequence of AI is the fear of job losses to technology. Big Indian IT companies such as Tata Consultancy Services and Infosys anticipate downturn to automation with software replacing employees. While India is planning for the Make in India programme, it is necessary to analyse the advent of industrial robots and their impact on employment in the manufacturing sector.

Foxconn, the top owners of robotics patent produce thousands of industrial robots per year that are capable of performing more than ten types of manufacturing tasks. More than 60000 workers have been replaced by one company Faxconn in the region of China. The prediction is that robots taking over manufacturing will unlikely to create more employment opportunities in future.

India and the Impact of Automation

India's unemployment rate grew from 6.8 percent in 2001 to 9.6 percent in 2011. (Census of India, 2011), the situation further worsened thereafter. The Labour Ministry's 27th Quarterly Employment Survey of eight employment intensive industries (textiles, leather, metals, automobiles, gems 7 jewellers, transport, IT/BPO, handloom, power loom) lost 43,000 jobs in the Q1 of 2015-16, but 91,000 new jobs are created FY 2015-16, thereafter look desultory.Displacement and replacement will become a regular affair in many of these industries including the IT sector. Therefore there will be more retrenchment and contractualisation.

Examples

1. Nokia-shutdown caused job loss to 8000 worker
2. Microsoft, new owner of Nokia, making smart phones in China and Vietnam

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3. Cement Industry in India beset by overcapacity and weak demand internationally

Growth without Jobs

Why the economy growing at an average growth rate of 7 percent is not creating enough jobs. Economy is generating fewer jobs per unit of GDP. The economy has become fewer jobs absorbent.

- Automation is blamed as one of the important reason for the job squeeze.
- Manufacturing Blues
- Increased outsourcing
- Manufacturing section has been losing jobs to the service sector.
- Many new jobs created are in the informal sector.

The rise of robots could lead to unemployment rates greater than 50 percent.

Moshe Vardi, Rice University says many middle class professionals will be outsourced to machines within the next few decades.

World famous physicist Stephen hawking predicting that "the development of full artificial intelligence could spell the end of the human race".

Need For Decoupling Employment and Income

a. Attempting to halt or slowdown technological change

b. Placing obstacles in the earlier using technology might be called Luddite approach – this approach is unfair to humanity because it continue to allow toiling when toil is technologically unnecessary

c. – It is similar to attempting to re-enter paradise – moreover it is very difficult to prevent technical progress

d. Another way is to invent new jobs, even these may be unnecessary but for the purpose of distributing incomes, social security, welfare payments of various kinds.

e. One possible way of decoupling income from employment- Margret Boden argues that new age of automation could be re-humanising rather than dehumanizing.

II. CONCLUSION

The sequential system of education and work is outdated in India. During the era of AI driven economy, jobs shift rapidly and skills are valuable but it will become obsolete soon. AI intelligence has been driven by technology which has the potential to outsmart human intelligence and its applications make it imperative for the policy makers in government to take notice. Digital India programme has the potential to develop AI technology and its adaptation in various fields bringing better productivity and output. AI's rapid diffusion begets both opportunities and challenges for India. Despite the job losses in different sectors, India should concentrate on training the workers with AI skills to service the next wave of enterprises. The greatest area of concern of the impact of AI jobs is in the middle skill category such as assembly line of workers, clerical workers and the like. Therefore in India, the start-up economy must experiment with new jobs and industries that can thrive in an AI driven economy.

Politics over technology such as AI could attract protests like those against the use of computers in the machine tools in the 1960s and in the banking in 1980s. AI is also an opportunity seen in the similar light as a means for India to take-off in to the future and a means for empowering Indian population. The implications of AI for the future economy are all about revamping the education system and it should be related to the skills and jobs. Education becomes important in an AI powered economy where the obsolescence of skills would be rapid than ever before. Jerry Kaplan proposes a job mortgage as a new type of financial instrument through which employers, vocational schools and the colleges would have an incentive to collaborate. In this scenario an individual has the assurance that these skills are valued by the market. In this way India has to prepare

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for the challenges from a machine intelligence driven economy in the near future. The AI powered economy would eat away India's demographic dividend if its education policy fail to anticipate and sufficiently adapt for the future.

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A STUDY OF MICRO, SMALL AND MEDIUM ENTERPRISES IN INDIA: THE BACKBONE FOR ECONOMIC DEVELOPMENT

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Abstract

Micro, Small & Medium enterprises (MSMEs) have played a phenomenal role in the overall economic development of developing countries . In India, the MSMEs make a significant contribution towards economic growth, balanced regional development, employment generation and overall poverty reduction through mobilization of capital and entrepreneurship skills. It has emerged as an indispensable vehicle for attaining inclusive growth of the country. Despite some infrastructural deficiencies and challenges like flow of institutional credit and inadequate market linkages, this sector has procured remarkable success with regard to increase in number, quantum of investment, scale of production and overall contribution to national GDP. Keeping in view the vital role of MSMEs in Indian economy, the present paper is an attempt to analyze the definition of MSMEs, the role and performance of MSMEs in Indian economy as well as the various challenges associated with MSMEs in India. The findings of this paper can provide the scope to the entrepreneurs and the policy-makers must initiate and act collectively to facilitate growth in this sector..

Keywords: Micro, Small and Medium Enterprises (MSMEs), Economic Development, Indian Economy, growth potential, challenges, Economic Growth, Employment Generation, Gross Domestic Product (GDP), market linkages

I. INTRODUCTION

The Micro, Small and Medium Enterprises (MSMEs) have often been termed as 'engine of growth' for all developing countries including India. It is the second largest employment-generator in India after agriculture and a key source for various skilled and unskilled citizens of the country. MSMEs not only provide large employment opportunities at comparatively lower capital cost than large industries but also help in industrialization of rural and backward areas, hence, reducing regional imbalances, assuring more equitable distribution of national income and wealth.

As per the Report of the Working Group on Micro, Small and Medium Enterprises (MSMEs) Growth for 12th Five Year Plan (2012-2017), the sector accounts 45 percent of the manufacturing output and 40 percent of total exports of the country. The sector provides employment to about 80 million persons through 36 million enterprises throughout the country. Over 6000 products ranging from traditional to high-tech items are being manufactured by the MSMEs in the country. The labour to capital ratio in MSMEs and the overall growth in the sector is much higher than in the large industries. The geographic distribution of the MSMEs is also more even. Thus,

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MSMEs are important for the national objectives of growth with equity and inclusion.

Currently, Indian economy has shown a paramount growth performance in creation of livelihood opportunities to millions of people, in enhancing the export potential and in increasing the overall economic growth of the country. Prompt and appropriate fiscal stimulus, effective monetary policy and huge capital inflows were greatly instrumental in the stabilising the economy. The MSME sector acts as a catalyst for socio-economic transformation of the country by addressing the national objectives of bridging the rural-urban divide, reducing poverty and generating employment to the teeming millions. It is utmost essential for India to adopt a suitable policy framework to create an enabling business environment to keep the momentum of growth and holistic development. Moreover, it is absolutely important that the MSME sector addresses the infrastructural deficiencies and is well empowered to meet the emerging challenges for its sustainable growth and survival in a globally competitive order.

Objectives of the Study

- The major objectives of the present study are to
- To analyze the performance of MSME sector in the present scenario
- To examine the contribution of the MSME sector in GDP
- To examine the various challenges associated with MSMEs in India.

Methodology

The present study is based on secondary data and mostly collected from the Annual Reports published by the Ministry of Micro, Small and Medium Enterprises. The data is also collected from various articles and journals keeping in view the objectives of the study.

Definition of MSMEs

Prior to the MSMED Act 2006 the Industrial Development and Regulation Act 1951, defined SMEs sector, as Small-Scale Industries and its constituent tiny and auxiliary units. The Micro Small and Medium Enterprises Development Act have broadened the definition as well as coverage of the micro and small enterprises. According to this Act MSME includes both manufacturing as well as service sector on basis of investment limit. In case of manufacturing sector, investment limit for micro enterprise does not exceed twenty-five lakh rupees; for the small enterprise, the investment in plant and machinery is more than twenty-five lakh rupees but less than five crore rupees; whereas investment limit for medium enterprise should more than five crore rupees but should not exceed ten crore rupees.

In case of the services sector, the investment limit for the micro enterprise should not exceed ten lakh rupees; for small enterprise, the investment in equipment should more than ten lakh rupees but should not exceed two crore rupees and for medium enterprise the limit should range between two crorerupees and five crore rupees.

The limit for investment in plant and machinery / equipment for manufacturing / service enterprises, as notified, are as under

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Manufacturing Sector	
Enterprises	**Investment in Plant & Machinery**
Micro Enterprises	Does not exceed twenty-five lakh rupees.
Small Enterprises	More than twenty-five lakh rupees but does not exceed five crore rupees.
Medium Enterprises	More than five crore rupees but does not exceed ten crore rupees.
Service Sector	
Enterprises	**Investment in Equipments**
Micro Enterprises	Does not exceed ten lakh rupees.
Small Enterprises	More than ten lakh rupees but does not exceed two crore rupees.
Medium Enterprises	More than two crore rupees but does not exceed five crore rupees.

Source: Micro Small & Medium Enterprises Development (MSMED)Act 2006

MSMEs- An Indian Perspective

Micro, Small and Medium Enterprises in India offer a heterogeneous and varied nature of fabric in terms of the size and structure of the units, variety of products and services, scale of production and application of technology. These enterprises are quite complementary to the large scale industries as ancillary units. They contribute to the socio-economic development of the country quite significantly. The MSMEs in India constitute about 80% of the total number of industries and produce about 8,000 value added products.

Source: Annual Report 2013-14 by Ministry of Micro, Small and Medium Enterprises

This figure depicts the various industries that constitute a part of Micro, Small and Medium Industries in India. One common misconception is assuming that it is only the manufacturing sector that constitutes the MSMEs. Services like hotels and restaurants, trade, education are also a part of the MSME Sector.

Retail Trade, Except of Motor Vehicle & Motorcycle; Repair of Personal and Household Goods, is the largest contributor in the MSME Sector. The entire retail trade constitutes 39.85% of the total sector. The share of Sale and repair of motor vehicles & motorcycles, retail sale of automotive fuel in employment is around 5.7%. 6. 94% of the entire MSME sector constitutes of manufacture of food products and beverage industry. Relaxation in policies and a change in the lifestyle of the people have helped this sector to grow. Manufacture of textiles and furniture stand at 2.33% and 3.21%respectively.

The growth and development of MSME sector in India has been consistent and remarkable over the preceding decades. Statistics show that the number of such enterprises has increased from about 1.1 crore in 2001-02 to 4.1 crore units in 2009-10 and again to 4.48 crore enterprises in 2014-15. Statistics reveal that the number of such enterprises set-up, employment generated and the investments made in the MSME sector in India has shown an increasing trend over the years as evident below.

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Table – 1 Performance of MSME sector in India

Sl. No.	Year	Total Working Enterprises	Employment Generated (In Lakh)	Market Value of Fixed Assets (Rs. in crores)
1	2006-07	361.76	805.23	868,546.79
2	2007-08	377.36	842.00	920,459.84
3	2008-09	393.70	880.84	977,144.72
4	2009-10	410.80	921.79	1,038,546.08
5	2010-11	428.73	965.15	1,105,934.09
6	2011-12	447.64	1,011.69	1,182,757.64
7	2012-13	447.54	1,061.40	1,268,763.67
8	2013-14	488.46	1,114.29	1,363,700.54
9	2014-15	510.57	1,171.32	1,471,992.94

Source: Annual Report of MSME, Government of India, 2015-16.

The contribution of MSME sector towards GDP and total manufacturing output has been depicted in Table – 2. The share of service sector MSMEs to the GDP has been increasing indicating robust growth and changing nature of economy.

Table – 2 Contribution of Manufacturing Output of MSME in GDP(at 2004-05 Prices)

Year	Gross Value of Output of MSME Manufacturing Sector (Rs. in Crores)	Share of MSME sector in total GDP (%)			Share of MSME output in total Manufacturing Output (%)
		Manufacturing Sector MSME	Service Sector	Total MSME	
2006-07	1198818	7.73	27.40	35.13	42.02
2007-08	1322777	7.81	27.60	35.41	41.98
2008-09	1375589	7.52	28.60	36.12	40.79
2009-10	1488352	7.45	28.60	36.05	39.63
2010-11	1653622	7.39	29.30	36.69	38.50
2011-12	1788584	7.27	30.70	37.97	37.47
2012-13	1809976	7.04	30.50	37.54	37.33

Source:1. Fourth All India Census of MSME 2006-07,

2. National Accounts Statistics (2014), CSO, MOSPI and
3. Annual Survey of Industries, CSO, MOSPI

Flow of credit or availability of finance from banking institutions is a major factor contributing to the growth and success of MSMEs. Available information on flow of credit to this sector indicates a declining trend from 17.34% in 2010 to 10.20 % in 2013.The credit flow by the Scheduled Commercial Banks to this sector in subsequent years has however, shown an increased trend as depicted in Table-3.

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Table – 3 Flow of Credit by Scheduled Commercial Banks (SCBs) to MSME Sector in India

Year	Outstanding in Rs. crore		Share of MSME to Gross Credit (%)
	Credit to MSMEs	Gross Credit	
March, 2009	431350	2647368	16.3
March, 2010	506166	3088569	16.4
	(17.34)	(16.67)	
March, 2011	561759	3749500	15.0
	(10.98)	(21.40)	
March, 2012	623414	4371400	14.3
	(10.98)	(16.59)	
March, 2013	687000	4964200	13.8
	(10.20)	(13.56)	
March, 2014	878508	5657200	15.5
	(27.88)	(13.96)	

Note: Figures given in brackets are % change over the previous year.

Source: Data on Sectoral Deployment of bank credit published by RBI, Bhubaneswar.

MSMEs sector plays a major role in contributing to India's export performance. This sector contributes 45%-50% of the Indian exports out of which direct export accounts for nearly 35% and indirect 15% to the total exports. It is imperative to emphasize that while the organized industrial sector with large scale industries requires substantial amount of investment for generation of employment, the MSME sector creates larger employment opportunities with less or same investment.

Issues and Challenges

Though MSME plays an integral role in industrial development and economic growth of the country, it experiences several challenges like lack of adequate credit and capital, poor and inadequate infrastructural facilities, inadequate access and marketing linkages, technological obsolescence and inadequate application of new technology, lack of skilled human resources, dilatory and cumbersome regulatory practices for clearance and poor adaptability to emerging international trends. This calls for strategic intervention to improve coordination and linkages between various stake-holders including the Government, industries and other agencies/associations working in this field.

1. Lack of Adequate Capital and Credit

The lack of finance remains the biggest challenge for the sector. Firstly, there is lack of information available through organized sources to help access the limited available financial resources. The problem of lack of access of secondary markets is made worse due to the absence of any Venture Capitalists for this sector. The need for ready availability of affordable credit is extremely high.

2.Poor and Inadequate Infrastructural Facilities:

Deficiencies in the infrastructure and poor support facilities marked by inadequate access to basic facilities like water, power supply, road/rail connectivity etc. adversely affect this sector and contribute to enhance their operational cost by rendering the MSMEs less competitive in the challenging market situations.

3. Inadequate Access and Marketing Linkages:

Due to the lack of effective marketing initiatives, the true potential of the products from this sector is never realized. The lack of funds to advertise the

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products and incur additional expenditure is a big challenge.

4.Lack of Skilled Human Resources:

Non-availability of skilled workforce and better managerial/entrepreneurial expertise at affordable cost near the location of enterprises is another such big challenge for the MSMEs in India. Lack of managerial competence, absence of proper training on resource planning and capital management etc. hampers the growth of enterprises.

5.Lack of Access to New Technology:

In India, the use of less advanced technology in operations results in low productivity by making these enterprises uncompetitive in the ever-widening market contexts. Apart from enhancing productivity and quality, new technology should be adopted for an overall transformation and competitive edge.

6.Dilatory and Cumbersome Regulatory Practices:

Cumbersome and dilatory regulatory clearances relating to sanction and disbursement of loans from commercial banks, collateral securities/guarantees, for construction permits, resolving insolvency and taxation etc. continue to be the constraining factors for many MSMEs. Absence of a common regulatory body and inadequate provisions for start-ups affect the growth of such enterprises. Non-adherence to RBI guidelines regarding revival/rehabilitation of seek enterprises by the Banks is another major constraint that needs to be addressed.

Suggestions

Although the MSME sector has shown commendable performance over the years in terms of employment generation, growth of exports and infringing about social transformation, the issues and constraints that hinder their growth need to be identified and properly addressed for their continued growth and sustainable development. Some suggestions to improve the performance of MSMEs are indicated below;

1. Easy Access to Finance and Credit:

Institutional finance/credit from banks and other financing institutions should be promptly available without long and cumbersome procedures. Sanction of credit / loan applications by public sector banks should be made within a reasonable period at affordable and reduced rate of interest.

2. Stepping up Infrastructural and Support Facilities:

Deficiencies in basic infrastructural facilities like water, power supply, road/rail, and telephone connectivity, etc. should be addressed on priority basis. Use of solar or renewable energy as an alternative source should be encouraged in rural areas on subsidized basis. A cluster-centric or cluster development approach should be adopted for many enterprises working in closer proximity.

3. Creation of adequate Marketing Linkages:

For enhancing sale of products, regular trade fairs/exhibitions etc. should be conducted for creation of a larger platform for better marketing facilities. The Govt. of India policy regarding 20% mandatory procurement of MSME products by government Departments/ State PSUs should be ensured.

4. Skill Development and Capacity Building:

Initiatives should be taken for skill / competency development of human resources. Infrastructural and professional support from Rural Self Employment Training Institutes (RSETI) and suitable training institutes may be obtained for conducting training of entrepreneurs and workers engaged in different activities. Awareness / sensitization programmes and TV/Radio talks should be conducted.

5. Access to Modern Tools and Technology:

MSMEs today need to adopt and adhere to quality parameters of international standards in the context of a globalized market. Technological obsolescence should be replaced by adoption of modern and latest tools and technology for increased

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productivity and quality product for competitive advantage

6. Policy Intervention and Support Mechanisms:

Industry-friendly policies should be initiated by the government for promoting infrastructural support facilities and for easy availability of finance by the scheduled banks. Government and Banks should take steps for revival of sick units as per RBI Guidelines and Credit Guarantee Fund Trust for Micro and Small Enterprises (CGAMSE) Scheme. Sick enterprises should be given one-time settlement (OTS) facility by the banks before enforcing measures under the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act. Single window system for approval of MSME projects may be streamlined for clearance.

II. CONCLUSION

In nutshell, the Micro, Small and Medium Enterprises (MSMEs) have emerged as an integral and dynamic component of the Indian economy by their considerable contribution to GDP, industrial production and exports. The most significant contribution of this sector is towards employment generation which is second only to agriculture in India. In the recent years, employment in agriculture sector has been declining as well as large industries are also experiencing jobless growth. In such a situation, the unorganized sector including small and medium enterprises and the service sector can be the solution . A technologically advanced, internationally competitive small and medium industry should be encouraged to make a sustainable contribution to national income, employment and exports.

In addition, the government should take initiatives to address various problems faced by this sector. It should ensure efficiency and effectiveness in terms of resource allocation and availability of sufficient funds for this sector to continue on the path of growth. Successful implementation of these initiatives will boost the sector as well as at the same time contribute significantly to the overall growth of the Indian economy.

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STATUS OF BANKING SECTOR IN TAMILNADU – AN ECONOMIC ANALYSIS

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I. INTRODUCTION

Finance is the main spring of the economy and a key to ensuring sustained and inclusive economic growth. Financial services in terms of savings, deposits, payment services and credits are critical for faster economic growth. The banks located in Tamil Nadu are to be capable of mopping up the disposable income at the command of the people and channelling them into productive purpose. Banks in Tamil Nadu at present are taking care of the public utility services. Tamil Nadu occupied 7th ranks in the country in the financial inclusion index. The ultimate goal of the government is to make the State the numero uno in the country in terms of financial inclusion. Towards achieving this, the State has entrusted the responsibilities of distribution of social security pensions, wages under the Mahatma Gandhi National Rural Employment Guarantee Scheme(MGNREGS), scholarship to the students, salary payment to the staff and collection of taxes on behalf of the Government. Thus, the banks are assigned huge business opportunities by the State.

Objectives of the Study

1. To analyse the banking networks in Tamil Nadu.
2. To identify the growth of bank deposits and credit in Tamil Nadu.

Methodology

The study is confined to the state of Tamil Nadu. The present study is based on secondary data. The data is collected from Annual Reports of Government Departments, Statistical Hand Book of Tamil Nadu, various magazines, journals, books and official websites are used as relevant sources.

Results and Discussion

Table: 1 Banking Network in Tamil Nadu

Region	2011-12		2012-13		2013-14	
	Tamil Nadu	All India	Tamil Nadu	All India	Tamil Nadu	All India
Rural	1993	35364	2173	38451	2230	39154
Semi Urban	2517	25076	2629	27822	2681	28343
Urban/Metropolitan	2743	35619	3028	38374	3055	38892
Total	7253	96059	7830	104647	7966	106389

Source: *Quarterly Statistics on Deposit and Credit of Scheduled Commercial Bank, RBI, March 2012 and June 2013.*

In the above backdrop, banks need to be branched out to every nook and corner of the State. There was a steady increase in the number of bank branches in the State. The number of bank branches functioning in the State went up from 7253 in 2011-12 to 7830 in 2012-13 (8%) and further to 7966 in 2013-14. In the case of All India it was from 0.96 lakhs in 2011-12to 1.05 lakhs in 2012-13 (9%) and subsequently to 1.06 lakhs in 2013-14.

Region-wise distribution of banks in 2013-14 in Tamil Nadu shows that urban/metropolitan regions accounted for a higher share of 38.3 per cent, whereas

at all India the rural regions had the higher share of 36.7 per cent. The proportion of banks in rural areas to total in Tamil Nadu had witnessed a steady upward movement from 27.5 per cent in 2011-12 to 27.8 per cent in 2012-13 and 28.0 per cent in 2013-14 which was considered to be a positive development.

Table: 2 Bank Branches in Tamil Nadu

Bank Group	2011-12	2012-13	2013-14
State Bank of India and its Associates	1033	1119	1141
Nationalized Banks	4080	4309	4351
Regional Rural Banks	336	346	346
Foreign Banks	31	32	32
Other Scheduled Commercial Banks	1773	2024	2096
Total	7253	7830	7966

Source: Quarterly Statistics on Deposit and Credit of Scheduled Commercial Bank, RBI, March 2012 and June 2013.

The above shows the number of bank branches in Tamil Nadu. Of the total bank branches in the State, nationalized banks, alone accounted for a larger share of 55 percent, followed by Scheduled Commercial Banks (26%), state Bank of India and its associates (14%), Regional Rural Banks (4%) and the remaining being foreign banks. Tamil Nadu housed 7.5 per cent of the total number of banks in the country as of June 2013.

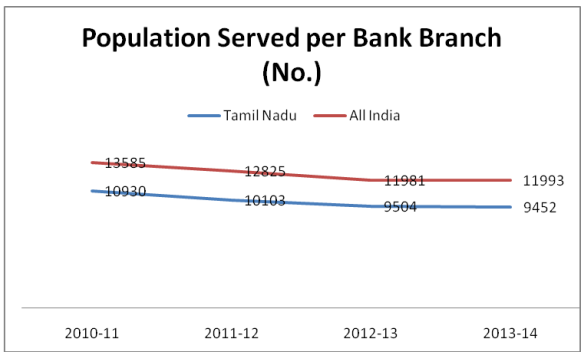
Table: 3 Population served per Bank Branch

Year	Tamil Nadu			All India		
	No. Of branches	Population (Millions)	Population per Bank office	No. Of branches	Population (Millions)	Ppulation per Bank office
2010-11	6601	72.15	10930	89110	1210.57	13585
2011-12	7253	73.28	10103	96059	1231.99	12825
2012-13	7830	74.42	9504	104647	1253.80	11981
2013-14	7996	75.58	9452	106389	1275.99	11993

Source: Quarterly Statistics on Deposit and Credit of Scheduled Commercial Bank, RBI, March 2012 and June 2013.

Population served per bank branch is one of the parameters with which the penetration of banking activities in the State is measured. The population served per bank in the State declined steadily. It was 9452 per bank branch in 2013-14as against 10930 in 2010-11.

The above table shows that the pace of increases in the opening of number of bank branches was higher than that of the growth in population. At the all India, the population served per bank was by and large stagnant at around 11990 in the last two years ending 2013-14. It shows that there was more intensive banking activities in Tamil Nadu as compared to all India. It was also indicative of the fact that financial inclusion and the access of banking activities was more pronounced in Tamil Nadu as compared to all India.



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Table:4 Bank Deposits (Rs. Crore)

Region	2011-12		2012-13		2013-14	
	Tamil Nadu	All India	Tamil Nadu	All India	Tamil Nadu	All India
Rural	34081	578211	36550	674843	36266	678574
Semi Urban	77326	848446	81047	986357	80842	992258
Urban/Metropolitan	289776	4747490	328979	5390131	329898	5389350
Total	401183	6174147	446576	7051331	447006	7060182

Source: Quarterly Statistics on Deposit and Credit of Scheduled Commercial Bank, RBI, March 2012 and June 2013.

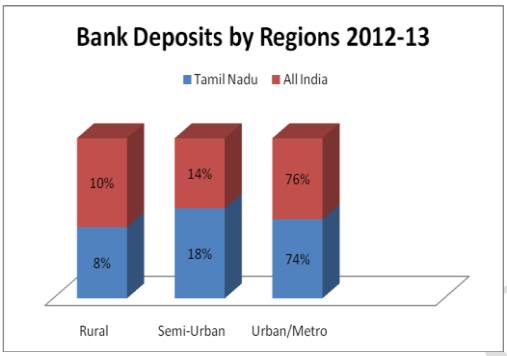


Table: 5 Bank credit

Region	2011-12		2012-13		2013-14	
	Tamil Nadu	All India	Tamil Nadu	All India	Tamil Nadu	All India
Rural	38591	418227	49810	456188	51416	462663
Semi Urban	73116	456930	91795	554201	93349	552446
Urban/Metropolitan	354324	3946370	407640	4496107	396283	4387740
Total	466031	4821527	549245	5506496	541048	5402849

Source: Quarterly Statistics on Deposit and Credit of Scheduled Commercial Bank, RBI, March 2012 and June 2013.

Bank as a financial intermediary collects deposits from savers and lends to investors and others. The total bank credit is one indicator which can be used to measure to what extent the banking sector had extended credit to the productive and needy sectors of the economy. The total credit disbursed by the banks in the State improved from Rs.466031 crore in 2011-12 to Rs.549245 crore in 2012-13 registering a growth of 17.9 percent. In 2013-14, it stood at Rs. 541048 crore. Among the regions, the pace of increase in credit disbursement by banks in 2012-13 was higher at 29.0 per cent in rural and 25.5 per cent in semi-urban as compared to that of metropolitan/urban at 10.3 percent in Tamil Nadu.

Of the total credit disbursed in the State during the year2012-13, the relative share of metropolitan/urban region was significantly higher and overtook the other two regions. At all India level, the pace of increase in total credit at 14.2 per cent between the two years 2011-12 and 2012-13 was lower than that of Tamil Nadu (17.9%). Between 2011-12 and 2012-13 the rate of growth in credit at the all India was lower as compared to Tamil Nadu in semi-urban (21.3%), metropolitan/urban (13.9%) and rural (9%). Of the total credit disbursed by banks at the all India, the share of Tamil Nadu worked out 10.0 per cent.

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Table: 6 Credit- Deposit Ratio (CDR)(Percent)

Region	2011-12		2012-13		2013-14	
	Tamil Nadu	All India	Tamil Nadu	All India	Tamil Nadu	All India
Rural	113.2	72.3	136.3	67.6	141.8	68.2
Semi Urban	94.6	53.9	113.3	56.2	115.5	55.7
Urban/Metropolitan	122.3	83.1	123.9	83.4	120.1	81.4
Total	116.2	78.1	123.0	78.1	121.0	76.5

Source: Quarterly Statistics on Deposit and Credit of Scheduled Commercial Bank, RBI, March 2012 and June 2013.

Credit Deposit Ratio (CDR) displays the level of efficiency with which the banks mop up resources from the public and then lend it to the needy borrowers of funds for financing productive economic activities. Tamil Nadu's credit deposit ratio was higher than that of all India. It is noticed in all the three regions viz., rural, semi-urban and urban/metropolitan. The credit-deposit ratio in Tamil Nadu improved from 116.2 per cent in 2011-12 to 123.0 per cent in 2012-13. Contrary to this trend, the credit deposit ratio at all India was stagnant in both these years. Between the two years 2011-12 and 2012-13, the credit deposit ratio in Tamil Nadu improved significantly at a faster rate in rural and semi-urban areas as against urban/metropolitan region.

Contrary to this trend, at all India in rural area it was on the decline from 72.3 percent to 67.6 percent. The pace of increase in the credit deposit ratio in the other two regions at all India was much lower than that of Tamil Nadu. Among the regions in Tamil Nadu, the credit deposit ratio was higher in rural areas at 136.3 per cent as compared to urban-metropolitan (123.9%) and semi-urban areas (113.3%) in 2012-13. At all India among the regions the ratio was highest in urban/metropolitan (83.4%) as compared to the other regions.

II. Conclusion

To sum up in Tamil Nadu the performance of banking sector is commendable as viewed from the perspective of spread of banking network, mobilization of deposits, disbursement of credits, priority sector lending, penetration of cooperation movement etc., The banks are well capitalized, well regulated and well managed.

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SOCIO-ECONOMIC PROBLEMS OF MIGRANT CONSTRUCTION WORKERS IN CHENNAI: CHALLENGES AND SOCIAL WORK INTERVENTIONS

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I. INTRODUCTION

Migration is a very selective process. Migration is not for a pleasure neither it is a mere physical movements of individuals and groups. It involves a lot of physical strain in their social, economic cultural and other aspect of life. It is a subject of keen interest not only to the demographers but also to sociologist, anthropologist and political scientist movements of people, specially rural people from the land to the cities, from one country to another and from one continent to another is an international phenomenon and not a phenomenon of modern times. It concerns not only the developing countries but also which are highly industrialized and affects the more or capitalized countries. It is also the socialist change of the moving, the voluntary or involuntary nature of the act and destination. Assaf Razin and Efraim Sadka (2000) studied impact of unskilled migration in a welfare state and found that if the economy has a good access to international capital markets; migration is beneficial to all income and all age groups. PrabhatPatnaik and Chandra Sekhar's (1998) study deals with international migration in the contest of liberalisation. According to them, if there is a labour scarcity, advanced countries allow immigrants from backward countries; while in times of recessions they turn against migrants propagating that immigrants steal jobs, creating a feeling of frustration among the immigrants. They argue that, liberalisation denies migrants even the solace of imagining that there is a "home country" where their role, contribution, or money they send are being appreciated and where they would be welcomed back as valued citizens.

Migration

"Migration is a form of geographical mobility or spatial mobility between geographical unit and another, generally involving a change in residence from the place of origin or place of departure to the destined place. Migration has become a way of life to many, who are unskilled and semi-skilled and find difficult to get better place of destination or place of arrival. Such migration is called permanent migration and should be distinguished from other forms of movements, which do not involve a permanent change of residence. Employers prefer to hire migrant labour, as they are considered to be cheaper and more docile than local labour. Consequently, labourers need to migrate in search of jobs, which they are denied in their native region. This perpetuates a vicious cycle of migration". (Preetham Surya .V, 2017).Migration from one state to another has become so rampant that its impact is felt in every aspect of life jobs within their natives and locality. They are spread along the width and length of the

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country. They are addressed the migrants as 'the myth of permanent urbanization' because it gradually takes its form from short-term migration to permanent settlement. Migrants are the ones who shift or moves from their place of their residence to another place in order to improve their living condition by seeking employment or for education purpose. Employment opportunity in the urban sectors for both the skilled and unskilled workers are the pull factor that tempts the people to migrate from the rural or the suburbs to step into the city and to earn their means of living. This phenomenon of movement of people is happening in our country down from the centuries. "The migration of workers can be considered as a beneficial process both economically and socially because the workers are shifted from low productivity labour surplus area to high productivity and labour shortage areas. The migrants move out of their native land because the availability of social infrastructural facilities, employment opportunity and sources of income generation is comparatively less than the urban sector. The negative side of the migration is that it adds up to the population of the destination city and the consequences of over population is faced by the inhabitants". (Mehta G.S 1991).

Migrants in India

"Theory of 'Rural push' explains the gamut of migration in India. Differential level of economic development has been the root of migration. Natural calamity also compels the rural people to move out of their native land to find a better and reliable work which will help him to support his family. The age factor also acts as avital factor to determine the flow of migration as the people in their early twenties and thirties are the ones who are more interested to travel and get employed in other place. These young migrants initially move without their women folks and after they are employed in a satisfactory workplace with a better pay they bring their family along and if possible employ them in a suitable work in unorganised sector" (Barik B.C, 1994). India has been an adobe for the migrants and refugees from the time immemorial. As a nation India has seen a high migration rate in recent years. According to 2011 census the migrants in India has touched 400 million, internal migration covers the third population of the country which comes up to 70,000crore - 1,20,000crore. Apart from women migrating due to marriage, employment is the biggest reason for both inter and intra-state migration. Independent National Sample Survey Organization data indicates that migrant workers take up regular or causal employment or self-employment in nearly equal proportion. The seasonal migrants constitute mostly of Dalit and other highly impoverished sections that go out to work in harvesting seasons or on construction sites, in brick kilns , salt miles etc. They migrate so that they can earn better to pay back their debts and to survive and sustain their life.

Edward Taylor, J. (1999), studied the determinants and impact of remittances on migrant sending areas. He found that inflows of remittances in to the sending economies are large but its influence is overlooked. Further, the economic environments that encourage out-migration also limit the potentials for migrant remittances to stimulate development in sending areas. According to him migration is not a panacea or a substitute for good economic policies. According to a sample survey conducted by the National Campaign for Committee of Unorganised Sector Workers estimated that Tamil Nadu have accommodated over three lakh of migrants with large concentrations around Chennai, Coimbatore, Trichy, Madurai, Hosur, Tripur, Kanyakumari, and Tirunelvelli. They are mostly from Assam, Bihar, Orissa, Bengal, Uttar Pradesh and even Nepal. They migrate to work on private and Government construction sites, in small engineering ancillary unit, steel rolling mills, lathe, hosieries, in roadside

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eateries as well as in restaurants and as security guards. Majority of the migrant workers in the state are unskilled workers. The labours from Andhra Pradesh and Orissa are accompanied by their families. The condition of the migrants are no less of the bonded labourers because of the lack of migrant labour laws.

Statement of the Problem

In the current scenario Chennai is also one of the growing metropolitan city, and the construction business is growing day by day. Many north Indian people are migrating to Chennai for construction works and coolie works. But their living standards are completely influenced by the existing situation of Chennai. They may feel difficulty in residence, food pattern, communication, dressing and economic background. There are many researchers who focus to identify the place of birth of the migrant labours, their destination, and the reason for their migration and their present situation. The present study is focused for analysing the socio-economic problem faced by the migrant construction workers. Researcher is aimed to assess the problems faced by the migrant construction workers working in Chennai. There is a need to analyse the migrant labour living condition and the socio-economic problem faced by them in the working area where they are living.

Need and Importance of the Study

The migrants are always in lieu of exploitation with either the upper section of the society or the permanent inhabitants. The problems faced by them are common to a large extent so it is not much difficult to address to their problems and their needs. But the saddest part lies in the fact that there is not much scope for the migrants to raise their voice in the foreign land and as a results their voices are unheard by the authority concerned. Therefore there is every need for creating a platform or a forum where they can vent out their grievances and their needs can be channelized and addressed in a proper and effective.In the recent trend, it shows that all big cities of country have become the centres to recruit casual labourers as construction labourers to cities and urban areas. Most of the construction labourers that migrate to cities and metros are from poor families and are illiterate. The lack of education and skill make their choice very limited. When they come to big cities they face problems because of their inexperience and lack of skill. They easily become the victims of exploitation and have to work for their day to day sustenance. Therefore it is very important to study the socio-economic problems faced by migrant construction workers.

Objectives

1. To know the Demographic details of the respondents.
2. To study socio-economic problem of the migrant.
3. To find out the cultural problem of the family.
4. To reveal the health (physical and mental) problem of the migrant.

Research Methodology

Research methodology is a systematic way to solve a problem. It is a science of studying how the research is to be carried out. In the Research Methodology, researcher uses different criteria for solving and searching the given Research problem.Descriptive Research Deign was used by the Researcher for this study. In this research the researcher found out the problems faced by the migrant construction workers in Chennai. Interview schedule served the purpose of Research. The Interview schedule was divided into various sub-sections which contained Basic demographic details, socio-economic, cultural and health problem faced by them in working place and in Chennai.The researcher conducted pre-test with the 10 employees. Through that the trainee made some changes in the Interview schedule. Following that the Researcher got an approval to get data collection from the migrant

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construction workers. The data was collected by snow-ball sampling method because the migrants were scattered all over the city and in order to trace them this method was very useful for the Researcher. The researcher could interview one set of construction workers and through them the Researcher got an idea as to whom to approach next. The total sample size was 100.

Demographic Details of the Respondents

"Migration is a selective process and individuals with certain characteristics tend to migrate more than others. The age group between 15-29 years are likely to migrate as they look for gainful employment. This is higher among the unmarried rather than the married because in latter case they will have to face the difficulty of settling down in the urban areas; especially when they the migrants have children. With regard to the education qualification they seem to possess education above the higher secondary level or no formal education. The migration from the rural region takes place within the state this indicates growing labour mobility which is essential concomitant of economic development of the nation. Studies also held to the acceptance of the fact that migrants are mostly the middle income groups which is followed by the poorest".(Bhatia S. Ajit, 1992).In this research more number of respondents (32 percent) were from Bengal."Age is one of the important factors to understand migration because when a family together migrates to a destination, the children whether of tender age or adults are greatly influenced by the migration. They come to know why their parents are migrating and what the purpose to migrate is. The reverse is also true, for, influenced by them slowly the adults start working in the construction sites and move here and there to earn. Unmarried male workers do stay near the site but reside in a single room together, away from the family households. Many of them come inthe age category 20-25years". (Preetham Surya .V, 2017). In this study also majority of the respondents (52 percent) belong to the age group of 20-30 years. Majority (64percent) of the respondents were married. Half of the respondents (50 percent) were Hindus. Majority of the respondents (54 percent) were SC.

Manoj.P.K (2015) had conducted the study on Socio-Economic Conditions of Migrant Labourers - an Empirical Study in Kerala. In his study Educational status of the migrant construction workers is very poor. Only 9 of them (7.50 per cent) have education upto 10 Standard or more while 27 of them (22.50 per cent) have High School level education and 45 (37 per cent) have UP School level education. Further, 18 (15 per cent) of them are illiterate while 21 (17.50 percent) have LP School education. In this study also about 44 percent of the respondent's educations were primary level. About 48 percent had 4 to 6 members in their family.Most of the respondents (94 percent) stay in nuclear family. Majority of the respondents (76 percent) family income is above Rs8000.Majority of the respondents (62 percent) are accommodated in labor camp.

Socio-Economic Problems

Mala. P (2015)Identifies the major issues related to socio-economic profile of women construction labourers by analysing the job satisfaction levels, wages, and economic status through finding their savings, loans, and the status of women in social ladder. As casual workers the problem of insecurity of work, low wages, instability in work and virtual absence of enforcement of protective labour legislation still persist irrespective of gender. In this study about 46 percent used to get somewhat social respect from the people. About 44 percent of the respondents said that they are treated well in the working place. Majority of the respondents (54 percent) felt isolated in Chennai. In this research, majority (68 percent) of the respondents said that they had good relationship with other state employees.

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About 46 percent of the respondents said that they are humiliated by the contractor in the work. About 42 percent of the respondents said that they are facing different forms of discrimination in the working place. Half of the respondents (50 percent) said that they used to visit their home town once in a six month. All the respondents were dissatisfied with their salary. More than half of the respondents (58 percent) said that their salary is not sufficient to take care of their family expenses. About 36 percent said that they have debt of Rs5000-Rs.6000. Majority of the respondents (67 percent) said that they used to borrow from their contractors and employers. Majority of the respondents (76 percent) said that their nature of work is challenging and tough. Majority of the respondent (54 percent) said that the welfare facilities are somewhat satisfactory. Most of the respondents (87 percent) said that they do not have any life insurance policy. In this research, majority of the respondents (68 percent) opined that they cannot take leave often for any personal reasons.

Cultural Problem

Majority of respondents (66 percent) strongly agreed that they eat north –Indian food daily. About 46 percent of the respondents said that they rarely eat south – Indian food.All the respondents (100 percent) said that they did not have problem with the dressing style in south - India. About 38 percent said that they celebrate their cultural festival in Chennai rarely.

Health Challenges

In this study, about 44 percent said that they have the habit of chewing tobacco. Majority (67 percent) of the respondents said that they have physical health problems. About 45 percent of the respondents said that they have work stress. About 42 percent agreed that their sleeping order were disturbed by the work pressure. Majority of respondents (56 percent) had muscle pain while working. In this research majority of respondents (54 percent) said that they went to Government hospital for their treatment while they are ill.

Result of Cross Tables

The researcher applied Chi-Square, ANOVA and t-test to find out the significance association and difference between independent variables with dependent variables. The independent variable Age associated with the dependent variables such as Social respect from the public, Feeling isolated, Healthy relationship with family members, Motivational factor for migrating are not significant. The independent variable Educational level associated with the dependent variables of Social respect from the public is not significant. The independent variable associated with Type of family and Motivational factor is significant. In the result of association between Marital status with other dependent variables of Feeling isolated, Debt borrowed and Motivational factors not significant. The independent variable associated with their Healthy relationship with their family members is significant.

Suggestions and Recommendations

The respondents were dissatisfied with the welfare facilities provided by the employer so the employer and the contractors should give proper welfare measures.

Majority of them are unhappy with their leave facility so the employer may formulate the leave policy for the benefits of the respondents.

In this study more number of respondents (48 percent) agreed that their sleeping order were disturbed by the work pressure. The employee should be given adequate time to have a proper sleeping time so that they can work afresh the following day.

Over time work wages should be given.

The employer or the contractor should not practice any discriminatory way which will demotivate the worker to continue with his work.

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The common gathering and get together should be organized for the workers.

Counseling facility must be made available for the workers to cope with the mental problems.

Social Work Intervention

Social work is the only stream which helps people to help themselves. It believes in the concept of self- determination. The primary care and importance would be given to human. It is a process induced by professional. The concept of social work actually agitates the people for their betterment. The nature of social work is to work for the betterment of the marginalized society.

Social case work focuses on individuals who could not achieve a fairly normal adjustment to life and needed outside attention. It is concerned with people who are in particular situation of need.

Social worker aims at the important functioning of its group members through group work. Social Group work helps the group (homogenous or heterogeneous) members to realize their ability for a mature relationship se lf-awareness and a greater sense of belonging. It also utilizes the group as a tool to bring about desired changes in social functioning with troubled person by identifying their problem.

Community Organization method focuses on the overall and general welfare of the people of the community. It is carried out by a group of people who agree to undertake projects and programs for the benefit of their community. The aim is to enhance the self-reliance of the community and its ability to maintain its growth.

Social Action is a method through which the community can be sensitized on mass issues which can bring about a huge change in the society. With regard to this a Social worker mediates the process of developing through enabling individual and society to reach out for each other through mutual need for self-fulfillment.

The social workers are mandated to mobilize and deliver a wide range of services to their client. This research emphasizes on the principle of being non-judgmental and principle of individuality which enable others to lead a dignified life. Fusion of above social work methods helps the community to overcome the challenges. The effectiveness involvement of a social worker cannot be ignored in developing a strengthened community.

II. CONCLUSION

Migration in India is mostly influenced by social structure and pattern of development. Uneven development is one the reason for migration. This research outlines the various problems faced by the migrant construction workers in Chennai city. These findings can be useful to know the various dimensions of problems faced by the migrant construction workers in Chennai. There is a need to get to the root cause of migration. Scope of future study on this area is essential as the rate of migration is increasing day by day. The research finding can be compared with the findings conducted in other parts of India. The research will help to find possible solution to help the migrant construction workers to deal with their problems.

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NEW INDIA'S GROWTH: IMPROVING INDIA'S POSITION IN HUMAN DEVELOPMENT INDEX

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I. INTRODUCTION

Human Development is defined as the process of enlarging people's freedoms and opportunities and improving their well –being. Human development Index (HDI) is a composite statistic of life expectancy, education and income per capita indicators which are used to rank countries into four tiers of human development. Human Development Index is defined as a statistical tool used to measure a counties overall achievement in its social and economic dimensions. The social and economic dimensions of a country are based on the health of people, their level of education and their standard of living. Human Development Index is an integral part of the development process for any country. Without human development the development process for any country is incomplete. It is a process of enlarging people's choices. The essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living. Hence HDI makes use of four parameters for measuring and ranking countries according to their social and economic development which includes the Life Expectancy at Birth, Expected Years of Schooling, Mean Years of Schooling and Gross National Income per capita. India's HDI value for 2015 is 0.609, which puts the country in the medium human development category, positioning it at 130 out of 188 countries and territories, indicating slow progress in improving people's living standards in Asia's third-largest economy

Objectives of the Study

1. The following are the objectives of the study
2. To give an overview about Human Development Index
3. To examine the causes for poor performances in India in the sphere of HDI.
4. To give suggestions to improve the level of HDI in India

Methodology of the Study

The data for the study has been collected mainly from the secondary sources. It has been collected from various published sources such as UNDP, Human Development Reports, World Development Reports, various issues of Economic Survey, National Human Development Report and websites. The study examines the various causes for poor performances in India in the sphere of HDI and gives possible suggestions to improve the level of HDI in India. The paper focuses on whether India can reach the top level in achieving better position in HDI.

Significance of the Study

Recent years HDI is been given importance and most of the countries be it the developed or developing nations are very eager to know where they stand in Education, Health, life expectancy and other social indicators. The countries according to Human development Index are categorized as countries with

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high human development, medium human development and low human development. This index is considered to be very important because a countries growth is very much correlated with HDI. From 2004-05 to 2011-12, India's poverty ratio dipped from 37.2% to 21.9%, a 16 percentage point drop whereas in terms of human development index - measured on the basis of health, education, and standard of living - and gender equality, India still has a long way to go, trailing behind other emerging economies and even some of its neighbors. There is a need to study about the reasons for low level of HDI in India and the study makes an attempt to understand the important issues about HDI and also the study gives certain suggestions to improve the HDI level in India.

Overview about Human Development Index

According to the UNDP, human development is "about creating an environment in which people can develop their full potential and lead productive, creative lives in accord with their needs and interests. People are the real wealth of nations. Development is thus about expanding the choices people have to lead lives that they value." The United Nations has calculated the HDI for its member states since 1975. The first Human Development Report was published in 1990 with leadership from Pakistani economist and finance minister Mahbub ul Haq and Indian Nobel Prize Laureate for Economics, Amartya Sen.

The main aspect of Human Development Report was to focus on the real income per capita as the basis for a country's development and prosperity. The claim made by the UNDP is that economic prosperity with real income per capita was not the only factor in measuring human development. Thus the first Human Development Report used the Human Development Index and examined the concepts like life expectancy, education and work participation.HDI examines three basic dimensions to measure a country's growth and development. They are

- Health
- Education
- Standard of Living

The first and foremost is the Health of the people. This is measured by life expectancy at birth. Those with higher life expectancies rank higher and those with lower life expectancies rank lower. The second dimension is Knowledge level which is measured by the literacy rate and this is combined by the adult literacy rate and gross enrollment ratio of students in primary school through university level. The third dimension is the Standard of living. This dimension is measured with gross domestic product per capita in purchasing power parity terms which is based on United States dollars.

Causes for the poor performances in India in HDI

India's HDI is slipping down. The neighboring countries like China, Sri Lanka and Bhutan ranked higher than India and they have done extremely well in HDI. There are number of reasons for India's poor performance in HDI.They are as follows.

Health

Health is a very important aspect of Human development. One of the most important predictors of health status is income. However health is a dimension of human capital and healthier people are more productive. But if we take the case of health in India there are number of reasons for a very poor condition of health. Firstly there is lack of doctors in India. There is only one doctor for every 2000 people within the country. As a result a lot of illnesses go unchecked and untreated. The worst affected is the rural areas where the conditions are even worst. There is more number of unqualified practitioners who are unable to provide the help to the poor people and lack of infrastructural facilities in hospitals and clinics in the rural areas is another major problem.

Lack of Expenditure on Health Sector in India

The expenditure spent for health in India is very less when compared to other countries. Table 1

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depicts the expenditure spent on health sector in India and this has been compared with other countries like UK, Australia and United States.

Table: 1Expenditure on Health Sector in India and other countries

Country	Amount Spent on Health (in $)
India	141
United Kingdom	332
Australia	3692
United States	8608

Source: Human Development Report, 2015

Indian government spends 141 US dollars per capita; it means that for every person, the government has spent only $141 whereas if we take the case of other countries like Australia, US and UK there has been a huge difference. Australian government spends an average $3692 dollars on health per capita, US government spends an average of $8608 and UK government spends $332. Spending more towards subsidizing health care costs would effectively improve health in India, as can be witnessed in the countries of the US, UK and Australia. Only a minute 3.9% of India's total GDP has been spent in the health sector. Whereas Norway spends 9.15%, Australia spends 9% and Switzerland spends 10.95 %. A very important point to be noted is that a country which ranks second in population spends very less for health care. It means that out of 100 rupees India spends only Rs 7 on Education and HealthCare. Our neighboring country China which ranks first in population spends 5.2% on healthcare.

Education

Another important indicator in HDI is education. India is lacking in good quality of education and there are numerous causes for poor levels of education which affect the countries human development. When inequality is factored in, however, India loses over one-fourth of its HDI value, with education registering the highest inequality in outcomes. The main reason for inadequate level of education is lack of teachers. Many schools have insufficient number of teachers. There are 52% o schools having one teacher for every two classes. Most of the teachers are under qualified and there is no efficient teaching that is provided. Many children from poorer background are unable to receive education due to their financial status. Due to low income level most of the families give importance to need to earn against need of education. Another major cause of insufficient level of education in India is lack of infrastructural facilities. Schools in rural areas and urban slums have poor level of infrastructural facilities.

Lack of Expenditure on Education

One of the factors that affect India's low levels of education includes lack of spending on education. India needs to spend a considerable amount for improving the standard of education.

Table: 2 Expenditure spent on Education in India and other countries

Countries	Amount Spent on Education (in % of GDP)
India	3.3
Indonesia	3.5
Australia	5.1
Mexico	5.3
Switzerland	5.4
United States	5.4
Brazil	5.7
Norway	6.9

Source: Human Development Report, 2015

Only 42.1% of India's population aged 25 years and older had at least some secondary education, the UNDP report said, adding that government spending on education was 3.8% of gross domestic product between 2005 and 2014.*India spends only 3.3% of GDP whereas the world average is 5%.The top three countries which spends more in education are Norway which spends 6.9%, Australia spends 5.1% and Switzerland spends 5.4% for their education. If we take the case of China it is 3.3%, Indonesia spends 3.5%, Mexico spends 5.3%, Brazil is 5.7% and US spends 5.4%.*

Growth of Real Wages

The growth of real wages in the economy has also been relatively slow, especially for casual or 'unskilled' workers. When we compare with China there is a wide difference found. According to

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comparable international data from the International Labor Organization, real wages in manufacturing in China grew at an astonishing 12 per cent per year or so in the first decade of this century, compared with about 2.5 per cent per year in India.

Lack of *socio-economic safety nets*

The cause for low level of human development is lack of socioeconomic safety nets socioeconomic nets are transfer programs with aim of preventing the poor or those vulnerable to poverty from falling below a certain poverty level. Our country does not have these transfer programs and due to this number of people are subject to extreme level of poverty. Majority of them are living in extremely difficult lives and they do not get the basic requirement.

Wide spread Unemployment

Unemployment is the biggest cause of India's low GNI per capita. There has been a continuous increase in unemployment and the numbers of job seekers are increasing in a higher rate. This is a major reason for low level of income for the people. The growing population rate is the root cause for growing unemployment rate in India.

Low per Capita Income

Per capita income also is a very important indicator and it has an impact in HDI. India's per capita income was $ 1570 in 2013, and ranked at 120th out of 164 countries by the World Bank, while its per capita income on purchasing power parity (PPP) basis was US$ 5,350, and ranked 106th.

Unequal distribution of Income

The income level of people is very less and this is another root cause for the low level of human development. There is a huge disparity in income found in the economy. This is a serious problem because some receive very high income whereas some receive very less income. This has implications on India's GNI per capita as a whole as it is such a widespread issue and therefore it affects India's levels of human development.

Gender discrimination

India`s gender discrimination is one of the human development indicator that raises concern. India ranks 130 out of 155 countries in the Gender Inequality Index (GII) for 2014. This is way behind Bangladesh and Pakistan that rank 111 and 121 respectively.

Table: 3 Gender Discrimination in India and other countries

Country	Rank (out of 152)
India	127
Bangladesh	115
Russia	52
China	37

Source: Human development Report, 2015

With respect to the gender inequality index, which tells us about inequalities in reproductive health, empowerment and economic activity, India ranks very low with 127th position out of 152 countries, the same as Pakistan but lower than Bangladesh at 115. Amongst the BRICS nations, India is again the lowest, with China at 37 and Russia at 52. On gender equality too, India fares poorly. It has a gender inequality index (GII) of 0.563. The GII reflects the extent to which gender inequality erodes national achievements in reproductive health, empowerment and labor market participation.

Declining Child Sex Ratio

According Census in India the sex ratio in the 0-6 age group went down from 964 in 1971 to 962 girls per 1000 boys in 1981.The figure further declined to 927 in 2001.The 2011 census is even more shocking because the child sex ratio further declined to 914 girls per 1000 boys. This imbalance is acute in India and this is also a reason that lowers the HDI value.

Decreasing Women Labor Force

The HDI report said that global participation of women in the labor force who are generally less educated than men have fallen slightly in recent years, mainly because of the reductions in India (from 35% in 1990 to 27% in 2013) and China (from 73% in 1990 to 64% in 2013). India's female literacy rate

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among youth aged 15-24 years was 74.4% as against the male literacy rate of 88.4%, according to the report.

Child Malnutrition

Child malnutrition in India is extraordinarily high among the highest in the world with nearly one half of children under age of three being underweight or stunted. Stunted growth, also known as stunting and nutritional stunting, is a reduced growth rate in human development. It is a primary manifestation of malnutrition (or more precisely under nutrition) and recurrent infections. With nearly 47 million children under the age of five suffering from stunting in 2015, India is the epicenter of the global crisis. The UNICEF and the Union Ministry of Women and Child Development carried out a 'Rapid Survey on Children' in 2013-14, the key provisional data for which it made available. According to this survey, India's proportion of children underweight fell from 45.1 per cent in 2005-6 to 30.1 per cent in 2013-14. This makes the decline in one indicator of child undernourishment the sharpest in the 25 years that such data has been collected.

Regional Disparity

The National Human Development Report 2001 for India (2002) reveals vast differences in human development and poverty between the States of India. The report notes that, at the state level, there are wide disparities in the level of human development. (NHDR 2002). The report also notes that disparities amongst the States with respect to human poverty are quite striking. It is more alarming to note that over a decade there has been no reduction of such disparities. The report notes, the inter-state disparities have persisted through the decade.

Findings of the Study

- There are number of reasons as why India is unable to reach the top level in HDI. This study has come out with few reasons and the following are some of the findings of the study.
- If we take the case of health in India there are number of reasons for a very poor condition of health and not only that but Indian government spends 141 international dollars per capita which is very less when compared with other countries of the world.
- India is lacking in good quality of education and there are numerous causes for poor levels of education which affect the countries human development
- Only 42.1% of India's population aged 25 years and older had at least some secondary education, the UNDP reported that government spending on education was only 3.8% of gross domestic product.
- The growth of real wages in the economy has also been relatively slow,
- Per capita income is a very important indicator and it has an impact in HDI. India's per capita income was $ 1570 in 2013 is again very less.
- The income level of people is very less and this is another root cause for the low level of human development. There is a huge disparity in income found in the economy
- Child malnutrition in India is extraordinarily and India ranks the highest in the world with nearly one half of children under age of three being underweight or stunted
- The child sex ratio further declined to 914 girls per 1000 boys. This imbalance is acute in India and this is also a reason that lowers the HDI value.
- Suggestions to improve the level of HDI in India
- Suggestions for development of human resources in India
- Special Strategies for improving Education

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- Major improvement should be made in the quality of education. The policies should focus more on better functioning of school and it should not be in student's enrolment alone. Special strategies should be adopted by the government to improve the outreach of the school system to the marginalized groups in the country. In order to improve the education sector government should focus to build infrastructure, attract talented teachers and bring awareness among students parents about education about the importance of education. More incentives should be given to children from poor families.

Effective Policies for Improving Health Sector

Effective policies should be started for improving the health sector in our country. The public health policy should focus on the prevention of diseases faced by people by providing them the basic necessities that are required. It includes clean drinking water, better sanitation, better health care centers etc.

Reducing Malnutrition Level

In order to reduce the malnutrition level, it is imperative to promote policies for increasing food productivity level in our country. The national level programs like the Integrated Child Development Scheme (ICDS) should be revamped and restructured. Food supplementation programs are essential for tackling hunger and food security issues, and for ensuring social equity. Food supplements act as a transfer of resources to poor families and are specially needed to reach some of the population groups like pregnant women and nursing mothers, children below the age of 5 years, school children, and adolescent girls

Creating Employment Opportunities

The government policies should be framed so that more employment is created. The unorganized sector should be strengthened. The reason 90% of nation's workforce is engaged in unorganized sector the income from this sector is very meager. Hence the government should focus more in strengthening this sector. More job opportunities should also be created so that unemployment problem will be curtailed.

Gender Equality

There is a need to recognize the crucial role of women as agents of sustained socio-economic growth and change. This necessitates focusing on removing gender gaps as well as on women's empowerment, which would have a significant impact on reducing poverty and inequality.

Eradicating Poverty

Steps should be taken to eradicate poverty. It can be eradicated by implementing various centrally sponsored schemes, state sponsored schemes etc., India is moving at a right direction but not at a good speed. Another issue is the corruption, which makes the system even worst. Hence strict policies should be framed to completely make India a corrupt free economy.

II. CONCLUSION

The advanced countries of the world are able to sustain their powerful position in the world economy due to their strong human resource base. The developing countries should try to strengthen their human resources. India specially being a labour abundant country will be able to develop such a strong base without much difficulty. The developed countries are already having highly skilled and educated human resources. India must take initiatives in developing the health and education sector. If the government spends more in these sectors, there will be huge impact in HDI. India has abundant man power and so when education and health sectors are given importance definitely India can compete with the developed countries and reach the top level in HDI.

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A STUDY ON THE FACTORS INFLUENCING THE CUSTOMERS TO SELECT A MOBILE NETWORK SERVICE WITH SPECIAL REFERENCE TO CHENNAI

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I. INTRODUCTION

Research Background

Mobile services were introduced in India in the late 1990s and the population is the main advantage for any market player operating in India. The mobile network service providers are ready to serve their subscribers anywhere at any time to retain the existing subscribers to earn a new subscriber. By knowing the preference and buying behavior of the consumers the mobile network service providers can develop the promotional method to survive in the Competitive market. The healthy competition between the different mobile network service providers create the mobile number portability, value added service, voice message, MMS, SMS, unbreakable signals, scheme changes, easy to recharge, other comfortable and satisfactory service to the mobile network subscribers.

Usage of the mobile network by the lower and middle class people increased by reducing the mobile network subscribing tariff form Rs.14 to Re.1. The Indian government permits the spectrum operators clears signal clarity issue and develops the subscribers benefit. Everyone in the market is trying to satisfy his customers. Today all the organizations satisfy the customers to attain a competitive advantage.

Identified Problem

The business faces the toughest competition from their competitor. It is the main problem faced by the organization. So, it turns out to be very important for the organization to identify the customer preferences not just by the services but by reaching beyond the expectations of the customers. So, the study attempts to observe the mobile network user's preference towards the selected mobile service providers in Chennai city.

Need for the Study

Exchange of information becomes the necessity of life to a common man. In the modern world an individual tends to communicate anything to everything right from the place where he/she stands. Even while riding vehicle he / she wants communicate within a fraction of second at quick speed with clear voice, without any disturbance like line crossing, out of order, etc. most of which lack in the connection given by the department of tele-communication. Cell phones emerges as a boon quench such a thirst, the by providing facilities, which a common man cannot imagine. Though cell phone industry has its origin the recent past and the growth has been excellent. Day by day many new competitors enter the market with new attractive schemes, provide additional facilities, add new features to existing ones, reduce the charges her

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incoming and outgoing calls that benefits the subscribers. Hence in this context, it is important to study the factors influencing the customers to select a mobile network service.

Objectives & Scope

Primary Objective

The objective of the study is to find the factors influencing the customers to select a mobile network service with special reference to Chennai.

Secondary Objectives

1. To study the Customer's Preference towards the mobile network service.

2. To identify the customer satisfaction towards the mobile networks and its various aspects.

3. To analyze the market and mobile phone users based on Age group, Gender, Educational Qualification, Monthly income etc.

4. To determine the usage and interests of the mobile phone users.

Deliverables

The study will found the reason for most preferred mobile network service and the level of satisfaction of the mobile network users with reference to Chennai.

LITERATURE SURVEY

Review of Literature

Zohaib Ahmad and Junaid Ahmad (2014) in their study titled "Consumer Purchase Behavior in Cellular Service Sector" says that the dominant factors quality, price, promotions, and social factors reflects the latest buying behavior of people or not. The study reveals that the social factor is the most dominating factor which determines the purchase behavior and basically reflects the societal image of the consumers.

Myilswamy, Ratheesh Kumar (2013) find that the postpaid and prepaid customer prefer to use Airtel mobile service because of the features, Rent, Tower coverage, Talk time, Advertisement and Corporate schemes. Finally, the study suggests that by paying special attention on these factors develop the business by satisfying the consumers.

Zafar (2013) examines the impact of the mobile service attributes like call rates, service quality, service availability; promotion and brand image of both the gender's purchasing decision. The result reveals that the male and female consumers have different preference in making the purchase decision to the avail mobile service. The study also discovers that the female consumers are tough to satisfy than the male consumers.

Chintan Shah (2012) in his study entitled "Consumer Preferences for Mobile Service Provider" investigates the factor considered by the customers to shape their preference for the mobile service provider. For the study 150 mobile users of Bardoli city are surveyed. The researcher find that the service quality and brand image, service charges and plan, and network quality plays a very important role in preferring mobile service provider.

Jegan and Sudalaiyandi (2012) in their study on the consumer preference and their satisfaction towards the mobile phone service providers find that the call tariffs, network coverage and brand image encourage the consumer's preference and satisfaction.

Raj Kumar Paulrajan and Harish Rajkumar (2011) in their study examine the perception choice in selecting the cellular mobile telecommunication service providers. The result of the study indicates that in selecting the telecommunication service provider, communication and price has a significant impact in choice of the consumer preference nevertheless the product quality and availability has a significant impact in selecting the mobile telecommunication service provider.

Kim et.al (2012) states that call quality, value-added services and customer support are the important factor to be considered by the customers while choosing a service operator.

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Rajpurohit & Vasita (2011) in hand reveals that consumers prefer a particular mobile phone service provider on the basis of call tariffs, network coverage and value added services. The consumers are highly influenced by their family members, friends and advertisement while selecting or buying a mobile phone service.

Chaudhari & Ambekar (2013) showed that in India, a number of cellular companies competing to provide efficient and quality services to their customers. The study in hand reveals that consumers prefer a particular mobile phone service provider on the basis of call tariffs, network coverage, value added services and the consumers are highly influenced by their family members

(Paulrajan & Rajkumar, 2011) in their study communication and price were most influential and most preferential factors in selecting telecommunication service provider. And, product quality, availability has a significant impact on consumer perception choice in selecting cellular mobile service provider.

(Singh, 2012) The study done in this paper is very elaborative which explains how customer preferences and the satisfaction level towards various telecom services providers in Punjab along with the factors influencing the purchase decisions of customers while buying a telecom service connection in Punjab. Researcher has collected sample of 300 respondents from three districts of Punjab participated in the survey. Some of the research techniques used in the study includes chi-square and factor analysis.

Research Gap

There are numerous studies are conducted to assess the service quality, customer satisfaction and customer preferences to the mobile networks and its various aspects. But the present study is unique in nature because it is conducted especially in Chennai city with the aim to identify the customer preference of the selected mobile network service providers and also to analyse the factors influencing to select a particular mobile network by the customers.

Methodology

Research methodology is a systematic way of investigation directed to the discovery of some facts by careful study of a subject, a course of critical and scientific inquiry.

Assumptions, Constraints and Limitations

The research has taken only a sample of 120 customers. So, it might not depict the exact results. The area of survey is limited only to Chennai city.

Tools for Analysis

The following tools were used to analyze the data collected:

- Percentage Analysis
- Chi-Square Test
- Rank Correlation
- Weighted Average Method

Percentage Analysis

The Percentage procedure provides statistics and graphical displays that are useful for describing many types of variables. The percentage procedure is a good place to start looking at your data.

For a percentage report and bar chart, you can arrange the distinct values in ascending or descending order, or you can order the categories by their percentage. The percentage report can be suppressed when a variable has many distinct values.

Formula

Chi-Square Test

The chi-square test procedure tabulates a variable into categories and computes a chi-square statistics. This goodness of fit test compares the observed and expected frequencies in each category to test that all categories contain the same proportion of values or test that each category contains a user specified proportion of values.

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Degree of Freedom V = (R-1)(C-1)

Where,

O= Observed Frequency

E= Expected Frequency

R= Number of Rows

C= Number of Columns

For all the chi-square test the table value has taken @5%level of significance.

Rank Correlation

Rank correlation is the relationship between different rankings of the same sets of items. A rank correlation coefficient measures the degree of similarly between two rankings and can be used to access its significance.

Formula

The spearman's coefficient of rank correlation is given by

$$r = 1 - \frac{6\sum D2}{n(n2-1)}$$

Weighted Average Method

The weighted average method, where the importance of the item varies, it is essential to allocate weights to the items. Thus weightage is a number standing for the relative importance of the items. Weighted average can be defined as an average of component items.

Formula

$$\text{Weighted Average} = \frac{WiXi}{N}$$

Where,

Xi = Variable Value

Wi= Weighted attached to the Variable Value

N = Total Number of Respon

Data Analysis and Interpretation

Percentage Analysis

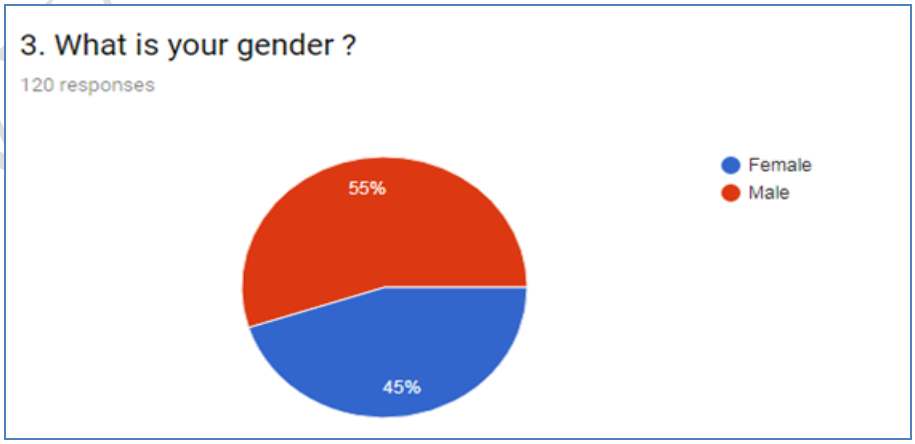
Table No: 1

Classification of the Respondents By Gender

Gender of the Respondents	No. of Respondents	% of Respondents
Male	66	55.0
Female	54	45.00
Total	**120**	**100.0**

Inference

From the above table it is inferred that 55% of respondents are male and 45% of respondents are female.



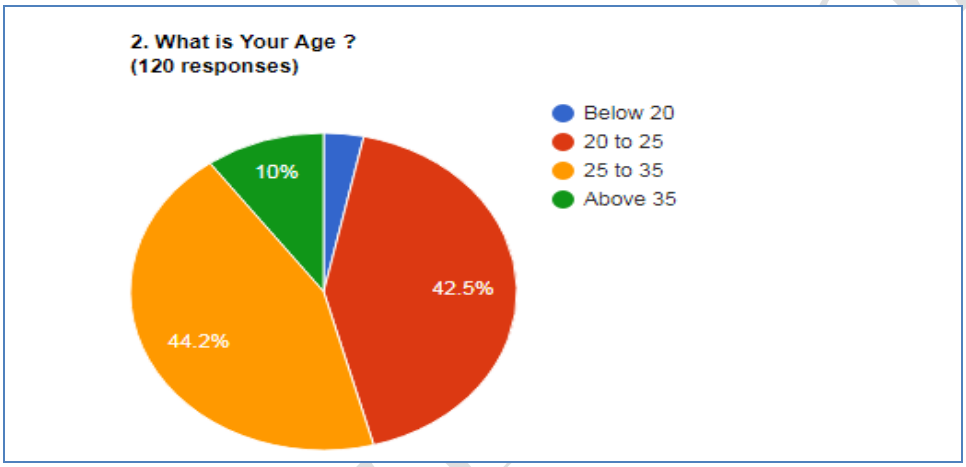
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Table No: 2
Classification of the Respondents by Age

Age of the Respondents	No. of Respondents	% of Respondents
Below 20	4	3.3
20 to 25	51	42.50
25 to 35	53	44.2
Above 35	12	10.0
Total	**120**	**100.0**

Inference

From the above table it is inferred that 3.3% of respondents are below 20 age, 42.50% of respondents are between the age of 20 to 25, 44.2% of respondents are between the age of 25 to 35 and 10% of respondents are above 35 age.



Below 5,000	6	5.0
5,000 – 10,000	8	6.7
10,001 – 15,000	12	10.0
Above 15,001	94	78.3
Total	**120**	**100.0**

Inference

From the above table it is inferred that 5.0% of respondents are Below 5,000 Income, 6.7% of respondents are 5,000 – 10,000 income, 10% of respondents are 10,001 – 15,000 Income and 78.3% of respondents are Above 15,001 Income.

Table No: 3
Classification of the respondents by Occupation

Occupation of the Respondents	No. of Respondents	% of Respondents
Business	8	6.7
Government Employee	2	1.7
Professional	94	78.3
Students	6	5.0
Others	10	8.3
Total	**120**	**100.0**

Inference

From the above table it is inferred that 6.7% of respondents are Business by occupation, 1.7% of respondents are Government Employee by occupation, 78.3% of respondents are Professional by occupation, 5% of respondents are Students and 8.3% of respondents are others occupation

Table No: 4
Classification of the Respondents by Service Provider

Name of the Service Provider	No. of Respondents	% of Respondents
Airtel	54	45.0
Vodafone	28	23.3
Jio	27	22.5
Idea	4	3.3
Aircel	5	4.2
Others	2	1.7
Total	**120**	**100.0**

Inference

From the above table it is inferred that 45% of respondents are Airtel, 23.3% of respondents are Vodafone, 22.5% of respondents are Jio, 3.3% of respondents are Idea, 4.2% of respondents are Aircel and 1.7% of respondents are other network service provider.

Chi-Square Test

Chi – Square Analysis

Relationship between Income and Current Service Provider

Step2:

Formula: $\chi^2 = \sum \frac{(O_{ij}-E_{ij})^2}{E_{ij}}$

O = Observed Frequency

E = Expected Frequency

Step1:

H0:- There is no significant relationship between the income and current mobile service provider.

H1:- There is significant relationship between the income and current mobile service provider.

Observed Frequency

Monthly Income and Current Service Provider							
Monthly Income	**Airtel**	**Vodafone**	**Jio**	**Idea**	**Aircel**	**Others**	**Total**
Below 5,000	5	0	0	0	1	0	**6**
5,001-10,000	2	1	2	2	0	1	**8**
10,001-15,000	2	2	6	1	1	0	**12**
Above 15,001	45	25	19	1	3	1	**94**
Total	**54**	**28**	**27**	**4**	**5**	**2**	**120**

Expected Frequency

Expected Frequency = $\frac{\text{(Row total) * (Column total)}}{\text{Sample Size}}$

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Monthly Income and Current Service Provider							
Monthly Income	**Airtel**	**Vodafone**	**Jio**	**Idea**	**Aircel**	**Others**	**Total**
Below 5,000	2.70	1.40	1.35	0.20	0.25	0.10	**6**
5,001-10,000	3.60	1.87	1.80	0.27	0.33	0.13	**8**
10,001-15,000	5.40	2.80	2.70	0.40	0.50	0.20	**12**
Above 15,001	42.30	21.93	21.15	3.13	3.92	1.57	**94**
Total	**54**	**28**	**27**	**4**	**5**	**2**	**120**

O	**E**	**O-E**	**$(O-E)^2$**	**$(O-E)^2/E$**
5	2.70	2.30	5.29	1.96
0	1.40	-1.40	1.96	1.40
0	1.35	-1.35	1.82	1.35
0	0.20	-0.20	0.04	0.20
1	0.25	0.75	0.56	2.25
0	0.10	-0.10	0.01	0.10
2	3.60	1.60	2.56	0.71
1	1.87	0.87	0.76	0.40
2	1.80	0.20	0.04	0.02
2	0.27	1.73	2.99	11.27
0	0.33	-0.33	0.11	0.33
1	0.13	0.87	0.76	5.63
2	5.40	-3.40	11.56	2.14
2	2.80	-0.80	0.64	0.23
6	2.70	3.30	10.89	4.03
1	0.40	0.60	0.36	0.90
1	0.50	0.50	0.25	0.50
0	0.20	-0.20	0.04	0.20
45	42.30	2.70	7.29	0.17
25	21.93	3.07	9.42	0.43
19	21.15	-2.15	4.62	0.22
1	3.13	-2.13	4.54	1.45
3	3.92	0.92	0.85	0.21
1	1.57	-0.57	0.32	0.20
TOTAL				**36.20**

Calculated χ^2 =36.2

Step3:

Level of significance = 5%

Degree of freedom = (r-1) (c -1)

= (4-1) (6-1)

= (3) (5)

= 15

Step4:

Table χ^2= 25.00

Step5:

Calculated χ^2=36.20 > Table χ^2 = 25.00

H0 is rejected and H1 is accepted.

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Result

From the above analysis, it is inferred that there is significant difference between the in-come and current mobile service providers.

Rank Correlation

Rank Correlation Method

Opinion of Customers Regarding Important are the Following Factors for Choosing a Mobile Services Provider for Offers and Coverage

Opinion of Respondent	Least Important	Unimportant	Neutral	Important	Most Important
Offers	3	3	12	36	66
Coverage	6	2	18	33	61

(X)	Rank (X1)	(Y)	Rank (Y1)	D = (X1 – Y1)	$D^2 = (X1- Y1)^2$
3	4.5	6	4	0.5	0.25
3	4.5	2	5	- 0.5	0.25
12	3	18	3	0	0
36	2	33	2	0	0
66	1	61	1	0	0
TOTAL					**0.50**

Rank Correlation Method

Opinion of Customers Regarding Important are the following Factors for Choosing a Mobile Services Provider for Response to Customer's Feedback and Corporate Reputation

Opinion Of Respondent	Least Important	Unimportant	Neutral	Important	Most Important
Response to Customer's Feedback	6	5	33	48	28
Corporate reputation	7	8	30	44	31

(X)	Rank (X1)	(Y)	Rank (Y1)	D = (X1 – Y1)	$D^2 = (X1 - Y1)^2$
6	4	7	5	-1	1
5	5	8	4	1	1
33	2	30	3	-1	1
48	1	44	1	0	0
28	3	31	2	1	1
TOTAL					**4**

$$r = 1 - \frac{6\sum D^2}{n(n^2-1)}$$

$$r = 1 - \frac{6(4)}{5(5^2-1)}$$

$$r = 1 - \frac{24}{120}$$

$$r = 1 - 0.2$$

$$\mathbf{r = 0.8}$$

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Weighted Average Method

Classification of the Respondents by Preference towards Data (Internet)

Preference Towards Data	No. of Respondents	% of Respondents	Weight	Total	Mean
Most Important	89	74.17	5	445	**4.58**
Important	18	15.00	4	72	
Neutral	8	6.67	3	24	
Least Important	4	3.33	2	8	
Unimportant	1	0.83	1	1	
Total	**120**	**100.0**		**550**	

Formula

$$\text{Weighted Average} = \sum_{i=1}^{n} \frac{W_i X_i}{N}$$

$$= 550/ 120$$

$$= 4.58$$

Result

From the above analysis, it is inferred that most of the responders are given most important to data (internet) while selecting the mobile service provider.

Table no: 13 Classification of the respondents by preference towards tariff

Preference Towards Tariff	No. of Respondents	% of Respondents	Weight	Total	Mean
Most Important	72	60.00	5	360	4.4
Important	31	25.83	4	124	
Neutral	12	10.00	3	36	
Least Important	3	2.50	2	6	
Unimportant	2	1.67	1	2	
Total	**120**	**100.0**		**528**	

Formula

$$\text{Weighted Average} = \sum_{i=1}^{n} \frac{W_i X_i}{N}$$

$$= 528 / 120$$

$$= 4.4$$

Result

From the above analysis, it is inferred that most of the responders are given important to tariff while selecting the mobile service provider.

II. FINDINGS, SUGGESTIONS AND CONCLUSION

Summary of Findings

- Findings through Percentage Analysis:
- Majority of the respondents (55.00%) in this study are male.
- Majority of the respondents (44.20%) in this study are in the age of 25 to 35.
- Majority of the respondents (70.84%) in this study aregraduate in education.
- Majority of the respondents (57.50%) in this study are unmarried in marital status.
- Majority of the respondents (78.30%) income of above 15,001.
- Majority of the respondents (78.30%) in this study are professional in occupation.
- Majority of the respondents (45.00%) are using Airtel.

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- Majority of the respondents (82.50%) are using prepaid mobile connection.
- Majority of the respondents (51.70%) are using duration of the connection with more than 2 years.
- Majority of the respondents (43.30%) in this study monthly spend on mobile connection is Rs. 501 – 1000
- Majority of the respondents (73.30%) are using 4G mobile network connection.
- Majority of the respondents (51.70%) are using more than one sim at a time with same service providers.
- Majority of the respondents (48.40%) in this study are Call usage per day of greater than 120 minutes.
- Majority of the respondents (55.10%) in this study are SMS usage per day of 0 -25 SMS.
- Majority of the respondents (61.70%) in this study are using Data (Internet) usage per month of greater than 10GB.
- Majority of the respondents (93.30%) in this study are satisfied with the current service mobile provider.
- 5.1.2. Findings through Chi-Square Test:
- There is significant difference between the income and current mobile service provider.
- 5.1.3. Findings through Rank Correlation:
- Most of the responders are given most important to Offers and Coverage while selecting the mobile service provider.
- 5.1.4. Findings through Weighted Average Method:
- Most of the responders are given most important to data (internet) while selecting the mobile service provider.
- Most of the responders are given important to tariff while selecting the mobile service provider.

Suggestions & Recommendations

- Airtel networks Tariff, Internet Plan, Signal Coverage, Customer service are playing a vital role in choosing the service provider.
- Plans are almost at the same level between Airtel and Vodafone.
- Internet Plan of Jio is better than Vodafone and Airtel.
- Jio occupies third place in the market share but Jio should focus on Network Coverage, Customer Service.
- Signal Coverage and Quality of Service of Airtel is better than any other network.
- Customer service of Airtel is very good whereas Customer service of Jio is very poor.
- Vodafone has to concentrate more on Tariff, Internet and Offers to capture market.
- Most of the current Airtel, Vodafone customers are satisfied with current service however Vodafone needs to focus on offers lot more.
- Idea and Aircel should give attractive offers, plans to retain existing customers. They lie on least preferable networks.

Conclusions

The Indian mobile telephony market has grown at a rapid speed in the last decade. Declining the call tariffs, Data (Internet), Customer Service, Service Quality and favorable regulatory policies has led to a tremendous increase in the subscriber's base. Proper identification of the Customer preferences will facilitate the favorableness towards the various mobile service providers. Continuous research on consumers will enhance the customer satisfaction. The present research focuses on the study of customer preferences with the special reference to the mobile network users in Chennai city. The study has been

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carried out to find out the most preferred mobile network service provider and the factors influencing to use the particular mobile network service. The results revealed that Airtel, Vodafone and Jioare the most preferred mobile network service providers. Call Tariff's, Internet, Service quality; Value added services and customer care service are the most influencing factors in the selection of a particular mobile network service provider. If these suggestions are considered by the respective mobile network service providers and it would certainly help to improve the service quality of the mobile network service providers and also it improves the level of satisfaction of the mobile network users.

Directions for Future Research

GSM service is a very big market in the country. Further this study is restricted only to Chennai, so the similar type of study can be done in other parts of the country, to find the best market player on other part of the country.

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HIGHER EDUCATION FINANCING POLICY: MECHANISMS AND EFFECTS

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I. INTRODUCTION

Higher education has always been an important priority in the public agenda as it is considered an investment with economic return both for individuals and society. Due to rapid growth of student enrolment in the 90's and stringent funding allocated for higher education institutes, the decade of the 90's has seen a significant and consistent worldwide reform agenda for the finance and management of higher education institutes. With the establishment of a knowledge-based economy in the 21st century, all countries try to find suitable strategies and special ways to keep up with the growing competition in the rapidly evolving global economy The demand of higher education thus keeps growing worldwide and especially in developing countries. Many governments face the problem of maintaining public funding levels for higher education (Harman, 1999). Therefore the problems and issues of funding higher education must be addressed. The paper will examine the funding mechanisms that are being adopted by India. The funding sources, paths and allocation methods will be identified and discussed.

New developments in science and technology, competition, media revolution and internationalization are revolutionizing the education sector and the world is experiencing an unprecedented change, creating the urgency of re-appraisal of the traditional roles and functions of the Indian education system and looking after the present administrative structure/finances of university management. This has been happening because we are witnessing a paradigm shift in higher education, from 'national' to 'global education, from' state controlled' to an 'open market economy, 'from 'general education' to an 'educational system driven by market forces, 'from' one time education for a few' to 'life long education for all, from 'teacher centered' to 'learner centered' education'. The need to change the financial model has come up because of new upcoming private universities/institutes and over burdening of the government to grant the funds to the public education sector. Bulk of the funds received by both Central and State universities are from public sources. Private contribution to education in the form of donations and endowments, which were the hallmarks of the pre-Independence period, has dwindled. The internal resources of universities have been dwindling as a percentage of their annual maintenance expenditure. Investment in higher education is far too inadequate in maximum cases. Cost recovery from students has not kept pace with the requirements. Most of the expenditure is on salaries, especiallyon the non-teaching staff, which in some universities number five times the teaching

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staff. Salaries and perquisites have grown precipitously with no corresponding reduction in numbers.

A situation like this calls for a multi-pronged strategy with substantive and innovative schemes, which relate to providing the platform to bring in substantial private investment. Thus, two things are absolutely essential in the present context,

a) An enabling framework to make investors comfortable and

b) Proper financial models.

Structure of Higher Education in India:

Over the last 50 years, the Government of India has provided full policy support and substantial public funds to create one of the world's largest systems of higher education. These institutions, with the exception of some notable ones, have however, not been able to maintain the high standards of education or keep pace with developments in the fields especially in knowledge and technology. Over time, financial constraints with exploding enrolments, and a very high demand from primary and secondary education has led to the deterioration in the financial support provided by the government. On top of this, an overall structure of myriad controls with a rigid bureaucracy has stifled its development. In terms of higher education, however, on the science and technology side, India has however built up the largest stock of scientists, engineers and technicians.

The growth of higher education in India has been phenomenal. Starting with 1950-51, there were only 263,000 students in all disciplines in 750 colleges affiliated to 30 universities. This has grown by 2005 to 11 million students in 17,000 Degree colleges affiliated to 230 universities and non-affiliated university-level institutions. In addition, there are about 10 million students in over 6500 in vocational institutions. The enrolment is growing at the rate of 5.1 per cent per year. However, of the Degree students only 5 per cent are enrolled into engineering courses, while an overall 20 per cent in sciences. The demand for professional courses is growing rapidly.

In India both public and private institutions operate simultaneously. In 2000-01, of the 13,072 higher education institutions, 42 per cent were privately owned and run catering to 37 per cent of students enrolled into Higher education, that is, approximately 3.1 million out of total 8.4 million. It is also likely that most of the growth in the rapidly expanding higher education sector took place in private unaided college or in self-financing institutions. Since grant-in-aid to private colleges is becoming difficult, many governments/universities have granted recognition/affiliation to unaided colleges and many universities have authorized new 'self-financing' courses even in government and aided colleges. It is felt that as of now more than 50 per cent of the higher education in India is imparted through private institutions, mostly unaided.

Vocational Education:

One of the streams of higher education is vocational education. For this a network of public and private polytechnics and vocational institutions exists, controlled and supervised by the Councils specializing in each discipline. There are nearly 10 million students in 6500 such institutions. Integration of University and vocational education has been attempted in India as it was earlier attempted in Australia. In a recent innovation, vocational curriculum has been introduced at the bachelor's degree level by permitting one of three subjects to be a vocational one. A number of subjects have been introduced including agriculture-related activities. Nearly 1500 colleges have been given facilities for vocational education.

Open University System:

India has also developed an open university system to encourage distance learning. Indira Gandhi National Open University (IGNOU) was the pioneer and now there are seven open universities in India

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offering over 500 courses. IGNOU has about 11,87,100 students on its rolls. Modern communication technology can be harnessed to effectively provide education through this medium. A distance education Council has been set up and a common pool of programmes is available for sharing.

Open Universities can be highly cost effective as the cost of teaching through distance education comes down to a third compared to the traditional system. They also maintain a close relationship with the industry and is specially helpful to those who cannot afford a regular university degree due to high cost or lack of time as they are already employed.

Distance education with new information and communication technology promises to expand the frontiers of Higher Education as never before. This is because it costs 66 per cent less and the students need not leave their homes or profession. The internet and satellite technology are being put to use to further the cause of distance education. The Indian Space Research Organization (ISRO) is launching a dedicated satellite for educational purposes.

Current Education Scenario in India

The system of higher education in India is one of the largest in the world. In just four years, the number of universities rose from 178 in 1997 to 256 in 2001. Between 1994 and 1999, more than 500 new colleges were established annually. Since India's independence in 1947, student registration in higher education has grown to 29 times the original figure. However, among people between the ages of 17 and 24, only 6 percent are currently enrolled in universities. It is expected that this percentage will drop considerably if education in the public sector does not continue its rapid growth in the next decade.

In India, over the last few years there has been a phenomenal increase in enrolment. The number of universities increased from 28 in 1950-51 to 193 in 2001 and colleges from 695to 8,613 during the same period. The student population increased from 2.5 lakhs to over60 lakhs while the number of teachers increased from 12,000 to 3,00,000. We have now238 universities, over 11,000 colleges and 3,42,000 teachers with a total student enrolment of nearly 7.5mn. It may, however, be pointed out that while India has the second largest system of higher education, next only to the US, the total number of students hardly represent6% of the relevant age group aged between 18 and 23 years, which is much below the average of developed countries (47%) and less than that of developing countries which is 7%.

Resource crunch in higher education is being felt in a serious way. Other sources of financing besides the government have to be developed so that the massive expenditure required expanding, improving and bringing it to world standards could be carried out. With an expanding middle class and globalization this is possible provided innovative policies are formulated and implemented. Searching for Funding Alternatives When looking back over the development history of higher education worldwide, there have been consistent reform agendas for the financing mechanism for higher education

The relative shares of various sources in ‘total’ expenditure on higher education in India have changed considerably over the years. The share of the government has increased in financing higher education, and correspondingly that of every other source, viz., student fee, community contributions, and other internal sources declined steeply, though in absolute money terms there has been a significant increase in the contribution of these sources as well.

Funding Sources and Paths

With scare funding sources and growing student enrolments, the funding of higher education should be carefully planned to optimize the return. Wood hall (1992) and OECD (1990) suggest that financing higher education is not just a mechanism for resource allocation, but also a mechanism that facilitates dialogue between funders and users. An investigation

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of the relationship of the funding sources and funded institutes can provide a basic understanding of the issues of education finance and its reforms.

Direct Funding of Institutions

Governments typically provide public support of universities for two principal purposes:

(i) to finance the cost of instruction, operations, and investment; and (ii) to pay for the conduct of university-based research including investment in research facilities and equipment.

1. Funding instruction, operations and investment – Governments around the world use a number of different approaches to help tertiary education institutions pay for their expenses related to instruction, operations, and capital investment in academic and related facilities and equipment. These payments typically apply

2. Funding of Research– Basic and applied research is one of the essential functions of a comprehensive university. The responsibility of the government with respect to academic research is to help ensure that public funds allocated for this are spent efficiently and effectively to meet the policy objectives of generating relevant findings and improving the quality of research capacity and academic offerings. A number of arrangements exist around the world for the funding of university-based research including the payment of overhead costs. These comprise instances in which instruction and research are funded together, project-based funding, and block grant funding for research. The sources of funding research are also varied and include: national research bodies/councils, government departments, charities, industry and commerce as well as the education ministry or the funding buffer body. only to public institutions, although in a few countries such as New Zealand and Chile some private institutions are also eligible for public forms of institutional support. In examining mechanisms that support institutional activities, it is important to distinguish between how the level of public funding for tertiary education is determined and how those public funds are allocated. The decision on the level of funding can be taken in a number of ways including: constitutional provisions, appropriations legislation, and negotiations among key government policy makers and stakeholders.

Indirect Funding of Institutions and Direct Support Provided to Students and Families While the large share of public support of tertiary education in most countries is provided directly to institutions, most countries also provide some portion of the public funds for tertiary education to students and their families. One of the more innovative student-based approaches is demand side vouchers which finance the recurrent expenses of institutions indirectly through vouchers provided to the students. More typically, some portion of public funds is allocated directly to students and/or their families in the more traditional form of non-repayable aid such as grants and scholarships, tax-based benefits for current expenses and savings for future, and a

variety of government-subsidized or sponsored student loan models. In a few countries, support is provided to students in the form of grant/loan in which the aid begins in one form and, over time, transforms into the other.

Sources of Funds.

A principal variable in the structure of student loans around the world is how they are financed. This is particularly true for loans with mortgage-type repayments as income contingent student loans are typically funded ultimately through public sources since repayments will be made to public agencies, usually those associated with tax collection. Sources of funds for mortgage-type loans include:

- Private sources – Commercial banks and other private sources of capital fund most mortgage-type student loan programs around the world, including in: Canada, Chile, China,

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(commercial), South Korea, US (guaranteed program)

- Public sources – One recent innovative trend is for countries to shift from private to public funding of mortgage-type loans. Examples of countries that use public sources of funds to pay for mortgage type loans include: Canada, China (subsidized program), Hong Kong, Thailand, US (direct student loan program)
- Internally Financed Student Loans – In this much less utilized way to finance student loans, tertiary institutions use the fees paid by some students to finance loans that help other students pay their fees. IESA, a private business school operating in Venezuela in collaboration with Harvard Business School, has implemented a scheme along these lines. The first student loans in China, after the government introduced tuition fees in the late 1990s, operated along similar lines. These internally financed student loans may entail little or no government involvement although they can be financed by private funding that allows institutions to finance their current operations until loans are repaid.
- They also allow more innovative repayments including:
- Deferred Payment Plans – fee payments spread out over a period of time that begins while the borrower is still in school. This system can be found at some private institutions in the Philippines. Privately financed and serviced – Institutions sell loans or contract with private servicers when borrowers begin to repay. There are a number of private firms operating in the US that offer these kinds of financial services to tertiary education institutions. Creative Financing – A number of innovative financing mechanisms have been

considered and implemented to facilitate the provision and expansion of mortgage-type student loans, including:

- Secondary markets in which existing student loans are sold or used as collateral to create new loan capital. The US (Sallie Mae and other entities) and Colombia are examples of countries that have developed secondary markets for student loans.
- "Securitization" is a financing process in which bonds are secured by the projected flow of funds from student loan repayments. The US and Chile are examples of countries that have employed securitization techniques in financing student loans.

International Finance

To achieve the EFA goals and implement national education plans, it is vital that sufficient funds to education be allocated. Globally, most of education financing is raised domestically. The amount of public expenditure on education, however, is dependent on a variety of factors, notably national fiscal capacities. Often, even if the percentage of total public spending allocated specifically to education is high, domestic resources alone are not sufficient and reliance on international aid is crucial

Public Funds

In China, 81.8% of public higher education institutes revenue came from public funds in 1992 (World Bank, 1997). In India, over 90% of higher education budget came from government grants (Tilak, 1997a). In Australia, the funding from Federal and State Governments accounted for 49.1% (CDEST, 2002). In New Zealand, government funding accounted for 51.1% (Ministry of Education, 2000). Singapore universities were receiving about 90 percent of their operating budget in 1990, but beginning from 1995 they receive only 60 percent through government funding (Selvaratnam, 1994). In the United States of America, the public funds from

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Federal, State and Local governments accounted for 50.5% (NCES, 1997). Traditionally, public fund can be channeled to institutes directly from ministries of education, such as Ministry of Education in New Zealand. However, there are also other indirect paths, such as funding agencies, subsidized loans, and student grants and voucher.

Funding Agencies

Some governments have tried to protect the independence of higher education from direct political interventions by establishing intermediate funding agencies (Albrecht and Ziderman, 1992). These agencies function to advise the government on finance issues of higher education. The University Grants Committee (UGC) in Hong Kong and India, and Higher Education Funding Council in England (HEFCE) in the United Kingdom

Supplementation of Governmental with Non-Governmental Revenues Governmental revenues are supplemented by non-governmental revenues by shifting the burden of higher educational costs from the general taxpayer or general citizen to parents and students especially--but also to philanthropists and to purchasers of university services. When the government shifts costs to the students, it must introduce a parallel system of financial assistance in order to maintain accessibility and provide equity. Following are the five primary vehicles of this supplementation, or shift in cost sharing, or cost incidence:

The introduction of, or substantial increases in, tuition and full or more nearly full-cost fees into higher education sectors hitherto supported primarily or wholly by public revenues. The introduction of means tested grants and loans. The encouragement of private higher education supported mainly through tuition fees, The encouragement of entrepreneurial activities on the part of the faculty and/or the university, and the encouragement of philanthropy--for endowment, for direct operations, and for scholarships to students.

External Finance

There has to be some methodology which would accommodate the existing structures, to some extent, and at the same time get the job done, i.e. enable and facilitate the entry of external finance, on suitable terms and conditions. In order to do this, it is imperative that the financier should be completely protected as regards his security and returns. Bundling together all the "productive" courses, creating an appropriate structure and "escrowing" this structure to the financier in some form best accomplish this. It has also been seen that over60 countries have student loan facilities, which are mostly public schemes because governments see loan schemes important. However, there are many barriers in accessing such educational loan facility. The upcoming private banks have made this process comparatively simpler. This has created the competition among private and public banks and government is also making the process simpler, like applying for the education online. But this creates the situation to the future government underwriting the risk in mobilizing private banks.

Rising Demands from Other Sectors

Many countries face the common problem of maintaining public funding levels for higher education at a time of major expansion in student enrollments and increasing demand for public resources from other sectors of society (Harman, 1999).

The Indian Regulatory Scenario

All the structures in the Indian Regulatory scenario are geared towards the public financing of higher education. For this reason, there has not been sufficient emphasis on academic rigor and concentration on output. Essentially, parents paylarge sums of money to educate their wards in higher and technical education, to ensurethat they get vocational

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openings, with matching remunerations. Therefore, it is incumbenton the educational institution to attach sufficient importance to this area. Placement ensures subscriptions, which in turn ensure a ready flow of cash and hence repayment. Repaymentensures the flow of cash from financial Institutions, and so the cycle goes on. Maintenance grants to universities and colleges, The present mechanism of funding of higher education, mainly on the basis of past trend perpetuates inefficiency in the institutions of higher gducation. The grants-inaid system must be suitably modified to consciously rewaqd quality, efficiency and innovativeness by the institutions of higher education. To this end, it has been recommended that the practice of block maintenance grants, which is inherently incremental in nature, [Must be replaced by the unit cost system of calculation of eligibility for grants. Colleges of Delhi University, however, are different as they are supported by UGC. In the context of maintenance grants to the colleges of Delhi University, it has been recommended that the UGC in consultation with Delhi University should fix intake of each college keeping in view the infrastructure available and that the maintenance grants for each year should be based on the faculty strength determined on the basis of guidelines for student-teacher ratio and minimum work load of teachers prescribed by the UGC. Further, the salaries and allowances and other benefits to staff shall be provided by the UGC entirely or to the tune of 95% in case of the colleges while the rest of the items of expenditure should be shared between the colleges and the UGC..

II. CONCLUSION

There are various reasons for higher education funding reform, but fiscal pressure and education performances seem to be the major reasons. Stability of institutes and education quality are common concerns for many countries. Both direct and indirect funding sources have been identified. Among these funding sources, the main source worldwide is still predominantly by public government funds. Due to this fact, the public authorities still maintain a strong influence on higher education institutes.

There are a variety of funding models and mechanisms. From the funding methods discussed in the paper, several points have been observed: (1) student enrolment is a common essential element, only a few use performance as a major criteria; (2) public authorities have a strong influence on higher education by controlling intake quotas and fund allocations; (3) block grants are commonly used but they only provide the flexibility of internal allocation of funds; and (4) stability and education quality seem to be the fundamental goals of most funding methods. Indirect funding models have been used extensively in the form of student grants and loans, but very little use has been made of vouchers. Voucher model has been discussed for over a half century. Many researchers, especially the educationalists and economists, have discussed and promoted the voucher system due to its positive functions and effects. However, very littler search has been undertaken on the opinions and attitudes of stakeholders from the supply-side(universities) and demand-side (students). It is suggested that further research in this area should be explored so that the debate about the voucher system is more informed and complete.

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HUMAN RIGHTS AND LEGAL PROTECTION IN INDIA

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I. INTRODUCTION

During the middle and late 19th century, a number of issues came to the fore, many of which we now would consider as human rights issues. They included slavery, serfdom, brutal working conditions, starvation, wages, child labour, and in the Americas, the "Indian Problem", as it was known at the time. A bloody war was fought in the United States of America, over slavery that came close to destroying a country founded only eighty years earlier on the premise that, "all men are created equal". Russia freed its serfs the year that war began. The emancipated American slaves and the freed Russian serfs had to wait for many more decades, before they could see any real degree of freedom or basic rights.

The end of the nineteenth century and the beginning of the twentieth century witnessed many specific civil rights and human rights movements that affected profound social changes. Labour unions pressed for and succeeded in bringing about laws granting workers the right to strike, establishing minimum work conditions, forbidding or regulating child labour, establishing safe and humane conditions of work etc. The women's rights movements succeeded in gaining for many women, the right to vote. National liberation movements in many countries succeeded in driving out colonial powers. Mahatma Gandhi's movement to free India from British rule was a noteworthy instance. Nelson Mandela's struggle to rid the country of apartheid is another.

The modern human rights movement did not invent any new principles. It was different from what preceded it, primarily in its explicit rejection of political ideology and partisanship, and in its demand that governments everywhere, regardless of ideology, adhere to certain basic principles of human rights in their treatment of their citizens. It gave a demanding voice to the citizens, to hold to account the governments on their obligations towards ensuring compliance with the basic rights of the people.

Human rights are broadly of two kinds—negative and positive. Negative rights are those that prohibit actions that are harmful to the physical, mental or emotional aspects of a human being. Every human being has the right to live a dignified life as a human. Anything that interferes with this is prohibited by all civilized nations. Right to life, privacy, humane punishments etc are examples of negative rights. Positive rights are usually political and economic rights, like the right to food, shelter, education, and so on. While there seems to be a consensus that negative rights are non-decodable and States have to ensure them, as to the latter kind of rights, there is no unanimity on whether they can be enforced against a State, irrespective of its economic and political conditions.

In ancient times, man was concerned only with two square meals and some shelter, if possible. As man entered into the process of civilization, he became conscious of his rights. A man is born free. His life is shaped by the society in which he is born

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or lives. In modern civilization certain human rights have been guaranteed by different governments in various forms. A man revolts against the society and the governments if his basic human rights are infringed.

Economic, Social and Cultural Rights

The following are recognized as economic, social, and cultural rights of every human being:

- The right to adequate housing, including protection from forced eviction and access to affordable, habitable and culturally appropriate housing;
- cultural rights, including the rights of minorities and indigenous people, to preservation and protection of their cultural identity;
- the right to education, including the right to free and compulsory primary education, and to progressively available, accessible, acceptable
- and adaptable education;
- the right to food, including freedom from hunger and access at all times, to sufficient nutritious food or the means to obtain it;
- the right to health, to the highest attainable standard of physical and mental health, including healthy living conditions and available, accessible
- and acceptable quality health services;
- the right to water and sanitation—physically and economically accessible, and safe;
- the right to work and rights at work—the right to freely chosen work and to just and fair conditions of employment, protection against
- forced labour, and the right to form and join trade unions.

Nature of Violations of Human Rights in India:

India is the largest functioning democracy in the world. Democracy is the guarantee for the observance of human rights and no human rights without democracy. Despite promoting and practicing democratic values in our country, we may come across incidents of violations of human rights, which can be categorized into the following spheres:

1. Social
2. Economic and
3. Political

Inhuman Social System and Customs

The whole Indian Society was divided into four varnas, namely Brahmin, Kshatriya, Vaishya and Shudra under Hindu Religion. In our Vedas, there was no difference among the members of four Varnas, individual virtuos were the deciding factor to include any person in a particular Varna. Birth was not the deciding factor of Varna. But in the process of civilization this Varna system was transformed into caste system and the real concept of "Varna Vyavastha" was changed. In place of profession or job performed by an individual, birth became the basis of deciding caste and later on each caste closed its door for other castes. This created an unhealthy competition and hatred among various castes. The people belonging to a particular Castel confirmed themselves to be from high caste and others were low castes for them. Thus the whole social structure was built on the basis of graded inequality, which in turn became the root social cause for violation of human rights.

The traditions and customs prevailing in each religion and different castes also contributed violation of human rights in the following forms.

1. Child marriage
2. Sati system
3. Dowry system
4. Bride burning
5. Polygamy
6. Trade of Women
7. Untouchability
8. Wife beating
9. Denial of education to women and low caste people etc.

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With the beginning of the human civilization, economic-status of an individual became the deciding factor of his place in the society and the community. A wealthy person enjoys high regard and he controls even other power centers of the society in various forms. A poor man's life has no value in the eye of the rich and often dignity and human rights are denied and violated due to their poor economic status in the society. This resulted in exploitation of the poor on large scale. For example master-slave system, bonded labour, disparity in wages and child labour etc.

In old days it was the prerogative of a few people belonging to a particular caste and religion to govern the political affairs of the country and to safeguard their individual interests at the cost of others. Even freedom of association and freedom of thought was denied to the downtrodden. We adopted democratic form of government in which involvement of all citizens of the country with the principle of "one man, one vote and one value" is accepted. But still there are instances like booth capturing, political killing, political criminalization etc. and preventing the poor and socio-economically backward classes from-casting their votes. This obviously indicates the violation of human rights in the political sphere.

Human Rights and Legal Protection

In the light of the constitutional provisions pertaining to human rights and for their strong protection, the Union Government and State Legislators have enacted a number of laws in our country.

The prime objective behind enacting these laws in to give strong protection to the human rights and to prevent their violation.

Protection of Human Rights Act

The protection of human rights was further ensured by the enactment of the Protection of Human Rights Act, 1993. The Act established the National Human Rights Commission, State Human Rights Commissions and Human Rights Courts for protection of human rights. The National Commission is empowered to inquire into and investigate complaints of human rights violations and recommend appropriate relief measures to the Government. At the state level, similar functions are entrusted to State Commissions. The Human Rights Courts are established for trial of offences in connection with human rights violations. The term 'human rights' is defined in Section 2(d) of the Act, to mean "the rights relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants and enforceable by courts in India".

This definition has been intentionally made expansive enough to accommodate within its ambit, all human rights known, recognized and protected, all over the civilized world.

The recognition and protection of human rights is but the acknowledgement of the dignity of the human race, and are designed to enable each individual human to lead a life of fulfilment and achieve the maximum potential of the talents imbued by nature upon that individual.

It is, by the faithful and unstinted enforcement of these rights that civilizations of the world can truly qualify to be called human civilizations, bereft of barbarism, cruelty and conduct shocking to the human conscience. It would also be the best guarantee to humankind against looming specters of holocausts, genocides, violent conflicts and mindless annihilation of the human race in the name of wars. If peace of body, minds, and spirit be the ultimate objective of the human beings, protection of Human Rights is the categorical imperative of modern life.

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India's Role in Protection of Human Rights

India's role in contribution to human rights derives from a clear domestic commitment to promotion and protection of human rights enshrined in the Constitution. Human Rights in our country are further safeguarded by a vibrant, democracy, independent judiciary and press, a vigilant National Human Rights Commission, an informed public opinion, active NGO movement, National Commission for SC/ST Women and Minorities etc.

India's articulations of her commitment to the promotion and protection of human rights by becoming a party to various international Human Rights Instruments including the convention on the Rights of Child, the convention on Elimination or Discrimination against Women is also widely appreciated.

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AGRICULTURAL RURAL CREDIT SYSTEM IN INDIA AND TAMIL NADU

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Abstract

Agriculture is the backbone of Indian economy. The prosperity of the country depends up on the agriculture sector. It plays a strategic role in the economic life of the Indian society. The need for agriculture credit was seen even during the British era where selective areas stricken by droughts were brought under institutional credit arrangements. The cooperative societies act passed in 1904 made cooperatives a premier organization for agriculture credit. When RBI act was passed in 1935, special provisions were made under section 54 of the act to start agriculture credit. Since then agriculture credit has become an integral part of Indian agriculture and the society bounded by it. Every year the agriculture credit target set by the government was met and in some states the credits disbursed crossed the set targets. Even then the farmers committing suicide is on rise. Percent of people depending on agriculture and its allied activities has come down to 56.7 percent.

I. INTRODUCTION

The agriculture and related sector continue to be fundamental to the sustainable growth and development of the Indian economy. Not only does it meet the food and nutritional requirements of 1.3 billion Indians, it contributes significantly to production, employment and demand generation through various backward and forward linkages. Moreover, the role of the agricultural sector in alleviating poverty and in ensuring the sustainable development of the economy is well established.

In India agriculture sector has long time present has no institutional agency for providing agricultural credit. It has the Indian farming in agriculture has being small scale and subsistence of the agriculture. In India, for a long time, there was no institutional agency for providing agricultural credit. Farming in India, being small scale and subsistence, the cultivators were borrowing only from non-institutional agencies such as moneylenders, indigenous bankers, friends and relatives. Institutional credit in India made a beginning in the year 1904 when the Co-operative Credit Societies were started to provide agricultural credit. The passing of the co-operative credit societies Act 1904 paved the way for starting co-operative credit societies in India. Sericulture sector, the cultivators were borrowing only from non-institutional agencies such as moneylenders, indigenous bankers, friends and relatives. Institutional credit in India made a beginning in the year 1904 when the Co-operative Credit Societies were started to provide agricultural credit. The passing of the co-operative credit societies Act 1904 paved the way for starting co-operative credit societies in India.

Statement of the Problem

At the time of independence the most important source of agricultural credit was the money lenders. In 1951 the year of initiation of planning in the country, money lenders accounted for as much as 71.6 per cent of the rural credit. This predominant position of the money lenders was due to the lack of any worth wile alternative source of credit for the farmers. Farmers were therefore forced to barrow from them. The almost total dependence of the farmers on the money lenders, enabled them to dictate terms and exploit the farmers in a numbers of

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ways like money lenders charged exhorbitant rates of interest ranging from 18-50 per cent or even more, they often manipulated accounts to their advantage by not entering the money returns and interest paid in to the account, they also forced the farmers to sell the agricultural produce to them at lower prices.

The govt. of independent India took various measures to help the farmers to meet their needs of agricultural farmers such as; Nationalization of 14 major commercial banks in 1969 followed by 6 more banks in 1970, Establishment of regional rural bank in 1975, setting up of the national bank for agriculture and rural development (NABARD) in 1982. The source of agriculture finance can be divided into two categories Institutional finance and non-institutional finance.

Objectives

1. To assess the quantum of loans issued and outstanding by institutional agencies in India.
2. To examine the progress of Scheduled Commercial Banks in supplying agricultural credit in India.
3. To suggestions and suitable s for the improvement of agricultural credit situation in India.

Methodology

The present research article is based on the last ten years in secondary level. The secondary sources used for internet, websites, are various research journals, and various books etc. The secondary data collected from (NSSO) National Sampling Survey Organisation in last ten years just like 2002 to 2012 concerned. The method of research provide in the library research is undertaken for the purpose of taking a survey of both theoretical and empirical evidence of works. This research methodology adopted by previous researchers and the collection of secondary data for analyses are also inclusion.

Growth of the Agricultural Sector

Since the beginning of economic reforms in 1991, growth in agricultural GDP has shown high volatility. It has fluctuated from 4.8 percent per annum in the Eighth Five Year Plan (1992-96) to a low of 2.4 percent during the Tenth Plan (2002-06) before rising to 4.1 percent in the Eleventh Plan (2007-12), To assess the performance of the agricultural sector during the last decade, the period since 2004- 05 is divided into two—the first period being between 2004-05 and 2007-08 and the second period being between 2008-09 to 2013-14. The annual average growth rate of the agriculture sector was 5 per cent between 2004-05 and 2007-08, but fell to 3 per cent between 2008-09 and 2013-14. During the same periods, the economy grew at an annual average of 9 per cent and 7 per cent, respectively. Volatility in economic activity is normal but it was much higher in the agriculture and allied sector. Between 2005- 06 and 2013-14, the coefficient of variation was only 0.27 in the case of overall GDP growth but 0.69 for agricultural GDP. One major factor to which this high volatility may be attributed is the continued dependence on the vagaries of the monsoon. The preponderance of small and marginal holdings makes this high volatility even more worrisome for policy makers, as small and marginal farmers are highly vulnerable to adverse climatic conditions.

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Table -1: Agricultural Growth Rate during Different Plan Periods

Sl.No	Plan Periods	GDP overall in %	GDP Agriculture in %
1	Eight Plan	6.50	4.80
2	Ninth Plan	5.70	2.50
3	Tenth Plan	7.60	2.40
4	Eleventh Plan	8.00	4.10

Source: Central Statistics Office (CSO)

Table – 2:Agricultural GDP Growth Rate at Constant (2004-05) Prices

Sl.No	Year	GDP overall in %	GDP Agriculture in %
1	2005-2006	9.50	5.10
2	2006-2007	9.60	4.20
3	2007-2008	9.30	5.80
4	2008-2009	0.10	6.70
5	2009-2010	0.80	8.60
6	2010-2011	8.60	8.90
7	2011-2012	5.00	6.70
8	2012-2013	4.50	1.40
9	2013-2014	4.70	4.70

Source: Central Statistics Office (CSO)

Under the revised series with base year 2011- 12, the sector-wise rate of investment in agriculture and allied sector, measured as a ratio of GCF to GVA of the sector, is shown in the Table 2. The level of GCF in agriculture and allied sector witnessed a sharp decline of 12.9 per cent in 2012-13 as compared to 2011-12. This was mainly on account of a fall in private household investment, which constitutes 85 per cent of total GCF in the sector. However, with the stepping up of investment in the public sector, the fall in GCF was largely contained in 2013-14.

Table – 3:Sector-wise share in GCF-Agriculture (Figures in Rs. Crore)

Crops/ Year	Pulses	Food grains Lakhs tonnes	oilseeds	Sugar cane (Lakhs onnes)	Cotton	Jute and Mesta
2010-11	18.2	244.5	324.8	3423.8	330.0	106.2
2011-12	17.1	259.3	298.0	3610.4	352.0	114.0
2012-13	18.3	257.1	309.4	3412.0	342.2	109.3
2013-14	19.3	265.0	327.5	3521.4	359.0	116.9
2014-15	17.2	252.0	266.8	3593.3	354.8	114.5
2015-16	5.6	124.1	198.0	3414.3	335.1	108.0

Source: Central Statistics Office (CSO)

Increase in agricultural production during the last decade was largely a result of growth in productivity. In case of some crops, however, such as maize, gram, soybean and cotton, the growth in acreage was also substantial. Growth in acreage under cotton, oilseeds and pulses came at the expense of coarse cereals, particularly jowar and bajra. Overall acreage under coarse cereals declined from 28.94 million hectares in Triennium Ending (T.E.) 2004-05 to 24.71 million hectares in T.E. 2014-15, indicating a drop of about 15 per cent. As crops normally grown in similar agro-climatic conditions, pulses, oilseeds and cotton usually compete for area. An increase of more than 50 per cent in cotton acreage over this period shows that the farmers have exhibited an increasing preference for cotton over pulses and oilseeds.

The All India Rural Credit Survey Committee in its Report published in 1954 estimated that in spite of the various procedural and administrative reforms as well as credit facilities from the R.B.I., the institutional system could account for only 7.3 per cent of the total borrowings of the cultivators.

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Table – 4: Average Borrowing of Cultivators in India

Sl.No	Credit Agency	Borrowings %
1	Government	3.3
2	Co-operatives	3.1
3	Commercial Banks	0.9
4	Land Lords	1.5

Table shows that, the Co-operatives and commercial banks put together were able to deliver only 4 per cent of rural credit, supplemented by government which was providing 4 per cent of the rural credit. The maximum 70 percent of the borrowings were from moneylenders.

Credit means a loan or advance. It also means 'belief of others that a person, business, company can pay debts.' In economic literature, credit means 'the entitlement to resources'. The more the credit one receives, the more are the resources one commands. Naturally, with appropriate credit institutions and credit policies, one can lead the society towards any desired direction. In a given society if one could find out, who is enjoying how much credit facility today; it would be easy to predict the socio –economic configuration that would emerge tomorrow.

Every poor person must be allowed a fair chance to improve his economic condition. Indian credit institutions have emerged as a challenge to the conventional banking wisdom, and endeavor to make credit available to every human being irrespective of his socio-economic position, so that credit may help people fight poverty and hunger and usher in a more egalitarian society.

II. SUGGESTIONS AND CONCLUSION

Suggestions

Though there has been a steady increase in the flow of agricultural credit by the commercial banks, the total outflow of agricultural credit by the commercial banks seems to be inadequate compared to the greater demand generated by higher and improved methods of cultivation which have led to higher cost of cultivation. Substantial amount of loan is obtained from institutional agencies. There is a need for quantitative and qualitative improvement in the farm lending by the commercial banks.

The amount lent to allied activities by the commercial banks can be increased resulting in generation of higher income which in turn increases the repaying capacity of the borrowers.

Firm measures to recover the agricultural loans should be taken by the commercial banks and the government; political parties should desist from the habit of periodically calling for and promising of writing off agricultural loans by institutional credit agencies.

The disbursement of loan, seed and fertilizers should be given in time to the farmers to increase the productivity and repayment. There should be strict follow up action by the commercial banks for recovering the loan amount from the borrowers. The borrowers should use the amount of loan only for agricultural purpose to increase the output.

Conclusion

The overdue position among all the credit institutions in the formal sector namely commercial Banks has seriously hampered the expansions of agricultural credit. The reasons for poor loan recovery were largely attributed to lack of sufficient field staff to ensure follow-up after the sanction of loan and absence of statutory powers to induce prompt repayment by the borrowers as far as the banks are concerned. In addition, the government's populist policy of waiving off loan has created mass psychology in the rural areas to withhold repayment and wait for some type of loan waiver programme to come to their rescue. More importantly, the reasons for nonpayment of the loan amount by the borrowers

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were, frequent crop failure, diversion of the loan amount for purposes other than agriculture, farm investment turning out to be unproductive, the income from the crop yields was not sufficient to repay the loan while maintaining their families and priority given to the repayment of loans borrowed from the private moneylenders. Some of the suggestions for prompt recovery of loans includes continuous supervision and follow up action after the loan is dispersed, realistic assessment of loan requirement and providing technical support to the farmers to increase the productivity which will ensure better repayment by the borrowers.

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A STUDY ON RURAL MANAGEMENT IN INDIA WITH SPECIAL REFERENCE TO NEW CHALLENGES FOR INDIAN AGRICULTURE

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I. INTRODUCTION

India's massive agricultural sector employs about 60% of the population, yet accounts for only about 17% of total GDP. Growth in agriculture has stagnated relative to other sectors: last year the agricultural sector grew at a rate of 2.7%, relative to 11% growth in both the service and industry sector. Agricultural incomes are lower and growing slower than incomes in other sectors. The government has a clear imperative to seriously examine whether existing policies are optimal. There is a staggering amount of literature analyzing agricultural policy in India. These authors identified the following challenges facing by Indian Agriculture. This is not an empirical study and it is purely a qualitative study.

Outline

1. Increase Farmer's Access to Markets: The World Bank cites an "almost universal lack of good extension services" to farmers as a major factor inhibiting growth. In addition to the miserable infrastructure in many rural areas, the inability of farmers to directly access markets has sustained the presence of a chain of middlemen through whom most agricultural commodities must circulate before finally reaching consumers. Many SHGs have, with great success, arranged cooperatives that bypass such middlemen and sell directly to wholesalers. The government should learn from the success of such initiatives and try to help streamline the agricultural commodity supply chain.

2. Improve Agricultural Productivity: In spite of the gains of the Green Revolution, Indian agriculture lags behind in terms of technology take-up and production efficiency. Lack of access to credit, which we discussed earlier, may be one of the factors inhibiting farmers from investing in technology. However, the ground reality also suggests that poor education and lack of awareness of the benefits of new technology is also a factor. In addition, the epic and recurring issue of poor irrigation and infrastructure is widely recognized as a drain on productivity in many regions (It is estimated that about 10% of all agricultural production in India is wasted due to lack of storage, transport, etc)*. The government already proved itself capable of stimulating advances in agricultural productivity with the Green Revolution. Future policies should focus on providing incentives to farmers to adopt better production technology, bridging the information gap that currently exists in the agricultural sector, and remedying severe underdevelopment of irrigation and infrastructure facilities.

3. Reconsider Distortionary Subsidies And Other Policies. Currently, the Indian government sets a minimum support price for almost all agricultural commodities. Farmers who produce various goods are guaranteed the option of selling directly to the

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government at a price fixed in the beginning of the season. The stated goal of this policy is to "ensuring remunerative prices to the growers for their produce with a view to (sic) encouraging higher investment and production."

The inherent endogeneity of MSP policy makes a rigorous impact assessment difficult, but the persistently low productivity growth in agriculture suggests that the MSP policies have failed to stimulate sufficient capital investments by farmers. Its conceivable the virtual subsidy provided by MSPs might actually dampen incentives for technology take-up by guaranteeing a basic level of income security. Furthermore, the existence of MSPs may encourage agricultural production for which there is actually limited demand in private markets, leading to unbalanced and suboptimal production choices by individual farmers. The process by which MSPs are set is also somewhat dubious, and many have suggested that the current price-setting system is vulnerable to political manipulation and lack of parity across goods. Although scrapping MSPs would obviously expose a large number of farmers to the risk of price shocks, it seems to me that improving farmers access to insurance products and commodity futures markets is more sustainable and optimal way to manage such risks.

4. Improve Public Education: Even if agricultural productivity does increase, it is still likely to lag behind the explosive IT and service sectors. However, the public education system is clearly failing to provide rural children with the skills necessary to enter these labor markets. This is perhaps the single biggest factor inhibiting the transition from agriculture to service sector employment. The demand for skilled workers in India has exploded, particularly in the service sector, demand which many firms are finding difficult to meet domestically due to extremely skewed distribution of human capital.

5. Promote Non-Farm Entrepreneurship Among Farmers.

Although India's rural poor are by and large uneducated, many of them are capable of operating small businesses that have higher returns than traditional agriculture. However, their ability to start such business is often hampered by lack of access to credit and capital. In spite of the microfinance "revolution" and government policies designed to stimulate capital flow to the rural population (such as priority sector lending), there is still a massive failure of credit markets to meet the demands of the rural population. Empirical research has demonstrated that returns to capital are extremely high in micro enterprises which of course suggest that there is tremendous potential for farmers who start operating small businesses to supplement or replace their primary line of work.

2. THE FUTURE: India was once at the apex of international achievement in agricultural innovation. Drawing on a wide variety of international grain types, pioneers of high yielding hybrid seeds, notably M.S. Swaminathan, were able to achieve in the 1960s and 1970s a real "green revolution" in India, boosting agricultural productivity impressively and making the country fully self-sufficient in its main food requirements for the first time in modern history. Scientific innovation was supported by energetic policy at the Union and State levels to achieve one of the world's most striking agricultural successes of the 20th century. But then, as so often with success, a purposeful policy dissolved into politicking and piecemeal implementation. Unsupported by rigorous policy, excess use of fertilizers, unsustainable use of water resources encouraged by free or subsidised electricity for farm pumps led to soil degradation and depletion of sub-surface aquifers. This occurred at a time when an expanding population, the first hints of the consequences of climate change and a sudden spike in agricultural commodity prices in 2007-2008

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linked to lower international grain stocks and a sharp rise in commodity prices, notably oil, provided an unwelcome reminder to Indians that all was not well with the agricultural policy. What ensued was impulse buying on international markets at the same time as export of some items was prohibited (hurting mainly other developing countries, the industrialised world having cornered all the food it needed). One salutary measure offered by Delhi was the lowering of tariffs on some necessary international food imports but by November 2008, the government was again raising tariffs on some products (soya) in order to protect domestic producers.

Is India facing a lasting crisis in agriculture and a serious threat to its food security? In a word, yes. There is no reason for short-term panic. India remains in good years capable of meeting its main needs and simultaneously of earning sizeable sums from agricultural exports. Rather, it is the combination of Indian demographics with the growing success of the country's overall economy and environmental stress that create a challenge: increasingly prosperous Indians will be eating more (and probably wasting more also, as do middle classes everywhere).

Global rice production has stagnated for the past 10 years, while the price has increased four-fold. Former American President George Bush raised the ire of Indian commentators last year when he commented that the international food crisis was due to an expanding demand from India and China. Perhaps his mistake was not in differentiating between them: food consumption in China more than doubled after 1990. India's consumption rose much more modestly, by roughly 30 per cent. But does anybody seriously believe that a significantly more prosperous India will avoid greater food consumption, including of meat (so expensive in grain to produce)?

It may be instructive to take a short detour and consider the diverging path of early economic reforms in India and China. India's key economic reforms of the early 1990s centred on liberalisation favouring the manufacturing and services sectors. These were tremendously successful but little was done for agriculture. China, on the other hand, starting its key reforms earlier, focussed first on agriculture, perhaps sensing that a dramatic drop in rural poverty might make other reforms more saleable politically to those sceptical of change.

A fine article in Economic and Political Weekly by Shenggen Fan and Ashok Gulati in June 2008 traced the outlines of China's revolutionary attempt, in the late 1970s, to raise agricultural production by encouraging multiple experiments at the local level, "learning by doing." Only after it was clear what worked (and what did not), a process Deng Xiaoping described as "crossing the river while feeling the rocks," did Beijing launch a full-bore nationwide reform process that succeeded dramatically in raising production and decisively reducing rural poverty. These are steps India still has not taken. That said, in the current global slowdown, rural India may be better equipped to absorb the shock than its highly privatised Chinese counterpart because of the wide range of Indian anti-poverty programmes constituting a fragile but hopeful safety net.

Is improvement of productivity and nutrition a matter only of agricultural policy? Obviously not.

As is well known but never ceases to surprise, India suffers from higher levels of child malnutrition than Sub-Saharan Africa.* This is not because basic Indian foodstuffs are less nutritious than Africa's. Canada's global micro-nutrient initiative, co-funded by U.N. agencies and the World Bank, while making a significant contribution to fighting against malnourishment, stunting and wasting in India (all at heartbreaking levels, all with life-long effects) is not as successful as it should be. Why? Because of poor rural health, education and physical infrastructure (the latter inhibiting the free flow of foodstuffs that

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would naturally alleviate nutrition problems). Thus, "food security" relates to much more than agricultural incentives and disincentives. Wider national policies and programmes are at least as important. And yet, in spite (or perhaps because) of India's vibrant democracy, admirably free and crusading press and dynamic civil society in constant contention with each other, little has been achieved in recent years.

II. CONCLUSION

India abounds in admirable human capital: optimistic, hard working, endlessly entrepreneurial. If any country can succeed in boosting world agricultural production, it should be India. But this will require a range of sound policies, determined implementation and a rebalancing of national attention to include more systematically and meaningfully rural interests and perspectives.

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INNOVATION IN ENTREPRENEURSHIP

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I. INTRODUCTION

Entrepreneurship produces financial gain and keep the economy afloat, which gives rise to the importance of innovation in entrepreneurship. Entrepreneurs are innovators of the economy. The importance of innovation in entrepreneurship is shown by coming up with new way to produce a product or a solution. A service industry can expand with another type of service to fulfill the changing needs of their clients. The importance of innovation in entrepreneurship is another key value for the longevity of a business, entrepreneurs and businesses began with a need. They seize the oppourtunity to innovate to make lives more comfortable, and these solutions kept evolving to make it better, easier and more useful. Companies and enterprises keep innovation as part of their organization. Innovations contribute to the success of the company. Other factors that raises the importance of innovation in entrepreneurship is competition. It stimulates any entrepreneur to come up with something much better than their competition in a lower price and still be cost effective and qualitative. Innovation is important not just in entrepreneurship. As individuals we are innovators by adapting well to our needs and create our own solutions entrepreneurs are the same. The innovation in entrepreneurship helped the country by changing with the times and producing new products and services from ones that already exists. And being innovative has helped us become successful in all our endavours. Entrepreneurs, if they are to make money and grow need to innovate, plain and simple. Entrepreneurship cannot survive without innovation. Innovation is one of the main quality of entrepreneurship.

Type of Innovation:

There are three modes of innovation. Entrepreneurial value based, technology based and strategical reflective. Outline a categorical overview of the potential ways in which innovation can be pursued and identified.

Entrepreneurial Innovation:

The innovation dimensions of entrepreneurship refer to pursuit of creative or novel solutions to challenges confronting a firm. These challenges can include developing new products and servicer or new administrative techniques and technologies for performing production, marketing and sales and distribution.

Technological Innovation:

It takes place where companies try to gain a competitive advantage either by reducing costs or by introducing a new technology technological innovation has been a hot topic in recent years. Distributive innovation is usually a technological advancement that renders previous products/services irrelevant.

Strategic Innovation:

This mode of innovation is most effective mode for change and innovation. Strategic innovation pertains to processes. How things are done as opposed to what the end product is strategic changes can be distributive but are more often incremental.

Innovation Process

Innovation involves continuous improvement throughout phases of a development program. Phases can be interactive and recursive. Such phases include

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market analysis and consumer research which progress to design and prototyping after which follow naming and packaging design and ultimately retail and production support. Innovation generally refers to changing process or creating more effective process, products and ideas. For businesses, this could mean implementing new ideas, creating dynamic products or improving your existing services. Innovation can increase the likelihood of business succeeding.

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RURAL ROADS INFRASTRUCTURE DEVELOPMENT IN INDIA

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I. INTRODUCTION

Rural roads are the wealth of a nation, a tool for social inclusion, economic development and environmental sustainability. Rural roads link communities and their agricultural fields to the main transport system and markets. Improving rural roads reduces transport cost and stimulates marketing. This results in increased production and productivity, crop diversification and increased profitability. A main bottleneck for local economic development is often a limited and poor quality rural road network. It is quite evident from the Plan documents that, private sector participation in road sector has been confined to development, maintenance and operation of specified highways (national and state), expressways, bridges and bypasses. Rural roads, particularly, those needed to link remote, hilly and backward settlements are hardly profitable to the private operator. Hence, without doing any major policy revamp on the development of rural road infrastructure, it is very difficult to expect private sector participation in this area and till that time Public investment must have to come in a big way and without any further delay. This crucial component of rural infrastructure, neglected during the reforms decade, need to be state financed in a time bound manner to prevent the rise in urban rural disparities in growth and development.

II. REVIEW OF LITERATURE

Numerous studies have established the positive relationship between rural connectivity and development; rural roads provide vital links that foster effective access to and utilization of a host of important social and physical infrastructure. A multitude of benefits are attributed to rural road development, including increased agricultural production, better farm prices, growth of dairying, rural industrialization, better educational standards, and higher life expectancy resulting in balanced and faster development of rural areas. Rural road development enhances access to markets for both inputs and outputs through a reduction in transaction and trade cost (transport and logistics cost). The greater availability of inputs increases their use by farmers. Consequently, agricultural productivity can increase. Rural roads also allow producers to achieve additional productive opportunities, leading to rise in production (Stifel and Minten, 2008). Jalan and Ravallion (2002) show that road density had a highly significant positive effect on consumption growth at the farm-household level in rural areas of Southern China from 1985 to 1990. Using household data in Ethiopia, Dercon and others (2008) find that the proximity of a road is a major factor in reducing poverty. Fan, Nyange, and Rao (2005) shows that each kilometer reduction in the distance to a public transportation facility reduces the probability of a household being poor by 0.22 to 0.33 percent in Uganda.

In another study, macro data was used from eighty five random selected districts of India to examine the role of rural roads, among other factors

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in agriculture investment and output. The study found that the road investment contributed directly to the growth of agriculture output, increased use of fertiliser, expansion of commercial bank operations etc (Binswanger, Khandker and Rosenzweig, 1993). The study by IFPRI on a survey of 129 villages in various parts of Bangladesh categorised the villages into two groups based on an aggregate index developed to reflect the ease and access of a village to various services such as markets, schools, banks and local administrative offices. Villages with better access were found to be significantly better off in a number of areas including agricultural production, household income, wage income of landless labour, health and participation of women in the economy (Ahmad and Hossain, 1990). Access to all-weather roads in 15 villages in Ethiopia reduced the incidence of poverty by 6.7% (World Development Report of World Bank, 2008).

III. RURAL ROADS INFRASTRUCTURE IN INDIA

The necessity of a proper road network for the socioeconomic development of rural India and consequently the whole country was understood quite early in India. The first road development plan of 1943-61, popularly known as Nagpur Plan, looked at the road needs of the country on a long-term basis, and for the first time classified the road system into a functional hierarchy comprising National Highways (NH), State Highways (SH), Major district roads (MDR), Other District roads (ODR) and Village roads (VR). The last two classes of roads form the rural road system in the country. The third road development plan known as Lucknow Plan (1981-2001), estimated rural road requirement for the country and had spelt out various measures to develop rural roads. This plan suggested several approaches for rural road development. These approaches include preparation of long-term master plan for rural roads; stage construction in view of the low level of traffic in the initial stage of development of a rural road; integration of rural road development plan with the other rural development programs.

During all the road development plans the rural roads have received significant attention and emphasis. A number of programs were launched under several employment generation and poverty alleviation programmes of the Central and State Governments to achieve the goal of rural connectivity such as the Minimum Needs Program (MNP), National Rural Employment Program (NREP), Rural Landless Employment Guarantee Programme (RLEGP), Jawahar Rozgar Yojana (JRY) etc.; but these programmes failed to achieve their desired goals. Apragmatic analysis of the past schemes reveals many deficiencies in the whole process from planning to implementation and monitoring to evaluation. There was largely a misconception that rural roads being the lowest category of roads need no elaborate design and engineering. The Ninth Five Year Plan acknowledges that several thousand kilometers of such roads were constructed in the past without proper design and engineering and hardly commensurate with the resources that were allocated to the effort. As a result, rural roads had poor geometrics, inadequate compaction of embankment and inadequate drainage, so the roads that were built were hardly all-weather roads. Consequently, these roads did not last long.

IV. PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY)

In order to create durable and permanent assets, an adequate provision for drainage and protection works as well as quality control during construction and maintenance of assets, Government of India launched the Pradhan Mantri Gram Sadak Yojana (PMGSY) on 25th December, 2000 as a Centrally Sponsored Scheme to assist the States. The primary objective of PMGSY is to provide connectivity by way of an All-Weather road (with necessary culverts

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and cross-drainage structures, which is operable throughout the year), to the eligible unconnected habitations as per CoreNetwork with a population of 500 persons (as per 2001 Census) and above in plain areas. The current source of funds for PMGSY works is cess on High Speed Diesel (Rs. 0.75 / litre), budgetary support, ADB funding, World Bank funding and NABARD loan. The release of funds from 2000-2001 to 2013-14. A total amount of Rs. 1,11,368 have already been spent under this program including funding from World Bank and Asian Development Bank.

It is increasingly essential to ensure that roads already created are systematically maintained and yield services as originally envisaged before going on undertaking more such assets. Keeping in view the asset value of the road network, PMGSY-II has been launched. The programme was conceived on sharing basis to consolidate existing rural road network by up-gradation, renewal and maintenance of the vast network already created. It would cover up-gradation of existing selected rural roads based on a criterion to make the road-network vibrant. The selection of routes would be with the objective of identification of rural growth centres and other critical rural hubs, rural places of importance (connectivity to other growth poles, market, rural hub, tourist places etc.). Development of Rural Hubs & Growth Centres is crucial to the overall strategy of facilitating poverty reduction through creating rural infrastructures. Growth centres rural hubs provide markets, banking and other service facilities enabling and enhancing self employment and livelihood facilities. It is proposed to cover during the 12 Five Year Plan period, overall 50,000 km road length by up-gradation to consolidate the rural road Network under the PMGSY-II programme at an estimated cost of Rs. 33,030 crore (at 2012-13 prices), including administrative and management cost of Rs. 530 crore. The cost will be shared between the Centre and States Uts on 75:25 basis for the plain areas and 90:10 basis for the special areas. The Central share would be Rs. 27,022 crore (at 2012-13 prices), including administrative and management cost of Rs.530 crore.

Table 1.Release of Funds under PMGSY to the States 2000-01 to 2013-14.

Sr. No	Years	Release for Programme	Release for Admn. Fund	Release under ADB Assistance	Release under World Bank Assistance	Total Release
1	2000-01	2435	0	-	-	2435
2	2001-02	2493	7	-	-	2500
3	2002-03	2497	3	-	-	2500
4	2003-04	2299	26	-	-	2325
5	2004-05	2111	37	93	220	2461
6	2005-06	3770	40	193	218	4221
7	2006-07	4415	100	1000	750	6265
8	2007-08	3834	66	1950	650	11000
9	2008-09	5380	151	2000	250	15281
10	2009-10	10390	140	800	10	17840
11	2010-11	21325	185	800	90	22400
12	2011-12	10598	83	1075	627	12383
13	2012-13	3272	125	425	575	4397
14	2013-14	4553	164	-	643	5360
Total		**97872**	**1127**	**8336**	**4033**	**1,11,368**

Source: Annual Report 2013-14, Ministry of Rural Development, Govt. of India.

Bharat Nirman Bharat Nirman,

One of the important Programmes launched by the Government of India in December 2005 identified six core infrastructure sectors in rural areas viz rural housing, irrigation, drinking water, rural roads, rural electrification and rural telephone connectivity. Initially, it was launched as a time bound programme of construction of rural infrastructure for implementation during the four year period 2005-09. Rural Road, one of the six

components of the program with a goal to provide with an all-weather road connectivity to all eligible unconnected habitations with a population of 1,000 persons and above (as per 2001 census) in plain areas and 500 persons and above in the case of Hilly or Tribal areas. The Bharat Nirman Programme envisages a massive scaling up in terms of habitation connectivity coverage, construction targets, and financial investment. Up to March, 2014 a total of 51,253 habitations have been connected out of 63,940 habitations to be connected and works for connecting 62,876 habitations have been sanctioned. The targets and achievements of rural road network.

Table 2. Year-Wise Targets And Achievements Of Rural Road Network Under Bharat Nirman

Year	Target		Achievement	
	No. of Habitations to be connected	Length of road work to be completed (in Km.)	No. of Habitations connected	Length of road work completed (in Km.)
2005-06	7895	17454	8202	22890
2006-07	9435	27250	10801	30710
2007-08	12100	39500	11336	41231
2008-09	18100	64440	14475	52405
2009-10	13000	55000	7877	60117
2010-11	4000	34090	7584	45109
2011-12	4000	30566	6537	30995
2012-13	4000	30000	6864	24161
2013-14	3500	27000	6560	25316

Source: Annual Report 2013-14, Ministry Of Rural Development, Govt. Of India.

Challenges of Developing Rural Road Infrastructure

India has a rural road length of about 2.7 million km which is about 80 per cent of the total road network. The serviceable condition of this is crucial to the rural agricultural growth and affording means of access to millions of rural people to social facilities viz. medical, education as also to market. Lack of maintenance affects the poor people badly as the time for access to markets and other social infrastructure is increased. Hence, the challenge lies in both expansion of the network to provide road links to unconnected habitations and at the same time maintenance of the existing vast rural road network built at huge cost to the economy over the past over fifty years. The Thirteenth Finance Commission (FC) has specifically made provision for maintenance funds for the core rural roads network including for PMGSY roads that have completed their initial five-year maintenance contracts. Among several issues to be addressed for ensuring maintenance of rural roads on sustainable basis, the most critical one are need for Government Policy, dedicated funds, maintenance backlog, linkage to initial construction, Maintenance Management System, institutional reforms, contract maintenance, Panchayati Raj Institutions, modernization, experience sharing etc.

Financing the Rural Road Infrastructure

Rural roads often receive the least attention in the network. This is because they are funded from a number of sources, at national regional and local levels. Similarly, they are managed with inputs from central, regional and local governments, and are situated at the intersection of transport, agriculture and local government mandates. They are treated sometimes as economic, sometimes as social investments. The Constitution of India limiting the Government's availment of adequate resources for financing rural infrastructure. The competing demands on budgetary resources and the limitations on borrowing from the market reduce the capability of State Governments to adequately fund rural infrastructure. More over the capacity of the government machinery to execute and deliver infrastructure projects in rural areas is limited in many States. It is thus clear that public sector

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resources will continue to fall short of the required infrastructure investments in the rural areas. Therefore, there is a need to look at private sector investments to supplement governmental resources. In order to encourage the private sector to join hands with the State machinery to provide and maintain infrastructure in rural areas, innovative funding methods including the PPP mode, annuity payments, viability gap funding, etc., need to be developed and implemented.

Rural Infrastructure Development Fund (RIDF)

Conventionally, public investment is considered as the major provider of rural infrastructure. It has enabling and encouraging effect on the private investment in agriculture. Lack of public investment in infrastructure influences the viability and effectiveness of private investment in a negative manner. However, it has not been possible to step up public investment in a big way. To address this concern, Government of India, instituted Rural Infrastructure Development Fund (RIDF) in 1995 in NABARD, entrusting it with the responsibility of channelising financial resources to the State Governments for rural infrastructure development.enabling and encouraging effect on the private investment in agriculture. Lack of public investment in infrastructure influences the viability and effectiveness of private investment in a negative manner. However, it has not been possible to step up public investment in a big way. To address this concern, Government of India, instituted Rural Infrastructure Development Fund (RIDF) in 1995 in NABARD, entrusting it with the responsibility of channelising financial resources to the State Governments for rural infrastructure development.

V. CONCLUSION

As per the 2011 census, rural areas account for 69 percent of India's total population. Therefore, improved connectivity and accessibility to rural areas will provide a vital impetus to the country's economic growth. Development of rural infrastructure in general and rural transport infrastructure in particular is very crucial in India. Rural road connectivity ensures access to critical services and opportunities, and fosters sustainable poverty reduction programs as well as employment generation through industrialization in rural areas. It is estimated that 20-30 percent of the agricultural, horticultural and forest produce gets wasted because of either inadequate rural road network or poor condition of roads, which creates an impedance for transporting such commodities for the user needs. Rural road accounts for 60 percent of the total road length in India. While the total rural road length was only 3,54,530 kilometres in 1970-71, it has increased to about 24,50,559 kilometres in recent times. These statistics corroborate the importance given to the development of rural roads as part of the overall development of the country. Furthermore, research suggests that public investment in infrastructure, specifically in the rehabilitation of rural roads, improves local community and market development. Studies on rural road development in several countries reported rise in male agricultural wages and aggregate crop indices (Bangladesh), increase in the availability of food, the completion rates of primary school and the wages of agricultural workers (Vietnam), etc. However, studies on Indian rural roads are almost non-existent. Against this backdrop, the present study analyses some past trends and present practices related to rural transport in India. In addition, the study investigates the impact of rural road infrastructure development on socio-economic conditions of the rural population including the overall contribution to the nation.

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REMOVAL OF POVERTY THROUGH ECONOMIC REFORMS

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I. INTRODUCTION

Social justice should form the foundation stones for any Democracy to attain sustaiable economic development. As Helen Keller said " Until the great mass of the pele shall be filled with the sense of responsibility for each other's welfare, social justice can never be attained." At the time of gaining Independence much concern was directed on partition, leadership selection and other political problems. But with the introduction of planned development, more attention was directed to building up the economy. Total focus was on agriculture toalleviate poverty of the masses.It was only in the state of Kerala a different path was selected with welfare of the people as the main agenda. This has led to enviable economic indicators and unending discussions on the Kerala model of development globally. Within a short span of three years, India has come to occupy pride of place in the world map. Many new development policies started effectively has come to bring in positive progress for the economy. India and China have since decades been competinig in gaining first place in development . Slowly but surely India is headed in recent years to outstrip China. Many world level discussions have underlined this change. CNN has assessed the developments in India comparing the economies of India and China, and hold that there are great expectations in the economic polices adopted recently. The plaform for development included, economic reforms such as ease of doing business, inflation control, fiscal deficit, trade deficit,, job creation, manufacturing revival. All these have been realised. the only point that critics come up with is the employment scenario. But the present Government have gained the trust of the youth in India to work this out. Progress has been gained with banners like 'Make in India', 'Skill India' , 'Startup India' and ' New India'.

Aim/ Objective

1. to outline the measures of the present Government fast forward Indian economic development and impact on the poor.

2. to study the outstanding debates on the economic reforms introduced.

3. to detail coverage of the schemes to rural areas.

Outstanding change agents , as pillars of strength, in the new economic policies in India include:

- Demonetisation

-Jan Dhan Accounts.

-Affordable Housing.

- Goods and Services Tax. (GST)

- Deen Dayal Upadyaya Gram Jyothi Yojana.

-PM Ujjwala Yojana .

The above novel measures have evinced so many positive development for India that it would undoutedly elicit discussions on the "the India model of development" on the world platform.

A unique survey conducted recently , ths IPSOS Mori Survey assesses the positive influence of nations on world affairs. (1). The survey covered 18000 respondents from across 25 economies and the outcome is that India has become a positive

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influence in the world. Again, it is found that India is ahead of China. India stands with 53% and China 49%.p

The causes for persistent underdevelopment have not been looked at precisely formerly. Poverty has been the deterent. That is evident. Analyses have centred around per capita expenditure. Now with a breakthrough the living conditions of the poor have come to the forefront.

The earliest attempt to understand poverty was carried out by Charles James Booth (30 March 1840 – 23 November 1916) Booth was an English social researcher and reformer. He is most famed for his innovative work on documenting working class life in London at the end of the 19th century, work that along with that of Benjamin Seebohm Rowntree influenced government intervention against poverty in the early 20th century and contributed to the creation of Old Age pension and free school meals for the poorest children. The Maps Descriptive of London Poverty by Booth ,are perhaps the most disctintive product on the inquiry into Life and Labour in London(1886-1903). As an early example of social cartography, with each street coloured to indicate the income and social class of its inhabitants, it evolved as a fascinating metodology for policy support. Studying seven classes ,a colour or combination of colours pertained to each class, wiith the lowest level as black and fairly comfortable group in pink, the streets at a glance showed the propotion of the classes represented in different colours. It can be difficult to interpret the colours but general trends across the city became apparent.(2)

A detailing of the Indian scenario, then and now (from 2014), would put the proper perspective on this socio- economic problem. Before independence , after and till recent years poverty has been persistent. As a renowned vibrant democratic nation and with a strong Constitution this was a blot in advancement. Experts from all over the world say that the Indian economy is poised to take off and enter the league of developed nations over the coming decades. Slow but steady growth rate of the economy, along with the unflinching faith in democratic principles has contributed much to the growth and development of our country as a powerful developing nation. Democracy gives due preference to humanitarian concerns. People abiding by democracy are supposed to live within the framework of a free society and achieve economic growth by respecting the fundamental rights and duties. Our Constitution is designed in such a way that it envisages the functioning of an economic system that restricts the amassing of wealth and the means of production by a few people. It is in this context that the concept called social justice has its significance. (3)

Poverty in India is a historical reality. From late 19th century through early 20th century, under British colonial rule, poverty in India intensified, peaking in 1920s.[Famines and diseases killed millions each time. After India gained its independence in 1947, mass deaths from famines were prevented. Rapid economic growth since 1991, has led to sharp reductions in extreme poverty in India. However, those above poverty line live a fragile economic life. The World Bank and Asian Development Bank define and revise poverty caculation and methodology frome time to time. According to Global Wealth Report 2016[compiled by Credit Suisse Research Institute, India is the second most unequal country in the world with the top one per cent of the population owning nearly 60% of the total wealth. The National Planning Committee of 1936 noted the appalling poverty of undivided India.

(...) there was lack of food, of clothing, of housing and of every other essential requirement of human existence... the development policy objective should be to get rid of the appalling poverty of the people.

— Nehru, The Discovery of India, (1946)

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The National Planning Committee, notes Suryanarayana, then defined goals in 1936 to alleviate poverty by setting targets in terms of nutrition (2400 to 2800 calories per adult worker), clothing (30 yards per capita per annum) and housing (100 sq. ft per capita).This method of linking poverty as a function of nutrition, clothing and housing continued in India after it became independent from British colonial empire.

These poverty alleviation goals were theoretical, with administrative powers resident in the British Empire. Poverty ravaged India. In 1943, for example, despite rising agricultural output in undivided South Asia, the Bengal famine killed millions of Indians from starvation, disease and destitution. Destitution was so intense in Bengal, Bihar, eastern Uttar Pradesh, Jharkhand and Orissa, that entire families and villages were "wiped out" of existence. (4).The causes, impact and Government schemes reveal the mismatch of the implemetation measures. According to the international economist Ragnar Nurske, "a country is poor because it is poor" pointing towards the unfortunate reality that poverty is a vicious trap. This trap consists of the low level of savings which reduce the scope of investments which then leads to a low level of income.

A major reason of the existing poverty in India is the weather condition of the country. The non-conducive climate reduces the capacities of people to work in the farms. Floods, famines, earthquake and cyclones disrupt the production. Population is another factor which contributes to the menace. Population growth reduces the per capita income.

Further, larger the size of a family, lower is the per capita income. Unequal distribution of land and assets is another problem which deters the concentration of lands in the hands of the farmers equally.

It needs to be taken into account that although the economy has shown some visible signs of progress in the last two decades, this progress been uneven across various sectors or areas. The growth rates are higher in Gujarat and Delhi as compared to Bihar and Uttar Pradesh. Nearly half of the population doesn't have proper shelter, access to a decent sanitation system, villages do not have a nearby water source, and villages also do not have a secondary school and lack of proper roads. Some sections of the society like the Dalits are not even included in the poverty list maintained by the concerned authorities assigned by the government. They're groups that are marginalized .

Government efforts to alleviate poverty in India cannot be overlooked while discussing poverty. It needs to be brought to the forefront that whatever marginal drops that has been observed in the poverty ratios have taken place due to the government initiatives aimed at uplifting people from poverty. Though, a lot still needs to be done as far as the corruption levels are concerned.

PDS– the PDS distributes subsidized food and non-food items to the poor. Major commodities distributed include staple food grains, such as wheat, rice, sugar, and kerosene, through a network of public distribution shops established in several states across the country. But, the grains provided by the PDS are not enough to satisfy the consumption needs of a family. Under PDS scheme, each family below the poverty line is eligible for 35 kg of rice or wheat every month, while a household above the poverty line is entitled to 15 kg of food grain on a monthly basis. Being the most important system, the system is not without its flaws. Leakages and diversions of grains from the PDS are high. Only 41% of the grains released by the government reach the poor. The alternative against the PDS that has been suggested is that of a cash transfer along with food support, but this will not fulfill the need of the buffer food stocks.

MNREGA (Mahatma Gandhi National Rural Employment Guarantee Act)– This aim guarantees

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the right to work and ensure livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. Employment generation under this act has been higher as compared to other schemes.

RSBY (Rashtriya Swasthya Bima Yojana)- This is a health insurance for the poor. It provides for cashless insurance for hospitalization in public as well as private hospitals. Every below poverty line family holding a yellow ration card pays 30 rupees registration fee to get a biometric-enabled smart card containing their fingerprints and photographs

Most of the schemes are clouded with implementation challenges. Programs are plagued by leakages on subsidies that limit its impact on the poor. These programs need to be centralized under one organization so that leakages can be prevented at multiple levels.(5).

The attempt to categorise Below Poverty Line and Above Poverty Line families methodology by issuing coloured cards has again led to confusion in many places. Those APL families seem to continue to enjoy BPL benefits.

Current Endeavours.

The poverty alleviation programme for women in Kerala, Kudumbasree, depends on a different scale for identifying poor families. About nine scales ate given. A family having five or below five points isvdeemed poor A family is poor is one which has:

-no roof or firm floor ground in the house.

- no well or ptable water within a specified area around

-no toilet.

- woman headed household

- SC /ST household

- illiterate

- property below five cents

- having contagious disease

-no income for ten days.

The recent measures for development could have taken this scaling as a basis as it looks at the allround living conditions.

Detailing each measure would put the problems in proper perspectives.

Demonetisation.

This is a bold and surefire attempt to regulate unaccounted money in the economy.

In November 8, 2016, the Government scrapped Rs. 500 andRs. 1000 notes as a swift way to root- out black money. There were initial choases with a meagre percentage of people paying taxes. This is now on the way to be corrected. The former UIDDAI Chairman Nandan Nilekani has praised the move as " The more important thing is when the economy becomes formal, and everybody's financial transations are digitised.." Krishnamurthy Subramanian and Prassana Tantri (6) have cleared much of the confusion that demonetisation had harmed the poor. In the political battle that has emerged out of the demonetisation exercise, both proponents and opponents are ostensibly defending the interests of the poor. With data from the National Sample Survey Organization's (NSSO) survey such difficulties faced by the poor are examined. The survey provides estimates of earnings in cash and kind by different income categories. The survey data for 2011 which comprised approximately 500,000 individuals across the country is taken. The estimates suggest that the poor are likely to have visited a bank branch at most once to exchange their earnings in the old currency notes to new currency notes, and not everyday.

First, the poor are unlikely to have substantial savings stored in Rs500 and Rs1,000 notes. Second, the bottom half of the population ends up spending almost their entire earnings on consumption. Third, only two weeks have passed since the demonetisation was launched on 9 November. Therefore, the weekly

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earnings of the bottom half of India's income earners provide us the estimate of the cash that the poor would have in their kitty, which they would have to exchange in a nearby bank or post office. Finally, since the survey was conducted in 2011-12, we inflate the earnings by the average rate of inflation per annum during the period from financial years 2011-12 to 2016-17. This is likely to overstate the earnings of the bottom half of the population because, unlike salaried individuals and other richer sections of society, the earnings are unlikely to get adjusted for inflation in a consistent manner. However, the overestimation of earnings would only reinforce the bias against the inference that the poor are likely to have visited a bank branch at most once to exchange their earnings.

With cash in hand data they conclude that the long queues seen stem from two sections of the population: (i) people from the top half of the country's income distribution, i.e. the richer folks, who want to exchange their honestly earned savings for new currency; and (ii) people who are acting as agents for the dishonest. The significant decrease in the queues after the government decided to use indelible ink to identify people that have exchanged their currency suggests large presence of the second category of people. With respect to the difficulties that the country's poor are likely to face till 30 December, note that around seven weeks of earnings are left before the deadline for depositing the demonetized notes. So, based on the estimates provided in the adjoining table, the maximum cash earnings of the bottom half would be around Rs8,000. Even if we suppose that they will be paid entirely using old currency till December, at most two more visits to the local bank or the local post office would suffice to deposit their old currency. Of course, it is quite likely that these workers refuse to accept their wage in old currency. In that case, they would not need to make the visit at all. As workers in this income category are likely to have been underemployed sometime in the past, they would have a bank account to receive Mahatma Gandhi National Rural Employment Guarantee Act payments. Therefore, future wage payments can be made via cheque by honest employers. In this case, such workers may have to visit the bank once to encash the cheque. Still the authors state that they are not arguing that poor people are not facing difficulty because of demonetisation. Of course, standing in the queue for a day can mean loss of a day's earnings for the poor. However, using the large sample data and careful analysis, the initial problems for the poor could definitely have been exaggerated.(6).

A live newsflash of NDTV, 30 th August, 2017, gives the positive trend of Demonetisation with RBI report by Minister Arun Jaitely, that 99% of withdrawn currencies have been returned.Demonetisation brings the economy up one more level of development for highly developed countries are cashless and the ATM is rarely used. In times to come the poor would benefit from development as more of the rich pay proper taxes as honourable citizens.

Jan Dhan Account.

The Pradhan Mantri Jan Dhan Yojana (PMJDY) is an initiative by the government to provide access to financial services like Banking and Deposit accounts, insurance and pension in an affordable manner to all. PMJDY accounts can be opened in all banks with zero balance. The main requirement for opening an account is having an Aadhaar card number. However in the absence of a Aadhaar card, one can use any one of the following - Voter ID card, Driving license, PAN card, Passport and NREGA (National Rural Employment Guarantee Act) card.

As reports hold 30 crore families have been linked to Pradhan Mantri Jan Dhan Yojana in the last three years and Rs 65,000 crore deposited in their accounts. (7).

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Addressing his "Mann Ki Baat" radio programme, he said the Jan Dhan Yojana would complete three years on August 28. "We have connected 30 crore new families to it, opened new accounts. This number is more than the population of several countries," Modi said.

He said the poor had become part of the mainstream of national economy, and the poor were saving money and feeling the security that comes with it.

"If money stays in hand, there is a desire sometimes to overspend it. Today, there is an atmosphere of restraint. The poor man too feel that money saved will come for the use of his children or in some other good venture."

He said the RuPay card had enhanced the sense of dignity of the poor.

"The poor have deposited Rs 65,000 crore in the banks. This is their saving and a source of strength for their future."

Modi also referred to the poor benefiting from the insurance schemes -- Pradhan Mantri Jeevan Jyoti Yojana and Pradhan Mantri Suraksha Bima Yojana.

The Prime Minister said millions of youths had got loans under the Mudra Yojana which had helped them stand on their feet and created employment opportunities.

Affordable Housing.

Having a house of one' own is the dream of many poor persons. This scheme would lead to the realisation of the dream. Spread of urbanisation requires expansion of urban amenities. National Urban Housing and Habitat Policy (NUHHP) 2007, has set the objective of Affordable Housing for All as a key factor. The Government has set 2022as the target year to realise this objective by making specificinitiativesfor promotion of urban housing.

The Technical Group estimated that 88% of the urban housing shortages are coming from Economically Weaker Sections (EWS). Around 11% for of shortages are from Lower-Income Groups (LIG). The main constraint in urban areas is the lack of availability of land. Lack of access to finance for low income people, rising cost of construction, low interest by private developers are some other adverse factors in urban affordable housing. Realizing the urban housing requirements, the government has launched Pradhan Mantri Awaas Yojana in 2015 to provide housing for all by 2022 in urban areas. Budget 2016 and 2017 also initiated several sound measures to promote urban housing. All these attempts show that providing affordable housing is now a development priority.

One major defect in housing segment is that the private sector concentrate on the higher income groups to develop houses. Hence to attract their investment and participation, incentives should be given to them. The last two budgets (2016 and 2017) have given high priority to this objective. Measures like 100% tax incentives on affordable housing projects, conferring of infrastructure status to affordable housing, reduction of long term capital gains tax period to two years etc. will encourage the participation of private sector companies into affordable housing. Under the Union Budget 2012–13, External Commercial Borrowing (ECB) has been allowed for affordable and low-cost housing. (8)

Pradhan Mantri Awas Yojana (Urban) is an iniative by Prime Minister Narendra Modi of India in which affordable housing will be provided to the urban poor. The government has identified 305 cities and towns have been identified in 9 states for beginning construction of houses for urban poor. Pradhan Mantri Awaas Yojana was launched in June 2015 with an aim to provide affordable housing to urban poor.[

Under PMAY, it is proposed to build 2 crore houses for urban poor including Economically Weaker Sections and Low Income Groups in urban areas by the year 2022 through a financial assistance

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of ₹2 trillion (US$31 billion) from central government.[3][4][5] This Mission has four components viz., Slum Redevelopment with private sector participation using land as resource, Affordable Housing through Credit Linked Subsidy, Affordable Housing in Partnership with private and public sector and Beneficiary led house construction/enhancement. Under these components, central assistance will be in the range of ₹1 lakh (US$1,600) to ₹2.30 lakh (US$3,600).

The houses given under this scheme will be owned by females or jointly with males.[1]

Condition for PMAY: Beneficiary max age 70 years. EWS(Economic Weaker Section) annual income Less than Rupees 3 Lac. LIG(Lower Income Group) Annual Income 3,00,001 to 6,00,000 Lac INR The beneficiary should not have an own dwelling unit on the name of any family member in any .

Goods and Services Tax. (GST)

The introduction of GST led to much heartburn among the people. The Goods & Service Tax or GST is one of the biggest fiscal reforms in India since Independence. All businesses, small or large, will be impacted by this new indirect tax regime.

GST will be levied on both goods and services and will subsume and replace the current indirect taxes such as excise, VAT, and service tax. (9)

The second part of Economic Survey, which was tabled in Parliament has observed a rekindled optimism on structural reforms in the Indian economy. Drafted by Chief Economic Advisor Arvind Subramanian, the survey says optimism about the medium-term prospects for the Indian economy has been engendered by a number of structural reform actions and developments. Launch of the Goods and Services Tax (GST) contributes majorly to this optimism, it says. After narrating key benefits of GST such as furthering cooperative federalism, reducing corruption and leakage, simplifying complex tax structure and unifying tax rates across the country, and creating a common market, the survey goes on to list "hidden benefits" of GST. These come as textile sector inclusion, work contract transparency, effective taxation of imports, expansion of tax base and eliciting more data on direct tax collection.(10). againg GST will remove ' cascading tax effect.'

Deen Dayal Upadyaya Gram Jyothi Yojana.(DDUGJY)

DDUGJY is a Government of India scheme designed to provide continuous power supply to rural India.The government plans to invest ₹756 billion (US$12 billion) for rural electrification under this scheme. The scheme will replace the existing Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY). The DDUGJY scheme will enable to initiate much awaited reforms in the rural areas. It focuses on feeder separation (rural households & agricultural) and strengthening of sub-transmission & distribution infrastructure including metering at all levels in rural areas. This will help in providing round the clock power to rural households and adequate power to agricultural consumers .The earlier scheme for rural electrification viz. Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) has been subsumed in the new scheme as its rural electrification component.(11).

The PM Ujjwala Yojana.

The Pradhan Mantri Ujjwala Yojana (PMUY) is a welfare program of the government of India, launched by Indian Prime Minister Narendra Modi in 2016. The stated objective of the program is providing 50,000,000 LPG connections to women from families below the poverty line. As of 3 April 2017, twenty million LPG connections had been completed. It is guided by a strong commitment to bring in changes in lives of poor women.

Pradhan Mantri Ujjwala Yojana (PMUY)(English = Prime Minister's Brightness Program) was launched by PM Narendra Modi on 1

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May 2016 at Ballia, Uttar Pradesh. The scheme was launched with a target of providing LPG connections to 50 million below-poverty-line families in three years.

It is an ambitious social welfare scheme which aims to provide free LPG connections to BPL households in the country. The scheme is aimed at replacing the unclean cooking fuels mostly used in the rural India with the clean and more efficient LPG (Liquefied Petroleum Gas). According to the World Health Organization, polluting fuels used for cooking purposes results in 1.3 million premature deaths in India every year. India has set an ambitious target of increasing LPG usage to cover 80% of the households by March 2019. As per the present estimates of the oil ministry, demand for fuel will touch 35 million tonnes by 2031-32 in India. (12).

Another welcome move of the present Government is the formation of NITI Aayog which enchance the plan process.NITI Aayog also known by the acronym the National Institution for Transforming India, is a Government of India policy think-tank established by the BJP government to replace the Planning Commission which followed the top-down model. The stated aim for NITI Aayog's creation is to foster involvement and participation in the economic policy-making process by the State Governments of India. The emphasis is on bottom-up approach and make the country to move towards cooperative federalism. The Union Government of India announced the formation of NITI Aayog on 1 January 2015. The Prime Minister serves as the Ex-officio chairman. The governing council consists of all state Chief Ministers, chief ministers of Delhi and Puducherry, Lieutenant Governor of Andaman and Nicobar, and vice chairman nominated by the Prime Minister. In addition to full members, there are two part-time members and four ex-officio members and a chief executive officer. The temporary members are selected from the leading universities and research institutions. This move makes the whole of the nation responsible and partners in developing the country.

What needs underlining is that no former Government has in such a short time proclaimed to be and is working for the people, more so the marginalised and the poor in the economy. The schemes have been framed with great insight and understanding of the basic concerns of the poor.

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POWER REVOLUTION UNDER WAY IN INDIA

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I. INTRODUCTION

Power is one of the most critical components of infrastructure crucial for economic growth and welfare of a nation. The existence and development of adequate infrastructure is essential for sustained growth of our economy.

India's power sector is one of the most diversified in the world. Sources of power generation range from conventional sources such as coal, lignite, natural gas, oil, hydro and nuclear power to viable non conventional sources such as wind, solar, and agricultural and domestic waste. Energy demand in the country has increased rapidly and is expected to rise further in the years to come. In order to meet this increasing demand for electricity in the country, a massive addition to the installed generating capacity is required.

"India ranks 3rdamong 40 countries"says EY Renewable Energy Country Attractiveness Index, on the basis of a strong focus by the government on promoting renewable energy and implementation of projects in a time bound manner.

India has moved up 73 spots to rank 26 th the World bank's list in electricity in 2017, according to Mr.Piyush Goyal, Minister of state for power, coal, renewable energy and mines, Government of India.

Objectives

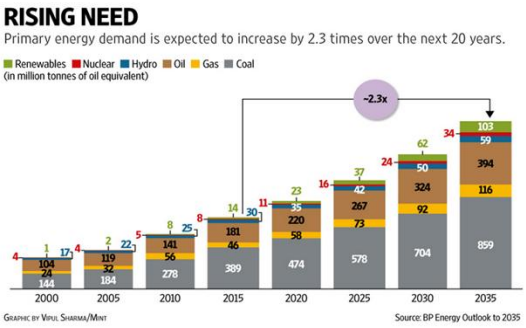
1. This paper attempts to explain the pattern of consumption of energy in India.
2. To examine the issues facing the power sector.
3. To highlight the overall power generation scenario, the government initiatives and investments
4. Suggesting ideas for augmenting renewable energy development.

Methodology

All the facts and figures reflected in this article are collected from diverse sources with reference to the present energy scenario in India, and from Journals, books, Government reports and websites.

Pattern of Consumption of Energy

Energy consumption in India has grown at a compound annual growth rate of about 6% during the last decade. BP Energy Outlook 2035 expects India to achieve the fastest energy consumption growth among all major economies, despite rapid increases in non-fossil fuel production . The total energy consumption is expected to grow by 128% by 2035. The demand for gas is expected to expand by 155%, followed by coal(121%) and oil (118%),while the demand for renewals , nuclear and hydro are estimated to rise by 656%, 334%, and 99% respectively.

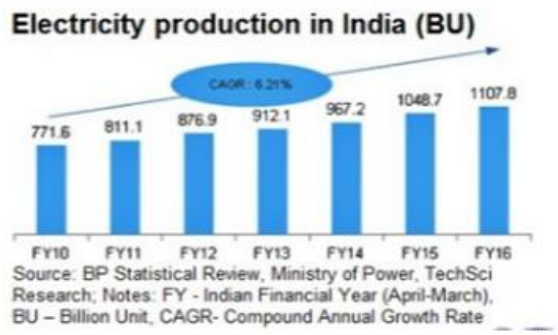


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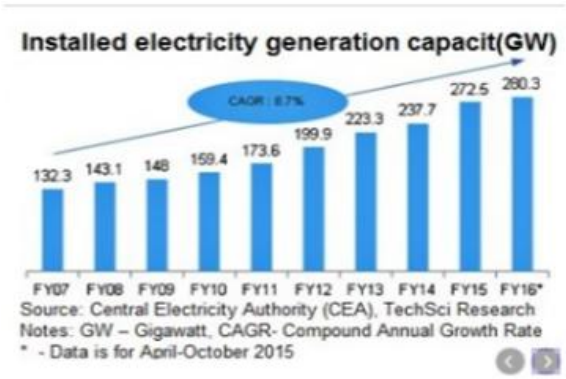
Our capacity clearly projects us as the leading global driver of growth in energy consumption in the next 20years, possibly overtaking China in the process. Even under the most realistic growth scenario, it is fully expected that India's growth ambition will lead to a100% increase in energy consumption, thereby requiring doubling the existing energy sources.

Indian power sector is undergoing a significant change that has redefined the industry outlook. Sustained economic growth continues to drive the electricity demand in India. The government's focus on attaining 'power for all' has accelerated capacity additions in the country.

The primary energy demand in our country is expected to increase by 2.3 times over the next 20 years.



On the supply side, India is very much dependent on coal as a primary fuel, which accounts for 58% of the energy consumption in the country. It is estimated that we have one of the largest resource bases of coal , with the policies and gains of the past few years placing us strongly for the future. It is expected that India will be the largest consumer of coal, equivalent to over 435million tones of oil by 2035. According to current estimate with respect to oil and gas, India is home to only 0.3% of the World's sedimentary basins. Further, we account for a mere 0.3% of the global oil and 0.8% of the global gas reserves. We are however blessed with abundant natural resources in the form of sun and wind. The total wind potential in the country is estimated to be over30 times the current installed capacity of 27 Giga watts, while our solar potential is expected to grow by about 90 times the current installed capacity of 8 GW. Already the government has an aggressive target of 60GW of wind capacity and100GW of solar capacity by 2022.



Issues Facing the Power Sector

Mainly there are some structural issues which are affecting the power sector.

• We have successively under priced our resources making the economics of the sector unattractive to a large number of serious investors.

• The subsidies in energy over the years have been a major burden to the economy.

• The past events in the policy and governance eco system have created an impression of a less than desirable regime of lack of administrative inefficiency.

An impractical infrastructural financing in the early years resulted in increased corporate leverage, without commensurate assets to support the debt levels thereby putting the pressure on the stakeholders, including the financial institutions. These three factors along with inefficient processes and systems have reduced the attractiveness of the sector to new investors whose participation is crucial to achieve the sector's aspirations.

Our current path of growth and evolutionary reforms is likely to widen the gap between the supply and demand of energy and has potential to cripple any aggressive growth plans. If no significant changes are made to the existing trend, India might

increase the burden on the fiscal front associated with energy independence and sustainability

Government Initiatives

The Government of India has identified power sector as a key sector of focus so as to promote sustained industrial growth. Some initiatives by the government of India to boost the Indian power sector are:

India has become an associate member of the International Energy Agency.

The government of India plans to auction coal blocks for commercial mining by the end of December 2017, which would end the monopoly of state-run firms in coal mining and help in achieving the country's target of producing1 billion tones of coal by 2020.

The Cabinet Committee on Economic Affairs has approved new coal linkage policy. The cabinet committee on Economic affairs has approved the enhancement of capacity of the Scheme for Development of Solar Parks and Ultra Mega Solar power MW projects from20.000 mega watt to 40,000 MW which will ensure setting up of at least 50 solar parks each with a capacity of 500 MW and above in various parts of the country.

The Union Cabinet, Government of India has given its ex-post facto approval for signing of a Memorandum of Understanding (MoU) on Renewable Energy between India and Portugal, which will help strengthen the bilateral cooperation between the two countries.

The Ministry of New Renewable Energy plans to introduce a fixed-cost component to the tariff for electricity generated from renewable energy sources like solar or wind, in a bid to promote a green economy.

The Union cabinet has approved the ratification of International Solar Alliance's framework agreement by India, which will provide India platform to showcase its solar programmes and put it in a leadership role in climate and renewable energy issues.

Future Vistas

India's Renewable Energy

India's renewable energy sector is also growing at lightning speed. India has promised to add 160 Giga watts of wind and solar power by 2022 to the existing 26 Giga watts. Mean while , wind energy projects have been hugely successful in Tamil Nadu, Maharashtra, Rajasthan and Gujarat. The heavy investment has pushed down the prices of renewable energy so much that today solar and wind power is cheaper than coal in India. Green energy is no longer expensive or difficult to build and it is well suited to our needs.

Solar energy refers to energy from the sun. The sun has produced energy for billions of years. It is the most vital source of energy for life forms. It is a renewable source of energy unlike non renewable sources such as fossil fuel. Solar energy technologies use the sun's energy to light homes, produce hot water, heat homes etc.

World's energy demand is growing fast because of population explosion and technological advancement. It is therefore important to go for reliable, cost effective and everlasting renewable energy source for the demand arising in the future. Solar energy, among other renewable sources of energy, is a promising and freely available energy source for managing long term issues in energy crisis. The solar industry is developing steadily all over the world because of the high demand for energy while the major energy source i.e., fossil fuel is limited and other sources are expensive. Hence, it has become a tool to develop economic status of developing countries and to sustain the lives of many underprivileged people, as it is now cost effective after a long aggressive research done to expedite its development.

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The solar industry would definitely be the best option for future energy demand since it is superior in terms of availability, cost effectiveness, accessibility, capacity and efficiency compared to other renewable sources.

The consumption of non renewable sources like oil, gas and coal is increasing at an alarming rate. The time has finally come to look after some other renewable sources of energy .i.e solar, wind and geothermal energy. Although many countries have started utilizing solar energy extensively but still have to go a long way to exploit this energy to fulfill their daily demands.

Here are some facts on solar energy that can help assess the potential of solar energy to meet global requirements.

Solar energy is the most readily available source of energy. It does not belong to anybody and is therefore, free. It is also the most important of the non- conventional sources of energy because it is non- polluting and therefore helps in lessening the green house effect. It has been used since prehistoric times, but in a most primitive manner. Before 1970 some research and development was carried out in a few countries to exploit solar energy more efficiently, but most of this work remained mainly academic. After the dramatic rise in the oil prices in the1970's, several countries began to formulate extensive research and development programmes to exploit solar energy.

India is one of the few countries endowed with abundant sunshine especially in the Thar desert region. It is suitable for harnessing solar energy for various applications.

The Indian power sector has an investment potential of Rs. 15 trillion in the next 4-5 years, thereby providing immense opportunities in power generation, distribution, transmission and equipment, according to Union Minister, Mr Piyush Goyal.

The government's immediate goal is to generate two trillion units of energy by 2019. This means doubling the current production capacity to provide 24x7 electricity for residential, industrial, commercial and agricultural use.

The government has electrified 13000 villages so far out of the total 18,452 villages and is targeting electrification of all villages by 2019, within the targeted 1000 days.

The Government of India is taking a number of steps and initiatives like 10 year tax exemption for solar projects, in order to achieve India's ambitious renewable energy targets of adding 175 GW of renewable energy, including addition of 100 GW of solar power, by the year2022. The government has also sought to restart the stalled hydro power projects and increase the wind energy production target to 60GW by 2022 from the current 20GW.

Interestingly, India's green energy initiatives are not only easing its energy shortage but also creating a lot of jobs, in addition to helping industries bloom.

Suggestions

• Set the course for a new development model for the energy sector

• Learning from the mistakes of the developed countries with regard to renewable sources.

• For bringing about Energy independence significant public and private investments in developing cost-effective technologies for the generation, storage and distribution of energy.

• A paradigm shift in the management of our energy infrastructure is the need of the hour. Such an approach would be able to steer away from the mutually conflicting perception of various energy resources so as to have a more integrated mechanism to harness all the resources.

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II. CONCLUSION

In the next few years, it is expected that millions of household in the world will be using solar energy as suggested by the trends shown in USA and Japan. In India too, the Indian Renewable Energy Development Agency and the Ministry of non-conventional energy sources are formulating a programme to have solar energy in more than a million homes in the next few years. However, people's initiative is essential if the programme is to be successful.

In conclusion, the future of the economic growth of India is dependent on our ability to leverage energy sources to fuel our ambitions for the sector. In his book, The Audacity of Hope, Barack Obama states, "A nation that can't control its energy sources can't control its future." Securing our energy future is thus critical for India to become a super power in the future

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IMPACT OF DEMONETIZATION AND WOMEN EMPOWERMENT IN INDIA

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I. INTRODUCTION

The shock currency move cancelling 500- and 1,000-rupee notes from circulation overnight, announced by Prime Minister Narendra Modi last week, aims to bring billions of dollars worth of unaccounted wealth, or "black money", into the mainstream economy and check corruption.But it has also curbed consumption, hurt the agriculture and real estate sectors, and triggered long lines at banks and ATMs as people wait to deposit cash, withdraw money and exchange old notes. At least a dozen people are reported to have died while standing in queues across the country.The move has had a disproportionate impact on women, more than three-quarters of whom are outside the banking system. Daily laborers and informal workers, who tend to save their money in cash, have also been hurt.

Women and Economy: The Indian Perspective

Women play a major role in the economy of a nation, including housewives. Housewives are the largest workforce in the world, the most underpaid and receive undue scoff. If she is paid the role of a housewife's duties can amount to billions of dollars annually. A woman purchases household goods not limited to food items, but clothing, accessories, and many daily use items as simple as a scrub to wash dishes. She is the dictator of large companies producing goods in manifold, she purchases the chips and cold-drinks her child consumes and treats guests with, she decides which commodities will be used and in what quantity. Most shopping outlets are directed towards women. Women are ultimately the largest consumers in the market, especially so in the Indian market where culture is upheld by women, where it's the wifely duty to ensure all goods are stocked in the house and family members are able to work without a hiccup. Yet women are the most overlooked consumer of the market, and the corporates which target female-consumers lack the female workforce within their company.

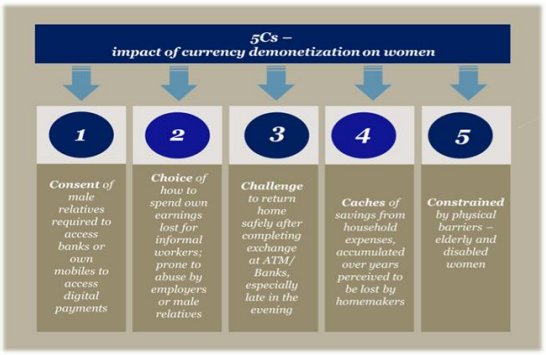
As women are the largest consumers in the market, any product targeted towards them will surely become a success. The Movie 'Joy' a biographical movie on Joy Mangano presents to the world the miracle of a mop. She is a self-made millionaire who has earned her worth by selling miracle-mops and hangers, items that are purchased by women who tire of the tedious nature of daily chores. India has the widely acclaimed Shahnaz Hussain, who produces beauty essentials directed towards women who are again the largest consumers of self-care products. Adverts for Nirma, Vim, even Bournvita is directed towards women from the perspective of motherhood and being a good dutiful wife and caregiver.

Yet India's largest economic benefit from women is achieved by the cultural values bestowed. India achieved a savings rate of 33 per cent of the GDP, of which 70 per cent comes from household saving and 20 per cent from the private corporate sector and 10 per cent from public sector. The staggering 70% of household saving is the fuel of the economy, with a tendency to have extra cash stacked away hidden from the family but no spending at all, the Indian

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culture seems to drive the Indian economy positively. International Women's day on March 2017 saw large scale strikes by women, the theme this year was 'A Day without a Woman'. If women in India were to take a day off then the economy would face a serious setback, teachers in schools are mostly women and children would face a difficult time learning, household chores would not be done which would bring down the productivity and ease with which this patriarchal regime thrives upon, even though the private sector sees only a small percentage of women in the workforce that is still enough to create a loss. More women may be involved in undocumented or 'disguised' wage work than in the formal labor force. It is estimated that over 90 per cent of women workers are involved in the informal sector and not included in official statistics (The World Bank, 1991). The informal sector includes jobs such as domestic servants, small traders, artisans, or laborers on a family farm. The female labor force which is unaccounted for in the census would naturally find a seeming halt to the system.

Women empowerment is much more than realizing the work a woman does is equivalent to the work of a man, it's much more than obtaining the right to a certain occupation. Woman empowerment is the global realization that tasks done by women, that the feminine touch to domesticity and professionalism is not desired but needed. It's the realization of the balance of nature, that we are all equal and no work is big or small.



Differential Impact of Currency Demonetisation on Women

On the day after the announcement, several opinion polls, published in the news and social showed that more than 90% of people surveyed supported the government's action of currency demonetization, popularly terming it a 'surgical strike' on the black economy, and applauding the secrecy and element of surprise associated with the announcement. However, stories of distress started in the days that followed, when people complained of long queues, dysfunctional ATMs and differential access to the new currency. Stories of women in distress began circulating, with the All-India Democratic Women's Association and the All-India Progressive Women's Association decrying the PM's actions as disastrous for women. Stepping away from the pandemonium – does currency demonetization impact women differently? And if so, how? My answer: a definite and resounding yes, as shown through the five channels of impact below.

Documents carrying the name/signatures of a father or a husband are often a requirement. Opening and operating accounts on mobile wallets requires mobile phones (preferably smart phones equipped with access to the internet) to begin with, which several women may not even own. Therefore, in essence, women require the consent of male relatives to access formal financial channels, whereas cash offers them a certain amount of independence.

1. Consent: As per a UNDP study, 80% of women in India don't have bank accounts, as of FY15. Women (across socio-economic groups) are often accompanied by male relatives who deal with banking officials to open a new bank account, make deposits, etc. on behalf of their female relatives.

2. Choice: Informal workers including domestic help, agricultural laborers, workers in factories, micro-business owners, daily-wage workers, etc. receiving their salary in cash are severely disadvantaged. They often lack formal documentation

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required for exchanging their currency notes, and also suffer from time poverty, as they may not be allowed to take leave to get their currency exchanged. This disadvantage is amplified for female informal workers, particularly sex workers, as they become vulnerable to abuse from employers. Given that these women bear the triple burden of household work, childcare as well as wage labor, they would find it difficult to stand in daily queues for currency exchanges. Consequently, they are likely to lose agency over their earnings if the exchange is handled by male relatives/employers. Overall, their choice over their time and earnings, when compared with men, as a result of demonetization.

3. Challenge due to safety concerns: A casual observation of scenes outside ATMs makes it apparent that there are far fewer women in queues. A woman was recently met by astounded stares at an ATM in Delhi at just 9pm in the evening, as she has committed the gross mistake of arriving there alone, without a male relative to chaperone. Women frequently do not risk going out alone late in the evening owing to the ever imminent threat of violence, be it cities or rural areas. This effectively reduces the time women have to access ATMs, thus making cash exchange far more challenging for women than men.

4. Cache of savings: Stories abound of huge caches of savings stashed in the form of cash by homemakers, away from the prying eyes of husbands and other family members. The perception that years of savings that housewives often put away from household expense budgets would be rendered value-less compounded with the need to be disclose their quantum to the husband/family, severely impacts homemakers, even though they may be facing less scrutiny from the tax department. Further, for women who may be victims of physical, mental or emotional domestic abuse, cash is a safety net, having higher utility than even its monetary In these cases, women may be hesitant to disclose their savings, fearing abuse from husband/family members, and would end up facing greater insecurity in the future.

5. Constrained by physical barriers: Despite recent measures (such as dedicating a full day for currency exchange of senior citizens) the physical barriers preventing access to banks, further intensified by the misinformation that there lifelong savings may be lost, can have a debilitating psychological impact on elderly and disabled. Mobile wallets and net banking can be difficult to understand owing to technological barriers. This impact is compounded in women's case, as they are generally used to their husbands/male relatives handling "money related matters".

Immediate Longer Term Remedial Measures

While it is understood that demonetization has been undertaken with a larger objective of eradicating the black money circulating in the form of cash, the differential impact on women necessitates that central and state governments, in partnership with NGOs, banks and mobile wallet operators, ensure a smooth exchange of currency for women in this period, as well as work towards improving women's access to non-cash based payment methods in the longer run. Some of the possible steps which could be taken in both the short and longer term could be as follows:

1. Camps for Encouraging Women to Open Banks Accounts: Urban local bodies/ village panchayats bodies could tie-up with banks to set up Aadhaar card registration and Jan Dhan Yojana camps, wherein persons lacking formal documents can register for an Aadhar card and set up a bank account under the Jan Dhan Yojana, This round of registrations could include specific targets to enlist women. Special female volunteers could be recruited at community-level to educate women about the need to have independent bank accounts, and be taught how to operate them without male family members. This can be a short-term measure, which could be

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implemented until 30 December 2016, at the district level.

2. Currency Exchange Services for Women: The recent dedicated day for senior citizens, women could also be provided certain special currency exchange services. Banks and post offices could set-up separate queues for women; Resident Welfare Associations (RWA), community groups and village panchayats could partner with banks to set up women-only, physically accessible currency-exchange centers, with physically accessible facilities.

These could be set-up on a single day of the week or on weekends, and women could be allowed to exchange an amount equivalent to the weekly withdrawal limit in one go at these centers. Volunteers could be selected by the RWA/village panchayat to help elderly and disabled (men and women) with the cash exchange at these centers – community level checks could be in place to ensure that only the cash of the elderly is exchanged, rather than that of family members. Women lacking formal documentation could be allowed to exchange their cash at these centers by providing alternate documents, for instance, photocopies of Aadhar card application. Finally, Government appointed/approved female workers, e.g. Anganwadi workers, could hold community level events, and undertake carefully chosen door-to-door visits, to provide clarity on the currency exchange rules and assure women that their savings would remain safe.

3. Increasing use of Mobile Wallets amongst Women:Studies have shown that mobile wallets (e.g. M-Pesa) have resulted in significant gains for women across Africa. They enable women to save securely, instead of living in the constant fear of it being stolen or misused by their male relatives. Further, their overall level of savings has been found to increase, as petty cash is not physically around for use. In addition, due to this money being part of a formal saving system, it can be used as collateral to raise loans to start small businesses.

Mobile wallet operators (MWOs) have already been marketing their services quite aggressively in the informal urban sector in India, with uptake seeing an increase in the past few days. To harness this momentum, MWOs could partner with NGOs, and micro-lenders to increase uptake amongst women, e.g. microloans could be disbursed through wallets. However, to achieve greater success, MWOs would need to a) ensure that both the buyer and seller side has access to its services – which in turn entails greater number of exclusive partnerships at retail level, and b) facilitate SMS-based transactions on feature phones.The government could also support this endeavor by mandating that sellers provide at least one other option to cash for transactions.

4. Ease Access to Banking for Women: As shown in the figure, right from opening to making regular transactions, systemic changes are needed to ease women's access to banks. Specific guidelines may need to be issued by the central government to sensitize bankers about not questioning women about male relatives. Further, banks could use the opportunity presented by the currency demonetization to go to the doorstep of their potential female customer, and encourage more housewives, female informal workers and other segments of unbanked women to move into the formal banking system. In addition, they could also offer financial incentives, for instance, offering nominally higher interest rates for accounts held in women's name, with central/ state governments supporting through policy action.

5. Change Attitudes amongst Women: State governments, urban local bodies and village panchayats could forge long term partnerships with NGOs to educate women on why they should, and how they can, make greater use of non-cash based payment methods, by working on changing mindsets and reducing attachment to physical cash.

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II. Conclusion

In conclusion, it is incumbent upon the government to take note of women's role in society, and their specific constraints, and address them through simple, practical steps to ensure they are not left out in this period of transition. The government might say that demonetization is good in the long run, but I would like to cite Dr. Manmohan Singh, who quoted the famous economist John Keynes in his speech in parliament: "In the long run we are all dead."

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POVERTY STATUS IN DIFFERENT STATES OF INDIA – AN ANALYSIS

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I. INTRODUCTION

Poverty is defined as the lack of income, lack of consumption and expenditure. They are lack of food, clothing and other minimum existence of life, those who are living below poverty line. Poverty in India can be defined as a situation when a certain sections of people are unable to fulfill their basic needs. According to Global Wealth Report 2016compiled by Credit Suisse Research Institute, India is the second most unequal country in the world with the top one per cent of the population owning nearly 60% of the total wealth. Since the 1950s, the Indian Government and non-governmental organizations have initiated several programs to alleviate poverty, including subsidizing food and other necessities, increased access to loans, improving agricultural techniques and price supports, and promoting education and family planning. These measures have helped eliminate famines, cut absolute poverty levels by more than half, and reduced illiteracy and malnutrition. Although the Indian economy has grown steadily over the last two decades, its growth has been uneven when comparing social groups, economic groups, geographic regions, and rural and urban areas.. Accordance to the planning commission about one fourth of the India's total population, i.e., about 315 million, live below the poverty line. The planning commission has defined the poverty line on the basis of recommended nutritional requirement 2,400 calories per person per day for rural areas and 2,100 calories in urban areas. For a household of five members, the poverty line has been fixed at an annual income of Rs. 21,593 in rural areas and Rs. 31,390 in urban areas in 2004-2005.In May 2014, after revisiting its poverty definition, methodology and economic changes around the world, the World Bank proposed another major revision to PPP calculation methodology, international poverty line and indexing it to 2011 US dollar. The new method proposes setting poverty line at $1.78 per day on 2011 PPP basis.

II. REVIEW OF LITERATURE

Khan (2001), observed that about one fifth of the world's population afflicted by poverty. These people live on less than 1 dollar a day poverty is not only a state of existence but also a process with many dimensions and complexities. Poverty can be persistent, or transient, but transient poverty, acute can trap succeeding generations. Poor adopt all kinds or strategies to mitigate and cope with their poverty.

According to Cappellari& Jenkins, (2007), Households cannot afford to minimum consumption expenditure can be treated as a poor household. Those households lack access to resources enabling a minimum standard of living. It is difficulty to

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deprivation, such as literacy, life expectancy, child mortality, malnutrition, safe drinking water and sanitation. There is existence of hunger also.

The PL is defined in India as the level of monthly expenditure that enables an individual to consume a minimally defined number of calories per day. It is not lack the of resources or technical skills in India which are hindrances in our development rather it is mainly due to the gap between policies and legislation (Krishna, A. and Shariff, A., 2010).

According to Thinkexist, (2010) U.N. Secretary Kofi Annan has stated, Gender equality is more than a goal in itself. It is a precondition for meeting the challenge of reducing poverty, promoting sustainable development and building good governance. There is a need for new kinds of institutions, incorporating new norms and rules that support equal and just relations between women and men. Today women are organizing themselves to meet the challenges that are hampering their progress.

Objectives of the Study

1. To study the Poverty percentage in rural and urban areas in India.

2.To analyze the state wise poverty in India.

Data and Research Methodology:

Poverty may either be defined as absolute poverty or relative poverty. Absolute poverty is poverty below the breadline. Those who suffer from 'absolute poverty has no guarantee that they will be able to meet the fundamental cost of living as a human being. On the other hand, when poverty is taken in relative terms and is related to the distribution of income or consumption expenditure, it is relative poverty. Present study is based on secondary data collected from Scheme of financing to the states, Annual Report of Reserve Bank of India, Government of India and report of planning commission of India.Sophisticated statistical tools like ANOVA, Regression and Hierarchical Linear Model are being used in this paper.

Analysis

Table No. 1 The Percentage Of Population Live Below Poverty Line.

	1972-73	1993-94	2004-05	2011-12
Rural	54.10	37.27	28.30	25.7
Urban	41.20	32.36	25.70	11.7
All India	51.50	35.97	27.50	21.9

Source: Planning commission Reports.

Poverty ratio in rural areas in India during the study period has been higher than that of urban areas. However, there is a considerable reduction in the poverty both at the rural and urban areas. It reduced from 54.10%(1972-73) to 25.7%(2011-2012) in rural areas. In the same way there is reduction in the urban areas as well. It reduced from 41.2%(1972-1973) to 11.7%(2011-2012) in urban areas.

Table 2: State-Wise Poverty in India

Ranks (Gross State Domestic Product)	States	Poverty Index (Average taken over the period 1993-2013)	Central Assistance in the form of loans and grants (Rs.Crores)			Population growth rate 2001-2011 (%)
			2002-2003	2007-2008	2013-2014	
1	Sikkim	19.82	320.02	473	1790.5	12.4
4	Goa	13.99	153.05	96.82	300	8.2

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7	Bihar	45.58	2200.88	345.17	8618.3	25
8	Gujarath	25.70	5255.11	1792.43	3978.79	19.2
9	Tamilnadu	24.02	1794.14	1665.47	3165.46	15.6
11	**Maharashtra**	**30.16**	**2493.9**	**3530.82**	**7013**	**16.0**
12	**Mizoram**	**17.09**	**471.24**	**769.63**	**2513.85**	**22.8**
13	**Tripura**	**25.41**	**683.61**	**1081.49**	**3106.91**	**14.7**
14	**Haryana**	**20.51**	**592.6**	**384.11**	**1135.81**	**20**
15	**Meghalaya**	**18.76**	**452.59**	**773**	**2912.25**	**27.8**
16	**Madhya Pradesh**	**39.13**	**2208**	**2380**	**6375**	**20.3**
17	**Rajasthan**	**25.53**	**745.1**	**1550.59**	**3591.36**	**21.4**
19	Himachal Pradesh	18.41	1191.52	1403.5	3815	12.8
20	Nagaland	16.80	497.36	809.78	2904	-0.5
21	Karnataka	31.18	3480.57	1945.04	3600	15.7
22	Kerala	16.29	1852	1007.48	1742	4.9
23	Jharkhand	44.99	855.71	1079.16	3201	22.3
25	AndraPradesh	23.2	6021.6	3321.65	527.11	11.1
26	**Punjab**	**14.97**	**964.62**	**962.08**	**1883**	**13.7**
27	**West Bengal**	**28.42**	**3399**	**2712.02**	**6759.4**	**13.9**
28	**UttarPRadesh**	**37.03**	**6107.07**	**3595.43**	**1135.9**	**20.1**
29	**Odhisha**	**45.37**	**3565.13**	**1824.41**	**4467**	**14**
31	**Jammu and Kashmir**	**15.06**	**2038.12**	**3670**	**10396.68**	**23.7**
32	**Manipur**	**44.22**	**609.72**	**1488**	**3745.36**	**18.7**
33	**Assaam**	**37.54**	**1962.99**	**3528.30**	**8873.05**	**16.9**

Source: Scheme of financing,

Population Census Report

Statistics times.com.

Summary Output

Regression Statistics	
Multiple R	0.491721
R Square	0.24179
Adjusted R Square	0.172862
Standard Error	9.700553
Observations	25

ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	2	660.1822	330.0	3.507	0.047609
Residual	22	2070.216	94.10		
Total	24	2730.398			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	15.891	5.510372	2.883	0.008	4.463191	27.318	4.46319	27.3188
2013-14	0.001327	0.000725	1.830	**0.080**	-0.00018	0.0028	-0.00018	0.00283
Population	0.337326	0.339988	0.992	0.331	-0.36777	1.0424	-0.36777	1.04241

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In the above table, the states are divided into four categories based on Gross State Domestic Product (GSDP) ranking Viz. 1 to 9th rank(above 9%),11 to 17 th rank (8 to 9%), 19 to 25th rank (8 to 9%) and 26th to 33rd rank (below 7%). Ranking was arrived by taking average growth rate during the period 2005 to 2014 at 2004-2005 prices. The regression and Anova took only the variables like Central Assistance, Poverty and GSDP. Data were not available for left over states.Overall Regression Analysis shows that Central assistance significantly influences the poverty level.

```
Linear mixed model fit by REML ['lmerMod']
Formula: Poverty ~ 1 + mean2013 + Popn + (1 | Group)
   Data: pov

REML criterion at convergence: 192.6

Scaled residuals:
     Min       1Q   Median       3Q      Max
-1.87162 -0.46009 -0.06154  0.67645  1.66578

Random effects:
 Groups   Name        Variance Std.Dev.
 Group    (Intercept)   0.0     0.00
 Residual             103.8    10.19
Number of obs: 25, groups:  Group, 4

Fixed effects:
             Estimate Std. Error t value
(Intercept) 13.050159   7.207338   1.811
mean2013     0.001297   0.001305   0.993
Popn         0.518294   0.334076   1.551

Correlation of Fixed Effects:
         (Intr) mn2013
mean2013 -0.608
Popn     -0.585 -0.226
fit warnings:
Some predictor variables are on very different scales
```

On including variable Population also, for hierarchical Linear Model, population plays significant role in deciding poverty and Central Assistance is no more significant factor. From the overall regression model, it is seen that the Central assistance plays a significant role in deciding the poverty level of the states ($t=1.83$, $p < 0.10$). But, when taking into account the GDP of the states (grouped under four categories), the Central assistance seems no more a significant player in deciding the poverty level of the states ($t=0.993$, $p > 0.10$). Thus, it is observed that the role of GDP is more compared to the Central assistance, in deciding the poverty level of the states.

Findings:

1) The percentage of Population live below Poverty Line has reduced from 51.50 % to 21.90% over the period of forty years, i.e 57.47 % reduction.

2) The poverty has drastically reduced in the states Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Puducherry, Sikkim and Tamil Nadu.

3) The highest central assistance is to states Uttar Pradesh, Jammu & Kashmir, Assam and Bihar in the year 2013-14.

4) On including variable Population also, for hierarchical Linear Model, population plays significant role in deciding poverty and Central Assistance is no more significant factor.

Suggestions

1) Central government and State Government have to provide Entrepreneurial training in schools and colleges for all the students.

2) Governments should avoid giving freebies; instead the funds can be invested in small and cottage industries so that people get employment opportunities.

3) Though technically qualified people are more, they lack technical knowhow in many sectors. This has to be taken care of by technical institutions.

4) Disguised unemployment is seen in rural areas, So Government should provide Loans and grants to the rural people to start Village and Cottage industries.

5) Cent percentage literacy is to be attempted in all states. Rural children should be provided with some incentives to continue their education.

6) Procedures to get loan and grants from the government should be simplified for the self-employed persons..

III. Conclusion

The present Government is taking strategic steps like Swacha Bharat, demonetization to reduce the inequalities of income. This will be more helpful to reduce the poverty. It is not only enough to reduce the inequalities and but severe steps arealso to be undertaken to eliminate corruption on top priority.The other steps suggested above are also to be considered by Government to reduce the poverty. Central Government has to take necessary steps toincrease developmental expenditure in backward states andto reduce the regional disparities, so thatzero poverty in 2030 is achieved. Central government should give more assistance and developmental expenditure to the backward states particularly in water and sanitation sector, to develop the environmental condition, to improve health condition, medical facilities, education and housing.

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FACTORS INFLUENCING FOREIGN EXCHANGE RESERVES IN INDIA DURING THE PRE AND POST REFORM PERIOD

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I. INTRODUCTION

The foreign exchange reserve of a country can be defined as its external stock of assets, which is valuable for the country as it enables the authority in charge of its monetary affairs for paying up any imbalance in external payments due, or for influencing the rate of exchange for domestic currency by getting involved in market exchange activities. The reserves of a country have different components - gold, foreign currencies, Special Drawing Rights (SDR) and the position of the reserve with the International Monetary Fund (IMF).

The Bretton-Woods system stipulated that foreign exchange reserves of Central Banks all over the world maintain the external value of their respective currencies at a fixed level. The Bretton-Woods system broke down during the early 1970s, and countries moved to a relatively flexible exchange rate system, the reserves in the changed scenario played a relatively less important role. However the global exchange reserves have increased from 1.75 to 7.8 per cent of the world GDP between 1960 and 2002 .

There can be three determined motives for holding Forex Reserves and they are transaction motive, speculative motive and precautionary motive. International trade increases the value of currency flow that gets assumed to be handled through private banks, which are driven by transaction motive. In the same way, speculative motive is for individual /corporate. However, Central bank reserves, remains as the last resort for the stock of foreign currency in terms of unpredictable flows that remains consistent with precautionary motive for the act to hold foreign assets. Precautionary motive towards the holding of notable foreign currency, as the demand for money, can turn up positively towards cost and wealth for the unplanned deficit, added by negative return meant for alternative assets.

Moreover, forex reserves turns up as the tools to maintain exchange rate, and enable absorption related to the international money as well as capital flows. Official reserves remain under precautionary as well as transaction motives as per the aggregate national interests, in terms of attaining balance between supply and demand of foreign currencies. In reference to intervention, and he act to preserve confidence within the ability of the country to carry out external transactions.

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Objective

1. To examine the trend of Foreign Exchange Reserves in India during the pre and post reform period from 1980-81 to 2014-15.
2. To evaluate the growth of foreign exchange reserves in India during the pre and post reform period from 1980-81 to 2014-15.
3. To analyse the determinants of foreign exchange reserves in India from 1990-91 to 2014-15.

Methodology of the Study

The data have been derived from the Hand Book of Statistics on Indian Economy and the period of study from 1980-81 to 2014-15. This study employed tools like Simple Linear Regression Model, Semi- log model and Multiple Linear Regression Model have been used in this study.

The Simple Linear equation of the form,

$Yi= \alpha +\beta Xi$

Where, Y is Gold, Special Drawing Rights (SDRs), Foreign Currency Assets and Total Reserves in India during the period from 1980-81 to 2014-15.

Xi is the time periods (where i =1, 2,3,…….,n).

$\beta =\Sigma xiyi/\Sigma xi$.

To estimate the compound growth rate using the semi-log function of the form

$Y = \alpha\ \beta t\ eu$ have been estimated, the compound growth rate is given by {(anti log of β) - 1} x 100.

Multiple Regression Model

The variables that generally determine the flows of Foreign Exchange Reserves to a particular country or region are referred to as the determinants. The analysis of determinants of Foreign Exchange Reserves consists of inflow of foreign direct investment (FDI), Foreign Portfolio Investment (FPI), Non- Resident Indian Deposits (NRIs), External Assistance, External Commercial Borrowings and Current Account Balance. In order to find out the influences of the above variables on total foreign exchange reserves, the multiple regression of the following model is adopted.

$FERt=\Psi 0 + \Psi 1\ FDIt + \Psi 2\ FPIt + \Psi 3\ NRIDt + \Psi 4\ EAt + \Psi 5 ECBt + \Psi 6 + CABt + \Psi 9\ (D)$

The trend and Growth of Foreign Exchange

Reserves in India

In 1979-80, India's foreign debt was placed at $ 18 billion and by March 1991, it had risen to $ 90 billion. This five-fold increase in just a decade was due to reckless commercial borrowings in the international markets at high rates of interests. With a balanced of payment crisis, a dangerously low level of exchange reserves ($750million), a rising debt burden, ever-widening budget deficits and mounting inflation, India found it difficult and expensive to raise commercial loans in the international markets. This helped India to accumulate large foreign exchange reserves continuously from about $ 6 billion in 1990- 91 to $ 42 billion in 2000-01 to over 309 billion dollars at the end of 2007-08. But later they came down to $294.4 billion in 2011-12.

Table-1: Trend analysis of Foreign Exchange Reserves in India during the pre-reform period from 1980-81 to 1990-91

Items	α	B	Standard Error of β	t-Stat of β	Sig-t	R^2
Gold	254.38	156.43	78.23	1.99	0.080	0.31
SDRs	483.64	-43.32	8.99	-4.82	0.000	0.72
Foreign Currency Assets	5654.96	-160.1	113.39	1.41	0.190	0.18
Total Reserves	5884.22	-46.99	94.80	0.50	0.631	0.03

Source: Computed from statistical Handbook of Indian Economy 2014-15.

The value of the slope coefficient of Gold was 156.43. This had disclosed that on an average the value of forex reserve of gold had been increased by US $ 156.43 Million a year over the eleven year period just before the policy of structural changes had been adopted. But SDRs, Foreign Currency Assets and Total Reserves were declined the study periods and it was US $43.32 Million, US $ 160.1Million and US $ 46.99 Million dollars respectively. Among these four variables SDRs were statistically significant at five per cent level. Other variables like Gold, Foreign Currency Assets and Total Reserves were statistically insignificant. The value of R2 was found to be 0.72,

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which had shown that 72 percent of the variations in the dependent variable (Special Drawing Rights) that had been explained by the independent variable.

Table 2: Compound Growth Rate of Foreign Exchange Reserves in India during the pre-reform period from 1980-81 to 1990-91

Items	Compound Growth Rate
Gold	14.77
SDRs	-16.22
Foreign Currency Assets	-4.29
Total Reserves	-0.87

Source: Computed from statistical Handbook of Indian Economy 2014-15.

Table 2 clearly shows that the rate of growth over a period of time during the pre reform period. The growth rate of Gold was 14.77 per cent during the study period from 1980-81 to 1990-91. The foreign Exchange Reserves of SDRs, Foreign Currency Assets and Total reserves were declining growth during the pre reform period and it was 16.22, 4.29 and 0.87 per cent respectively

Table 3: Trend analysis of Foreign Exchange Reserves in India during the post-reform period from 1991-92 to 2014-15

Items	α	B	Standard Error of β	t-Statistics of β	Sig-t	R^2
Gold	-2727.76	943.90	145.31	6.50	0.000	0.66
SDRs	1429.16	204.96	40.44	5.07	0.000	0.54
Foreign Currency Assets	-61688.64	15280.42	1119.35	13.65	0.000	0.89
Total Reserves	-66421.81	16537.56	1196.14	13.83	0.000	0.90

The above table shows that the trend of foreign exchange reserves in India during the post-reform period. The slope coefficients of Gold, SDRs, Foreign Currency Assets and Total Reserves were statistically significant at 5 per cent level. The value of the slope coefficient of Gold was 943.90. This had disclosed that on an average the value of forex reserve of gold had been increased by US $ 943.90 million a year over the eleven year period after implementation of new economic policy. At the same time the slope coefficient of Foreign Currency Assets and Total Reserves were increased on an average of US $ 15280.42 million and US $ 16537.56 million over a period of time. SDRs show that an increases by US $ 204 million during the post reform period. The value of R2 was found to be 0.90, which had shown that 90 percent of the variations in the dependent variable of total reserves that had been explained by the independent variable. India's Foreign Exchange reserves of Gold, SDRs and Foreign Currency showed that more than 55 per cent of the variation in the dependent variable that can be explained by the independent variable.

Table 4: Compound Growth Rate of Foreign Exchange Reserves in India during the Post-reform period from 1991-92 to 2014-15

Items	Compound Growth Rate
Gold	10.07
SDRs	26.83
Foreign Currency Assets	19.47
Total Reserves	18.18

***Source**: Computed from Statistical Handbook of Indian Economy 2014-15*.

Table 4 shows that the rate of growth of SDRs was 26.83 per cent during the post reform period. The growth rate of Gold was 10.07 per cent and Foreign Currency Assets was 19.47 per cent during the period from 1991-92 to 2014-15. Total reserve of foreign exchange was 18.18 per cent.

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Table 5:Trend analysis of Foreign Exchange Reserves in India for the pre and post reform period from 1980-81 to 2014-15

Items	α	B	Standard Error of β	t-Statistics of β	Sig-t	R^2
Gold	-4706.47	618.98	78.73	7.86	0.000	0.65
SDRs	922.33	98.30	22.88	4.30	0.000	0.36
Foreign Currency Assets	-81304.23	9525.22	890.73	10.69	0.000	0.78
Total Reserves	-87545.18	10306.11	959.14	10.75	0.000	0.78

Source: Computed from Handbook of Statistics on Indian Economy 2014-15.

The table 5 shows that the trend analysis of foreign exchange reserves in India during the period from 1980-81 to 2014-15. The slope coefficient of the variables like Gold, SDRs, Foreign Currency Assets and Total Reserves were statistically significant at 5 per cent level. The value of the slope coefficient of Gold was 618.98. This had disclosed that on an average the value of forex reserve of gold had been increased by US $ 618.98 million a year over the thirty five years period of just before and after implementation of new economic policy of structural changes had been adopted. In an average increase of SDRs, Foreign Currency Assets and Total Reserves was US $ 98.30million, US $ 9525.22 million and US $ 10306.11million during the period from 1980-81 to 2014-15. The value of R^2 was found to be 0.78, which had shown that 78 percent of the variations in the dependent variables (Foreign Currency Assets and Total Reserves) that had been explained by the independent variable during the pre and post reform period.

II. Conclusion

The coefficient of External Assistance was 5.08; it explains that dependability of foreign exchange reserves in India. Foreign exchange reserves determinant by External Commercial Borrowing, Foreign Direct Investment, Foreign Portfolio Investment, Non Resident Deposits of Indians and Current Account Balance. External Commercial Borrowing and Current Account Deficit were less dependability of forex reserves in India during the period from 1990-91 to 2014-15.

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IMPACT OF ECONOMIC REFORM AND AGRICULTURE GROWTH IN INDIA

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I. INTRODUCTION

Agriculture in India has undergone rapid transformation in the past two decades. The policies of globalization and liberalization have opened up new avenues for agricultural modernization. Due to its importance in national output and employment, agriculture was given special attention by India's policy makers and development planners which helped this sector to play an important role in economic development of the country and in improving income and living standard of vast population dependent on agriculture. During last one and a half decade several challenges have surfaced are becoming more and more severe with the passage of time. The growth rate has turned lower than the growth in population dependent on agriculture implying the per capita income in agriculture is falling.

Economic liberalisation entails a set of measures that are inimical to petty production in general, and agriculture in particular. In that sense, these policies have a distinct class bias against petty producers and the poor. These policy pursuits resulted in a reduction of public investment in rural infrastructure, including irrigation, agricultural research and extension services and a decline in the supply of rural credit to small and poor cultivators, and the pursuit of agricultural trade liberalisation.

II. REVIEW OF LITERATURE

Renuka Mahadevan (2003) assessed the productivity growth in Indian agriculture and to study the impact of globalisation. The study revealed that, there could easily be benefits that have not yet surfaced, or were yet to be identified and perhaps too difficult or intangible to measure. Whatever the case, it was highly likely that it is too soon to assess the full impact of globalization and economic reforms. Furthermore, the process of liberalization had been gradual and remained incomplete.

Ramesh Chand (2005) measured the performance of agriculture sector in the country in the recent years. The result turned out to be quite dissatisfactory because of sharp deceleration in growth rate of agricultural output. Agricultural production over time was affected by interacting influences of technological, infrastructural, and policy factors. During the decade of 1990s, declining trend in public sector investment that set in year 1979-80 continued for most part of the decade.

Ashok and Balasubramanian (2006) explore the role of infrastructure in productivity and diversification of agriculture and discussed issues related to the project and advantage in development of Tamil Nadu state economy. Tamil Nadu's performance with respect to the Human Development Index (HDI) was also impressive; it ranked third among 29 states.

III. GROWTH RATE OF AGRICULTURE

The growth rate has turned lower than the growth in population dependent on agriculture implying that per capita income in agriculture is falling. This is considered a major factor for large scale rural distress and large number of suicidal deaths by farmers in

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various parts of the country. Another biggest challenge is to ensure sustainable use of natural resources. While the need for accelerating agricultural growth are obvious, natural resource base in the country is shrinking. There are also signs of degradation of land and overexploitation of water in the country. Post WTO period has shown serious challenge to Indian agriculture as domestic prices of several commodities have turned higher than international prices. This has made imports attractive and adversely affected exports. The situation calls for improving competitiveness of Indian agriculture which requires improvement in efficiency in agricultural production, marketing, transport etc.

High growth of the agricultural sector is crucial for overall development of economy. In India, its importance is heightened with a substantial section of the population dependent on agriculture for employment. As per the National Sample Survey Office (NSSO), about 59% of male workers and 75% of women workers were dependent on agriculture in 2011–12 (NSSO 2014: 14). High agricultural growth is important to reduce rural poverty. It was argued that doubling of the rate of agricultural growth from 2% to 4% along with 9% rate of growth of the economy will reduce income disparities between the agricultural and non-agricultural sectors (Planning Commission 2006).

Impact of Economic Reforms in Indian Agriculture

Agricultural sector is the mainstay of the rural Indian economy around which socio-economic privileges and deprivations revolve, and any change in its structure is likely to have a corresponding impact on the existing pattern of social equality. No strategy of economic reform can succeed without sustained and broad based agricultural development, which is critical for

- Raising living standards,
- Alleviating poverty,
- Assuring food security,
- Generating buoyant market for expansion of industry and services, and
- Making substantial contribution to the national economic growth.

According to [Bhalla97], of the three sectors of economy in India, the tertiary sector has diversified the fastest, the secondary sector the second fastest, while the primary sector, taken as whole, has scarcely diversified at all. Since agriculture continues to be a tradable sector, this economic liberalization and reform policy has far reaching effects on (I) agricultural exports and imports, (ii) investment in new technologies and on rural infrastructure (iii) patterns of agricultural growth, (iv) agriculture income and employment, (v) agricultural prices and (vi) food security [Bhalla93].

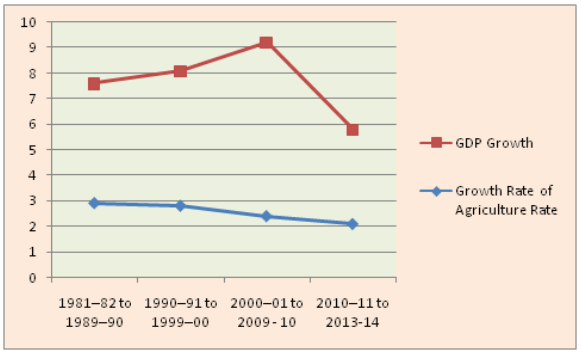
Table 1: Growth Rates of GDP of Agriculture Sector and GDP of the Economy, 1981–82 to 2013–14

Periods	**Growth Rate of Agriculture Rate**	**GDP Growth**
1981–82 to 1989–90	2.9	4.7
1990–91 to 1999–00	2.8	5.3
2000–01 to 2009 - 10	2.4	6.8
2010–11 to 2013-14	2.1	3.7

Source: Handbook of Statistics, Reserve Bank of India, various years.

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Figure 1 : Growth Rates of GDP of Agriculture Sector and GDP of the Economy, 1981–82 to 2013–14



Capital formation in agriculture: Capital formation is necessary for improving long-term growth potential in agriculture. Higher growth rates of agriculture witnessed in the 1980s were due to the lagged impact of increases in the share of agriculture and allied sector in gross capital formation during the late 1960s and 1970s . However, since the 1980s, the share has shown a declining trend. There was a mild recovery during the late 1990s till 2001-02, and then the share declined again. The declining trend since the 1990s implies that there has been lesser investment in agriculture as compared to the non-agriculture sector.

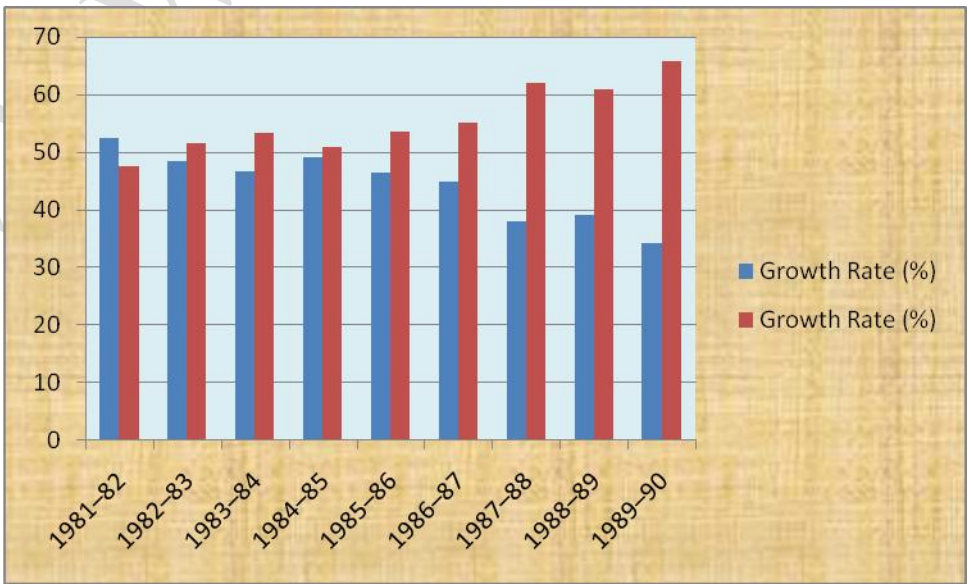
Table 2: Post - Reform Capital Formation in Agriculture, 1981-82 to 1989-1990

Year	Public Investment	Growth Rate (%)	Private Investment	Growth Rate (%)	Total
1981–82	12,723	52.4	11,549	47.6	24,272
1982–83	12,665	48.4	13,467	51.6	26,132
1983–84	12,962	46.7	14,816	53.3	27,778
1984–85	12,488	49.1	12,938	50.9	25,426
1985–86	11,248	46.5	12,960	53.5	24,208
1986–87	10,667	44.9	13,051	55.1	23,719
1987–88	10,981	38.1	17,816	61.9	28,797
1988–89	10,302	39.2	15,564	60.8	25,866
1989–90	8,909	34.2	17,132	65.8	26,041

Source: Economic Survey – various year.

Table 2 shows the capital formations of both public & private sector. 1981-82 to 1989 to 1990 for the private investment is constantly i.e. proportionately increasing. It was 1981-82, 52.4% decreased to 1989-1990. This shows that Government gave less importance to Agricultural sector.

Figure 2: Post - Reform Capital Formation in Agriculture, 1981-82 to 1989-1990



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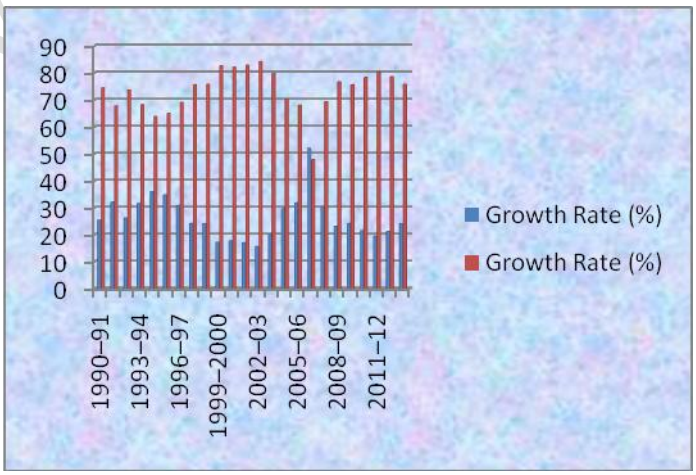
Table 3: Pre - Reform Capital Formation in Agriculture, 1981-82 to 1989-1990

Year	Public Investment	Growth Rate (%)	Private Investment	Growth Rate (%)	Total
1990–91	8,938	25.5	29,116	74.5	38,054
1991–92	7,901	32.2	16,634	67.8	24,535
1992–93	8,167	26.3	22,862	73.7	31,030
1993–94	8,907	31.7	19,230	68.3	28,137
1994–95	9,706	36.1	17,183	63.9	26,890
1995–96	9,560	34.9	17,777	65.1	27,336
1996–97	9,225	30.9	20,589	69.1	29,814
1997–98	7,812	24.3	24,692	75.7	32,504
1998–99	7,949	24.2	24,956	75.8	32,905
1999–2000	41,483	17.3	50,151	82.7	8,668
2000–01	8,085	17.8	37,395	82.2	45,480
2001–02	9,712	17.1	47,266	82.9	56,978
2002–03	8,734	15.7	46,934	84.3	55,668
2003–04	10,805	20.2	42,737	79.8	53,542
2004–05	16,187	29.7	38,309	70.3	54,496
2005–06	19,940	31.9	42,629	68.1	62,569
2006–07	22,987	52.1	44,167	47.9	67,154
2007–08	23,257	30.6	52,745	69.4	76,002
2008–09	20,572	23.2	68,137	76.8	88,709
2009–10	22,693	24.3	70,640	75.7	93,333
2010–11	19,854	21.6	72,181	78.4	92,035
2011–12	21,184	19.6	86,958	80.4	1,08,142
2012–13	23,886	21.3	88,371	78.7	1,12,257
2013–14	23,191	24.2	72,446	75.8	95,637

Source: Economic Survey – various year.

The Table 3 shows Capital formation of both the sectors after 1990-1991 are very divergent in nature. The public was very low when compared to private investment. Private investment is increasing at a faster rate but public investment is fluctuating in these years. If the public investment is increased the private investment increases multi-fold. The growth rate of public investment is in 1980-81 and reduced to 24.4% in 2013-14 52.4%. This is a poor factor showing that Government is ignoring the agricultural sector. But the private investment has increased in manifold in these four decades.

Figure 3: Pre - Reform Capital Formation in Agriculture, 1981-82 to 1989-1990



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Table 4: Productivity of Irrigation for Food grains in Indian Agriculture((growth rates in %))

Year	**1981-82 to 1989 – 1990**	**1990 – 91 to 1999-2000**	**2000-01 to 2009 to 2010**	**2010-11 to 2012-13**
Growth rate of gross irrigated area	2.07	2.28	1.11	1.36
Growth rate of output of food grains	2.8	1.75	1.03	0.66
Productivity of irrigation	0.73	0.53	0.08	0.7

Source: Economic survey - various years.

Table 4 shows that productivity of irrigation was highest in the 1980s. It was a period when green revolution was broadbased, with the inclusion of rice growing regions in eastern India. Growth rate of irrigated area increased marginally in the 1990s as compared to the 1980s; growth rate of output of foodgrains declined during this period. Decline in productivity of irrigation in the 1990s was due to a loss of momentum in the development of yield-increasing technologies such as cultivation of drought-resistant crops. This loss of momentum is directly related to the decline in public expenditure on research. Also, the political economy of irrigation from groundwater sources had a significant role in reducing productivity of irrigation in the 1990s. As Rao noted that, "there was a sharp decline in agricultural growth in east UP on account of severe cuts in the supply of power for pumping water, which was diverted to west UP to satisfy the powerful farm lobby". From 2000–01, growth rates of gross irrigated area and output declined sharply as compared to the preceding decades.

Figure2: Productivity of Irrigation for Food grains in Indian Agriculture

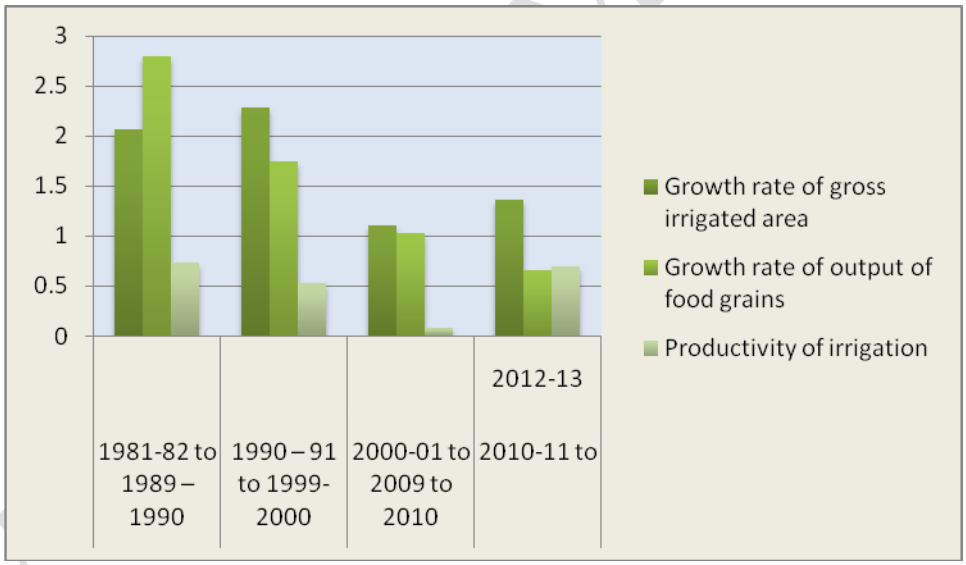


Table 5: Public Expenditure on Research and Extension in Agriculture and Allied Sector as Share of GDP of Agriculture and Allied Activities.

Year	Research and Education	Extension
1960–62	0.21	0.09
1970–72	0.23	0.14
1980–82	0.39	0.11
1989–91	0.41	0.16
1992–94	0.40	0.15
1995–97	0.38	0.14
1998–2000	0.44	0.15
2001–03	0.52	0.13
2004–06	0.52	0.13
2009–10	0.30	0.06
2011–12	0.32	0.05

Source: Economic survey - various years.

Figure 3 : Public Expenditure on Research and Extension in Agriculture and Allied Sector as Share of GDP of Agriculture and Allied Activities.

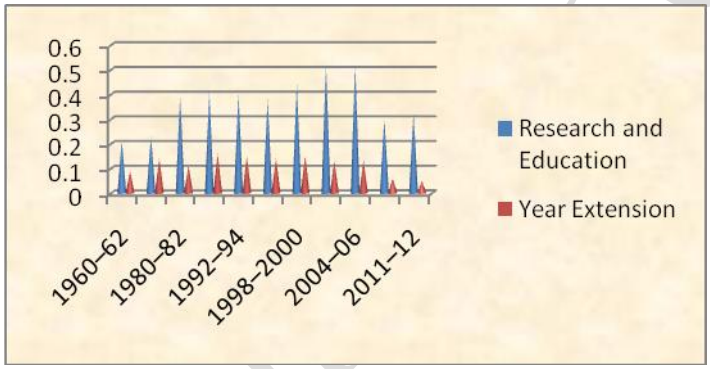


Table 5 shows public expenditure on research and extension in agriculture and allied sector as a share of GDP of agriculture and allied activities. It shows that the share of public spending on research and extension in GDP of agriculture and allied activities was low since the 1960s, as well as in the subsequent decades. In other words, public spending on agricultural research and extension services did not increase after reforms.

Decline in Employment

Growth rate in agricultural employment in rural areas was 1.38% during 1983 to 1993-94which was decline to 0.12% during the post reform period of 1993-94 to 2005-06 the growth rate of employment in agriculture in the urban areas also have shown a considerable decline with 1.54% in pre-reform period and -3.74% in post reform period.

The plan outlays in agriculture and its allied activities have been gradually declined during the plan period from 14.9% in the first plan to 5.2% by the 10th plan. This clarifies that the Govt. has withdrawn its support from the agriculture sector development. Thus the impact of globalization on our agrarian sector has worsened the plight of agricultural workers to an alarming degree. The share of agriculture in our Gross Domestic Product(GDP) has declined from 54.56 percent in 1951-52 to 27.87 per cent in 1999-2000 almost a 50 per cent reduction. But the shift of labor force from agriculture to other sectors, as projected by the followers of the World Bank-IMF model, has not taken place. For, as much as 65 per cent of our workforce is still engaged in agriculture. These limitations are severely affecting the capacity of Indian agriculture to compete in the global market. Characterized by low and stagnating yields, a very large proportion of marginal, small and semi medium holdings, a high proportion of landless labour households, and highly concentrated and food

- oriented cropping system, Indian agriculture would therefore be facing serious challenges, both internally and externally.

During last one and a half decade several challenges have surfaced in Indian agriculture which are becoming more and more severe with the passage of time. These relate to growth of output, efficiency, equity and sustainability. The biggest challenge is to reverse the sharp decline in growth rate of agriculture sector experienced after mid 1990s.

The new agricultural technology has made the farmer market-oriented. The farmer are largely depended on the market for the supply of inputs and for the demand for their output. At the same time the demand for agricultural credit as also increased the cash requirements of the farmer. And other hand modern technology has definitely proved its superiority over the traditional technology only in those areas where appropriate conditions prevail. But has mentioned above these conditions prevail only in certain selected areas and the rest of the country is not yet suitable for advanced technology. What is, therefore wanted is the evolution of a low-cost technology which can be adopted by all small farmers and which can use and exploit the local resources.

IV. CONCLUSION

Though India has demonstrated that there exists broad political support to its economic reform programme, as has been proved by transition of several Governments in the last decade through the political space, agricultural trade policy reforms need to be accelerated much more than what has been done so far. The challenge is to make soften the inefficiency that exists in the Indian agriculture to close the gap between its potential and actual performance through a proper policy framework.

India being a net exporter in agricultural products, it has more to gain from the trade reforms. It has sufficiently high bound rates on most of the products and therefore, flexibility can be ensured against unfair competition. India does not have to worry about its subsidy, as it is already below the required line and it also does not have any domestic support to reckon with. All these place India in an advantageous position. Moreover, the ongoing negotiations are likely to yield enough flexibility in product choice and tariff selection. A multilateral trading system is in the interest of India, given the fact that it is placed in such a situation where no clear group fits well.

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A STUDY ON SANITARY CONDITIONS IN RURAL INDIA

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I. INTRODUCTION

At a time when sanitation has attracted national attention, there is a need for State governments and local bodies to take the effort from construction of individual toilets and community or public toilets, to total sanitation. India is infamous for the extremely poor status of sanitation. In addition to open defecation, human excreta is not safely disposed of and managed properly, causing severe health and environmental impacts. Inadequate sanitation causes diarrhoeal and other diseases, deaths of infants, and leads to long-term effects on the development of human capital. Sanitation, however, is not merely a hygiene concern; it has serious health and economic implications. A World Bank study on the economic impacts of inadequate sanitation in India estimated that India lost the equivalent of 6.4 per cent of GDP due to inadequate sanitation. More than 70 pe rcent of this (1.75 lakh crore or trillion) was accounted for by premature mortality and health-related costs. Contrary to the popular perception, sanitation poses a challenge not only in rural areas (access and defecation practices especially) but in urban areas as well (safe disposal and treatment being big issues). The same study found that the poorest household groups in urban areas bore the highest per capita economic impacts, more than other population groups, including the rural poor.

Objectives

1. To study the rank of India in maintaining sanitary conditions with other countries.
2. To study the sanitary conditions of and rural India.

Methodology

The study is based on Secondary Data. It is collected from Books, Jounals, Magazines, Internet and so on.

II. REVIEW OF LITERATURE

Allegranzi et al. 2011Inadequate environmental conditions in health care facilities including poor Wash, lack of ventilation, and inadequate management of health care waste cause infections through contaminated water, food, hands, fomites, medical equipment, and unsafe blood transfusions (WHO 2008). Associated adverse health outcomes include a multitude of infections: gastrointestinal, respiratory, surgical site, burn wound, and sharps-related. Adequate hand hygiene (such as hand washing with soap) is critical for preventing infection – but several hundred million patients are annually by infections arising from poor hand washing practices (WHO 2009)

WHY SANITATION? Lack of adequate sanitation is a major cause of deaths and diseases in

developing countries. Poor sanitation not only adversely affects the availability and quality of water, but also has the same harmful effects on education, on welfare, on tourism, and on people's time-use and life opportunities in general. Over the last two decades the importance of sanitation in South Asia's human development has been increasingly recognized, and greater public investments have been made in promoting access to and achieving improvements in sanitation. Noting its importance to ensuring basic human dignity, the South Asia Conclave on Sanitation-III (SACOSAN-III) and, more recently, the United Nations General Assembly have declared sanitation as a human right (SACOSAN-III, 2008; United Nations, 2010). The aim of Millennium Development Goal (MDG) 7 for water and sanitation is to reduce by half the proportion of people without safe access to safe drinking water and basic sanitation by 2015. Improved sanitation also contributes in a number of ways to achieving MDG 4, "reducing child mortality," and MDG 2, "achieving universal primary education."

Improvement Closer latrine access and more latrines per capita Improved latrine system Improved hygiene practices Improved isolation, removal and treatment of human excreta Reuse of human excreta

Primary Impact Less use of public latrines Less open defecation Less latrine access time Intangible user benefits Improved health status due to less exposure to pathogens Improved quality of ground and surface water More fertilizer available More fuel available (cooking, lighting) Improved quality of land and

Economic Impact Saved entry fee costs Improved aesthetics School participation Better living standards Higher house prices Health Related Quality of Life improvement Higher labor productivity Saved healthcare costs Value of saved lives Saved water treatment More domestic uses of water Higher cottage industry income Higher tourist revenue Foreign direct investment Better fish production Better agricultural production Improved aesthetics Education Greater fuel cost saving Since sanitation is linked in many ways to livelihoods and sustainable development in general, it also contributes to MDG 1, eradicating extreme poverty and hunger, and MDG 3, promoting gender equality and empowering women, and MDG 5, improving maternal health.

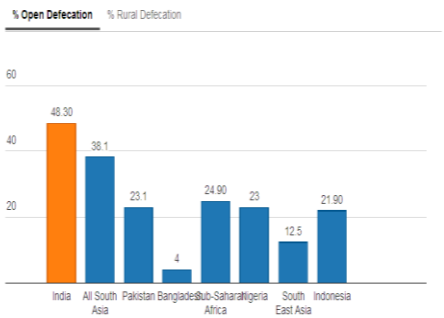
As per the most recent Swachhta Status Report in 2015, more than half of the rural population (52.1 per cent)of the country still defecates in open.

Eliminating Open Defection in India by 2nd October 2019 –the 150th birth anniversary of Mahatma Gandhi –is one of the key aims of the Swacth Bharat per the most recent Swachta Status Report of the National Sample Survey Office (NSSO),in 2015, more than half of the rural population (52.1 per cent) of the country still defecates in open –a major public health and Sanitation Problem.

India Compare with other Countries

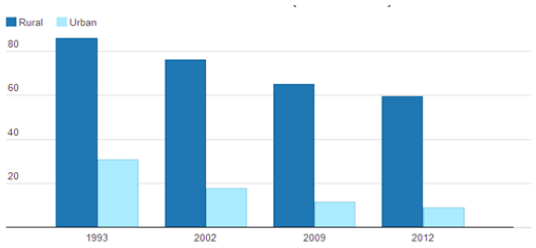
India fares poorly . According to data compiled by r.i.c.e, Sub- Saharan Africa, which had 65 per cent of the GDP per capita of India, had only about half of the rural open defecation compared to India. In Bangladesh, only 5 per cent of rural people defecate in the open , significantly lower than that in India

International Comparison of Open Defecation (2012)



Access to Toilets

The Swachta Status Report finds that 45.3 per cent households in rural areas reported having access to a sanitary toilet whereas, in urban areas, 88.8 per cent households reported having access to a sanitary toilet. Sanitary toilet is one which ensures safe confinement and disposal of faeces and does not require the need for human handling. Comparable data from various rounds of NSSO show that access to latrines has improved both in rural and urban India. In 1993 ,85.8 per cent of rural households didn't have access to a latrine. By 2012, the number was reduced to 59.4 per cent % of Households without Latrine (1993-2012)



Access to Toilet Ensure Usage

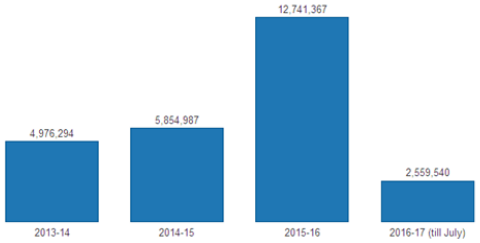
This is one of the key policy questions regarding Open defecation and also the one which is the most debated .Should the government focus on building more toilets- increase access, or on encouraging people to use toilets-behaviour change? Based on findings from NSSO Swachta Status Report, one can conclude that access implies usage. The Survey found that among the households having a sanitary toilet, 95.6 per cent people were using it. "It may be seen that for the rural households having a sanitary toilet, the usage percentage was very high across all categories [age, gender],"the report says. As per another NSSO Survey, in 2012, just 1.7 per cent of the households in rural areas and 0.2 per cent of the households urban areas had access to latrine but not using them. But the SQUAT survey conducted by r.i.c.e., found that 40% of households that have working latrine atleast one person who regularly defecates in the open . Further, less than half of people who own a government latrine use it regularly."47 per cent of those that defecate in the open say do so because it is pleasant, comfortable, or convenient."

Can access to toilet change personal p references? The questions remains unanswered due to lack of official data. Diane Coffey from r.i.c.e. argues that the NSSO survey is not designed to tell us what will happen the government builds latrines for people who don't have them . The vast majority of latrine in rural India cost atleast 20,000 rupees and have large pits that are mechanically emptied, or never emptied. The government provides latrines that have soak pits that need to be emptied manually. Villagers think that only Dalits can do this work,"Note that under Swachh Bharat Mission (Gramin), the support for building an individual toilet is Rs 12,000.

Toilet Construction

The pace of toilet construction increased in 2015-16, government data says.

Individual household latrine(IHHLs) constructed under NBA/SBM(G)



Source: Parliament questions

But the toilet construction numbers are not always reliable, as was found by an audit report by Comptroller and Auditor General (CAG) of India that was released in December 2015. The CAG found that during the UPA-II regime, governments of at least 16 states exaggerated the data on individual household toilets by over 190 per cent of the actual constructions

Dysfunctional Toilets

Further, the CAG report said that of the constructedtoilets, around 30 per cent were found to be dysfunctional.A Niti Aayog report of Sub-Group of Chief Ministers on Swachh Bharat Abhiyan states

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that "the visible improvement in toilet coverage across Indian states is deeply undermined by the poor quality of operation and maintenance of these facilities."As per the All India Baseline survey conducted by Ministry of Drinking Water and Sanitation in 2012-13, 1.39 crore of the total 7.41 crore household toilets in India were defunct or dysfunctional."Financial assistance provided under the previous Government programmes was inadequate and led to the improper construction of toilets, which slowly became dysfunctional," the NITI Aayog report states.

III. CONCLUSION

Majority of them were using latrines, only 18% of them practiced open air defecation. But among the houses with latrine, more than half of the latrines did not have water facility and soap in the latrine. Majority of them felt that safety was the most common advantage of having a latrine.

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FROM CLOSE KIN TO NON- KIN: MARRIAGE PATTERNS AMONG ARUNTHATHIYAR WOMEN IN DELHI.

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I. INTRODUCTION

The practice of cross cousin marriage is regarded as the ideal form of Dravidian kinship. Dravidian kinship system divides the set of relatives as marriageable and non-marriageable. Marriageable category includes Mother's Brother (MB), Mother's Brother's Daughter/son (MBD/S), Father's Sister's Daughter/son (FZD/S) whereas non- marriageable kin would consists of Mother's sister's daughter/son and Father's brother's son. Dumont clearly describes the consanguineous and affinal relation existing in south Indian kinship system. Anthony Good (1991) says that most south Indians regards one genealogically defined relative as the preferred marriage partner. Such ideal potential spouses are said to have an (urimai) claim over each other (Good: 1991; 81). In this paper focus is primarily on the changes in the practice of cross cousin marriage among the Arunthathiyar women who have been migrated to urban areas with special focus on the migrants in Delhi. It has been argued in this article that cross cousin marriage do occur among the Arunthathiyar community but is found at a very low level. It appears that the attitude of Arunthathiyar women towards cross cousin marriage is shifting.

The process of modernization, democratization and development has brought changes among the urban young women with respect to marriage. Today, in India, though we can see few cross cousin marriages taking place but mostly in the rural Tamil Nadu. Whereas, in urban Delhi young Dalit women prefer marrying non- kin. The socio- economic conditions in the urban areas has great influence on the cross cousin marriage collapse post migration. Among the Arunthathiyar groups there are no rigid rules for preferential marriage partners. There is certain degree of adaptability to the new conditions created due to the migration to new arena. The constant link with the North India system, it is quite unlikely that the phenomena of cross cousin marriage will remain persistent, the empirical study shows that the urban young Dalits started imitating the North Indian practices like celebrating Rakshabandhan (the festival strengthening and celebrates the brother sister relation). Hence the practice of cross cousin marriage among the Arunthathiyars is declining in the **Urban Delhi.**

Arunthathiyar young women easily opt out to marry a non- kin if the essential qualifications do not match between the marriageable boy and a girl like class, education etc.Education has been considered as a catalyst for changes in marriage age among the Arunthathiyars. This helps the young women to new ideas, attitudes and aspiration that empower them power to question the traditional values. These changes tend to delay as it helps in increase the say of women in decision making.

In some places in South India, one must make a gift to the cross cousins, if they marry someone else (Dumont 1983: Yalman 1963). Urimai relations exist among Arunthathiyar community as well but they are

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not compelled or obliged to marry their 'urimaippen'. On the basis of the cases observed, one can say that Arunthathiyars are not obliged to pay any indemnity in cash or in kind if any refusal is made for the cross cousins (urimai partners). This statement is made on the basis of collected cases during the field work, where out of all the collected cases none of them had paid any fine in cash/kind to the cross - kin whom they have refused to marry. Unlike Dumont's (1973) work on 'Hierarchy and Marriage Alliance in South India' where he shows preference for maternal cross cousin marriage among Pramalai kallar (the eldest son is obliged to marry his Maternal cross cousin and if he refuses to marry his cross cousin

In this paper, I look at the connection between education, marriage and honour, and I use this case study to understand the changes in the marriage patterns among young Dalit women in the urban setting. I show how marriage is attributed by the young Dalit women in Delhi.

Adaptability to the new Urban Centre

The case of Radha would epitomize the above statement in a better manner. A 32 years old Radha is a resident of Delhi, belonging to an Arunthathiyar community. She says that 'I never saw or considered my mother's brother as my potential husband though we belong to the same age group. He is of my elder brother's age and just four years elder to me. Everyone in the family and other relatives insisted me to get married to my youngest mother's brother but I refused the proposal. After this refusal another proposal came from my mother's eldest brother for his son. He also belonged to my age group. I hesitated to marry him as well. I have seen my school friends and neighbourhood friends who consider their cross cousins as their brothers. I was consider it a shame to marry a cross cousin who is more like a brother for my friends. Since childhood I have been calling my cross cousin as (bhaiyya). We have spent our childhood together playing in the neighbourhood streets. We were in the same school and he used to take care of me as his own sister who is of my age. Later on, after completing my graduation from Jesus and Mary College in Delhi, I got married to a non-kin who has completed his Engineering degree from Salem, Tamilnadu. After few years of my marriage, my cross had love marriage with a non –kin that was arranged marriage by his family members. I don't say that one shouldn't get married to cross kin or cross cousin as it the preferred marriage system among the South Indian castes. In my case, it is purely based on our personal choice. As I have been born and brought up in place like Delhi where cross cousin marriage is not a preferred marriage'. There can be many reasons for this change like modernization, urbanization, education etc. But in this cases, cross cousins and cross kin never considered each other as their potential husband or wife. This change in attitude is due to her exposure to the new urban setting where cross cousins are considered as brothers and sisters rather than marriageable kin.

Education and Classbeing the reason for the Shift

Puspha 27 year old Arunthathiyar women refused to marry her mother's brother's son (MBS) Suresh. The reason for her refusal is because of his lower education level and weakening economic status. Pushpa had completed her graduation from the University of Delhi and was expecting her spouse to be equally educated and economically settled. Economically settled for her is to have his own house. But her cross cousins had only secondary education from a government school. Pushpa's cross cousin had lost both his parents (who were affected by cancer) in his childhood because of which he faced problem in continuing his higher education. Suresh was later taken care by his father's elder brother who was also Pushpa's mother's elder brother. Pushpa was not against the cross cousin marriage but against the marriage with the economically weak cross cousins. She says that 'I would not mind getting married to my

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cross cousins if they own a flat or small property. I have faced economic hardship since childhood and don't want that to continue even after my marriage. Pushpa stood strong in her decision of marrying well settled boy within her own caste. A family (Non- kin) from the neighbouhood made a proposal for marriage. After few months, Pushpa and her cross cousin had a non- kin marriage arranged by the elders of the family. This case substantiates the argument made by Kapadia on the breakdown of the traditional cross cousin marriage system because of the economic reasons and low education. There are many reasons for the fading away of the traditional cross cousin marriage but in this case break down is purely based on economic reasons.

The Study

The study discussed here was conducted in Delhi slum.The study was limited to only few urban slums in Delhi where the Arunthathiyar population was found enormous. Samples of married young women were collected from the three urban slums in Delhi. I have concentrated on the young dalits who have married since last 5 years falling between the age group of 18- 30. The vast majority of the Dalits were engaged in NDMC New Delhi Municipal Corporation. Men were working in NDMC, women were engaged in the Domestic work. Whereas the educated young girls are working in the BPO sectors after completing a diploma course and few others are involved in the private concern. The focus of this paper is on the young women who are educated and have a degree.

II. CONCLUSION

The analysis of changing patterns in marriage among the Dalits shows change in the marriage patterns among the Dalit migrant women in Delhi. Although the inter caste marriage with the upper caste Brahmins seems to be rare but it does appear to be increasing. In Delhi marriages between the Non- kin are becoming common than the cross cousin marriage. As India gradually moves towards the urbanization the traditional norm of marrying the cross cousin is increasingly becoming unstable and disappearing from the Dravidian society. This in turn may increase Non-kin marriage.The pattern observed in this study represents a major shift in the patterns of marriage from the traditional uncle- niece marriage or cross cousin marriage. This change is largely a product of education, the increasing economic independence of young women.

The results shows that most women take part in the decision making with respect to marriage on when and whom to get married.The majority of young women did insist on marrying Non- kin as their potential cross cousins did not match up with their educational qualification. Most of them also opined that they never considered their cross cousins are their potential spouse. As far as the selection of mate (bride/ groom) was concerned it was the prerogative of the parent's or the guardians. This tradition of selecting the marriage partner for son/daughters is changing. The tendency of selecting the partner among the Arunthathiyar women has shown remarkable increase compared to their parent's and grandparent's generation. Now a days the young Dalit women is very much in favor of selecting their own marriage partner than marrying someone who is selected by their parents and other elder members in the family. Though the decision is taken by the elder members in the family but the final say as to whom to marry is dependent on the girl's decision.

Hence the change in the female mobility, education, urbanization, modernization etc has the potential to enhance the young women's decision making process with regard to marriage. Which in turn increases the possibility of Non- Kin marriage and sometimes inter caste marriage.

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ANALYSIS OF CLIMATE CHANGE ON GROUND WATER

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I. INTRODUCTION

Climate change is any significant long-term change in the expected patterns of average weather of region (or the whole Earth) over a significant period of time. It is about non-normal variations to the climate, and the effects of these variations on other parts of the Earth. These changes may take tens, hundreds or perhaps millions of year. But increased in anthropogenic agriculture, change in land use pattern etc, leads to emission of green house gases due to which the rate of climate change is much faster. Climate change scenarios include higher temperatures, changes in precipitation, and higher atmospheric CO2 concentrations. There are three ways in which the Greenhouse Effect may be important for agriculture. First, increased atmospheric CO2 concentrations can have a direct effect on the growth rate of crop plants and weeds. Secondly, CO2-induced changes of climate may alter levels of temperature, productivity. Finally, rises in sea level may lead to loss of farmland by inundation and increasing salinity of groundwater in coastal areas.

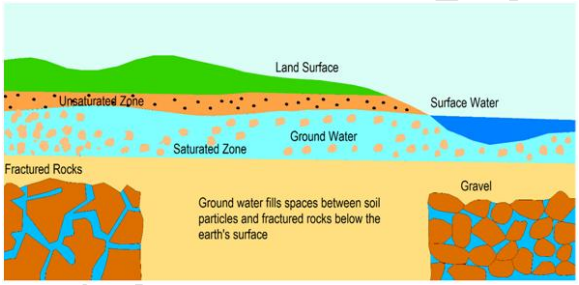
Global warming will also affect the water supply by changes in evaporation and ground water recharge. Finally through sea level rise, the global warming may contribute saline intrusion agricultural demand, particularly for irrigation water, which is a major share of total water demand of the country, is considered more sensitive to climate change. A change in field-level climate may alter the need and timing of irrigation. Increased dryness may lead to increased demand, but demand could be reduced if soil moisture content rises at critical times of the year. It is projected that most irrigated areas in India would require more water around 2025 and global net irrigation requirements would increase relative to the situation without climate change by 3.5–5 per cent by 2025 and 6–8 per cent by 2075. In India, roughly 52 per cent of irrigation consumption across the country is extracted from groundwater; therefore, it can be an alarming situation with decline in groundwater and increase in irrigation requirements due to climate change. Warm air holds more moisture and increase evaporation of surface moisture. (Xiaodong zhang 2015)With more moisture in the atmosphere, rainfall and snowfall events tend to be more intense, increasing the potential for floods. However, if there is little or no moisture in the soil to evaporate, the incident solar radiation goes into raising the temperature, which could contribute to longer and more severe droughts(Kumar, C.P. 2012).Therefore, change in climate will affect the soil moisture, groundwater recharge and frequency of flood or drought episodes and finally groundwater level in different areas. In a number of studies, it is projected that increasing temperature and decline in rainfall

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may reduce net recharge and affect groundwater levels. However, little work has been done on hydrological impacts of possible climate change for Indian regions/basins.

South Asia remains home to four out of every 10 of the World's poor. Nearly 1.5 billion people in South Asia live in less than $1.25 per day. Imbalances in economic growth; inequality among castes, classes, genders and a region inundated by disasters have added to the suffering of the poor and those most vulnerable and marginalized. Climate change is predicted to have adverse impacts in South Asia, particularly in agriculture. Some of the predicted impacts of climate change include increased variability in both monsoon and winter rainfall patterns; increase in average temperatures, with warmer winters; increased salinity in coastal areas as a result of rising sea levels and reduced discharge of major rivers . Climatechange will also significantly impact water supply and demand due to altering future temperature and precipitation patterns. (Niranjan, V. et.al 2010)

Graphical Representation of Ground Water and Associated Terms



Atmospheric concentrations of carbon dioxide and other greenhouse gases are increasing. There is a growing body of evidence that this is already contributing to changes in climatic conditions, with impacts on hydrological cycles evident at some locations (IPCC, 2007). Global change scenarios anticipate further large increases in greenhouse gas emissions over the course of this century, with consequences for climate including increased surface temperature, changes in the amount and pattern of precipitation and increased potential evaporation. The nature of these changes is projected to vary across the globe. The critical threats to groundwater (and dependent systems) from these changes is reduced availability of groundwater, due to reduced groundwater recharge, increased demand or groundwater contamination (Craig Clifton, et.al 2010).The implications for socio-economic and environmental conditions in vulnerable regions could be very serious. There is a 'basic need to identify the sensitivity of groundwater to climate variability and change'. Adaptation is required to address the risks faced and improve the resilience of groundwater dependent communities and environments.

II. Review of Literature

Kambale,J.B. et.al(2015)pointed theirrigation had helped in increasing food production and achieving food security in India. Climate change was expected to affect the crop production in irrigated area particularly in groundwater irrigated areas. They were suggested strategies to climate change impact on irrigated crops based on projectedchange in crop water requirement and groundwater availability for irrigation in the National Capital Territory of Delhi.Prevailing groundwater recharge in the study area during monsoon was 4.01 MCM (Million cubic meters). The samefor various scenarios varied from -15.47 MCM to 5.08 MCM. Groundwater recharge would increase based on the climate prediction done using local weather data. The impact of climatechange on groundwater availability was evident in scenarios based on INCCA and IPCC predictions where it variedfrom -2.66 MCM to 1.02 MCM. Contrary to common perceptions, crop water requirement of prevailing croppingsystem would not increase in future if all the important climatic parameters were considered for its prediction. Effect of increase in temperature on crop water requirement may be compensated bydecrease in other climatic parameters such wind speed and duration of daily

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sunshine hours. Climate change impact on sustainability of prevailing cropping system as per the crop water requirement was concerned. Based on water requirement and groundwater availability under various climate changescenarios, appropriate strategies to cope up the climate change impact on irrigated crops have been suggested.

Khajuria Anupamet.al(2013)Examined the climate change was one of the most important globalenvironmental challenges, with implications for foodproduction, water supply, health, energy, etc. Climate change required a good scientific understanding as wellas coordinated action at national and global level. During the last 40 years, India had witnessed a decline in gravity-flowirrigation and the rise of a booming 'water-scavenging'irrigation economy through millions of small and private tube wells. The groundwater had become at once critical andthreatened. Climate change will act as a force multiplier; it willenhance groundwater's criticality for drought-proofingagriculture and simultaneously multiply the threat to theresource. India's groundwater hotspots were western andpeninsular regions. These regions were critical for climate changemitigation as well as adaptation. India needs tomake a transition from surface storage to 'managed aquiferstorage' as the centre pin of its water strategy with proactivedemand- and supply-side management components.

Kumar,C.P. (2012)analysed the climate change affects surface water resources directly through changes in the major long-term climate variables such as air temperature, precipitation, and evapo-transpiration, the relationship between the changing climate variables and groundwater was more complicated and poorly understood. The greater variability in rainfall could mean more frequent and prolonged periods of high or low groundwater levels, and saline intrusion in coastal aquifers due to sea level rise and resource reduction. Groundwater resources were related to climate change through the direct interaction with surface water resources, such as lakes and rivers, and indirectly through the recharge process. The direct effect of climate change on groundwater resources depends upon the change in the volume and distribution of groundwater recharge. The impact of climate change on groundwater resources requires not only reliable forecasting of changes in the major climatic variables, but also accurate estimation of groundwater recharge.

Patle,G.T. et.al (2016) climate change of a region coupled with spatiotemporalvariability of rainfall had a significant effecton groundwater recharge. An effort had been made inthis study to analyse the pre- and post-monsoon averagegroundwater depths of different blocks in Kurukshetradistrict, Haryana, India. The stochastic analysisof groundwater depth was carried out using auto regressiveintegrated moving average (ARIMA) model.Best-fitted models ARIMA (2, 1, 1) and ARIMA (0, 1,2) were used for prediction of pre- and post-monsoongroundwater depth fluctuations up to the year 2020.Results indicate that by the year 2020, averagegroundwater depth in the pre- and post-monsoon seasonsin the district is expected to decline by 5.63 and5.72 m respectively, over the base year 2010. Resultsof this study will be helpful in evolving strategies forgroundwater development and management.

Sethuram,S. (2014) should the water and climate change related threats to the alreadygrowing water scarcity. The study was: to describe water security, policy changes and toanalyse the policies and adaptation strategies. 700mm and 1100mm of annual rainfall, Chennai still had water insecurity. The survey results implied that an increase in water use efficiency was much needed. Although, Chennai had 100 per cent pipe connections, water supply was intermittent. Eighty-seven percent (87 per cent) ofrespondents reported concerns about sporadic supply, low quality and poor service. Respondents

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notifiedthat purchase water for drinking and cooking adds to their household expense, and was on average 2 per cent of their salary. The water price was 6 to 10 paisa per litre (for usage over 10KL), at an incremental rate.

Need for the Study

Globally, ground water is the source of one third of all fresh¬water withdrawals, supplying an estimated 36 per cent, 42 per cent and 27 per cent of the water used for domestic, agricultural and industrial pur¬poses, respectively. In many environments, natural groundwater discharges sustain base flow to rivers, lakes and wetlands during periods oflow or no rainfall. Despite these vital contributions to human welfare and aquatic ecosystems, a paucity of studies on the relationship between climate and ground water severely restricted the ability of the Intergovernmental Panel on Climate Change (IPCC) to assess interactions between ground water and climate change.(Gautam Kamble et.al 2015)

The total replenishable groundwater resource available in India is currently estimated to be 45.22 million hectare metre/yr (Mha m/yr). Of this quantity, 6.933 Mha m/yr may be used for drinking and industrial purposes while the rest can be used for irrigation. Interestingly, almost 80 per cent of domestic water requirement in India today is met from groundwater sources. However, the groundwater resources in several states of India are fast getting depleted primarily due to over–extraction and poor recharging facility.

Despite the presence of substantial reserves of water in India, the actual utilizable quantity is limited and a water crisis is seen as inevitable in the future. The per capita availability of fresh water is currently estimated at about 2,000 m3 i.e., 2x109 liters per person per year, and a further drop to 1480 m3 is expected in the next decade due to increase in the population coupled with no further augmentation of water resources and also its consequent decrease over the same time due to consumption. India will reach a state of water stress before 2025 when the availability falls below 1000 m3. (Jhonson,A.C. et.al 2015)This clearly indicates the 'two–sided' effect on water resources the rise in population will increase the demand for water, leading to its faster withdrawal, which in turn would reduce the recharging time of the water tables. As a result, availability of water is bound to reach critical levels. This makes it imperative to draw up appropriate plans and strategies to conserve our water resources and optimum utilization of water from the various water sources.

Groundwater Exploitation

Groundwater is being used in India since the Vedic times, for over 6,000 years. Today, India has 16per cent of world's population and only 6 per cent of world's water resources and 2.5 per cent of world's land (Kambale,J.B. et.al 2015).The annual precipitation in India is estimated to be 4000Bm3, the southwest monsoon being the major contributor (3000Bm3). The major and medium river basins contribute over 90 per cent of the total runoff in the country. The Indo- Gangetic planes have enormous amount of water, but the current method of utilization is not appropriate. Of the total water potential of 1869Bm3, only 1122Bm3 can be put to beneficial use. Out of this, 690Bm3 is surface water and 432Bm3 is replenishable groundwater (Ministry of Water Resources 1998). Currently, total water use (including ground water) is 634 Bm3, of which 83per cent is for irrigation. The demand for water is projected to grow to 813 Bm3 by 2010, 1093 Bm3 by 2025 and 1447 Bm3 by 2050, against utilizable quantum of 1123 Bm3. Clearly, there will be a considerable gap between the water need and availability in next few decades.

Climate change can have profound effects on the hydrologic cycle through precipitation, evapo-transpiration, and soil moisture with increasing

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temperatures. The hydrologic cycle will be intensified with more evaporation and more precipitation. However, the extra precipitation will be unequally distributed around the globe. Some parts of the world may see significant reductions in precipitation or major alterations in the timing of wet and dry seasons. Information on the local or regional impacts of climate change on hydrological processes and water resources is becoming more important

(Falendra Kumar Sudan 2010). The effects of global warming and climatic change require multi-disciplinary research, especially when considering hydrology and global water resources and an attempt was made to analyze the "Analysis of Climate Change on Groundwater Resources in India" with the following

Objectives

1. To understand the groundwater availability in India.
2. To analyse the demand for water in India.

Hypotheses

The following hypotheses were tested in the course of the study

1. There is no significant difference in performance between groundwater availability and net groundwater availability
2. There is a positive relationship between annual replenishable groundwater resources and annual groundwater draft.

Collection of Data

This study was based on secondary data resources. Secondary data was collected for the latest census availability i.e.; 2011. The National, State and District level data on groundwater resource availability and utilization of groundwater were collected from the Directorate of Economics and Statistics, Central Groundwater Board (CGWB), Ministry of Water Resources, Government of India Report, Indian Metrological Department, Tamil Nadu Metrological Department, District Statistics Office, Census of India 2011. Statistical tools like regression,description, and chi-square were used to achieve the stipulated objectives. The projected demand water for uses upto 2025 has been calculated as the difference between annual replenishable groundwater resources, Net groundwater availability, annual groundwater draft and groundwater availability for future,. The study period were analysed for the water year census 2011.

Population and Water Availability in India

Population in India has expanded rapidly during last century putting tremendous pressure on scarce natural resources. Environmental deterioration and ecological imbalance was also rapid. Issues of climate change on our depleting water resources. Availability of clean water is a human need and should be a right too. Scientists, intellectuals and academicians are increasingly discussed about climate change and environmental issues from global perspective as also analyzing policy changes put into force by various governments to positively address the issue.

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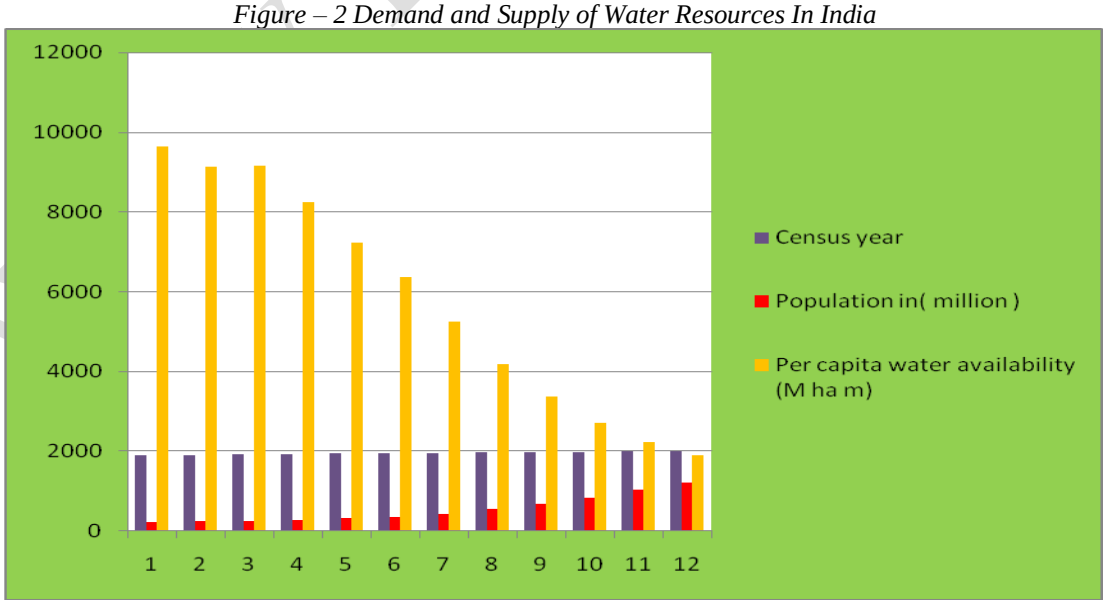
Table-1 Demand And Supply Of Water Resources In India

Census Years	Population (Million)	Decadal Growth (%)	Progressive Growth Rate Over 1901(%)	Percapita Water Availability($m^{3)}$
1901	238.4	-	-	9652
1911	252.1	5.8	5.8	9127
1921	251.3	-0.31	5.4	9156
1931	279.0	11.0	17.0	8247
1941	318.7	14.2	33.7	7220
1951	361.1	13.3	51.5	6372
1961	439.2	21.6	84.3	5239
1971	548.2	24.8	129.9	4197
1981	683.3	24.7	186.7	3368
1991	846.4	23.9	255.0	2719
2001	1028.7	21.5	331.5	2236
2011	1210.0	17.6	407.5	1902

Source: CGWB, (2016).

India's finite and fragile water resources are stressed and depleting while population had been growing rapidly. Population growth was the key to the whole equation of water availability and its use because of the fact that India's population had grown four fold over the past 70 years. The population of India which at the turn of the twentieth century was around 238.4 million increased to reach 1210 million at the dawn of the twenty first century. The population of India as recorded at each decennial census from 1901 had grown steadily except for a decrease during 1911–1921. Decadal growth of population from 1901 was shown in Table 1 .Table 1 showed that per capita water availability was reducing with population growth. The water per capita in India was over 6000m^3 per annum in 1951; it is now stands at about 1902m^3 per capita. With every increase in population there was corresponding decline in per capita availability of water. Estimated, population of India would be around 1.5 to 1.8 billion in 2050. The per capita availability of water will then be around 1200m^3 year; consequently effective water management in India was of greater urgency than in most of other countries. Consequently effective water management in India is of greater urgency than in most of other countries.

Figure – 2 Demand and Supply of Water Resources In India

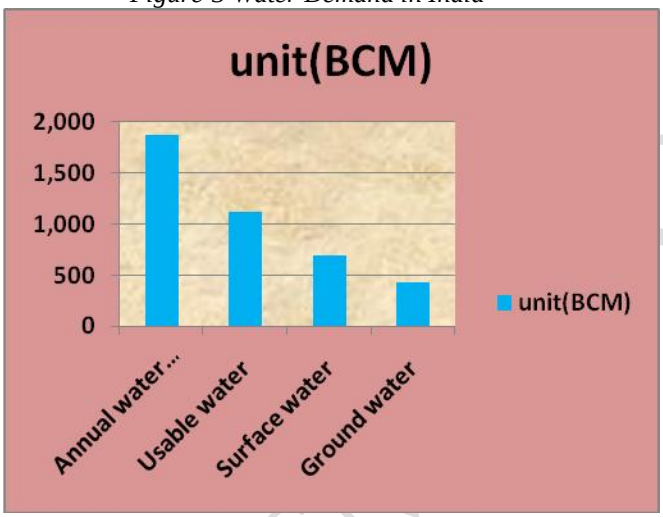


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Land, Population and Water Resources in India

Several studies indicate increase in surface temperature following industrialization, population increase and urbanization, declining forest cover, mining, etc. For a country depending on monsoons for successful agricultural activity, it was a saving grace that there was no considerable change in rainfall pattern for the Indian sub-continent as a whole. However, at several places changes in rainfall pattern had been seen and reported. It was worth noting that developing countries like India were in a sort of bind regarding issue of climate change.

Figure-3 Water Demand in India



Groundwater Development Status in India

Ground water resources in the country are assessed at different scales within districts, such as blocks/mandals/talukas/watersheds. Ground water development is a ratio of the annual ground water extraction to the net annual ground water availability. It indicates the quantity of ground water available for use. Below compares the level of ground water development in the country over the past two decades.

Table – 2 Details Of Groundwater Development Status In India

SI.NO	Level of ground water development	Explanation	% of districts in 2011
1	0-70% (Safe)	Areas which have ground water potential for development	71
2	70-90% (Semi Critical)	Areas where cautious ground water development is recommended	10
3	90-100% (Critical)	Areas which need intensive monitoring and evaluation for ground water development	4
4	>100% (Overexploited)	Areas where future ground water development is linked with water conservation measures	15

Sources: Central Ground Water Board (2016)

The level of ground water development was very high in the states of Delhi, Haryana, Punjab and Rajasthan, where ground water development was more than 100 per cent. In these states, the annual ground water consumption was more than annual ground water recharge. In the states of Himachal Pradesh, Tamil Nadu and Uttar Pradesh and the Union Territory of Puducherry, the level of ground water development was 70 per cent and above. In rest of the states, the level of ground water development was below 70 per cent. Over the years, usage of ground water had increased in areas where the resource was readily available. An increase in overall ground water development was from 58 per cent in 2004 to 62 per cent in 2011.

Figure2. Groundwater Development Status in India

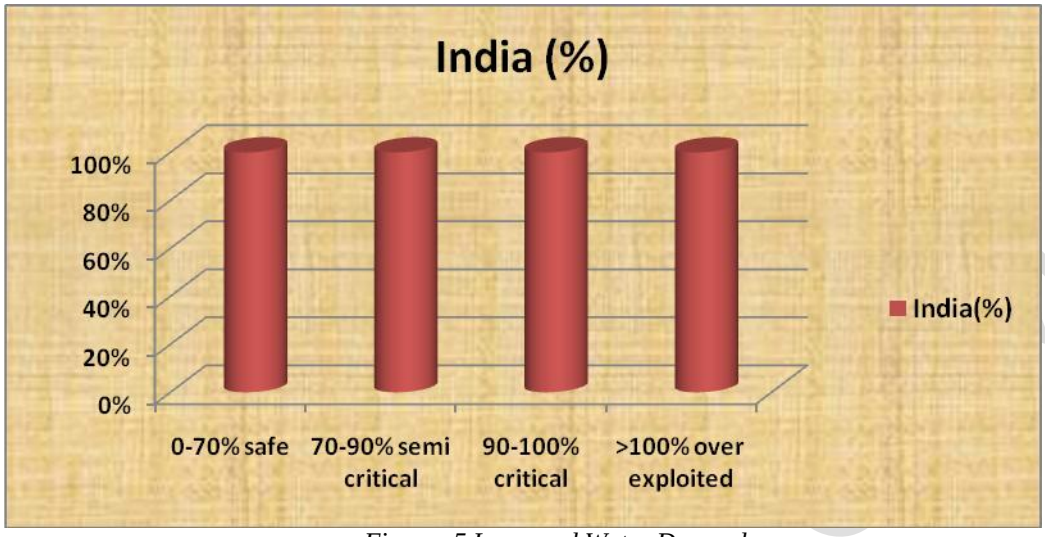


Figure -5 Increased Water Demand

The demand of water for the irrigation, industry and municipal uses are increasing day by day. The population of the country was about 121 crores in 2011 and 150 crores in 2025. The demand of municipal water supply will increase from 3.5 M ha m in 2011 to 5.2 M ah m in 2025.The irrigated agriculture had to expand considerably in order to increase the food grain production to the required level of about 300 Mt in 2011 and about 400 Mt by 2025. The demand of water for the same will go up to 67.0 M ha m in 2011 and 77.0 M ha m in 2025. The following table 5 presented the per capita water availability in the world and in selected countries.

Table-3 Per Capita Water Availability In Selected Countries

S:No	Country	M^3/person/year
1	World	7,000
2	USSR	20,000
3	USA	10,000
4	China	2,500
5	India	2,200

Source: CGWB, (2016)

Figure 4. Per Capita Water Availability in Selected Countries

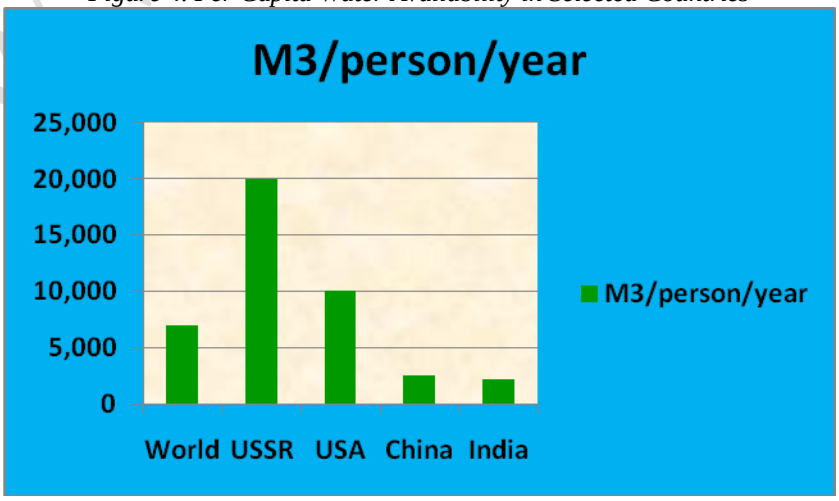


Table-4 Regression Analysis of Total Water Irrigation In India

S.No	Dependent Variable	Intercept	Co-efficient of (X_1)	Co-efficient of trend value (X_2)	R^2
1	Water use in Irrigation by India(Y_1)	1.5813 (.1526)	**0.2317*** (0.0329)	**-0426*** (.0059)	0.6256
2	Water use in Irrigation by Tamil Nadu(Y_2)	1.2718 (.1619)	**0.1176*** (0.0259)	**-0354*** (.0058)	0.7131
3	Total water use in Irrigation(Y_3)	2.8531 (.4118)	**0.3162*** (0.4216)	-0.0584 (0.0213)	.6013

Note: Significant at 1 per cent level of significance $X_{1\ is}$ the water available time T and X_2 is the time variable at t value.

The regression analysis to explain the variation in the water is for irrigation by both the places Tamil Nadu state and Coimbatore district. Here, we have the availability of water and time trend values as the explanatory variables. The estimates of the regression are given in table 7. It is clear from the regression estimates that the impact of both the variable of water use in irrigation is insignificant. The impact of total water availability of water had a positive and significant impact on water utilization for irrigation. Though, there may be no direct relationship in any particular year. The co-efficient of trend is negative and significant.

Table-5 Estimates of Linear Trend Equation 2011-2025

S.No	Dependent Variable	Intercept	Co-efficient Time	R^2
1	Water Availability in Tamil Nadu	4.0221	-0.03836 (.0425)	0.0462
2	Water Availability in Coimbatore	1.0052	-0.0121 (0.0083)	0.0620
3	Total Availability	5.0273	-0.06057 (.0484)	0.0573
4	Water use in Irrigation in Tamil Nadu	1.7642	**-0.03369***	0.4012
5	Water use in Irrigation in Coimbatore	1.5912	**-0.02104*** (0.0084)	0.2471
6	Total water use in Irrigation	3.3554	**-0.0579*** (.01514)	0.4029

*(i) indicates significant at 1 per cent level of Significance (ii) values in the brackets are the standard error of the Co-efficient

It is clear from the table 8 that the availability of water for both the Tamil Nadu State and Coimbatore district shows wide fluctuations. The availability of water is mainly determined by the run-off in the catchment area and carry-over stock. Thus, the availability of water and hence use of water in Irrigation for both places Tamil Nadu and Coimbatore district change with time. In order to discern the trend in the availability of water and use in Irrigation by these Tamil Nadu and Coimbatore, we have fit a simple linear trend equation. The estimates of the trend equation are given in above table. The estimated results of the trend equations showed that the trend co-efficient of water availability in Tamil Nadu state and Coimbatore district is negative and statistically insignificant. The trend co-efficient of water use in Irrigation Tamil Nadu state and Coimbatore district, total water use Irrigation is negative and statistically significant at 1 per cent level of significance. This indicated a declining trend in the water use in Irrigation. It needs to be explained that this decline in the water use in the Irrigation is in spite of no change in the average availability of water in both the places. Moreover, this marginal decline per year in the water use in Irrigation by the Tamil Nadu is higher than that of the Coimbatore district.

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Table-6 Regression Analysis of Total Water Irrigation in Tamilnadu

S.No	Dependent Variable	Intercept	Co-efficient of (X_1)	Co-efficient of trend value (X_2)	R^2
1	Water use in Irrigation by Tamil Nadu(Y_1)	1.2718 (.1619)	**0.1176*** (0.0259)	**-0354*** (.0058)	0.7131
2	Water use in Irrigation by Coimbatore(Y_2)	1.1317 (.1518)	**0.1009*** (.0259)	**-.0191*** (.0065)	0.5567
3	Total water use in Irrigation(Y_3)	2.4025 (.3029)	**0.1176*** (0.476)	-0.0542 (0.023)	.6756

Note: Significant at 1 per cent level of significanceX_1 is the water available time T and X_2 is the time variable at t value.

The regression analysis to explain the variation in the water is for Irrigation by both the places Tamil Nadu state and Coimbatore district. Here, we have the availability of water and time trend values as the explanatory variables. The estimates of the regression are given in table 9. It is clear from the regression estimates that the impact of both the variable of water use in Irrigation is insignificant. The impact of total water availability of water had a positive and significant impact on water utilization for Irrigation. Though, there may be no direct relationship in any particular year. The co-efficient of trend is negative and significant.7

III. CONCLUSION

Climate change is expected to exacerbate current stresses on waterresources resulting from population growth, economic factors and landuse changes, including urbanization. On a regional scale, mountainsnow packs, glaciers and small ice caps play a crucial role in freshwateravailability. Widespread mass losses from glaciers and reduction in snowcover, reported in recent times, are projected to accelerate throughoutthe 21st century, reducing water availability, hydropower potential,and changing seasonality of flows in regions supplied by melt waterfrom major mountain ranges, where more than one-sixth of the worldpopulation currently lives. Runoff is projected with high confidence toincrease by 10 to 40% by mid-century at higher latitudes and in somewet tropical areas, including populous areas in East and South-East Asiadue to increase in rainfall and lower rates of evapotranspiration. Also,it is projected to decrease by 10 to 30 per cent over some dry regions at mild attitudesand dry tropics, due to decrease in rainfall and higher ratesof evapotranspiration. There is also high confidence in the projectionthat many semi-arid areas will suffer a reduction in water resourcesdue to climate change. Drought-affected areas are projected to increasein extent, with the potential for adverse impacts on multiple sectors,including agriculture, water supply, energy production and health.Regionally, large increase in irrigation water demand is projected as aresult of climate change.In Asia, it is estimated that the mean continental surfacetemperatures increased by approximately 0.7°C over the 20th centuryand a further warming of 0.2-0.5°C per decade is predicted for 2070-2100. This rise in surface air temperatures is expected to significantlyaffect terrestrial hydrology, an integral part of climate system. One ofthe most severe consequences of climate change will be the alteration of the hydrological cycle, and this in turn, will affect the quantityand quality of regional water resources. Since hydrologic conditionsvary from region to region, the influence of climatic change on localhydrological processes will likely differ between localities, even underthe same climatic scenarios. Studies in recent years have shownimportant regional

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water resources vulnerabilities to changes in bothtemperature and precipitation patterns. It is primarily at the local andregional scales that policies could be evolved and technical measurescould be taken to avoid or reduce the negative impacts of climaticchange on the natural environment and society. Understanding thepossible impacts of climate change on water resources is of utmostimportance for ensuring its appropriate management and utilization.

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EMPOWERMENT OF WOMEN RURAL IN INDIA BASED ON SELF HELP GROUP

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I. INTRODUCTION

Women empowerment is the buzz word now-a-days. No country can afford development without considering women, who constitute nearly half of the human capital in the country. Women are an integral part of every economy. All round development and harmonious growth of a nation would be possible only when women are considered as equal partners in progress with men. They are still most deprived and neglected section of the society despite the constitutional guarantee for equal rights & privileges for men & women. Women continue to be victims of a process of economic social, cultural & political marginalization. So the concept of empowerment as a goal of development projects & programs has been gaining wider acceptance. Empowerment can serve as a powerful instrument for women to achieve upward social & economic mobility as well as power & status in society. It is a source of mobility, equality, both at the individual level and at the societal level. Gender development constitutes an important part of development in this content.

Concept of Self Help Group

The concept of self help groups had its origin in the co-operative philosophy and the co-operators by and large, including the National Federations in the credit sector, could not think of any better SHG than a primary co-operative credit society itself.2 As SHG are small and economically homogenous affinity groups of rural poor, they are voluntarily coming together for achieving the following.

1. To save small amount of money regularly.
2. To mutually agree to contribute a common fund.
3. To meet their emergency needs.
4. To have collective decision making.
5. To solve conflicts through collective leadership mutual discussion.
6. To provide collateral free loan with terms decided by the group at the market driven rates

Today, the self help group movement is increasingly accepted as an innovation in the field of rural credit in many developing countries including India to help the rural poor considered a vehicle to reach the disadvantaged and marginalized section, which in the normal course cannot avail of credit facility from the bank. A self help group is defined as a group consisting of people who have personal experience of a similar issue or life situation, either directly or through their family and friends. Sharing experiences enables them to give each other a unique quality of mutual support and to pool practical information and ways of coping. Self help groups are small informal association of the poor created at the grass root level for the purpose of enabling members

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to reap economic benefits out of mutual help solidarily and joint responsibility. Self help groups are formed voluntarily by the rural and urban poor to save and contribute to a common fund to be lent to its members as per group decision and for working together for social and economic uplift of their families and community. A self help group is defined as a "self governed, peer controlled information group of people with similar socio-economic background and having a desire to collectively perform common purpose." Self help group have been able to mobilize small savings either on weekly or monthly basis from persons who were not expected to have any savings. They have been able to effectively recycle the resources generated among the members for meeting the productive and emergent credit needs of members of the group.

Review of Literature

Micro finance, SHG and women Empowerment is a subject that has received growing research attention in recent years. Several organizations have promoted SHGs taking up the philosophy and approach of successful experiments of extending credit to poor women. Since the early 1980s, a large number of studies have been undertaken so far by social scientists, financial institutions and agencies, which highlight the strengths and weaknesses of SHGs, positive trends and impact of self help groups on empowerment, credit accessibility and social change examined the various dimensions of micro finance programmes and women empowerment. Several international organizations like Action – Aid UK, CGAP (Consultative Group to Assist the poorest), and overseas development Authority have conducted case studies and organized workshops in various countries. The workshops had looked mainly into the experiences of different countries and the impact of the micro finance programmes in a cross-cultural perspective. Other sources of information include published and unpublished materials including materials from the Micro-credit Summit (February 1997 and 2001).

Pattanaik (2003), in her study reveals that SHGs are continuously striving for a better future for tribal women as participants, decision makers and beneficiaries in the domestic, economic, social and cultural spheres of life. But due to certain impediments like gender inequality, social exploitation and physical and mental torture for which various SHGs are not organised properly and effectively. Ranjula Bali Swain (2007) stated that if SHGs in India work positively in the process of women empowerment and NGOs provide support in financial services there will be a positive impact on women empowerment. Susy Cheton, Lisa Kahn in their article titled “Empowering women through micro finance” stated that micro finance has the potential to have a powerful impact on women‟s empowerment. Sonia Chawla in her paper “Micro Finance: A tool for Poverty Alleviation” tries to analyze the role of micro finance in poverty alleviation and it also highlights that rural people have very low access to institutional credit from commercial bank in India. Asha Sharma discusses in her research paper “SC/ST Employment Guarantee: Women‟s empowerment in rural India by MGNREGA” on the SC/ST women in Rajnandgaon, Jhabua, Mayurbhanj and Cuddralore and their economic empowerment and found that high poverty rate is the significant obstacle in attaining empowerment among SC/ ST women in rural India. S.Thangamani, S.Muthuselvi in their article titled "A Study on Women Empowerment through Self- Help Groups with Special Reference to Mettupalayam Taluk in Coimbatore District" stated that participation of women in Self Help Groups (SHGs) made a significant impact on their empowerment both in social and economical aspects. Sibghtullah Nasir in “Micro finance in India: Contemporary Issues and Challenges,” a working paper tries to outline the

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prevailing condition of micro finance in India and tries to give some suggestions to outcome the issues and challenges associated with micro finance in India. Dr. Shuchi Loomba, in her paper on „Role of micro finance in women empowerment in India" stated that micro finance scene is dominated by self help groups as a mechanism for providing financial help to the poor. According to her paper the aim of micro finance is to empower women who traditionally lack of access to banking and related financial services.

Micro Finance and Women Empowerment

Some evaluations paint a positive picture of the impact of credit programs on women"s lives (kabeer 2001). Access to savings and credit can initiate or strengthen series of interlinked & mutually reinforcing „virtuous spirals" of empowerment (Mayoux, 2000). The first set of assessments point out that women can use savings and credit for economic activity, thus increasing incomes and assets and control over their incomes and assets (Mayoux, 2000). Rahman (1986) established that "active" women loanees had higher consumption standards and a role in household decision – making, either on their own or jointly with their husbands, than „passive" female loanees. Both in turn had significantly higher consumption standards and were more likely to take part in household decision-making than women from male loanee households or from households who had not received credit. Similarly, Self help groups through micro credit have an important role in lessening the vulnerability of poor by creating assets, income and consumption smoothing, providing emergency assistance, and empowering and making women confident by giving them control over assets and increased self-esteem and knowledge. During the South East Asian economic crisis, self help groups proved to be important cushions and safety nets; a high proportion of the funds made available for self help micro credit schemes were utilized by women, facilitating them to meet the subsistence requirements of their families during those hard economic times (ESCAP 2002). Another group of evaluations have tried to establish that economic contribution may increase their role in economic decision making in the household, leading to greater well being for women and children as well as men (Mayoux, 2000). A study by "Pitt and Khandker" (1995) in exploring the impact of female membership of credit programs found that women"s preferences carried greater weight in decision making out comes including the value of women"s no land assets, the total hours worked per month for cash income by men and women with in the household; fertility levels, the education of children as well as total consumption expenditure. It has also been studied that women"s increased economic role may lead to change in gender roles and increased status within households & communities (Mayoux, 2000). The IFAD gender mainstreaming review has reported gains in self confidence and self-esteem amongst the women, enhanced capacity to articulate their needs and an increased respect in the household (IFAD, 2002). (Yunus 2002) shows there can be a synergistic convergence of inputs (micro insurance, health services, non formal education and inputs on nutrition) in "micro-credit plus" programs. A few attempts to link micro-credit with HIV/Aids programmes have been reasonably successful (UNDP 1999). The newly set up pension fund of the Grammen Bank II is apparently quite successful.

Socio-Economic Empowerment of Rural Women In India Through SHGS

In Vedic period women enjoyed equal status and rights with the males. But in medieval India women became the inferior sex with the entrance of Muslims. During this period several evil practices like female infanticide, sati, Devadasi tradition and child marriage were in practice. In-spite of some great-women rulers, position of women in India did not change. Women status got slightly uplifted in the

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modern era, during the British period. They intro¬duced education system for women, which made the emergence of various female writers (womenempower-mentinindia.com).

Government of India had declared the year 2001 as the "Women's Empowerment Year", with focus of women's equal status with their partners. SHGs grew to become a powerful instrument in alleviating poverty and empower¬ment of women in rural economy. They created awareness in self-employment, entrepreneurial development and well-being of women.

A study held that the NGOs in India played an inter¬mediary role to the Government in rural developmentand many SHGs in rural areas have improved the socio-economic conditions of the rural families. Banks with the help of NGOs and SHGs can reach out the needy with a small amount of credit as loans without having the fear of non-performing assets. Another study also confirm that SHGs through their network with commercial banks, co-operative banks, regional rural banks, NABARD and NGO's have improved the financial services to the poor and uplifted their status in the society. Thus SHGs are important to increase gainful employment. A study about SHGs in India, observed that about 59% of the sam¬ple households registered an increase in assets and 47.9% moved above the poverty line from pre-to-post SHG situ¬ation. Thus Social empowerment was evident in terms of improvements in members' confidence level, treatment within the family, communication skills and other behavioural aspects. Three dimensions of women empowerment namely economic, social and political was mentioned. Women have lesser decision making power in their day to day life. This situation is changing because of SHGs and its micro enterprises. Another studystates that 60% of the women take up economic activities related to agri¬culture and allied activities. A systematic and planned approach in bringing the positive imagery of women in India was given in a study. There was a huge improve¬ment in women's control over their savings, credit and income. NGOs also play equal role with the government agencies in improving the facilities for women. There is a positive function of banking habits through SHGs MF (Micro-Finance) programmes. Development of sav¬ing habits among the rural people and poor, paving ways for better technology and access to various promotional assistance was identified. Education and literacy rates of women contribute hugely, and help women reach their full potencies and become empowered.

SHPIs (Self-Help Group Promoting Institutions) which primarily include NGOs, banks, and Government officials link poor with SHGs. This program arranges training, regular meetings, frequent loan repayment installments and savings. Healthcare, basic literacy, family planning, marketing and occupational skills are also included in this program. Women are empowered and her bargaining power of allocating resources within household is increased by increasing her monetary income and the value of time. Increase in monetary income leads her to invest in educa-tion, housing and nutrition for children. Frequent group meetings organized by SHGs give women an opportunity to break out of the daily routine and enable problem shar¬ing among themselves. This paves way for analysing the root cause and go beyond the individual faults. This group interaction creates a platform where personal problems are discussed as social patterns and the negative emotions may be blamed on the environment than the self. The interac¬tion with women both within and with the other members of the SHGs increases the confidence level and exposure to articulate and pursue her interests. Better communication, improved networking and greater mobility also contributes for women empowerment. Social pressures on women have high impact in her

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decision making. Interaction of SHPIs and SHGs encourages women to actively participate in public activities, strengthen their ability to pursue their interests in society and local politics. Women are also empowered by the increase in female representation in local governments. Women's empowerment is not just an outcome, but a process. Social statuses of women have changed and their eco¬nomic status have also improved. Economic activities like income, expenditure and savings of SHGs are quite successful. Micro credit check through SHGs plays a major role in the overall development of rural women. Women have creative ability, easy adaptability and ability to cope with setbacks.

Conclusion

Women constitute nearly half of the world's population. But how many women have any idea on empowerment? In India, majority of our population live in rural area and women living in rural India have no idea about the importance of women's empowerment as they are not properly educated. Women have been playing an important role for the socio-economic development of the society since time immemorial. They are considered as the back bone of a family. But women in particular often bear the brunt of poverty and limited access to economic opportunities, including unfavourable financial access. Thus it is very important to empower the rural women through self-help groups for economic development. From the study, it is found that micro finance through self-help group is helping the poor and upgrading women empowerment by making them financially strong. SHGs have increased their habit of savings and investment in some developmental activities. Thus it is universally accepted that SHGs and Bank linkage programme has profound influence on the economic status, decision making process and level of dependence of women in India.

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SPATTERNS OF UTILIZATION OF HEALTHCARE SERVICES IN TAMIL NADU

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I. INTRODUCTION

Utilization of health care services is referred in terms of 'realized access' to health care and it is the resultant process of interaction between supply side and demand side factor. With respect to the demand side, utilization of health care services is identified by the ways in which individuals respond to ill health and disease. On the supply side, the health care market is characterized by a mix of public and private health care providers. Most importantly, equity of access to health care is measured by utilization of health care services. Research has shown that various socio-economic factors such as status of women, age, sex, availability of insurance, perceived quality of care and the patient's perception of the severity of illness influence utilization of health services considerably (Nyamongo 2002; Lawson 2004; Russell 2005; Chuma et al., 2007). Further, limited availability of health-care professionals and resources compounds the problem relating to access and utilization of the health services. Research also suggests that poor accessibility to health care utilization pushes many families to medical poverty trap (Whitehead 1992).To achieve equity in health status, public health expenditure can be used as a policy instrument (O Donnell et al., 2007). However, Report of Planning Commission (2012) on health for 12th Five Year Plan reveals public health spending has been very low over the past decade and the gap is filled by private expenditure. Therefore, a major challenge faced by a developing country like India is to increase the level of public expenditure to achieve equitable distribution of health care services.

There has been a substantial increase in research concerning health inequalities and in particular choice of health care providers in response to the government's policy decision on achieving Universal Health Coverage by 2022. Visaria and Gumber (1994) have examined the utilization pattern of selected health care services in the states of Maharashtra and Gujarat, with the help of the NSSO data. They found that the proportion of the number of births reported at government hospitals to all hospital-based births declined as the monthly per capita expenditure of the household increased. Thind et al., (2008) have studied the determinants of home, private and public sector utilization for maternal delivery in Maharashtra using the NFHS (1996) data. The analysis found that maternal and paternal education, lower social status and media exposure were the statistically significant predictors of the choice of public versus private facility delivery. Also, at the national level, number of studies has been carried out to examine the utilization of health care services and household expenditure. But, there is a scanty of studies in some of the states including Tamil Nadu. Moreover, to set priorities for the allocation of scarce resources for the various health programmes, it is useful to understand the pattern of utilization of health care services at the state level.

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Health Indicators of India and Tamil Nadu

Tamil Nadu is one of the high-performing states in the area of human development and the state is noted for its low mortality rates and effective healthcare services. Infant Mortality Rate of the state is 21 whereas Maternal Mortality Rate, Total Fertility Rate and Crude Birth Rate are 90, 1.7 and 15.6 respectively which are lower than the National average. Moreover, per capita health expenditure of the state is better than all India level (Table – 1).These indicators explain the effectiveness of the health system in the state and imply that the entire population has better access to health care services. But the Report of National Commission on Macroeconomics and Health (MoHFW 2006) has observed that state governments' expenditure on health as a percentage of total budget expenditure has been declining over the last decade.

Table – 1: Selected Health Indicators of India and Tamil Nadu

Table – 1: Selected Health Indicators of India and Tamil Nadu

Indicator	**India**	**Tamil Nadu**
Total population (Census 2011) (in crore)	121.01	7.21
Infant Mortality rate (per 1,000 live births)	40	21
Maternal Mortality Rate (per 100,000 live births)	178	90
Total Fertility Rate (per 1,000 women)	2.4	1.7
Crude Birth Rate (per 1,000 people)	21.4	15.6
Crude Death Rate (per 1,000 people)	7	7.3
Per capita Health Expenditure (in Rs.)[#]	1201	1256

Source:*Rural Health Statistics, M/O Health & F.W., GOI*
[#] National Health Accounts: 2004-05

In this context, a study on total use of health care services includingnumber of ailments reported, persons hospitalized, ailment treated through different types of treatment and levels of care in rural and urban areas of the state would help us to understand the equity of overall access to health care.An attempt also has been made to examine utilization of maternal delivery services by analyzing place of childbirth and expenditure on institutional childbirth. This study mainly uses the information on health care utilization provided by 71st National Sample Survey data.It collected information on Inpatient and outpatient care for a reference period of 365 days and 15 days, respectively.

Level of Morbidity

Studying morbidity patterns at the state level will be useful for planning and implementing appropriate health programmes for the targeted population. In this study, estimated proportion of ailing persons (PAP) per 1000 living persons during 15-day reference period is used as a measure of morbidity rates. With this conceptual framework, the study was planned with the purpose of identifying the reported morbidity profile for some broad age groups living in the rural and urban areas of Tamil Nadu relative to the all India PAP. From Table – 2, it can be inferred that the PAPs were found to be higher for children (0 - 14 age group) and much higher for the higher age groups (i.e., above 45 years) in both the sectors of the state and same kind of trend can be witnessed at the all India level. In fact, PAP for the age bracket 30 – 44 years is higher than the age group of children for both rural and urban areas of the nation but at the regional level, only urban sector follows national trend. Further, it could be seen that there are rural – urban differentials at the state and national level which probably indicates higher health consciousness and subsequent improvements in self - reporting of ailments among the informants of urban population. Moreover, morbidity rate of the state is higher than all India figures for both the areas.

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Table – 2: Number of ailments reported per thousand persons (PAP) during the last 15 days

PAP for age-group		0-14	15-29	30-44	45-59	60-69	70+	All
Tamil Nadu	Rural	121	48	111	234	335	298	146
	Urban	109	61	140	306	551	487	184
India	Rural	67	46	77	135	259	306	89
	Urban	81	48	98	206	355	373	118

Source: Compiled from NSSO 71st Round (January – June 2014)

Table – 3 reveals number per thousand of persons hospitalized for rural and urban areas of the country and the state, separately. Medical treatment of an ailing person as an inpatient was considered as hospitalized treatment (NSSO 71st Round). It is seen that the proportion of persons hospitalized in rural areas is lower than urban areas of the state as well as for the nation. The table also reveals estimated proportion of hospitalized persons was higher in Tamil Nadu than all India figures for both rural and urban sectors. Another interesting pattern observed is that the number of persons hospitalized in rural Tamil Nadu is higher than urban India

Table – 3: Number per thousand of persons hospitalized

Hospitalized cases		per 1000 no. of persons reporting ailment	per 1000 no. of persons hospitalized
Tamil Nadu	Rural	146	57
	Urban	184	59
India	Rural	89	44
	Urban	118	49

Source: Compiled from NSSO 71st Round (January – June 2014)

Utilization of Health Care Services

Utilization of health care services depends on the availability of quality health care services and on the ability of the people to utilize the health services effectively. India's health care system is characterized by a pattern of mixed ownership and with different systems of medicine - Allopathy, Ayurvedic, Unani, Siddha and Homoeopathy. At all-India and state level, the use of allopathy was the most preferred type of treatment for hospitalized cases in both the rural and urban areas (Table – 4). The strong preference for the allopathic system of medicine has been well established by a number of other surveys as well (NSSO 42nd Round). As far as untreated illness is concerned, it is interesting to note that in the state of Tamil Nadu, the percentage was found to be lower for rural females than for the rural males. Even though there is no major gender discrimination in the utilization of allopathic treatment, only about 1 – 3 per cent of 'other' (including AYUSH) type of treatment has been reported in the rural region of the state for both male and female. However, marginally higher utilization pattern of 'other' type of treatment was found in both the sexes of urban Tamil Nadu.

Table – 4: Percentage of spells of ailment treated through different types of treatment

Types of treatment		Male			Female		
		Allopathy	Other*	None	Allopathy	Other*	None
Tamil Nadu	Rural	93.6	1.3	5.1	95.4	2.2	2.3
	Urban	93.5	5.0	1.5	93.3	4.4	2.3
India	Rural	90.6	5.3	4.1	88.7	7.3	4.0
	Urban	90.4	6.8	2.8	91.0	6.5	2.5

***** *includes Ayurveda/Yoga or Naturopathy/Unani/Siddha/Homeopathy*
Source: *Compiled from NSSO 71st Round (January – June 2014)*

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The share of public and private provider in treatment of ailments is given in Table – 5. Private providers of healthcare include private doctors, nursing homes, private hospitals, charitable institutions, etc. On the other hand, the public healthcare sources include government hospitals, clinics, dispensaries, Health Sub Centres (HSCs), Primary Health Centres (PHCs), Auxiliary Nurse Midwives (ANMs), Accredited Social Health Activist (ASHA), *Anganwadi worker*,Community Health Centres (CHCs), Mobile Medical Unit (MMU) and ESI hospitals (NSSO 71st Round). The results indicate that in Tamil Nadu and at national level, private providers' are the most preferred choice of the surveyed population for seeking treatment for the reported illness. Even though, public health care infrastructure is impressive in the state but it does not seem to have resulted in an increased proportion of utilization of public health care facilities. This may partly be due to the presence of vibrant private health care network in the state. Moreover, there is no significant gender discrimination in Tamil Nadu in the choice of private health facility as well as in the utilization of public health facilities but it is otherwise in the case of all India figures.

Table – 5: Per 1000 distribution of spells of ailment treated over levels of care

Levels of care	**Male**				**Female**			
	HSC, PHC / others*	Public hospital	Private doctor/ clinic	Private hospital	HSC, PHC / others*	Public hospital	Private doctor/ clinic	Private hospital
Tamil Nadu	71	272	225	432	68	278	237	416
India	79	164	513	243	90	174	497	239

***** *includes ANM/ASHA/AWW/dispensary/CHC/MMU*
Source: *Compiled from NSSO 71st Round (January – June 2014)*

Inpatient utilization rate is a reliable measure to study equity of access to health care as the number of days spent in the hospital is based on the illness and the need for health care. Number (per 1000) of persons hospitalized (excluding childbirth) for each gender in rural and urban areas of Tamil Nadu and rest of the country is provided in Table – 6. The survey results show that in both rural and urban Tamil Nadu, there existed sex differential in utilizing public health facilities. Similar trend can be witnessed in private health facilities of urban areas but on the other hand, rural areas do not reflect any such sex differentials.

Table – 6: Per 1000 distribution of hospitalized cases by type of hospital

Type of hospital		**Male**		**Female**	
		Public hospital	Private hospital	Public hospital	Private hospital
Tamil Nadu	Rural	213	278	191	318
	Urban	150	364	143	343
India	Rural	201	303	218	278
	Urban	165	332	156	348

Source: *Compiled from NSSO 71st Round (January – June 2014)*

Maternal Mortality Rate of the state is 90 (per 100,000 live births) which are lower than the national average (Census 2011). Itnot only explains the effectiveness of the maternal health system in the state but also implies that the female population has better access to maternal health care services.However, there exist regional variation on utilization of maternal health care services across the stateand therefore, it leads us to study utilization of maternal delivery services. Table – 7 shows the

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distribution of hospitalizationfor childbirth(per 1000 women aged 15 - 49)by level of care for the rural and urban areas at the all India and state level. As expected distribution of deliveries taken place at homes is higher in rural areas than urban part of Tamil Nadu. Dependence on government health facilities (public hospitals, HSC, PHC and others) for childbirth is higher in rural areas of the state and the central and this could be associated with the financial consideration of the rural people. The situation was just the reverse in case of urban areas wherein higher proportion of childbirth took place in private health facilities. Standard of living could be an important reason for people opting for private facility in urban areas.

Table – 7: Distribution of women (per 1000 aged 15 - 49) by place of childbirth

Place of childbirth		HSC, PHC / others*	Public hospital	Private clinic	Private hospital	At home	All
Tamil Nadu	Rural	95	540	0	307	57	1000
	Urban	37	449	0	497	17	1000
India	Rural	141	414	16	225	199	1000
	Urban	33	384	17	458	105	1000

Source: *Compiled from NSSO 71st Round (January – June 2014)*

Cost of Treatment

Health care expenditure can be classified as medical and non-medical expenditure. Medical expenditure comprise of consultation fee, drugs cost, bed charges, diagnostic test charges (X-ray/ECG/EEG/Scan), etc. On the other hand, non-medical expenditure generally includes transportation charges, food expenses, loss of income during illness and wages lost by caretaker during illness.Medical and non – medical expenditure for treatment per hospitalization case (excluding childbirth) for each gender in rural and urban areas of Tamil Nadu and rest of the country is provided in Table – 8. It has to be understood that the amount spent for hospitalized treatment would depend on the nature of ailments as well as on the type of treatment received. The table reveals that the medical and non – medical expenses for both rural and urban females is lesser than their male counterparts in Tamil Nadu as well as at the national level. It is also startling to note that in rural areas for both the sexes, medical expenses on an average have worked out to be lower in Tamil Nadu than all India average. This could probably due to the differences in the type of health facilities utilized.

Table – 8: Average medical expenditure and non – medical expenditure for treatment per hospitalization case

Average Expenditure		Male		Female	
		medical expenditure	non - medical expenditure	medical expenditure	non - medical expenditure
Tamil Nadu	Rural	13920	2397	9839	1865
	Urban	29093	2714	18115	1935
India	Rural	17528	2199	12295	1841
	Urban	28165	2286	20754	1757

Source: *Compiled from NSSO 71st Round (January – June 2014)*

While comparing the medical expenses per childbirth of different healthcare providers in Tamil Nadu and India, it is observed that the difference in average medical expenditureper childbirth between public and private hospital is quite significant (Table – 9). Medical expenses per childbirth from public health facilities of Tamil Nadu for both rural and urban areas are lesser than all India. But then, the treatment cost of private health facilities in the rural and urban areas of the state is on the higher side. Moreover, average medical expenditurefor the maternity services received from public health facilities in

urban areas of the state has worked out to be much lower than the expenses incurred in its rural areas for childbirth from private health facilities.

Table – 9: Average medical expenditure(in Rs.)for treatmentper childbirth during stay at hospital

Type of hospital		Public hospital	Private clinic / hospital	All
Tamil Nadu	Rural	325	28862	9842
	Urban	661	30132	15556
India	Rural	1587	14778	5544
	Urban	2117	20328	11685

Source: *Compiled from NSSO 71st Round (January – June 2014)*

II. CONCLUSION

The study on utilization of health services in Tamil Nadu carried out using NSSO data shows that private sector is the most important source for availing inpatient treatment and for maternity services, private hospitals are preferred over public hospitals especially in urban areas. In terms of medical expenditure, the results exhibit thatfor maternity delivery services,the amount spent in a public hospital is much lower than private sector hospital. The major issue that emerges is the lower level of utilization of public healthcare facilities in spite of its less medical expenses. But suffice to mention here that policy makers should focus more on public health services to address the weaknesses that are responsible for this kind of behaviour. Also, in view of high costs of medical care in the private sector there is a need to increase the use of public sector health services.

To achieve equity in health care utilization, special efforts need to be taken to improve the quality of functioning of public health care facilities. Conscious effort should be made to improve the reach and access of public health services for those who get excluded because of lack of awareness, low availabilityand acceptability of health services. The non economic barriers to access of public health care such as long waiting time, unhygienic environment, non- availability of infrastructure and man power need to be tackled. Exploring the possibilities of public private partnership could go a long way in rectifying the inequities observed in health care utilization and financing

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AGRICULTURAL GROWTH AND SOCIAL CHANGE: RELATIONSHIP BETWEEN EXISTENCE OF NON-AGRICULTURAL ACTIVITIES AND INCOME IN EQUALITY IN INDIA

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I. INTRODUCTION

A number of studies have shown that rural households in India derive their incomes from a variety of sources with non-agricultural activities accounting for a substantial share of total income. Despite the importance of non-agricultural activities for rural farm households, we still know little about the impact of such activities on the distribution of income and, hence, on poverty. Broadly, one may classify diversification strategies of rural households as survival-led or opportunity-led. It has been observed that poor households with low asset endowments embrace multiple livelihoods, in particular engagement in non-agricultural activities, to ensure survival. These households are forced to diversify mainly because they lack sufficient agricultural assets to sustain subsistence (Reardon & Taylor, 1996; Haggblade et al., 2005). Returns to these activities may well be below those in agriculture. At the same time, richer rural households with higher asset endowments will choose to diversify their livelihoods to maximize returns on their assets. Such activities will have at least the same returns as agricultural activities and exhibit entry barriers that the poor are not able to overcome. The existence of these two types of non-agricultural activities implies a U-shaped relationship between the share of income derived from non-agricultural activities and household wealth as well as household income. The poverty and distributional impact of non-agricultural incomes should hence be ambiguous: Survival-led engagement in non-agricultural activities should be inequality-decreasing through increasing the incomes of the poorer parts of the population and hence reduce poverty. Opportunity-led diversification, however, should increase inequality and have a minor effect on poverty, as it may be confined to non-poor households. Some authors have pointed to this ambiguity (e.g. Ferreira & Lanjouw, 2001; Haggblade et al., 2005), but only few, e.g. Elbers and Lanjouw (2001) for rural Ecuador, explicitly address the relationship between different diversification strategies, on the one hand, and poverty and inequality outcomes, on the other. This paper intends to fill this gap by providing evidence India We test for the dichotomy of the non-agricultural activities and examine their distributional consequences using household survey data from shimoga district in south Western Karnataka, that can be considered as representative for the densely populated rural areas of many parts of India.

These findings are important for two principal reasons. First, these measurements of inequality challenge the widely-held belief that India is a low-

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inequality country. Inequality of income has never been estimated with official data in India for any population or subset; all the existing estimates are of expenditure or consumption inequality. We show that there is a large difference between the two measurement concepts—income vs. consumption inequality—. Consider first the issue of the level of inequality in India, which is inseparable from the idea of "inclusive" or "pro-poor" growth—one of the declared core objectives of the Indian government (Government of India 2006). Inclusive growth implies a reduction in inequality. Yet, neither of India's two major survey systems—the decennial census and the various subject focused rounds of the NSS—have ever tried to measure income for the entire population. One consequence of this absence of income data is a widespread conflation between income and inequality.

We proceed as follows. In the first section we shortly review the theoretical literature on non-agricultural activities and their income and inequality implications. Then, we empirically analyse the rural non- agricultural economy which provide evidence on the incidence and characteristics of the non-agricultural economy in the study region. Subsequently, we present the results of the choice model and, based on this typology of nonagricultural incomes, examine the income inequality implications. We then briefly examine the relationship between the different non-agricultural activities and agricultural productivity. The last section concludes with policy implications and an outlook for future research.

Empirical analysis of the Rural Non-Agricultural Economy

The non-agricultural economy involves employment outside the realm of direct soil cultivation and cattle breeding and includes activities such as services, construction, mining, commerce, manufacturing and processing. Such activities are often pursued through self-employment, but there is also a nonagricultural wage labor market, although this market is typically small in the rural Indian context. The contribution of these activities to household income in India is substantial. Haggblade et al. (2005) observe that non-agricultural income contributes between 30 to 45 percent of rural household incomes in the India. Reardon et al. (1998) put this share at 42 percent, while Reardon (1999) gives estimates of 32 percent and 40 percent for Asia India, respectively. Low- vs. high-return activities and drivers of participation Rapid population growth and the related pressure on the natural resource base, in particular land, have been identified as major causes for the rise of non-agricultural activities in Indian sub-continent, Other driving forces are supply factors, such as technological advances and the expansion of educational attainment, as well as demand shocks, In order to understand how these variables affect the participation in and patterns of nonagricultural employment and the related incomes, it is useful to differentiate between survival-led and opportunity-led diversification into non-agricultural activities. When non-agricultural diversification is pursued to ensure survival, for example because of land constraints, it is also referred to as distress-push diversification. Such diversification will be in low-return non-agricultural activities and may be an indication that the non-agricultural sector is absorbing labor that cannot be employed in agriculture. In contrast, rural households may face new opportunities outside agriculture because of technological advances, the intensification of links with markets outside the local economy, or local engines of growth, such as commercial agriculture or proximity to an urban area. If non-agricultural income diversification can be traced back to such factors, it is also regarded as demand-pull diversification. While the aggregate prevalence of the specific type of non-agricultural diversification in a region (or country) will hence be driven by various determinants,

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household characteristics will decide on the individual household's diversification decision. Some high-return non-agricultural activities such as skilled wage employment are restricted to those with formal education. Non-agricultural diversification constitutes an important means to deal with risk and smooth income and consumption in rural areas. This is not surprising since agricultural livelihoods are often subject to great uncertainty. In such an environment, diversification aims at lower covariate risk between different household activities to smooth consumption.

Non-Agricultural Incomes And Inequality: The Model

There are limited empirical accounts of the relationship between farm households' income composition and inequality. Moreover, most existing studies do not distinguish between different types of non-agricultural activities (Subrahmanya, M. H. B. (2012). From the above discussion, it has become apparent that the equity impact of non-agricultural employment depends on the type of activity. Early work on the informal sector (Bairagya 2013) claims that, given their intrinsic characteristics, such as easy entry, non-agricultural activities will decrease income inequalities, particularly through self-employment. While low-return activities undertaken by poorer households should hence be inequality decreasing, high-return activities may well increase inequality, as they tend to reinforce asset inequalities. Accordingly, Haggblade et al. (2005) observe that because of the differing equity impact of various segments of these activities, their overall effect on income distribution remains mixed. Thus, depending on the nature and motivation of non-agricultural activity undertaken, aggregate nonagricultural earnings improve equity in some instances, while they aggravate inequality in others. This explains the differing results of empirical studies on the equity impact of non-agricultural activities. In fact, most empirical studies tend to find that non-agricultural incomes go primarily to the better-off so that higher non-agricultural incomes (as opposed to more non-agricultural income earners) are associated with higher income inequality.

Non-agricultural Activities and income Inequality

Before proceeding towards finding out the relationship between Non-agricultural Activities and income Inequality, let us have an idea about pattern of nonagricultural activities in the study area.i.e. Shimoga district of Karnataka in India. The data for our analysis come from a household survey which was conducted in shimoga district, a densely populated and poor rural area of south Western Karnataka, in the last quarter of the year 2014. In this year, shimogga district had a population of about 700,000 with a mean population density of approximately 500 persons per square kilometer. The region is considered to have good agricultural potential, yet population growth and further subdivision of land has led to land fragmentation and extremely small farm sizes in parts of the district. These developments have also caused high rates of out-migration. The survey was designed with a focus on economic activities of rural households in both agriculture and non-agricultural sectors. This focus allows for a very detailed analysis of these activities that accounts for regional specificities. Yet, it also constrains the subsequent empirical analysis to those characteristics and leaves out many social and cultural aspects that certainly play a role in determining activity choices and hence welfare outcomes. Only some of those aspects can be captured in a proximate way in the following empirical setup, for example the socio-culturally determined control over household resources. The survey used a two-stage sampling technique and covered 375 households with a total of 1950 household members, which were spread over 20 clusters. One cluster, however, was excluded from our sample as it was mainly inhabited by teachers who had been sent to the study region. Six of the

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remaining clusters were located in urban or peri-urban areas. Nevertheless, households in these clusters derive a substantial amount of their income from agriculture-related activities and therefore form part of our sample. It is important to note that this paper focuses on locally conducted nonagricultural activities. This is why non-agricultural activities, as used subsequently, exclude migration, another important diversification strategy of rural households in the region.

Table 1a. Participation of Households in Income-generating Activities

	Local non-agricultural activities						
	Agriculture	All	Low return	High return	Public employment	Migration	No remittance
Households with respective activity	314 *86.03*	214 *58.63*	166 *45.48*	73 *20.00*	26 *7.12*	90 *24.66*	4 *1.10*

Note: Column percentages provided in italics. —The total number of households is 365.
Source: Authors' calculations.

Table 1 shows the participation rates of households in different types of activities. It reveals that households in study district earn income from a variety of activities. As can be expected for a rural region, the vast majority of the households (86 percent) work at least partly in agriculture. Still, 46 percent engage in low-return and 20 percent in high-return non-agricultural activities. In addition, migration is a common phenomenon in the area. A fourth of all households reports income in the form of remittance.

Table 2 shows the participation rates in non-agricultural activities and the respective income shares by per adult equivalent expenditure quintiles. Note that the income share is calculated only for those households that engage in the non-agricultural sector. Surprisingly, participation in low-return activities is not concentrated among poor households. In fact, participation is even lowest among households in the poorest quintile, peaks in the second and third quintile, and is still around 40 percent in the two highest quintiles. Yet, despite relatively low participation, the income share derived from low-return activities is by far the highest for households in the poorest quintile. With increasing living standards, this share declines considerably. As regards high-return activities, barriers seem to effectively exclude the poorest households from such diversification strategies. Only starting from the second quintile do households pursue high-return activities. Participation in the high-return sector as well as the derived share of income then increase strongly with higher consumption levels.

Table 2. Participation in and Income Share of Local Non-agricultural Activities, by Expenditure Quintile (in percent)

Income source	Income share (%)	Gini coefficient of income source	Correlation with rank of total income	Elasticity of overall Gini coefficient
Low return	19	0.83	0.68	0.022
High return	14	0.93	0.80	0.062
Agriculture	50	0,45	0,78	-0.162
Other income	17	0.90	0.82	0.078
Total income			0.51	

Source: Authors' calculations.

Note: Other income includes income from public employment

To better understand the inequality implications of the different types of non-agricultural activities, we decompose the Gini coefficient of income inequality by income source, using the approach described in Lerman and Yitzhaki (1985) and in Stark, Taylor and Yitzhaki (1986). The decomposition allows us to determine the impact that a marginal change in a particular income source would have on overall inequality. The results are reported in Tables 2. The last column of the tables refers to the point change in

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the Gini that would be brought about by a one percent increase in the respective income source. Three additional elements are included in the result tables: The share of each income source in total income, the Gini of the income source, and the correlation of income from the respective source with a household per adult equivalent total income rank.

Policy Implications

This paper empirically confirms the existence of a dichotomous non-agricultural sector in the Indian context. Low-return activities with some but low entry barriers account for the bulk of local non-agricultural activities, while only few households have the skills and assets to engage in activities that offer higher returns. We provide evidence that involvement in such high-return activities may trigger virtuous spirals as exemplified by positive spillovers to agricultural productivity. Higher income from high-return activities consequently tends to aggravate existing inequalities, as these activities are confined to richer households. In contrast, engagement in low-return activities does not seem to affect agricultural productivity, an indication that this sector does not provide a path out of poverty. Finally, our findings suggest that some extremely poor households are even excluded from the latter activities, which makes them particularly vulnerable to shocks that frequently affect agriculture in this climatic zone. The dominance of low-return activities is possibly the finding that calls most for additional explanation. If engagement in low-return activities is driven by desperation, as implied by the concept of survival-led diversification and backed by our analysis of determinants, we would expect these activities to be pursued primarily if not exclusively by poorer households. This is not the case and, in fact, participation rates for low-return activities of richer households are comparable to those of poorer ones. One might argue that these results are owed to shimoga district being a particularly poor region, where just too many households are not able to overcome the entry barriers to high-return activities. However, we find a number of richer households in both low- and high-return activities. This may indicate that available resources cannot be employed more productively than in low-return activities and implies that households do not only face asset constraints or other types of entry barriers. Possibly, demand for non-agricultural products that are produced by high-return activities in small spatially segmented markets may just be too limited. Furthermore, the simultaneous diversification into low- and high-return activities may reflect the high risk being associated with high-return activities, which these households compensate by venturing into low-return activities. Another explanation for our observation of rich households in low-return activities might be that some individuals do only have limited access to household resources. Our empirical analysis supports this view, showing that the relevant decision unit is not necessarily the household. Of course, one has to be careful in drawing too far-ranging conclusions from findings from a specific region. In addition, the static "snapshot" character of our analysis limits its contribution towards understanding the mechanisms that would explain the emergence of either type of nonagricultural activity. Research on rural livelihoods is already trying to examine such dynamics on-agricultural sector.

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MAKE IN INDIA AND INDIAN INDUSTRY: OPPORTUNITIES AND CHALLENGES

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Abstract

'Make in India' is one of the multidimensional mission of India after Globalization. Make in India mission is one such long term initiative which will help to realize the dream of transforming India into a manufacturing hub. The major objective behind the initiative is to focus on job creation, development of manufacturing sector, to attract the foreign investment and skill enhancement in 25 sectors of the economy. The national programme aims at time bound project clearance through a single online portal which will be further supported by the eight member team dedicated to answering investor queries within 48 hours and addressing key issues including labour laws, skill development, and infrastructure. Make in India is new global reform for the second sector. This campaign by the government can be used to revitalize the public sector units and direct government operated production units like ordnance factories or rail coach factories etc. The objective of the mega programme is to ensure that manufacturing sector which contributes around 15% of the country's Gross Domestic Products is increased to 25% in next few years. The 'Make in India' initiative has made a tremendous impact on the investment climate of the country as shown by significant growth of 46% in Foreign Direct Investment (FDI) equity inflows and highest ever FDI inflows at US$ 55.5 billion in 2015-16. After the launch of Make in India initiative, India has emerged as the fastest growing major economy with GDP growth rate above 7.6% in 2015-16 and projected to grow above 7% till 2020 as per International Monitory Fund (IMF). The objective of this paper is to understand, analyse, and explain the role, opportunities and challenges of the Make in India Programme to transforming India into a manufacturing hub.

Keywords: Make In India, Manufacturing Sector, FDI..

I. INTRODUCTION

'Make in India' is one of the multidimensional mission of India after globalization. 'Make in India mission is one of the long term initiatives which help to realize the dream of transforming India into a manufacturing hub. 'Make in India' campaign launched by Prime Minister Narendra Modi on 25th September 2014 at Vigyan Bhavan, New Delhi in the presence of various Industry leaders, Business family, Cabinet ministers, Chief Secretaries of states etc in a workshop which organised by the Department of Industrial Policy and Promotion. Its symbol is a big lion equipped with a lot of Wheels. The major objective behind the initiative is to focus on job enhancements in 25 sectors of the economy. The 25 key sectors identified under the programme include automobiles, automobiles components, aviation, biotechnology, chemicals and petrochemicals, construction, Defense Manufacturing, Electrical machinery, electronic system, food processing, IT and BPM, leather, media and entertainment, mining, oil and gas, pharmaceuticals, port and shipping, railways, renewable energy, roads and highway,

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space, textiles and garments, thermal power, tourism and hospitality and wellness etc. The national programme aims at time bound project clearances through a single online portal which will be further supported by the eight members' team dedicated to answering investor queries within 48 hours and addressing key issues including laws, skill development and infrastructure.

The 'Make in India' campaign appears to have come at flawless time. Numerous giant foreign companies have already communicated their enthusiasm in setting up their manufacturing plants in India. Make in India aims to boost entrepreneurship in India irrespective of other places. A strong manufacturing sector has the potential to take our economic and financial growth to a higher direction, providing jobs to our youth and fulfill their desires. The economic impact of manufacturing in India will go beyond direct business. It will provide occupations in the administrative sector and allied services like logistics, transportation, retail and so forth. Needless to say, as manufacturing would require free flow of crude materials and finished goods, enhancing logistics foundation such as port-to-inland connectivity, fright air terminals and so forth. Would be basic and these advancements promise to transform India into a worldwide manufacturing hub. The government's "Make in India" initiative aims to expand the share of manufacturing to 25 percent of GDP by 2022 from the present 12 percent. This is expected to result in the formation of 100 million occupations. KPMG and CII recently completed a report which recognized nine key activity items to make India favorable for large-scale production. These incorporate streamlining venture endorsement, facilitating land acquisition processes, creating an appropriate labor development ecosystem, efficient and effective enforcement of laws, facilitating greater cross-border transactions, creating clear exit guidelines, rationalizing taxation regimes and technology enablement of the government. Implementing the aforesaid action items requires a detailed roadmap, including the development of uniform standards and procedures, introducing common application forms for seeking approval from central and state governments, and building a model for a solitary window component. To ensure the nation's place as a worldwide manufacturing powerhouse, the government, industry and civil society must work in couple to reestablish financial investors and public confidence in 'Make in India' campaign to make it successful.

II. REFERENCE

Objective of the Mission

The objective of the mega programme is to ensure that manufacturing sector which contributes around 15% of the country's Gross Domestic Products is increased to 25% in the next few years.

1. Sustained high levels of economic growth of top 25 core sector
2. Improving HDI indicators
3. More job creating and Improvement in employment
4. Skill development
5. Attract FDI
6. Manufacturing Hub
7. Improve business climate
8. Maintain the inflation and growth rate
9. Finished goods export oriented
10. Reduce brain-drain
11. Reducing poverty
12. Development of better quality of infrastructure
13. Protection of intellectual property

Process

According to reports by 2020, India is set to become the world's youngest country with 64% of its population in the working age group. Categorically stating that there is a need for some fundamental changes in Indian economy so that the country emerges as global manufacturing base, Modi

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explained "on the one hand, manufacturing growth is to be promoted, at the same time we need to ensure that direct benefit goes to the youngsters of India. He should get employment so that there is improvement in the economic situation of even the poorest family. These poor should move towards middle class and there purchasing power should improve. This will lead to manufacturing growth and growth of the market.

Make in India was launched by Prime Minister against the backdrop of this crisis, and quickly became a rallying cry for India's innumerable stakeholders and partners. It was a powerful, galvanizing call to action to India's citizens and business leaders, and an invitation to potential partners and investors around the world. But, Make in India is much more than an inspiring slogan. It represents a comprehensive and unprecedented overhaul of out-dated processes and policies. Most importantly, it represents a complete change of the Government's mindset – a shift from issuing authority to business partner, in keeping with Prime Minister's tenet of 'Minimum Government, Maximum Governance'.

Planning

We identify five priority areas for policies: (1) reduction of trade costs, at and behind the border; (2) further liberalization of FDI including through simplification of regulations and procedures; (3) improving infrastructure including in urban areas to enhance manufacturing and services in cities; (4) preparing labor resources (skills) and markets (flexibility) for the technological progress that will shape jobs in the years ahead; and (5) creating an enabling environment for innovation and entrepreneurship to draw the economy into higher productivity activities.

Make in India needed a different kind of campaign: instead of the typical statistics-laden newspaper advertisements, this exercise required messaging that was informative, well-packaged and most importantly, credible. It had to (a) inspire confidence in India's capabilities amongst potential partners abroad, the Indian business community and citizens at large; (b) provide a framework for a vast amount of technical information on 25 industry sectors; and (c) reach out to a vast local and global audience via social media and constantly keep them updated about opportunities, reforms, etc.

The Department of Industrial Policy & Promotion (DIPP) worked with a group of highly specialized agencies to build brand new infrastructure, including a dedicated help desk and a mobile-first website that packed a wide array of information into a simple, sleek menu. Designed primarily for mobile screens, the site's architecture ensured that exhaustive levels of detail are neatly tucked away so as not to overwhelm the user. 25 sector brochures were also developed: Contents included key facts and figures, policies and initiatives and sector-specific contact details, all of which was made available in print and on site.

Partnership

The 'Make in India' initiative has been built on layers of collaborative effort. DIPP initiated this process by inviting participation from Union Ministers, Secretaries to the Government of India, State Governments, Industry Leaders, and various knowledge partners. A National Workshop on sector specific industries in December 2014 brought Secretaries to the Government of India and industry leaders together to debate and formulates an action plan for the next three years, aimed at raising the contribution of the manufacturing sector to 25% of the GDP by 2020. This plan was presented to the Prime Minister, Union Ministers, Industry associations and Industry leaders by the Secretaries to the Union Government and the Chief Secretary, Maharashtra on behalf of the state governments.

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Progress

Make in India initiative was launched globally in September. 2014 as a part of the Government of India's renewed focus on invigorating the country's manufacturing sector. The Make in India initiative has made a tremendous impact on the investment climate of the country as shown by significant growth of 46% in Foreign Direct Investment (FDI) equity inflows and highest ever FDI inflows at US$ 55.5 billion in 2015-16. After the launch of Make in India initiative, India has emerged as the fastest growing major economy with GDP growth rate above 7.6% in 2015-16 and projected to grow above 7% till 2020 as per International Monitory Fund (IMF).

In the last two years, the government has drastically improved the business climate of the country, pushing it towards the trajectory for high and sustainable growth. From a call to action to becoming a platform for national development, 'Make in India' has made its presence felt across the globe.

In a short space of time, the obstacle and obstructive frameworks of the past have been dismantled and replaced with a transparent and user friendly system that is helping drive investment, foster innovation, develop skills, protect Internet Protocol (IP) and build best in class manufacturing infrastructure. The most striking indicator of progress is the unprecedented opening up of key sector – including Railways, Defense, Insurance and Medical Devices-to dramatically higher levels of Foreign Direct Investment.

A workshop titled "Make in India – Sectorial perspective & initiatives" was conducted on 29th December, 2014 under which an action plan for 1 year and 3 years has been prepared to boost investments in 25 sectors.

Table 1 Comparative Statement on FDI Inflows
Analysis after initiative of Make in India (October 2014 to September, 2016)

Sl. No.	Period of 24 months	FDI inflow ***(in US$ billion)***
1.	October, 12 to September, 14 (24 months prior to Make in India)	72.81
2.	Oct. 14 to September, 16 (24 months after Make in India)	106.98
	Growth	**(+) 47%**

Table 2.Analysis of FDI inflow for the period June 2014 to September, 2016:

Sl. No.	Period of 28 months	FDI inflow ***(in US$ billion)***
1.	February, 12 to May, 14 (28 months prior to new govt.)	83.32
2.	June 14 to September, 16 (28 months after new govt.)	120.47
	Growth	**(+) 45%**

Table 3. Analysis of FDI inflow for the Financial Year 2015- 2016:

Sl. No.	Period	FDI inflow ***(in US$ billion)***
1.	April to September, 2015	24.49
2.	April to September, 2016	29.02
	Growth	**(+) 18%**

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Challenges

India's small and medium-sized businesses can play a major role in making the nation take the next huge jump in manufacturing. India ought to be more engaged towards novelty, curiosity and innovation for these areas. The legislature needs to outline the plans to give special benefits to these areas. India has complex taxation system and poor foundation facilities. Rapid skill up gradation is required on the grounds because skill intensive sectors are dynamic segments in our nation; otherwise these sectors would become uncompetitive. India ought to rouse innovation work, research and development which is currently less in India and should give more space for advancement.

1. Creating healthy business environment will be conceivable only when the authoritative apparatus is efficient. India has been very stringent with regards to procedural and regulatory clearances. Business-friendly environment will only be made if India can sign easier approval of projects and set up hassle-free clearance mechanism.

2. India should also be ready to handle elements that unfavorably influence competitiveness of manufacturing. To make the nation a manufacturing hub the unfavorable elements must be evacuated. India should also be ready to impose tax concessions to organizations that come and set up their units in our nation.

3. India's make in India crusade will be constantly contrasted with China's 'Made in China' campaign. The dragon propelled the campaign at the same day as India trying to retain its manufacturing abilities. India should constantly keep up its strength so as to outpace China's supremacy in the manufacturing sector.

4. India must also encourage high-tech imports; research and development (R&D) to upgrade 'Make in India' give edge-to-edge rivalry to the Chinese partner's crusade. To do as such, India must be better prepared and motivated to do world class R&D. The legislature must guarantee that it gives platform for such innovation and development.

Conclusions

'Make in India' a major national initiative which focuses on making India a global manufacturing hub. On his recent meeting with World Bank President Jim Yong Kim, Modi said "World Bank President was also expressing this worry. Probably we were 135th in the world at this time. If we have to come to 50 from 135 then Government alone can do this. If Government brings transparency in its decisions and rules, pushes works with simplicity we can occupy number 50 from 135 in ease of doing business". Make in India has now become a calling card for investors to come and invest in the Indian growth story. To further the Indian manufacturing capabilities, the government is focusing on the development of sectors that are going to be the key focus in the coming years. It has created a fertile ground for businesses to thrive in India. Besides the skill development, labour law flexibility is a key element for the success of this campaign for increasing manufacturing in the country. Economists say that "labour law flexibility does not imply 'hire and fire' policy, it's about providing a sound social safety net to workers." Government wants to collaboration this plan to MUDRA YOJNA , Skill India, Smart City Plan, Digital India programme and single window plan for no objection certificate from various department such as Ministry of Commerce and Industry, Ministry of Heavy Industries and Public Enterprises, Ministry of skill Development and Entrepreneurship, Ministry of Environment, Ministry of Finance, Ministry of Micro, Small and Medium Enterprises, Ministry of Corporate Affairs, Forest and Climate Change and other legal department. Sustainable development of the country depends on collective efforts of the people. So this is our responsibility to make India a 'knowledge hub';

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finished goods 'Exporting country'; and 'Sone ki Chidiya' again and forever.

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WOMEN'S ACCESS TO HEALTH RELATED SERVICES WITH SPECIAL REFERENCE TO TAMIL NADU MODEL PROBLEMS AND PROSPECTS

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I. INTRODUCTION

The quality of women's life is judged by their health status and most of the research works over the years emphasized the fact that they are the first educators and weavers of the fabric of national integration and harbingers of harmony in the nation. Gender inequality damages the physical and mental health of millions of girls and women across the globe and also of boys and men despite many tangible benefits available for men through resources, power, authority and control. Due to the enormous volume of people involved and analyzing the magnitude of the problems, effective actions must be taken to improve gender equity in health and to address women's right to health is one of the most direct and potent ways to reduce health inequities and ensure effective use of health resources. The health of women depends not only on the socio-economic status of her family, but also on the health care services offered by the state.

The Tamil Nadu model of public health is renowned for its success in providing quality health services at an affordable cost especially to women. Tamil Nadu is the only state with a distinctive public health cadre in the district level and also the first state to enact a Public Health Act in 1939. In addition, the state of Tamil Nadu has adopted a number of schemes and programmes for the promotion of health care for women which provide essential services and opportunities to women such as education, health, maternity and child welfare, family planning, nutrition, socio-economic training and certain community organizations.1 But the deeply rooted gender inequality has failed women's access to health care, says the Human Development Report. Malnutrition among the lower strata of women in rural areas is rampant due to poverty. Besides, multiple pregnancies, preference for sons, inability to take a stance against the family, and underlying patriarchal social mores – have impacted on the health of women. Although the Tamil Nadu model has gained substantial ground in the field of women's health, it is not without flaws and challenges. With this background, an attempt has been made in this paper to furnish the status of women's health in Tamil Nadu, analyze the problems associated with the women's access to health related services in the state and to recommend prospective strategies for the same.

Health Status of Women in Tamil Nadu

The health status can be judged in various ways and the commonly used indicators are both morbidity and mortality measures which comprises of the variables such as IMR, TFR, birth and death rates, life expectancy at birth, MMR, proportion of institutional deliveries and sterilizations. Among these variables, the infant mortality rates (IMR) also reflects the overall well-being of the society. Considerable progress has been made in Tamil Nadu to reduce infant mortality rates through

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implementation of various child health programmes. The IMR in Tamil Nadu showed a rapid decline between eighties and 2000. It was about 125 in 1970 decreasing to about 68 in 1990 and further declining to 44 in 1999 and it was 28 during the year 2009 (50 for India in 2009). The regional level variation once again highlights rural urban contrast though it is homogenous across regions within a sub-sector except for the southern region in rural Tamil Nadu. Due to the inputs of National Rural Health Mission, the state recorded a point fall in IMR, which is the highest among the larger states and above the national average.2

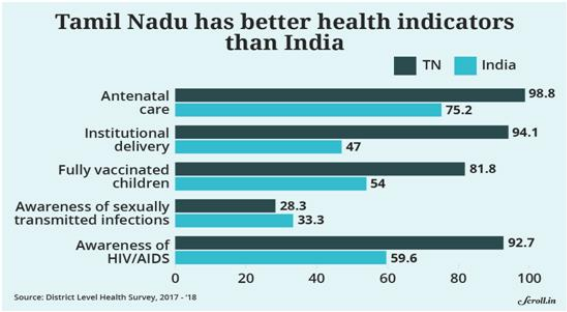
Table 1: Life Expectancy At Birth In Tamilnadu

Year	Males (in years)	Females (in years)
1951	41.45	38.45
1961	42.35	39.74
1971	45.65	43.34
1981	52.30	50.10
1991	61.45	62.35
2001	64.50	67.60
2011	68.60	71.80

Source: Department of Public Health 1951 - 2011, Government of Tamil Nadu.

The total fertility rate (TFR) in Tamil Nadu was lower than in many states and All-India average even in the early eighties. During nineties the State showed a significant improvement and by mid-nineties (1995-97) Tamil Nadu had 3 TFR of 2.1, the lowest after Kerala (1.8). The urban TFR for Tamil Nadu (1.8) is the same as Kerala but rural TFR is higher at 2.2 but significantly lower than all other states.3 This change has been mainly possible due to the initiatives taken by the State government with the involvement of the local community. According to the Tamil Nadu Human Development Report, the death rate in Tamil Nadu has declined by 40 per cent in the last four decades whereas the birth rate has declined by about 30 per cent. Further, the birth rate has been falling uniformly across the districts during the eighties and nineties with the exception of one or two districts and the rural urban differences have also narrowed down. The birth rate of 19.9 for rural sector and 17.0 for the urban sector in 1999 is among the lowest in India and so is the death rate of 7.8 and 5.1 for the rural and urban sectors.4

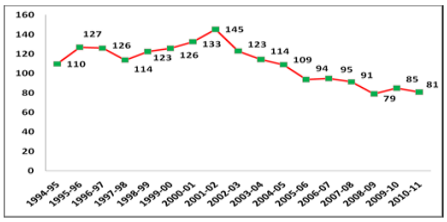
In Tamil Nadu, both access to and utilization of health care particularly among women are quite high compared to the women in rest of the country.Life expectancy at birth tends to be a good summary measure of women's health status. Normally women outlive men. In countries with high income women on an average live longer by six years than men. In countries with lower income they live only two years longer. There has been a steady decline in the overall death rate from 16.1 per thousand population in 1970-71 to 9.1 per thousand population in 2000 – 2001. This makes an impact on the life expectancy of the population. Table 1 provides the statistics regarding the life expectancy for males and females in Tamil Nadu. While the gender differential in life expectancy continues, the life expectancy at birth for female has shown a steady increase in the State, from 39.74 years in 1961 to 69.75 years in 2001 reflecting the achievements made in health sector



Based on the figure given above, Tamil Nadu ranks among states of India with a 'relatively' good quality of health care services – especially on maternal and child health care services. A notable achievement of women's healthier position in the state has been that over 90 per cent of the deliveries take place under institutional care whereas at the country level "even 60 per cent of the deliveries could not be institutionalized so far". The Maternal Mortality Rate (MMR) defines the number of maternal deaths in the age group of 15-49 per one

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lakh live births and it has been treated as one of the important indicators of women's access to healthcare.6The MMR in Tamil Nadu is comparatively lower than all over India. It is in the range of 150 to 200, according to data from the Vital Events Survey of 1995, 1996, 1997 and 1998 conducted by DANIDA TNHCP. During the last two decades, Tamil Nadu has achieved a significant stabilization of population growth and has brought down MMR substantially which is indicated in the following diagram.

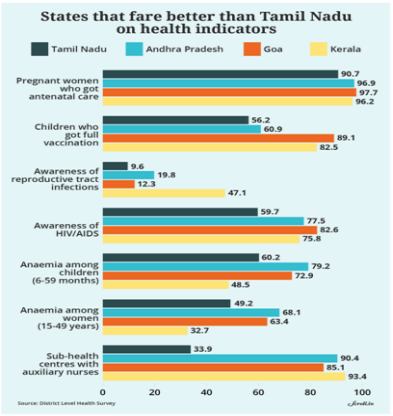


Source: Directorate of Public Health and Family Welfare, Tamil Nadu.

Tamil Nadu had already witnessed progress in the health status of the population because the institutional health care system in the State has been considerably strengthened in terms of specialities and equipments. It has gained momentum especially in maternal and child health. Nalamaana Tamizhagam, an initiative to improve the health status of the rural population in Tamil Nadu by reducing risk factors associated with non-communicable diseases, was successfully completed in the year 2010 – 2011. As a continuation, Pengal Nalamudan, a screening programme to identify women suffering from breast and cervix cancer was implemented in the year 2011 – 2012. The main objective of the programme was to spread the awareness regarding the risk of breast and cervical cancer, to detect and treat early asymptomatic and undiagnosed cases, to prevent complications through prompt treatment and to build referral system. Investigations like mammography and biopsy are being made available in the district hospitals and crores of women were screened under this programme.7 Outstanding progress in women's health status of the State has been achieved through wide spread growth of health institutions with the combined efforts of people's health awareness, effective implementation of Family Welfare Programmes and the active involvement of National Rural Health Mission (NRHM).

Problems associated with the Women's Access to Health

"Deeply rooted gender inequality" has failed women's access to healthcare, says the Human Development Report, 2015. The snapped reproductive rights of women have triggered a vicious cycle of poverty of health. Multiple pregnancies, preference for sons, inability to take a stance against the family and underlying patriarchal social mores – have impacted on the health of women, including maternal mortality, infant mortality, low birth weight, ante-natal anaemia among others. The health status of women in the districts of Chennai and Kanyakumari is comparatively higher than other districts. According to the statistical reports of the Primary Health Centres, every woman suffers from antenatal anaemia, and it is rooted in the fact that they are yet to reclaim their reproductive rights – to make the choice for pregnancy. Despite the NHRM providing for iron injections, the fact that every pregnant woman suffers from chronic antenatal anaemia has PHCs running out of stocks.8The following figure determines the position of women's health in Tamil Nadu in comparison with the states of Andhra Pradesh, Goa and Kerala.



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Institutional interventions have failed in the face of a society steeped in patriarchal moorings and early marriage is a key issue in these cases. In a large rural community set-up, convincing families even for tubectomies is an ordeal by itself. Vasectomy, despite its simplicity and no-hospital stay has no takers. Institutional deliveries have increased to 89.20 per cent.9 However, they do not reflect emancipation of women, when decision making does not reside with them. It is not just access to health care, but the ability to make an informed choice and decision that plays a vital role in women's health.

Despite having an acknowledged reproductive health problem, inaction and self-neglect is pervasive among women. This situation contrasts strongly with these very women's utilization of health services for their children. An analysis of differentials in health care utilization reveals some rate unusual features. Illiterate wage labourers, and women from lower socio-economic groups ignored their ailments far less frequently than their educated and economically better-place counterparts. At the same time, unlike the latter, they also tended to resort at least as much to self-treatment, as to medical help. The extent of health care utilization increased for women in their twenties, was the highest for those between 30 and 34, and tapered off thereafter.10

Utilization of health care is also related to some extent to the nature of the problem. Women with reproductive tract disorders and uterine prolapsed, and to a lesser extent women suffering from urinary tract infections, tend to seek medical help most often. Women suffering from problems related to menstruation do not seek medical help at all. Most of these reasons are a consequence of the community's health culture which reflects also traditional values and biases related to women's fertility and reproduction. Poverty is an important barrier to positive health outcomes for women; it tends to yield a higher burden on women and girls' health, examples of which are, feeding practices (malnutrition) and use of unsafe cooking fuels (COPD). The quality of health services also plays a role: dissatisfaction with treatment is a commonly stated reason, although inaccessibility is perhaps of greater consequence in influencing health-seeking behaviour.11

In general, women are exposed to some psychological risk factors at work, such as negative stress, sexual harassment and monotonous work, more often than men. Due to their low status in the work hierarchy, women exert less control over their work environment, a condition associated with cardiovascular, mental and musculoskeletal ill health. New global industries have emerged to add to the burdens, like Assisted Reproductive Technologies (ART), wherein women are used as resources of production. While the global medical industry ranks the third largest in the world next to arms and food, medical care is increasingly becoming unavailable or unaffordable for women and the poorer sections. As a policy, privatization of health services with fees-for-services is not only exclusionary but also represents as taxing the poor. The cost of drugs has increased to a great extent. Vertical disease-control programmes, such as pulse-polio immunization, drive our country into the exploitative arms of medical industry. The growing consumerism of women presents hazards to their health, self-esteem and well-being.12

Prospective Strategies

Health is a wide social issue. Attainment and maintenance of health depends on one's access to health services. Owing to the multidimensional impact of gender bias in the health sector, implementing steps to improve gender equity in health and to address women's rights to health is one of the most direct and significant ways to reduce health inequities and to ensure the effective use of health resources. The first and foremost element to

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ensure gender equity is to formulate a gender-aware and evidence-based policy with special attention to ensure the provision of a gender-friendly environment at health centres. There is also a need to implement different measures such as reducing the health risks of being women and men by countering gendered exposures and vulnerabilities, improving women's access to health care, providing gender-friendly care to positively influence their health-seeking behaviour, ensuring the accountability of the health system to women, and bringing about a change in the mentality of people with the help of intensified awareness programmes.

Improving women's health requires a strong and sustained government commitment, a favourable policy environment and well targeted resources. The government strategy should maximize and extend its resources to women who live in largely in rural areas. The important aspects are infrastructural facilities and quality of services that decide the accessibility, availability and acceptability of maternal, child health and family planning services. The socio-cultural and demographic characteristics of women influence the level of utilization and maternal and child health services. However the extent of community participation in these programmes may also act as a catalyst for better utilization of health services. The awareness about better health and its importance of irrespective of sex, avoidance of traditional attitudes and beliefs over sex preference may be enhanced and developed gradually by organizing social awareness camps with the support of NGOs. Simultaneously, there is a great need to sensitize health providers at periodic interval regarding gender consciousness and giving adequate care/respect to women, constitute a committee in each of the health care establishment to monitor physical/verbal/sexual harassment of women at workplace, develop a mechanism to ensure focused monitoring and professional assessment so that women can be appointed at key positions, incorporate gender theories/attitude about gender in the medical education curriculum, increase the involvement of women in clinical practice and research, and extend support to agencies working for the welfare of women, based on the magnitude of the problem.

In addition to the above said constraints, the main barrier to women's utilization of health services relates to how society values them. Education and awareness, and even access to money, play, if at all, a minor role. The nature of reproductive and other health problems encountered are such that they cannot be effectively prevented without fundamental changes – not just in the poverty situation of their households, but specifically in the women's own living and working conditions, and in their relationship to men. In Tamil Nadu, as in most of India, women are far more undernourished than men. For instance, in 2015-16, 55.1 per cent of women between 15-49 years in Tamil Nadu were found anaemic in the National Family Health Survey, as compared to just 20 per cent men. To make an impact on women's susceptibility to disease would thus call for policies and programmes that make a perceptible dent in poverty levels, and those specifically aimed at enhancing women's access to resources. Changing women's health seeking behaviour seems to be a more hopeful avenue for action. For this women have to be encouraged to initiate self-treatment or seek medical help when ill, to actively seek antenatal and delivery care, and more importantly, to feel entitled to good health and care. The commitment of the health services system to respond to women's health needs is another pressing issue to be addressed. The lack of information on women's health needs is a major hurdle in this respect. State level surveys on morbidity and mortality and the use of health services need to include specific questions on aspects such as women's reproductive health problems, their use of health services, and factors that restrict their access to

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health and health services. There is a definite need to implement measures at policy level and health sector levels to ensure that health centres essentially remain a source of healing rather than those that aggravate the problem of social inequity and gender discrimination.

To conclude, the experiences gained from a number of ongoing projects in Tamil Nadu require the involvement by the public in planning and implementation in order to reap fruitful benefits. The wider participation by people and optimal utilization of the available services, the State programmes in both women specific and women-related sectors implemented during the five-year plans will bring forth perceptible improvement in the socio-economic status of women. The quantity of services definitely enhanced the utilization of maternal, child health and family planning. But concerted efforts should be made to ensure the qualitative service for the better health of women. The understanding and scope of women's Right to Health is constantly evolving as women participate more actively in these processes, causing changes in attitudes towards women and their health, bringing about change in the way laws are formulated and interpreted. Combined efforts are required now, more than ever, to demand and ensure the recognition of Right to Health as a fundamental right.

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DOUBLING FARMERS' INCOME BY 2022 IN INDIA AND PRIME MINISTER'S STRATEGY

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I. INTRODUCTION

India's agriculture sector plays a vital role in the nation's economy is the principal source of livelihood for about 48 percent of the population of the country. Being the mainstay of majority of the population, this important sector, undoubtedly, deserves the much needed attention in today's scenario when the country's growing population and their rising living standards are leading to an ever increasing demand for the agricultural products.

It has been observed that in recent years, agricultural growth is stuck around long run average of 2.9 percent whereas non-agricultural growth hovers around 8 percent. Consequently, the income of farmers has remained low and the gap with non-farm works has enlarged. A farmer earns less than one third of the income of a non- farm worker constitutes an important reason for the emergence of agrarian distress in India during 1990s, which turned quite serious in some years. The country also witnessed a sharp increase in the number of farmers suicides during 1995 to 2004 - losses from farming, shocks in farm income and low farm income are identified as the important factors for this. Therefore, special focus is needed to raise income of farmers at a faster rate like "Doubling farmers Income by 2022.

Prime Minister's seven point strategy to double the income of farmers

The Prime Minister on March 27, 2017 unveiled a seven point strategy to double the income of farmers in six years with measures to step up irrigation, provide better quality seeds, and prevent post harvest losses. The Prime Minister said, "In the past, the emphasis has been on agricultural output, rather than on farmers' incomes. I have set the objective of doubling the farmers income by 2022. I have laid this out as a challenge. But it is not merely a challenge. With a good strategy, well designed programmes, adequate resources and good governance in implementation, this target are achievable" Prime Minister's seven point action plan are : -

1. Enhanced focus on irrigation with large scale investments, with the aim of 'per drop, more crop'.
2. Provision of quality seeds and nutrients based on soil health of each field.
3. Large investments in warehousing and cold chains to prevent post harvest crop losses.
4. Promotion of value addition through food processing.
5. Creation of a national farm market removing distortions and e-plat form across 585 stations.
6. Introduction of a new crop insurance scheme to mitigate risks at affordable cost.
7. Promotion of ancillary activities like poultry, bee-keeping, fisheries etc.

Suggestions of the Committee on Doubling Farmers Income

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The Government of India has constituted 8 member Inter Ministerial Committee to prepare a blue Print for doubling farmers, income by 2022 headed by Dr. Ashok Dalwai in April 2016. The Committee looked at suggesting market reforms in big way and increasing focus on sub-sectors of agriculture like animal husbandry, poultry, fisheries and horticulture which are important drivers of growth. Considering that consumption patterns are changing today, people are now going for high value crops like meat, milk, egg, fruits and vegetables. The farmers can produce these things which are market led demand driver. The committee's recommendations are as follow : -

1. Focus on doubling of farmers' income, not farm income (base 2015-16)
2. Farmer's income to be doubled in real terms in 7 years (2016-17 to 2022-23).
3. Agricultural household activities comprise of crop sector (field crops and horticulture), livestock sector (dairy, poultry, piggery, small ruminants), farm linked activities (mushroom, beekeeping, sericulture), post production activities (off farm enterprises).
4. Centre would like to bring in a model Agriculture Produce Market Committees (APMCs) Act. as the APMCs were set up about 60 years ago, but it has been seen that they have also become monopolies. There is criticism that the APMCs force the farmers to sell their produce to middle men approved by government in authorized markets.
5. Use of technology to increase the productivity of food corps in sustainable way.
6. Give due emphasis to non-wheat, non-paddy and less water intensive crops.
7. High priority to diversification towards high value activates (Horticulture, Dairying, Food processing etc.)
8. Linking farmers and markets with integrated value chains.
9. There is a need to focus on increasing productivity by introducing better technology and better farm management practices as land availability is limited.
10. Reducing the cost of cultivation by cost effective management of inputs, including fertilizers and seeds, right from manufacture to supply chain till they reach farmers.
11. Introduce greater competition so that both public sector and private sector markets are functioning and the farmer is able to reach the consumer as directly as possible by avoiding the intermediaries.
12. Expand the market, create a universal integrated market for the state and the nation.
13. While the minimum support Price (MSP) for farmers is an important tool, the government is moving towards greater procurement intervention. Earlier the government used to procure only wheat and paddy, but the emphasis in the last two years has been on procuring pulses and oil seeds among others.

Development frame work for Doubling the Farmers' Income

Doubling real income not nominal income (nominal income is income expressed in money terms) of farmers till 2022-23 over the base years of 2015-16, requires annual growth of 10-41 percent in farmers income. This implies that the on going and previously achieved rate of growth in farm income has to be needed sharply accelerated. Therefore strong measures will be needed to harness all possible sources of growth in farmers' income within as well as outside agriculture sector. Development initiatives in farm sector are portrayed in Figure-1.

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New Development frame work of Farm sector



Paramparagat Krishi Vikas Yojana

The Paramparagat Krishi Vikas Yajana (PKVY) is a new scheme to develop organic clusters and make available chemical free inputs to farmers, and to improve soil health in the fields, with an outlay of Rs. 300 crore. It has open a new era for organic production system by allocating separate funds for this purpose. The PKVY will be implemented through the state Governments.

The Government has launched two important schemes. First the PKVY, under which it is proposed that groups of 50 or more farmers, having 50 acres land, would be motivated to take up organic farming. In the next three years, it plans to target 10,000 cluster covering 5 lakh acres. To make the scheme attracting for the farmers, it is designed to provide Rs. 20,000 per acre as subsidy to every farmer in the cluster for three years towards adoption of organic forming besides market assistance.

Second, the government has a lunched a value chain based organic farming scheme called "organic value chain in North East Region". The emphasis in on value addition so that organic produce grown in these parts finds domestic and export markets. A total provision of Rs. 412 crore has been made for these schemes.

Pradhan Mantri Krishi Sinchai Yojana

The Pradhan Mantri Krishi Sinchai Yojana (PMKSY) has been launched to ensure the water security in the country with the aim of "Har Khet ko Pani" (Water to each field). The scheme is based on three pronged strategy : -

1. Creating sources of assured irrigation
2. Per-drop more crop
3. Harnessing rain water at micro level through "Jal Sanchay" and "Jal-Sinchan".

In this way, the scheme lays stress on end to end solutions in irrigation supply chain which includes water resources, distribution network and farm level applications. A total of Rs. 5300 crore has been allocated for the year 2015-16 to roll out the scheme.

Soil Health Cards Scheme

Soil Health Cards carry crop wise recommendations of nutrients and fertilizers required for individual farmers to help farmers to improve productivity through judicious use of fertilizers. Soil health cards to be issued to all farmers by 2018. Under the scheme, Rs. 368 crore have been provided to National Project on Management of soil Health and Fertility. In addition, 2000 model retail out lets of fertilizer companies will be provided with "soil seeds testing facilities"

Pradhan Mantri Fasal Bima Yojana

The Pradham Mantri Fasal Bima Yojana (PMFBY) has been implemented from Kharif, 2016 replacing National Agricultural Insurance scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS). The maximum limit of the farmers' share of premium as token premium is capped at 2 percent for Kharif Crops, 1.5 percent for Rabi Crops and 5 percent for annual commercial/Horticultural at crops. Remaining amount will be borne by the Government. Provision for assessment of loss at individual farm level on account of losses due to hailstorm, landslide, inundation, cyclone or cyclonic rain and unseasonal rains after harvesting.

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Action plan for doubling farmer's income by 2022

Figure-2



"Doubling farmers' income" is the need of the hour. To double real incomes of small holder family farmers and marginal farmers who have less than a hectare of land is challenging goal, the Indian Government has devised seven main action points which are : -

Increase in Productivity of Crops

Sustained increase in crop production and increased farmers income necessarily requires continuous development of new and improved varieties of seeds and efficient system of supply to farmers. The county's seed programme primarily adheres to the limited generation system for seed multiplication. It recognizes three generations like breeder seed, foundation seed and certified seeds as shown in Table-1.

Table – 1 Production of seeds (Metric Tonnes)

Years	Breeder Seed	Foundation Seed	Certified/ Quality seed
2005-06	6823	74800	1405000
2006-07	7382	79654	1481800
2007-08	9196	85254	1943100
2008-09	9441	96274	2503500
2009-10	10683	114638	2797200
2010-11	11921	180640	3213592
2011-12	12338	222681	3536200
2012-13	11020	161700	3285800
2013-14	8229	174307	3473130
2014-15	9849	157616	3517664
2015-16	8621	149542	3435248

Source : - Department of Agriculture, cooperation and Farmers welfare, 2016.

As per available data (Table-2) the availability of quality seed is sufficient to meet our requirement due to the contribution of both private and public sectors towards it Availability of seed for majority of the crops is higher than the requirement.

Estimate of total seed requirement and availability also showed the same trend for the last one decade in Figure-3. Research system in the public and private sector is creating seeds with advanced traits to meet the prevailing and emerging challenges in the agricultural scenario.

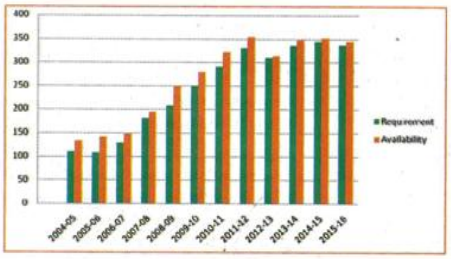
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Table-2

Requirement and Availability of Quality Seeds for major Crops (000 tonnes)

Year	2013-14				2014-15				2015-16			
Crop	Rqmt.	Availability			Rqmt.	Availability			Rqmt.	Availability		
		Pub.	Pvt.	Total		Pub	Pvt.	Total		Pub	Pvt.	Total
Wheat	**112.53**	**49.12**	**59.23**	**108.35**	**112.53**	**44.78**	**72.07**	**116.86**	**113.46**	**51.25**	**66.73**	**117.98**
Paddy	82.37	47.99	41.97	89.95	84.8	46.46	46.46	92.92	82.86	47.96	47.14	95.1
Maize	10.42	1.75	8.84	10.59	10.84	1.15	11.1	12.25	10.7	0.73	11.96	12.69
Bajra	2.52	0.82	2.67	3.49	2.42	0.16	2.53	2.69	2.55	0.27	2.57	2.84
Gram	17.07	11.34	8.76	20.1	16.11	12.36	3.36	15.72	18.14	7.3	7.56	14.86
Urd	2.48	2.45	1.36	3.82	2.68	2	1.31	3.31	2.62	1.36	1.36	2.71
Cowpea	0.27	0.15	0.15	0.3	0.36	0.2	0.15	0.35	0.26	0.14	0.15	0.29
Moong	1.93	1.74	0.92	2.65	2.79	1.72	1.58	3.31	2.87	1.63	1.6	3.23
Arhar	2.58	1.2	1.32	2.52	2.64	1.15	1.63	2.78	2.51	1.11	1.6	2.72
R/ Mustard	2.61	1.6	1.15	2.74	2.64	1.45	1.25	2.7	2.52	1.19	1.46	2.65
Rqmt : Requirement, Pub : Public, Pvt : Private												

Figure-3 Year-wise requirement and availability of quality seeds (in lakh quintals)



(Source: Directorate of Economics & Statistics, Ministry of Agriculture, GoI, 2016)

Increase in production of live-stock

Live-stock contributes 25 percent of Gross value added in the agriculture sector and provides self employment to about 21 million people. It is one of the fast growing sectors of agriculture and offers great resilience against any distress and additional income to farmers. Rashtriya Gokul Mission has been launched in 2014-15 for conservation of indigenous breeds. National Kamdhenu Breading centers for development, conservation and preservation of indigenous breeds are being set up one in north and one in south India.

Improvement in efficiency of input use (cost saving)

Indian agriculture is missing the use of the latest technology and modern method of farming. Advance world is moving towards precision farming using sensors and other scientific tools for exact practices and application of inputs. It saves costs, reduce environmental effect and yield more and better quality produce. Application of advance Science at farm level requires skill, knowledge, investments and improvement in human capital in farming. This warrants renewed commitment and higher participation of public and Private sectors in agriculture.

Diversification to high value crops

The shift to high value agricultural crops especially commercial crops is a good initiative for doubling farmers income. However, a large scale adoption of the strategy implying a complete shift from food grains could disrupt the present culture of a staple diet, and endanger India's food security. That is why, instead of a excessive stress on growing high value crops, there is a need to encourage diversification of agricultural income where income from agricultural activities forms an important but only one component, while shift to food processing and value addition can comprise the rest.

Improved Price Realization for Farmers

The uniformity of the markets both at state and National level is the requirement of time, in order to provide better price to farmers, improve supply chain, reduce wastage and create a unified national market. E-NAM is an important initiative of government of India to use pan India electric trading portal for

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bidding and network of the existing APMC (Agriculture Produce Marketing committee) mandis to create a unified national market for agricultural commodities. Even small reforms in marketing show big return in terms of price realizations by farmers.

Shift of cultivators to Non- farm Jobs

For increase in farmers' income, it is essential to increase in production and to get higher prices. But shift of farmers to non-farm and allied sectors like horticulture is crucial for increase in farmers' income. The details of NITI Ayog's Action are presented in Table-3.

Table - 3 Sources of Growth in Farm Income : Achievements and Required Growth Rate for Doubling Farmers' Income

Sl. No.	Source	Recent Achievements		Required growth rate for DFI
		Period	Growth Rate/Change	
1.	Crop productivity 70 % segment	2001-2013	3.1	4.1
2.	Livestock value added 30 % segment	2005-2014	4.5	6.0
3.	Improvement in-resource use efficiency	2005-2012	2.26	3.0
4.	Crop intensity (70 % segment)	2001-2012	1 % age	1.3
5.	Crop diversification towards fruits and vegetables (70 % segment)	2003.2014	3.89	5.17
6.	Better price realization crops	Karnataka Experience Reforms	13 % Total (in real terms	17.0
7	Shift to non-farm occupation	2005-2012	1.81	2.4

Source : PD, July 2017

Crop Productivity is required to increase by 4.1 percent and livestock value added by 6.0 percent per year to double farmers' income by 2022. Total factor Productivity growth, which is mainly contribute by agricultural R & D, extension serves, new knowledge, efficient practices like precision farming, is required to follow annual increase of 3.0 percent. Indian farmers should raise area under two crops to 53 percent from the present 40 percent recorded in recent years. Area under high value crops is required to follow an increase of 4.4 percent each year. Market reforms are required to enable farmers to get 17 percent higher.

Challenges in the Doubling Farmers' Income.

Indian farmers are divided in different groups with variation in skill, assets, income and allied activities. In this different situation doubling farmers income is challenging task as below : -

1. It is observed that most the small and marginal farmers do not get reasonable price for their product. This is perhaps because of the regulated markets and in their absence, the multiplicity of intermediaries in marketing which consumes a large chunk of their income from the produce.

2. As per Agricultural census 2010-11 data 84 percent households in India are marginal and small. The marketable surplus of this class of the farmers is almost zero or negligible in the present scenario. Without increasing in the marketable surplus of small and marginal farmers no break through can be achieved on the front of doubling farmers income.

3. Ashok Gulati, agriculture chair professor at the Delhi based Indian council for Research in International Economic Relations said. "The goal to double incomes is a good dream of the Prime Minister but the task is herculean……. to begin with the government needs to decide whether they are talking about real or nominal incomes". He further said "If the goal is to double nominal incomes the previous UPA government did it in five years between 2009-10 to 2013-14. Doubling real incomes by 2022 will require the farm sector to grow at an annual rate of 10 % compared to a growth rate of less than 0.5 % in the last two years".

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4. It is obvious that if inflation in agriculture price is high, farmers income in nominal terms will double in a very shorter period. In situation when non agricultural prices do non rise or rise at a very small rate, the increase in farmers real income tends to be almost the same as nominal income.

Suggestions Needed to Double the Farmers Income

Some major suggestions are listed below which can help for achieving the goal of doubling farmers income by 2022.

1. Provision of quality planting material to the farmers will help in raising the agricultural production. More produce will come with more income for farmers and farmers will be motivated to grow the more of the horticulture crops ultimately reducing the pressure from the cereal crops.

2. Expansion of cereal, fruits and vegetables processing industry with backward linkages with farmers can held in value addition, which ensuring higher returns to the cultivators.

3. Promotion of organic farming practices for reducing cost of production.

4. To increase co-operative farming for use of modern technology.

5. Adopting drip and sprinkler system of irrigation for "per drop more crop".

6. Weather forecasting advisory to be popularised for strategic planning of cultural practices for minimizing losses.

7. Promotion of contract farming and buy back arrangement for encouraging farmers for farming.

8. Facilitate on farm primary processing and cool chain management.

9. Promoting mechanization in agriculture for enhanced efficiency and reducing losses.

10. Greater emphasis on R & D in agriculture to develop such varieties of crops which are suitable for dry and rain-fed farming.

11. Insurance and price support are also vital factors. Insurance against weather risks like hail storms and other natural clamities for compensation for crops losses to the farmers' is needed.

12. E-NAM should be implemented effectively for getting high returns to farmers.

13. The private players should also be encouraged to invest in agriculture sector by setting up more and more post harvest and cold chain structures and proving value addition facilities.

14. Enact Land Lease Law on the basis of Model Land Lease Law proposed by NITI Aayog.

15. Introduction of potential new varieties and replacing the old low productive varieties

16. Ensuring availability of quality seed including hybrids of vegetables, flowers and planting materials of fruit trees for better quality and yield of produce.

17. Diversification of cereal and horticulture crops along with other activities like beekeeping, mushroom cultivation, poultry, sericulture, fish culture etc.

II. CONCLUSION

The Government of India has initiated several steps for doubling farmers income on sustainable basis by way of improving soil fertility, improved access efficiency of irrigation, insurance cover to farmers and unified national agriculture market. In the long run, productivity enhancement requires research towards discovery of robust seed varieties and planting materials, other inputs, appropriate crops and input usage for a given soil type. In addition, availability of all inputs for production in sufficient quality at affordable prices and effective extension practices are also essential. All the stake holders which are involved to put initiatives into action for boosting up farmers income are needed. The challenges which have been mentioned, if solved, effectively with a good strategy, well designed

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programmes, adequate resources and good governance in implementation this goal is achievable.

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AN ECONOMIC STUDY ON HEALTH TOURISM IN TAMILNADU

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I. INTRODUCTION

Health tourism is an activity which connects the expectation of a patient and a service provider, usually a hospital or a clinic. If the patient is crossing the regional boarders to obtain medical care, than that individual would usually be known as a health tourist. There are certain health care service provider specialises certain areas of health care, such as cosmetic surgery, dentistry or transplant surgery, while others are more generalised in their approach, providing multiple services over a wide range of medical specialties. Growth in the popularity of medical tourism has capture the attention of policy-maker, researcher andthe media. Originally, the term referred to the travel of patients from less-developed countries to developed nations in pursuit of the treatments not available in their homeland.

Today we are experiencing both qualitative and quantitative shifts in the patient mobility, as people travel from richer to less-developed countries in order to access health services. Such shift is mostly driven by the relative low cost of treatment in less developed countries, the availability of inexpensive flights and increased marketing and online consumer information about the availability of medical services. What really puts the word "tourism" in medical tourism concept is that people often sty in the foreign countries after the medical procedure. Traveller can thus take advantages of their visit by sightseeing, taking day trips or participating in any other traditional tourism activities

Importance of Health Tourism

Medical tourism can be defined as the process of traveling outside the country of residence for the purpose of receiving medical care. Health tourism is the synergy between the hospitals and the tourism industry gaining momentum in India. More number of people is estimated to travel across the districts and states in India for Health needs. Medical tourist from Germany, France, Switzerland and the US prefer ayurvedic treatments in India. India's potential to attract health tourists to India costs are Lower, health restorative alternative treatments like a combination of Ayurveda, Yoga, Acupuncture, herbal oil massage and nature therapies are available. Global medical tourism is 20 Billion. Health tourism is a booming industry and with the case of travel actors countries. It has become more and more a regular feature in the health plans of people to seek advanced medical treatment outside their own countries 150,000 medical tourist's travel to India for low-priced health care procedures every year.

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Statement of Problem

Urbanization in Madurai has been at its peak in the past few years and is expected to continue in the forth coming years. Madurai economy is showing a paradigm shift in its orientation from traditional retail to modern and corporate health care service provision centers. The trend is increased by phenomenal contribution of the health tourist arrivals every day. Traditionally, Madurai health care service provides particularly private hospitals are supported by other district and other state health care seekers. Health tourism has found a niche for itself as an effective instrument for health care service providers and health service seekers and these by facilitating the development of Madurai economy. The unquantifiable challenges faced by health tourists perhaps[s more severe than the tangible ones. The simplicity of yester year's health visit has disappeared an corporate form of health services present in Madurai city.

Objectives of the Study.

The objective of the present study are;

1. To study the gender, ethnicity and socio-economic profile of the respondents;
2. To analyse the health status and well-being of health tourist arrivals in the study area;
3. To examine the inter-regional pattern of morbidity prevalence by the sample health tourists;
4. To expound the factor triggers of health tourists arrivals and their impact on Madurai economy;
5. To identify the determinants of health care service utilization and satisfaction perception by the health tourists;
6. To asses he type of health care utilization , health expenditure and health insurance among the health tourists; and
7. To offer strategies to promote health equity and eliminate health disparity for ensuring qualitative, affordable inclusive health system for health care service seekers.

Medical Tourism

This is an industry with billions of dollars annual turnover and also called as health tourism too. Travelling from one place to another or one country to another, in search of an affordable and good medical treatment is the simplest definition for the term "Medical Truism". Yester years witnessed people travelling from developing countries in search of specialized treatments that were ot available in their countries, to the developed countries, paying a very high cost. It was only affordable for the rich. The trend was reversed, when the developing countries striated providing high class super specialty faculties at am affordable and reasonable cost.

Advantages for medical treatment in Tamilnadu include international standard hospitals, departmental experts to take care of everything this required, reduced costs availability of latest technologies, specially qualified medical practitioners, emergency treatment or treatment at short notice, availability of linguistic interpreters to make it more comfortable for patients puts the state of tamilnadu on top of this has recently spurred a new wage of medical tourism. As consumers are becoming aware of the high quality of these procedures in Tamilnadu and India insurance coporations have started offering medical cover in a multi dimensional format. Hence the flow of medical tourists has increased in tamilnadu. Projection of future development aims at very big targets.

Cost Affordable Destination

COST- it is an important factor in anything including the medical treatment all around the globe. The changing technologies, increasing classifications of treatment, escalating charges of Medical Professionals make the treatment affordability an ubhill task for ever increasing list of diseases. The Western countries are becoming exorbitantly expensive and the problem is compounded by the

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under insured or non-insured factor. India is the best available cost affordable option. Asian counties are the most cost affordable destination with excellent and latest technologies along with professionals, among the best in the world. IBED study says India offers: open heart Surgery, liver transplant, hip replacement knee replacement packages at 30 to 50% lesser than Thailand, which is reported to be te only Asian competitor to india in Medical tourism. apoloHospitals first opened up at Chennai then follow by forties, max,escorts, wockhardt, sterling and glbal sankara nethralaya and agarwal eye hospitals are some of the group hospital services available at best affordable cost in tamilnadu and in many other cities of india.

II. Conclusion

Health tourism is emerging trend in India essentially in tamilnadu provide low cos t treatment to the patient so other state peoples are come to medical or health tourism. They get treatment with tour some forfeit peoples are come to treatment. Than in tamilnadu batten progress in the field of median than hospital. In tamilnadu provide better treatment compared to other states.

III. Reference

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2) Health tourism in India
3) Heath Tourism in tamilnadu
4) Health tourism in tamilnadu government.
5) Health organization in tamilnadu.

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SLOW ECONOMIC GROWTH A CHALLENGE TO SOCIAL DEVELOPMENT

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I. INTRODUCTION

Social development is a vast spectrum. Its development depends upon numerous factors, and it takes long period to achieve even for centuries. An individual in the society aspire to live happily with natural resources available in the environment and also utilization of goods and services created in the economy for all. Of course an individual's demand for goods and services changes continuously with the change in science and technology. The main objective of this paper is to analyse the role of economic development on social change with a hypothesis that economic development has the major influence on social development.

What is Social Development

Social Development refers to how people develop social and emotional skills across the lifespan, with particular attention to childhood and adolescence. Healthy social development allows us to form positive relationships with family, friends, teachers, and other people in our lives. As we mature, we learn to better manage our own feelings and needs and to respond appropriately to the feelings and needs of others.

Social development revolves on three factors (1) Change in social attitude, (2) change in social justice and (3) changes in social services.

Social change builds community-based responses that address underlying social problems on an individual, institutional, community, national and/or international level. Social change can change attitudes, behaviours, laws, policies and institutions to better reflect values of inclusion, fairness, diversity and opportunity.

The social justice is the distribution of benefits and how they are located in society. It is thought of as a society that affords individuals and groups fair treatment and a just share of the benefits of society. Social justice is often equated with the concepts of human rights and equality. Because the word justice can be vague, ambiguous, and subjective, individuals in a society can have different ideas of social justice and what "just" means.

Social services are seen as organized efforts or services that help to improve and advance social well being. Social services can be providing meals, shelter, food, clothing, programs for youth and adults, health care, ability/disability services, language interpretation and translation and others. Social services agencies can provide a wide variety of services that meet the social well being of a community, region, or group of people.

The Indices of Social Development

The indices of social development can be grouped into five as mentioned below:

1. Civic activism; Itrefers to the social norms, organisations, and practices which facilitate greater citizen involvement in public policies and decisions. These include use of media, access to civic associations, and involvement in activities such as nonviolent demonstration or petition.

2. Clubs and Associations: It uses data on levels of engagement in local community groups, time spent socialising in voluntary associations, and membership of developmental organisations, to identify the extent to which people are part of social networks and potentially supported by community ties.

3. Inter-group cohesion: Thisrefers to relations of cooperation and respect between groups in a society; where this cooperation breaks down, there is the potential for conflict and acts of terror and riots.

4. Interpersonal safety and trust: This measures the level of trust and confidence between individuals that do not know each other personally, specifically with regard to the likelihood of criminal violence and other forms of trust violation, and combines this with measures of rates of violence.

5. Gender equality: This estimates the extent of discrimination against women, whether in the labour market, education, healthcare, or in the home.

Social Development - Defined

Social development is a process of change from the traditional way of living of rural communities to progressive ways of living. It is a method by which people can be assisted to develop themselves on their own capacities and resources. Social development is more concerned with the investment in human beings. A unit of investment in education, health, social welfare etc. social development aims at the total development of people. Social development is inter-sectoral, inter-regional and inter- disciplinary and visualizes institutional and structural reforms to provide greater social justice.

The Definitions:

The Copenhagen Social Summit, 1995:

Socia Development in terms of three basic criteria: Poverty Eradication, Employment Generation and Social Harmony.

Amartya Sen, (1995)

"Social Development is equality of social opportunities" Bilance, (1997)

"Social Development is the promotion of a sustainable society that is worthy of human dignity by empowering marginalized groups, women and men, to undertake their own development, to improve their social and economic position and to acquire their rightful place in society."

M.S Gore: (1998)

The concept of social development is inclusive of economic development but it emphasizes the development of the society in totality that is, in its economic, political, social and cultural aspects. In the broadest sense "it signifies all aspects of development that are of collective nature pertaining to the society as a whole."

In a narrower sense, it would be used with reference to the human welfare aspects of development that is improving the quality of life and more equitable distribution of material and cultural goods. Social development may be used in connection with structural transformation in society seeking changes in the system of stratification and in degree of mobility. The areas of social development are fundamentally three: (a) Economic Development (b) Political Development and (c) Social Development. In this paper only the economic factor, the most important factor of social change among three factors are analysed briefly.

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The Economic Factor:

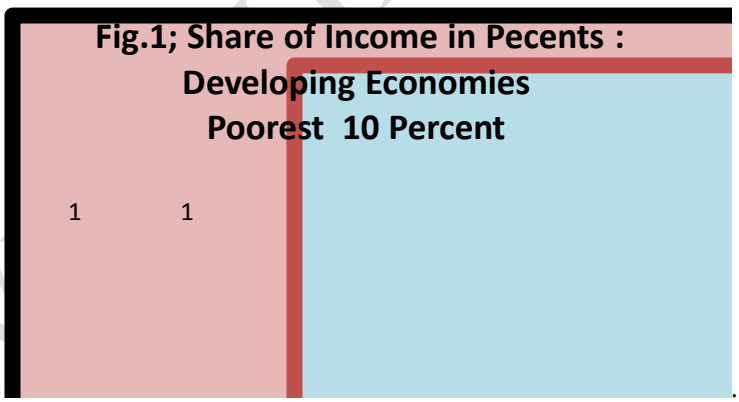
The most important factor that witnessed the world is industrial revolution. It has revolutionised the whole way of life, institutions, organisations and community life. Modern industrial capitalism promoted the constant revision of the technology of production, a process into which science is increasingly drawn. The impact of industrialisation one can easily see on Indian society, family system and caste system and other social developments which were not there in the society. Social exclusion is argued to occur where people fall below some minimumThreshold of well-being and are hindered from fully participating in society. They are among others mainly (1) poverty; (2) illiteracy (3) unemployment, and (4) poor health.

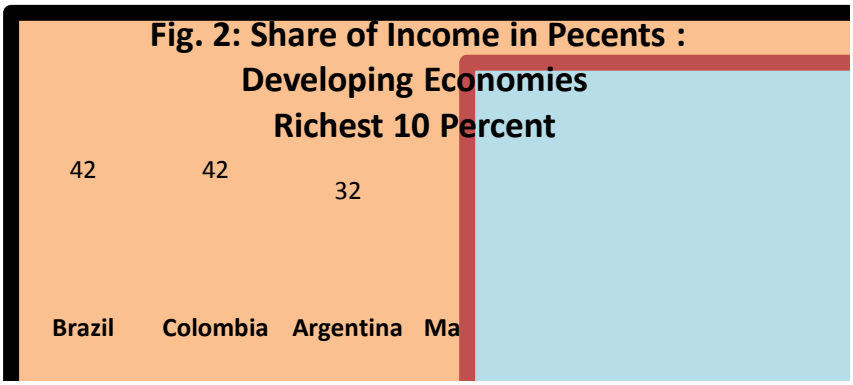
Social Development In India

Heavy inequality in enjoying national wealth by the people indicates poor social development. In India it is not a sign of good social development when there are wide deviations in the enjoyment of national wealth by the people. ten poorer percentage of people own only 4 percent national wealth (Fig. 1) while richest 10 percent enjoy 34 percent of wealth in the country.(Fig.2)

Existence of Poverty

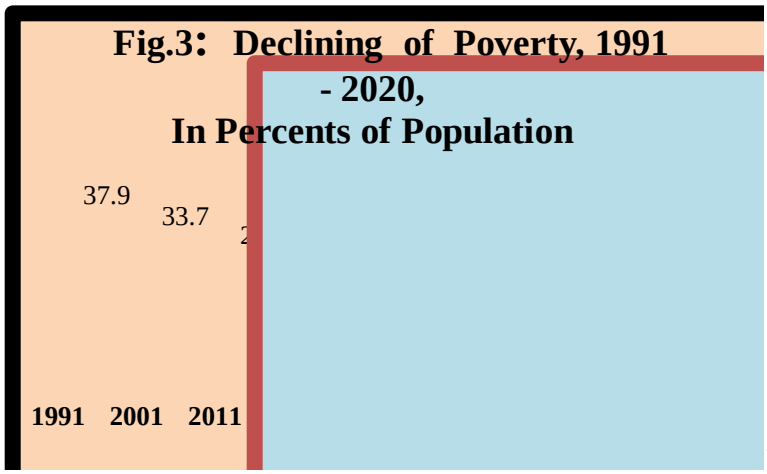
Existence of percentage of population below poverty line is another indicator of social development. In spite of sincere efforts made by Planning Commission of India since 1951, in 2017 according to recent estimates in 2017, there are still 22.3 percent people below poverty line. (Fig.3). A separate estimate of poverty for rural and urban areas it is states that in the urban areas, the percentage of population came down to around 12 percent as against 23.9 percent in the rural sector. (Fig. 4)

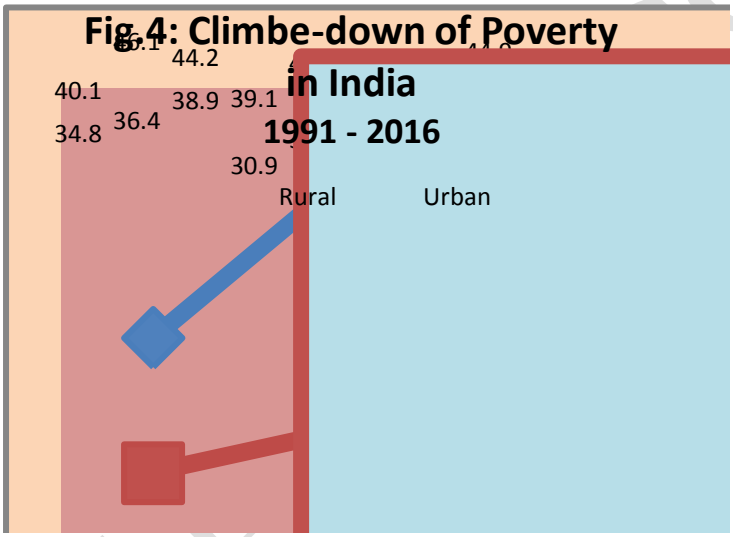




Source: World Development Indicators, 2014, Washington D.C.

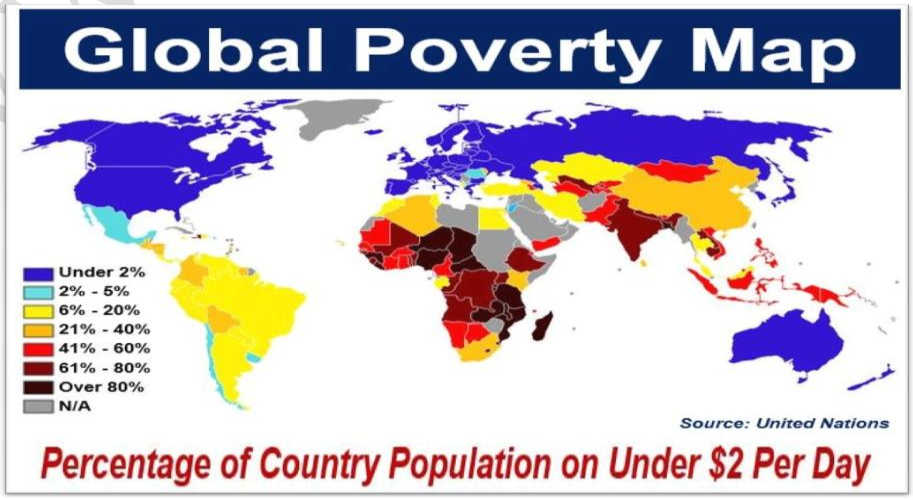
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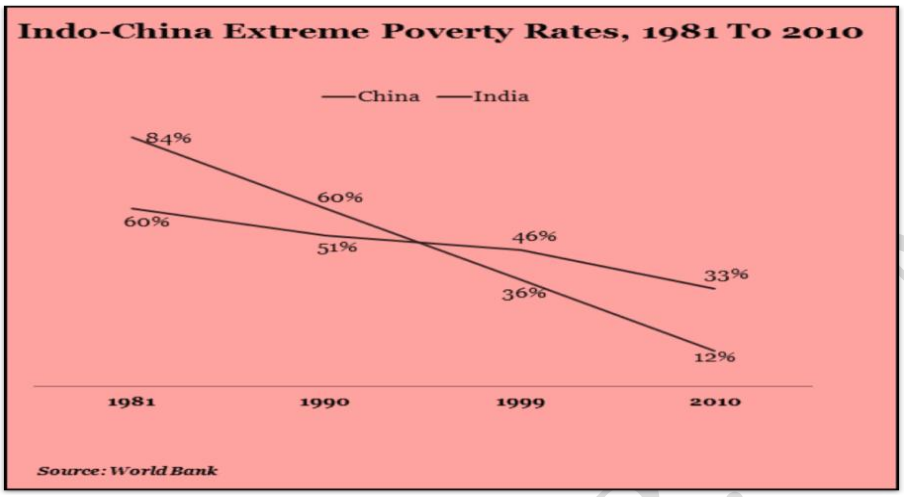
The UN global poverty Map gives a different picture of poverty. Calculated poverty as per expenditure of $2 per day as a norm the existence of poverty in India shows that sixty to eighty percent of population as poor. This is shown in Global Poverty Map below.

Map - 1



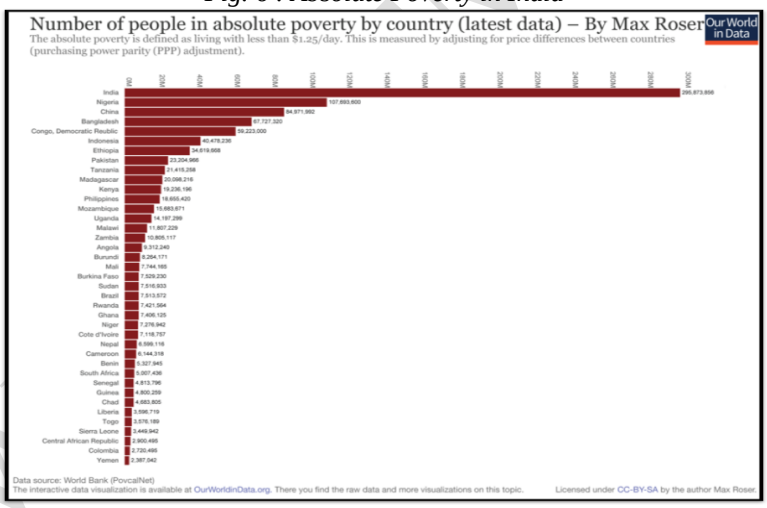
In comparison to China the efforts made by India to reduce poverty is appreciated by World Bank estimate. In three decades from 1981 to 2010, India able to reduce poverty in the economy from 84 percent to 12 percent, a slash of 72 percent; while during same period China could reduce about 27 percent and the end of 2010 China has 33 percent of people under poverty line, as shown in Fig.5 below.

Fig. 5: A Comparative Picture of India and China



In another estimate absolute poverty by US $ 1.25 per day India is at the highest level of poverty followed by Nepal and China, which are far below India. This is shown in Fig. 6.

Fig. 6 : Absolute Poverty in India



Growth of Employment

Employment in the economy is another factor that indicates the social development. In the year 2006 the growth of employment was 0.44 percent which was far below the population growth rate. In the year 2011 the growth of employment was as high as 10.2 percent which was far above the growth of population. But there after the rate was slowed down and in the years 2014 and 2015 the growth rate was as low as 0.44 and then in 2015 it it become negative. If the growth of employment is not keeping same trend of growth of population the social system cannot make any head way.

In spite of growth of employment, the unemployment situation has not changed very much. in the year 2006 the unemployment position remained 10.9 percent and by the year 2015 it reduced to 10.4 percent. This shows that the social development has not improved very much, with small decline of unemployment.

The employment and unemployment positions of Indian economy from the year 20016 to 2015 are shown graphically in Fig.7. The bars show the growth of employment while the line indicates change of unemployment in the economy.

Growth of Literacy

Literacy of an economy indicates the society's ability to participate in the production process. And thereby it indicates the social development. In Asia India's adult literacy remained at 74.04 percent as against 96.4 percent in China. As against this, world's average rate of literacy remains at 86.3 percent. Even in Youth literacy India lags behind China.

Fig. 7: Employment and Unemployment in India, 2006 - 2015

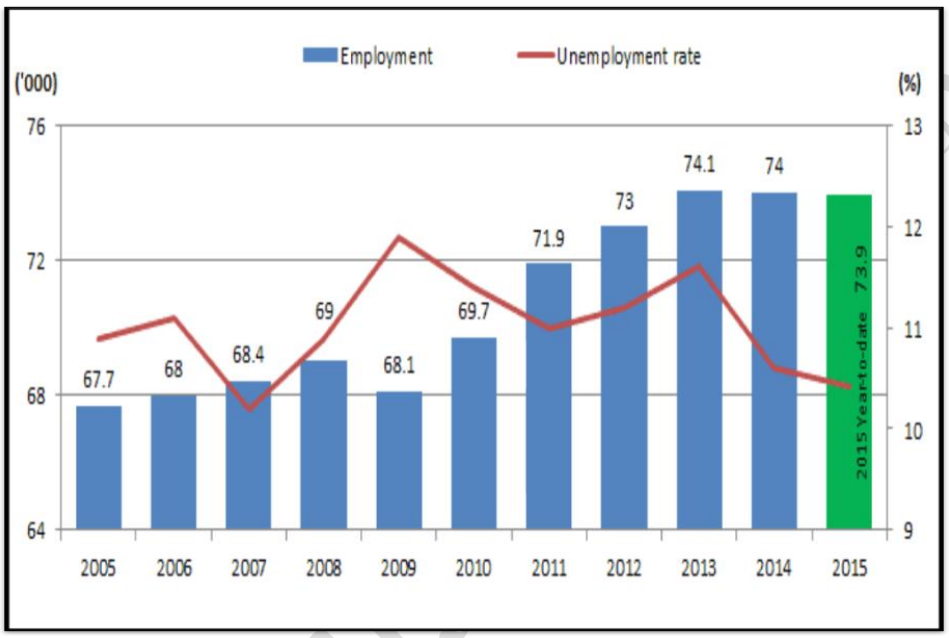


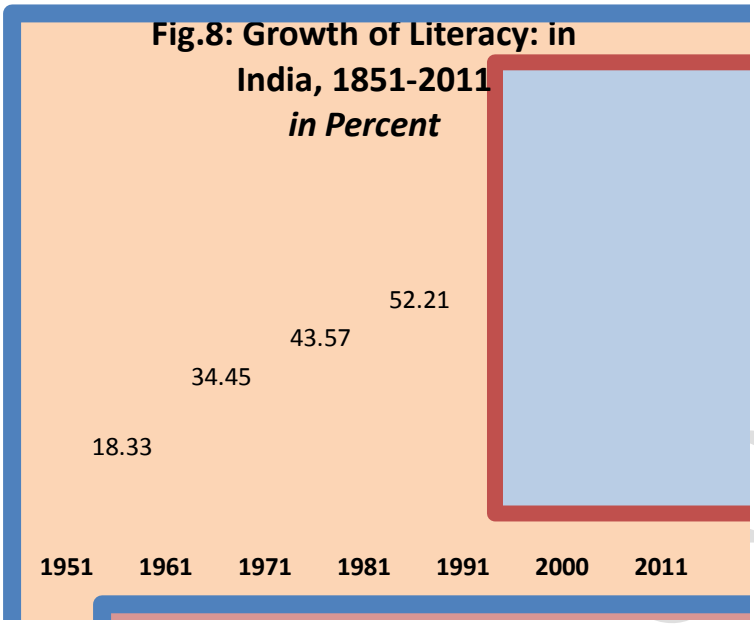
Table –1 Literacy Rates of Asian Countries, 2015 Figures in Percent of People

Country	Adult Literacy Rate	Youth Literacy Rate ages 15–24
China	96.4	99.7
Sri Lanka	92.6	98.8
Myanmar	93.1	96.3
World Average	**86.3**	**89.6**
India	74.04	90.2
Nepal	64.7	86.9
Pakistan	60.00	74.8
Bangladesh	61.5	83.2

Source: UNESCO Report-2016

In the year 1951 the literacy rate of India was which constantly in increasing trend and reached 74.04 per cent in 2011, that means grew 55.71 percent in about 60 years. During the same period, the population grew from 361 million to 1,210 million that means increased by more than 235 percent.

The growth of literacy in India is graphically shown in Fig.8.



Expectancy of Life

Health and medical facilities available in the country indicates a healthy society and shows a developed social system. The overall healthy society is indicated by the life expectancy at birth of an individual in the society. In the year 2015 India's expectancy of life at birth is 68.3 years which is ranked at 125 among the all countries of the world. Japan s at the top with rank 1, followed by UK, USA, China and Russia; and the later country is at the rank of 110.

India's position among five developed countries, of expectancy of life is presented in Table-2.

Table-2: Life Expectancy in the World, 2015

Country	Life Expectancy age	Rank In the World
Japan	**83.8**	**1**
U.K.	**81.1**	**20**
USA	**79.6**	**30**
China	**76.1**	**53**
Russia	**70.5**	**110**
India	**68.3**	**125**

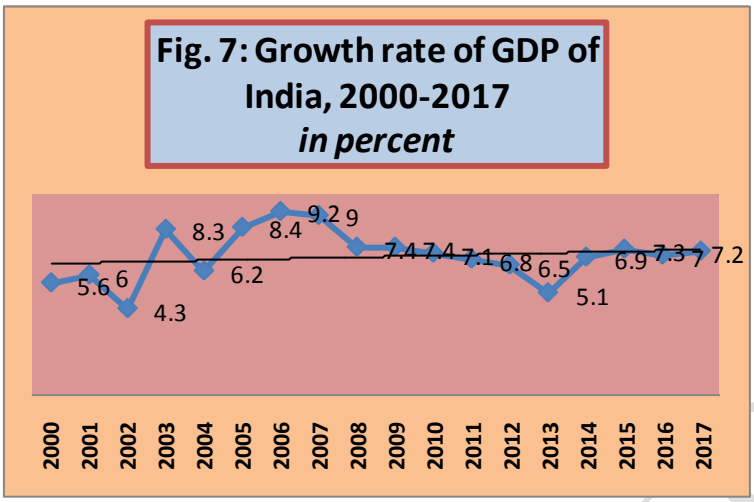
Sours: United Nations, 2015

Growth Rate of GDP, 2000-2017

Growth of an economy is indicated by the average annual growth rate of GDP. In India the growth rate of GDP from 2000 to 2017 remained on average 7.1 percent. During these 18 years the GDP reached peak of 9.2 percent in the year 2006 and lowest of 5.1 percent in2013.

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Fig.7 below indicates the line of GDP growth from 2000 to 2017 in India and the exponential trend line.



Source: Planning Commission of India

II. Conclusion

The social development of an economy among others mainly depends on economic development. There are four important indicators of social development. They are poverty, employment, literacy and health. In between 2000 and 2017 the annual average growth rate of GDP of India increased by 7.1 percent. But it seems that poverty and unemployment reduction and increase in literacy rate and health provisions not made any headway for development of social system in any significant manner. These four factor analysed above with reference to Indian economy have not made any good progress, even though some improvements are made towards a developed social system. The economic planners are expecting a GDP growth rate of 10 percent by 2020 and it is expected that social development of India would progress accordingly to catch the developed economies.

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IMPACT OF DEVELOPMENTS IN TRADE ON SOCIO-ECONOMIC ISSUES: UNDERSTANDING THE NEW DIMENSIONS

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I. INTRODUCTION

The socio-economic issues cannot be studied in isolation. The globalised nature of the economy means the integration of various policies. Technical progress leads to economic development and the previous decade had ushered a spate in the growth of technical knowhow. Growth of software, online adoption, simulation and artificial intelligence are on the rise which have disrupted the markets, leading to a new market environment in terms of accessibility. But little efforts are taken in the socio-economic front which endangers the quality of infrastructure to be put in place. In India even in the period of economic planning, there were gaps in the socio-economic indices and the focus was on the mix of policies. In the shift to market regime the real effects of growth are not pronounced on the socio-economic structure or quality of infrastructure. Thus an analysis of the present state of economic growth is vital in order to frame an outlook for the emerging economies. It must be understood that market economies are following a 'middle path', and at this phase it would be interesting to analyse how far the countries can address the socio-economic issues. The ambit of the study can also extend to understanding the migration and refugee problems in many societies and the objective of economic growth should lead to a balanced structure and sustained development.

Socio-Economic Issues

What are socio-economic issues? This involves a wide range of issues; but in the context of parity between external and internal sector, it should be seen that the development leads to stable growth rates and sustained rise in the incomes of the people engaged in various occupations. Second, there needs to be an adherence to sustainable development goals. The major problem that developing countries face is the inequality in the distribution of incomes. The previous decades of socio-economic inequities should be transformed to give space to socio-economic development, at least by the end of next decade as highlighted by Sustainable Development Goals Agenda. Trade plays an increasingly interventionist role as countries are globalised in some network; and then the tools to economic development and technical growth should directly address problems under socio-economic front. This can be surmised as:

Well Being – poverty, hunger, gender equality

Quality Infrastructure – education, water supply, energy

Economic Growth – work conditions, industry and innovation

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Environmental Issues – climate change, sustainable development

Institutions – role of government, legal framework

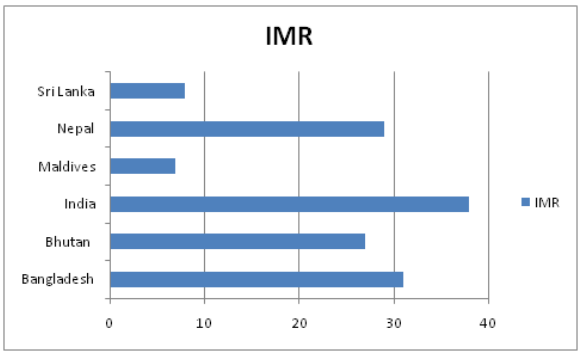
The need for developing countries like India would be to alleviate poverty and mitigating the ill effects of poverty. Though poverty programmes were designed in the past towards this end; the relative measures of poverty are still unaddressed. Thus in a large size economy, the move should be towards creation of basic infrastructure. In this context it should be seen that since mid 1990s, the focus was on infrastructure development (including the development of social infrastructure). In the development perspective the objectives need to be reworked and redesigned. It would mean that we are not only addressing poverty and other socio-economic parameters, but also looking into the impact of poverty on other areas - be it nutrition or in terms of nurturing towards gender development. Thus socio-economic issues are not cobwebbed into a particular zone; rather should be in consonance with the creation of social infrastructure. The quality of infrastructure in fact sustains the concept of 'Well Being'. An analysis of India's growth story would reveal that we have shifted from a controlled regime to market reforms in a gradual manner with emphasis on socio-economic policies. Both the Planning Commission and NITI Aayog give emphasis on the tackling the ills in economic development. In the context of globalization, these socio-economic issues get interlinked to growth targets, and thus there is an urgent need for the creation of quality infrastructure. Thus the later phase of economic reforms was concentrated on providing gains for human development, which is possible only when quality of infrastructure lends itself to economic and social development. Ragnar Nurkse points out the impact of poverty on savings and investment. Consequently it would mean there is a need to bring about greater investment, which in an open economy model can happen through creation of assets and flow of capital. This infrastructure can create a process or a mechanism of mitigating the effects of vicious circles. Again in our study of socio-economic problems in the open economic framework, a larger focus is on only on infrastructure, but 'quality of infrastructure'.

Among the socio-economic issues that can be liked with poverty levels include, education and employment opportunities. This could largely be discussed on the need to create social infrastructure which can propel the concept of Well Being. It is not the mere creation or existence of an infrastructure, but direct the resources towards reduction of inequities. A look into the Multidimensional Poverty Index would show the close relationships between poverty, education, health and living standards [Refer Note 1].

Sl No	Country	IMR
1	Bangladesh	31
2	Bhutan	27
3	India	38
4	Maldives	7
5	Nepal	29
6	Sri Lanka	8

IMR: Infant Mortality Rate

Source: Basic Statistics 2017 ADB



In this era of economic development and greater exchange, though industrial output and volume of trade can be said to have increased, there is a still a deep focus on the socio-economic issues. More so in the market economies, there are problems as regards

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to labour standards, gender equality and starvation deaths. Thus developments in trade and capital flows may have provided some pockets of innovation; but did the benefits if trade percolate to the people engaged in trade remains a question mark. Thus the socio-economic issues under this ambit could mean achieving the objectives under Well Being through the adoption quality infrastructure. Twin forces are at work, where socio-economic issues are addressed and appropriate technologies are in pace. But growth theories suggest that a greater amount of social capital must be infused into the economy to really push the growth targets. This is where the present market economies are juxtaposed into – meeting socio-economic needs and attaining sustained targets. Thus trade should adhere to the basic tenet, where there is a transparent mechanism and that the gains of trade are spilled over the stakeholders. This will to a large extent lead to an increase in the wages of the people engaged in various trading activities and the consequent development of various sectors.

Internal and External Vulnerabilities

The countries are scaling down to a steady growth rate instead of a very high growth rate. This is evident from the spate of protectionist policies followed by the market economies . Essentially the market economies are giving space for a pertinent socio-economic outlook and have 'realized' the need for a better social structure and building up on the fundamentals of the economy. In any market system there will be a mismatch in the flow of factors due to internal constraints and external contingency and thus there is a continuous need to focus on development of infrastructure. To this end institutions and social upliftment garner to the attainment of high growth rates. Thus there are vulnerabilities in the economy – the open economy framework to managed economies – with the inducement of policy mix. This era of economic growth is discussed in terms of 'new normal' situations which is not exaggerated. In fact it is a long felt need that economic progress must be measured in terms of socio-economic development.

There is no denying of the fact that trade has promoted economic growth; however has prompted less diversionary effects. This is now a larger question that countries have to address. The attaining of Sustainable Development Goals can be said to be a classic case where the nations' development agenda is put in test to the needs of integration. In other words, the internal and external balance under economic growth need to be synthesized so that there a sustained outlook. There should be a conscious effort to make trade work towards creation of 'labour-market' outcomes which also means making 'global trade work for the people'. The two-pronged strategy here is to provide the desired labour standards and at the same time help the sustenance of market mechanism. Irene Brambilla et.al., point out, exporting brings up enhanced opportunities for firms and industries in world markets, and these opportunities can be successfully exploited if firms, or industries, have, or develop, the needed attributes and thus become efficientworld producers. In turn, this process has implications for employment and wages and, inconsequence, the whole mechanism allows those world export opportunities to be transmittedto the local economy. In the end, the benefits from globalization can be realized at amicro-level. In contrast, those economies and that are not endowed with the needed attributes suffer from the globalization process and may have to adapt and adjust to the new environment. Richard Newfarmer and Monika Sztajerowska point out in simple terms that trade, together with technical progress and domestic competition, is integral to a larger Schumpeterian process of growth. [Refer Annexure 1]. Today's growth agenda is towards sustainable development and thus there is a need to look into the environmental standards in matters of providing

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better quality of life and in the context of free market to understand the trade-off between trade, investment and environmental policies

The Agenda

The agenda or the outlook for developing countries can be smoothened out in the light of attaining Sustainable Development Goals (SDGs). The ADB clearly points out that without access to basic social services, they are vulnerable to illness, unemployment, and the region's increasingly devastating natural disasters. A social development agenda involves people and their communities, organizations, institutions, societies, and governments in all poverty relief activities. The aim is to reduce poverty, inequality, and vulnerability among the poor. The present trading environment calls for free and transparent trade with ensuring standard of living and growing volume of real income and effective demand. Setting up a Quality Infrastructure System is one of the most positive and practical steps that a developing nation can take on the path forward to developing a thriving economy as a basis for prosperity, health and well-being. A Quality Infrastructure is a system contributing to governmental policy objectives in areas including industrial development, trade competitiveness in global markets, efficient use of natural and human resources, food safety, health, the environment and climate change. It offers a complete package addressing the needs of the nation's citizens, of customers and consumers, and of enterprises and other organizations that offer them products and services. The Quality Infrastructure System covers essential aspects such as policy, institutions, service providers, and the value-adding use of international standards and conformity assessment procedures .

In this situation of pulls and pressures of internal constraints and external contingencies, there can be mapping of socio-economic issues. The James Hutton Institute and The Scottish Government (2015) have brought out conceptual and methodological questions in the mapping of Rural Socio Economic Performance as to – how should socio-economic performance be defined; Can performance indicator be defined in such a way that maximizes transparency and accessibility to a range of users? Richard Newfarmer and Monika Sztajerowska also mention that analysis of trade and labour that focuses solely on wages will miss important developments in income, employment and working conditions in agriculture, services, construction and mining sectors. This forces a larger enquiry in the socio-economic issues. This brings into focus the quality of workforce and working conditions involved [Note 2].

II. Conclusion

The economies are through a phase of new normal growth and there is a greater need for integration of various policies. The gains from trade have to be translated, as reflecting on socio-economic environment. Though sustainable development goals are put up on the agenda, countries across the globe have witnessed a slowdown, which would mean more thrust on the fundamentals. India is also missing on some of the indicators under the criteria of emerging markets. Thus outlook for developing economies is to pursue national goals alongwith the needs of integration.

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IMPACT OF INFRASTRUCTURE FACILITIES AND ECONOMIC GROWTH OF GOVERNMENT SCHEMES IN INDIA

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I. INTRODUCTION

India's rise in recent years is a most prominent development in the world economy.The present paper focused on Infrastructure facilities and Economic Growth of Government Schemes in India. India has re-emerged as one of the fastest growing economies in the world. India'sgrowth, particularly in manufacturing and services, has boosted the sentiments, bothwithin country and abroad. With an upsurge in investment and robust macroeconomicfundamentals, the future outlook for India is distinctly upbeat. According to manycommentators, India could unleash its full potentials, provided it improves theinfrastructure facilities, which are at present not sufficient to meet the growing demandof the economy. Failing to improve the country's infrastructure will slow down India'sgrowth process. Therefore, Indian government's first priority is rising to the challengeof maintaining and managing high growth through investment in infrastructure sector,among others.

The necessity of a proper road network for the socioeconomic development of rural India and consequently the whole country was understood quite early in India.The provision of quality and efficient infrastructure services is essential to realize thefull potential of the growth impulses surging through the economy. India, while steppingup public investment in infrastructure, has been actively engaged in involving privatesector to meet the growing demand. The demand for infrastructure investment during the 11th Five Year Plan (2007-2011) has been estimated to be US$ 492.5 billion(Planning Commission, 2007). To meet this growing demand, Government of India hasplanned to raise the investment in infrastructure from the present 4.7 percent of GDP to around 7.5 to 8 percent of GDP in the 11th Five Year Plan. In general, efforts towardsinfrastructure development is continued to focus on the key areas of physical and socialinfrastructure.The present paper is a shorter version of the India country report carried out by the

author on-behalf of RIS for ERIA. This version presents a quick profile and prospects of

- India's physical infrastructure sector.
- India's Past and Current Focus On Infrastructure Development

The different social sector programmes show varied performances in different places. While changes in the programmes are needed in some cases, in most of the cases it is the implementation and delivery related issues that need to be addressed. In some cases there is the need for greater awareness creation.Given the fact that strong infrastructure facilities form the backbone of a nation'seconomy, the Indian government began to shift its focus to infrastructure development, as was evident from the 10th and 11th Five Year plans. During thisperiod, the Planning Commission identified inadequate infrastructure as asignificant barrier to economic growth. It persuaded the government to undertakeinitiatives such as public private

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partnerships (PPPs), to draw private sectorinvestments into the infrastructure sector. This move has benefited severalinfrastructure companies, and has consequently renewed their interest inundertaking large scale infrastructure projects within the country. Infrastructureinvestments are expected to double from Rs 9,19,225 crore (US$ 169.9 billion)during the 10th Five Year Plan (2002–07) to Rs 20,54,205 crore (US$ 379.6 billion)during the 11th Five Year Plan (2007–12).

Profile f India's Physical Infrastructure

Performance of physical infrastructure in Indian economy in last one and half decadeshas been mixed and uneven. Table 1 provides the latest achievement of India's physicalinfrastructure sector. Over years, India's soft infrastructure grew much faster than thehard infrastructure. For example, India's rising trade has been reflected in growingcontainer port traffic, which increased from less than a million in 1991 to about 5million in 2005 with an annual growth rate of about 266 percent since 1991. In contrast,hardware components, like railways, roadways and airways, witnessed little expansionin last one and half decades. In general, performances of these sectors (hardware) areneverthelessn poor, when counted their densities in terms of country's surface area orpopulation. Densities in terms of access or spread of rail and road length clearly indicatethat road sector has been successful, compared to railways, in spreading the network aswell as providing an access in the economy.

Trends in Rail Ways

Indian Railways, world's second largest rail network under a single management, hasbeen contributing to the development of the country's industrial and economiclandscape for over 150 years. Of the two main segments of the Indian Railways, freightand passenger, the freight segment accounts for roughly two-thirds of revenues. Withinthe freight segment, bulk traffic accounts for nearly 95 percent, of which more than 44percent is coal. Improved resource management, inter alia, through increased wagonload, faster turnaround time and a more rational pricing policy has led to animprovement in the performance of the railways during the last two years.

Rationalization of classification is aimed at securing eventual elimination ofcross-subsidies in fares and freight, and evolving a more transparent and cost-basedtariff regime. This process necessarily requires increase in freight rates for commoditiesbeing transported below cost and lowering the freight charges for commodities beingmoved at abnormally high rates. In the freight segment, the number of commodities ingoods tariff has been reduced from 4,000 commodities to 80 main commodity groups in2005-06, and further to 27 groups in 2006-07. The total number of classes for chargingfreight has been reduced from 59 to 17.

The high-density network connecting the four metropolitan cities of Chennai, Delhi,Kolkata and Mumbai, including its diagonals, popularly called the Golden Quadrilateralhas got saturated at most of the locations. Given the present growth scenario, theRailways expect to carry 95 million tonnes incremental traffic per year and about 1,100million tonnes revenue earning freight traffic by the end of the Eleventh Five Year Plan.This entails large investment for capacity augmentation.

Investments in railways are expected to exhibit a deficit of more than 23 per centfrom the original projections by the end of the 11th Five Year Plan. However, thegovernment is taking significant initiatives, such as PPP projects in the railwayssectors, some of which have already materialized or are in the pipeline.

Urban Infrastructure

Urban infrastructure consists of drinking water, sanitation, sewage systems, electricityand gas distribution, urban transport, primary health services

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and environmentalregulation. The process of urbanization has gathered considerable momentum in recentyears and this has put urban infrastructure and services under severe strain.

Government Policy on InfrastructureDevelopment: Public – Private Partnership

India has created specialized institutions for long-term infrastructure financing and thereare certainly many arguments for establishing a regional investment bank, similar to theline of India's IIFC. Viability Gap Financing (VGF) is likely to be successful instrumentin managing much needed gaps in road development in developing Asia and LDCswhere domestic resources are limited and suffer from capacity constraints. While thisinstitution could certainly play an important role by tapping into global financialmarkets and channeling funds to infrastructure projects, their mere existence will notincrease investment if the underlying obstacles precluding investor confidence are notaddressed—as the shortage of viable projects for funding by the IDFC or IIFCillustrates.

Public Private Partnership (PPPs) in Infrastructure

Government is actively pursuing PPPs to bridge the infrastructure deficit in the country.Several initiatives have been taken during the last three years to promote PPPs insectors like power, ports, highways, airports, tourism and urban infrastructure. Underthe overall guidance of the Committee of Infrastructure headed by the Prime Minister,the PPP programme has been finalized and the implementation of the various schemes isbeing closely monitored by the constituent Ministries/Departments under thisprogramme.

PPPs have traditionally been formed to enhance the productivity andefficiency of infrastructure development activates. This is an instrument todraw significant private sector investments. The primary advantage of PPPsover traditional public procurement is efficiency gains in terms of both time,and cost.Taking into account the rapid urbanisation expected in the next two decades, itbecomes imperative to analyse bottlenecks to growth in the infrastructure sector,and forming strategies and policies to mitigate them. The next sections include ananalysis of each sub sector in the infrastructure sector. The sections also coverthe developments and projects initiated or completed during the 11th Five YearPlan. A summary of projects that were either implemented or completed in thecentral sector as on 31st March 2011 is given below.

PPP projects completed or implemented in the central sector(cost in Rs crore)

Sector	Implemented			
National Highways	55	20,139	127	103,455
Major Ports	29	9,677	20	34,138
Airports	3	5,883	2	23,310
Railways	5	1,166	4	2,363
Total	92	36,865 crore (US$ 6.9 billion)	153	1,63,266 crore (US$30.8 billion)

Examples of PPP projects in railways are as follows:

*Modernising 50 identified train stationsDeveloping a 60 kilometre long elevated rail system in Mumbai

*Constructing metro rail systems in Delhi, Mumbai, Hyderabad, Kolkata13 andChennai13, and launching the High Speed Rail Project in Bengaluru.

Electricity Cost

The government has liberalised its policies to facilitate 100 per cent FDI in allsegments of the power sector, including power trading. This is expected toincrease private sector investments approximately 40 per cent during the 12thFive Year Plan.Further, the addition of power generation capacity is likely to show a deficit ofclose to 20,000 MW with a capacity of only 58,000 MW likely to be

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achieved by theend of the 11th plan8,9 primarily due to unforeseeable reasons, such as floods andlocal agitations.

Roads

The projected investment in roadways is pegged at Rs 2,78,658 crore (US$ 51.5billion), approximately 11 per cent lower than the original projection. The reasonfor this decrease is the inability of the National Highway Authority of India (NHAI)to award an adequate number of projects during the first half of the 11th Five YearPlan period.The scheme aims to connect all villages with a population of morethan 500 and 250 persons in plain and hilly areas, respectively.8,10 During the 11thFive Year Plan, the government completed the Golden Quadrilateral project andthe East-West-North-South Links, started in the 10th Five Year Plan.

Telecommunications

The telecommunications sector performed fairly well during the 11th Five YearPlan, and is expected to reach Rs 344,921 crore (US$ 63.7 billion) by the end of2012, at a yoy growth rate of over 26 per cent.The projected investment in the 11th Five Year Plan increased 34 per cent fromthe original projection. This increase was primarily because of huge cash inflowfrom the private sector and stiff competition, which brought down costs andimproved quality.

Airports and Ports

Investment in the airports sector has marginally exceeded expectations, with theprivate sector accounting for 64 per cent of the investments. These investmentsreceived a significant boost due to the Bengaluru, Delhi and Hyderabad airportprojects.Additional initiatives for development are as follows:

*Upgrade 35 city airports through PPP initiatives

**Upgrade airports in metro and non metro cities in collaboration with AirportsAuthority of India, which is investing approximately Rs 15,673.5 crore (US$ 2.9billion)

***Inaugurated India's first aerospace SEZ, costing Rs 165.7 crore (US$ 30.6million), in Belgaum, Karnataka.

In case of the ports sector, actual investment is 50 per cent less than theexpected investment, primarily because there were few PPP projects in thesector.

Water Supply and Irrigation

Irrigation solely remains under the control of the public sector; however, the 11thFive Year Plan has considered drawing private investments of up to 2 per cent inwater supply.

Special Economic Zones (SEZ)

SEZs are designated duty-free enclaves with developed industrial infrastructure.These zones are regarded as foreign territory for the purpose of duties and taxes, and areexcluded from the domain of the custom authorities to enjoy full freedom for the in andoutflow of goods. SEZ units enjoy a tax exemption for seven years: 100 percentexemption in first 5 years, and 50 percent in the remaining 2 years. They have thefacility to retain 100 percent foreign exchange earnings in Export Earners ForeignCurrency Exchange accounts. All SEZ units are free to sell goods in the domestic tariffarea (DTA) on payment of applicable duties.During 2005-06, exports from functioning SEZs, which are mainly the former EPZswere around US$ 5 billion. At present 1,016 units are in operation in these SEZsproviding direct employment to over 179,000 persons (about 40 per cent of whom arewomen). Private investment by entrepreneurs for establishing units in these SEZs is ofthe order of about Rs. 31.63 billion. After the SEZ Act and SEZ Rules came into effecton February 10, 2006, formal approval has so far been granted to 237 SEZ proposalsand in-principle approval has been granted to 164 SEZ proposals. Out of the 237 formalapprovals, notifications have already been

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issued in respect of 63 SEZs. In these 63 newgeneration SEZs which have come up after February 10, 2006, investment of the orderof Rs.111. 94 million has already been made in less than one year. These SEZs have sofar provided direct employment to 15,097 persons. It is expected that total investment inthese SEZs would be around Rs. 584.59 million and 890,700 additional jobs will becreated by December 2009. It is also expected that if all the 237 SEZs becomeoperational, investment of the order of Rs. 3000 billion may take place and 4 millionadditional jobs may be created.

Infrastructure Investments Requirement in India

India is expected to grow at an average 9 percent per annum in next few years.Accompanying this growth will be an increase in demand for infrastructure services.Economic and population growth prospects are expected to place additional pressure onexisting infrastructure facilities. Therefore, addressing these challenges will be essentialis the infrastructure sector is to continue fostering economic growth rather thanbecoming a constraint. In other words, a failure to respond to this demand will causebottlenecks to growth and hamper poverty alleviation efforts.

The main findings of Economic growth of Government Schemes are as follows:

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA): Some activities like check dams in Mysore district, recharging of borewell in Pune district, road laying in Aurangabad district were working well. Even the panchayats had women chairpersons. While husbands of women chairpersons were doing the work, in some other places, the women chairpersons were learning their responsibilities, reflecting the low but growing level of awareness and empowerment of women. In almost all places, wage payments through banks were faster than through Post Offices because of the procedural delays. If the payment of wages is made through banks, the situation is likely to improve further. Thus MGNREGA has helped in increasing the bargaining power of the wage seekers, improving the economic outcomes especially in watershed activities, reducing the distress rural-urban migration, increasing significantly the monthly per capita consumption expenditure of the rural households, reducing the traditional gender wage discrimination, raising their social status and share in decision making at home and empowering women both socially and economically. Some weaknesses were also found in different places. Though the MGNREGA Act is Panchayat centric and demand based, on the ground, there is lack of principal role in planning by the Gram Sabha/Gram Panchayat. At all the sample sites, the role of the Gram Sabha in planning was more of a formal nature and the programme is being implemented in a supply driven mode and there is lack of panchayat driven selection of work. Under MGNREGA, the need for community projects is becoming less important as probably such works have already been completed or on the brink of saturation or due to lack of common interest in these areas and instead individual activities in farms are preferred. In some places for individual activities under MGNREGA, the difference of market and MGNREGA wages are paid by beneficiaries.

In some places only females are interested in MGNREGA works as market wages for males are much higher resulting in only small works being undertaken instead of big projects. There are also cases of procedures being not fully followed, lack of proper planning and some ill-conceived projects. There were also many instances of single beneficiaries and Gram Pamchayats starting activities only to use the MGNREGA funds. Seasonal aspect in provision of employment was also ignored and there were also delays in wage payment up to two months in some districts. diversify the activities given the

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amount of investment made in infrastructure like building and equipment.

National Rural Health Mission (NRHM)

With the advent of NRHM, India has made remarkable achievements in providing affordable healthcare facilities to the rural poor. Institutional mechanism has also taken shape and there has been considerable growth of health care infrastructure. While the public health centers were performing well in most places, each PHC had its own peculiarities both in terms of performance and problems. Some had good infrastructure, but were working much below their potential, either due to locational problems or availability of doctors or lack of residential facility/ transport for doctors and other staff.

Thus while generally MGNREGA has been able to serve its purpose, better management and further modifications are needed to make the programme more fruitful and even development oriented. In some places there is also scope to use this programme for development of tourism as other community related farm activities have been completed by now. This could help in having many beneficiaries and even nation building instead of single or few beneficiaries.

National Rural Livelihood Mission (NRLM)

The SGSY/NRLM has been working well in many places as in the case of the Pottery work in Alur gram panchayat of Kundapura taluk, Udupi district where one of the beneficiaries was earning even 1 lakh per month and the Vandana Mahila SHG at Shyanboganahalli in Mysore district making Agarbathis. However in both the cases, better marketing facilities and knowledge of markets were needed. Generally, beneficiaries in activities like tailoring, beauty parlours, chappal making were benefitting, while those in activities like cow rearing were finding marketing problems. The success of any self-employment/employment in service sector depends on careful assessment of demand and supply of the end product through meticulous planning and putting in place the backward and forward linkage. Whenever and wherever, these aspects have been taken care of, it has delivered positive results. One such example is the PACE Hospitality Training Centre at Aurangabad for skilling people to provide them employment in hospitality sector. However even here, there is a need to broaden and

Sarva Siksha Abhiyan (SSA)

SSA is performing well in many places with good stock of books and learning material, good examination results, use of Stree Shakti- a local women empowerment groups for cooking mid-day meals and even introduction of e-learning. However there were also places where the situation was not as good as in other places. Though the stipulation of RTE Act to have school within 1 km of radius of every habitat to ensure every child gets the opportunity of having a school within his habitation, has made positive dent in availability of schools, use of the criteria of having number of class rooms and teachers in these schools based on the number of students have also compromised on quality aspects which could be noticed in Bopgaon and Savkarmale villages in Pune. These schools set up under the stipulation of 1 km radius did not have the required number of students to have separate rooms for each class. Four classes were operational with only two teachers in two classrooms. Schools in nearby localities were also suffering from the same problem. A single school instead of many schools nearby could have served the purpose better with optimization of resources to augment better infrastructural facilities. The stipulation of having schools within 1 km radius of every habitat needs to be reconsidered to avoid mushrooming of schools nearby without adequate infrastructure and teachers.

Mid-Day Meal (MDM) Scheme

The MDM scheme was working well in the selected schools visited, with some schools even

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using donations to supplement this effort and serve better food. While some schools had good storage facilities like tin boxes, some schools used gunny bags and did not have proper doors for the store rooms. However greater involvement of teaching staff for this activity was at the cost of their primary activity of teaching. So teaching staff should be involved only in the supervision of serving of meals to students. Delivery of foodgrains to the schools should be the responsibility of the PDS dealers under the supervision of panchayats to ensure good quality and adequate quantity.

Total Sanitation Campaign (TSC)/Nirmal Bharat Abhiyan (NBA)

Initially, the supply driven approach was adopted for providing sanitation facilities to the rural population. But the experiences in the some states suggested for implementation of the programme in demand driven mode for which emphasis on information, education and communication (IEC) was given for demand generation of sanitation facilities under TSC now renamed as NBA. This has led to enormous increase in sanitation facilities with social cohesion and harmony in rural areas. For example, the model village Yashwantpur Gram at Bahirgaon, Malepur in Aurangabad district is declared free from all social tension and has 100 per cent sanitation facilities. The village leader was a lady, capable of overseeing all the development activities herself. This is also a good example of women empowerment. The convergence activities under NBA and MGNREGA were also visible as per guidelines laid down under the programmes in Hulimanu village in Mysore district. However, rural sanitation being a state subject, many states have not accorded high priority to the programme resulting in its slow progress. Besides, less emphasis is being given on capacity building and IEC activities at the field level affecting the demand driven approach adversely.

II. CONCLUSION

Development of the infrastructure sector is crucial to the growth of the Indianeconomy. Sustainable development can only be attained through a carefulanalysis of the factors that have mitigated growth in the past, and thereafter,taking the appropriate corrective measures.Over the last decade, the Indian government has made significant efforts toeliminate bottlenecks in these areas.

Some factors that could be a key enabler for future growth are:Awarding a higher number of projects: This can be achieved throughefficiently awarding projects as required in each of infrastructure's subsectors, especially through the PPP mode, and by easing the selection criteriafor private investors.

The cross-border infrastructure component is an important determinant of regionalintegration. If countries are not inter-linked each other through improved transportationnetwork, regional integration process will not move ahead at a desired pace. In India,development of cross-border infrastructure, especially transportation linkages andenergy pipelines with neighbouring countries is underway and expected to contribute tothe regional integration in Asia by reducing transportation costs and facilitatingintra-regional trade and services. Nevertheless, there are many challenges. It isimportant for India to enhance its overland connectivity with East Asia in order toeffectively facilitate the Asian regional integration.

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ORGANIC FARMING AND SUSTAINABLE AGRICULTURE

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I. INTRODUCTION

There are several definitions of organic farming but the most coherent and stringy definition is given by the US Department of Agriculture (USDA). According to it, organic farming is defined as a system that is designed and maintained to produce agricultural products by the use of methods and substances that maintain the integrity of organic agricultural products until they reach to the consumers. This is accomplished by using substances, to fulfill any specific fluctuation within the system so as to maintain long term soil biological activity, ensure effective peak management, recycle wastes to return nutrients to the land, provide attentive care for farm animals and handle the agricultural products without the use of extraneous synthetic additives or processing in accordance with the act and the regulations in this part.

Organic farming seems to be more appropriate, as it considers the most important aspects like sustainability of natural resources and environmental safety. It is a production system which favour maximum use of organic materials (like crop residue, animal residue, legumes, on and off farm wastages, growth regulators, bio-pesticides) and discourages the use of synthetically produced agro-inputs for maintaining soil productivity, fertility and pest management under conditions of sustainable natural resources and healthy environment.

Definition Of Organic Farming:

Organic farming is the form of agriculture that relies on crop rotation, green manure, compost, biological pest control, organically approved pesticide application and mechanical cultivation to maintain soil productivity and control pests, excluding or strictly limiting the use of synthetic fertilizers and synthetic pesticides, plant growth regulators, livestock antibiotics, food additives, and genetically modified organisms

The US Department of Agriculture defines organic farming. Thus "Organic farming is a production system which avoids or largely excludes the use of synthetically compounded fertilisers, pesticides, growth regulators and livestock feed additions. To the maximum extent feasible, organic farming systems rely on crop rotations, crop residues, animal manures,legumes, green manures, off- farm organic wastes and aspects of biological pest control tomaintain soil productivity and tilth, to supply plant nutrients and to control insects, weeds and other pests" (Lampkin, 1990).

According to Francis Blake the principles of organic agriculture are (1) Organic agriculture aims to be in harmony rather than in conflict with natural systems. The powers of nature are harnessed and developed to their fullest extent, rather than dominated. (2) It adopts an approach that minimises the use of non-renewable forms of energy (3) Organic food aims to be of optimum nutritional value (4) The organic world strives to be localised. Local markets, decentralised systems of distribution and processing are sought. (5) Organic agriculture does not pollute the environment (Blake 1987).

Objective :

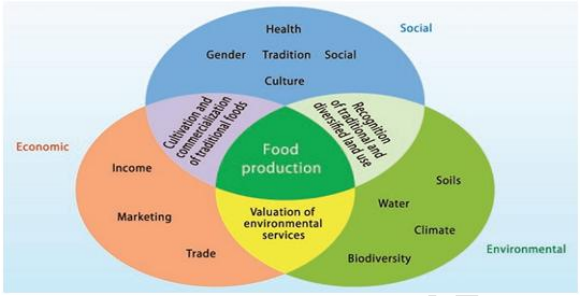
1. To study the relationship between organic farming and sustainable agriculture.
2. To analyse the major pillors /principles of organic farming .

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3. To High light the barriors of sustainable agriculture.

Organic Farming And Sustainable Agriculture:

Organic farming is often associated directly with, "Sustainable farming." However, 'organic farming' and 'sustainable farming', policy and ethics-wise are two different terms. Many techniques used in organic farming like inter-cropping, mulching and integration of crops and livestock are not alien to various agriculture systems including the traditional agriculture practiced in old countries like India. However, organic farming is based on various laws and certification programmes, which prohibit the use of almost all synthetic inputs, and health of the soil is recognized as the central theme of the method. Organic products are grown under a system of agriculture without the use of chemical fertilizers and pesticides with an environmentally and socially responsible approach. This is a method of farming that works at grass root level preserving the reproductive and regenerative capacity of the soil,good plant nutrition, and sound soil management, produces nutritious food rich in vitality which has resistance to diseases.The farming being practiced for the last five decades in India has increasingly been found non-sustainable. The system is oriented towards high production without much concern for ecology and the very existence of man himself.Their negative effects on the environment are manifested through soil erosion, water shortages, salination,soil contamination, genetic erosion, etc.Organic farming is one of the widely used methods, which is thought of as the best alternative to avoid the ill effects of chemical farming. The origin of organic farming goes back, in its recent history, to 1940s. During this period, the path breaking literature on the subject published by J.I. Rodale in the United States, Lady Balfour in England and Sir Albert Howard in India contributed to the cause of organic farming.In simple words organic agriculture is the production system with the optimum utilization of local resources in such a way so that sustainability of production and wellness of the society and environment..



Major Pillors / Principles Of Organic Farming :

There are four major pillars of organic agriculture and they are as follows.

Principle of Health Organic agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible. This principle points out that the health of individuals and communities cannot be separated from the health of ecosystems-healthy soils produce healthy crops that foster the health of animals and people. Health is the wholeness and integrity of living systems. It is not simply the absence of illness, but also the maintenance of physical, mental, social and ecological well-being. Immunity, resilience and regeneration are the key characteristics of health. The role of organic agriculture, whether in farming, processing, distribution, or consumption, is to sustain and enhance the health of ecosystems from the smallest organisms in the soil to the human beings. In particular, organic agriculture is intended to produce high quality nutritious food that contributes to preventive health care and well-being. In view of this it should avoid the use of fertilizers, pesticides, animal drugs and food additives that may cause adverse health effects. Principle of Ecology Organic agriculture should be based on living ecological systems and cycles, work, emulate and help to sustain them. This principle roots organic agriculture within living ecological systems. It states that production is to be based on ecological processes and recycling.

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Nourishment and well-being are achieved through the ecology of the specific production environment. For example, in case of crops this is the living soil; for animals it is the farm ecosystem; for fish and marine organisms it is the aquatic environment. Organic farming, pastoral and wild harvest systems should fit the cycles and ecological balances in nature. These cycles are universal but their operation is site-specific. Organic management must be adapted to local conditions, ecology, culture and scale. Inputs should be reduced by reuse, recycling and efficient management of materials and energy in order to maintain and improve environmental quality and conserve resources. Organic agriculture should attain ecological balance through the design of farming systems, establishment of habitats and maintenance of genetic and agricultural diversity. Those who produce, process, trade, or consume organic products should protect and benefit the common environment including landscapes, climate, habitats, biodiversity, air and water.

Principle of Fairness Organic agriculture should be built on relationships that ensure fairness with regard to the common environment and life opportunities. Fairness is characterized by equity, respect, justice and stewardship of the shared world, both among people and in their relations to other living beings. This principle emphasizes that those involved in organic agriculture should conduct human relationships in a manner that ensures fairness at all levels and to all parties-farmers, workers, processors, distributors, traders and consumers. Organic agriculture aims at providing a good quality of life to everyone involved with it and contribute to food sovereignty and reduction of poverty. It aims to produce a sufficient supply of good quality food and other products. This principle insists that animals should be provided with the conditions and opportunities of life that accord with their physiology, natural behavior and well-being. Natural environmental resources that are used for production and consumption should be managed in a way that is socially and ecologically just and should be held in trust for future generations. Fairness requires systems of production, distribution and trade that are open and equitable and account for real environmental and social costs.

Principle of Care Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations as well as the environment. Organic agriculture is a living and dynamic system that responds to internal and external demands and conditions. Practitioners of organic agriculture can enhance efficiency and increase productivity, but this should not be at the risk of jeopardizing health and well-being. Consequently, new technologies need to be assessed and existing methods should be reviewed. The incomplete understanding of ecosystems and agriculture should be taken care of. This principle states that precaution and responsibility are the key concerns in management, development and technology choices in organic agriculture. Science is necessary to ensure that organic agriculture is healthy, safe and ecologically sound. Along with scientific knowledge practical experience, accumulated wisdom, traditional and indigenous knowledge also offer valid solutions, which are tested by time. Organic agriculture should prevent significant risks by adopting appropriate technologies and rejecting unpredictable ones, such as genetic engineering. Decisions should reflect the values and needs of all who might be affected, through transparent and participatory processes

Barriors of Sustainable Agriculture:

Most researches on the adoption of sustainable agriculture practices have found several barrier sthat impede its widespread adoption.Cary et al.,(2001) point out that there is a range of constraints that discourage adoption of natural resources management

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programs. They also explain that these constraints can have four different backgrounds: "perspective of individual landholders, the characteristics of desirable management practices, the socioeconomic structure of adopters' communities and the broader institutional settings".

Lack of farmers' information. The lack of information about sustainable agriculture practices is often regarded as a barrier to adoption (Bell et al., 2001; Edson et al., 2014; Norman explains that one of the reasons for farmers being unable to adopt residue management techniques is the lack or scarce information regarding economic or technical issues of these technologies.

Lack of knowledge about the implementation and viability of these practices is an important barrier to adoption (Bell et al., 2001; Norman et al., 1997; Presley, 2014).

Economic Factors. Even for sustainable agriculture practices, economic factors are the important determinants of adoption (Pannell, 1998). Economic factors are frequently mentioned as barriers to adoption of sustainable agriculture practices by farmers and also by change agents. Some of the commonly mentioned economic factors holding farmer from adoption are the cost of adopting, the uncertainty of profitability, loss of productivity, labor demand, short term economic necessity, and the economic policies

When environmental problems are not being overcome, current and future productions are at risk, as well as financial and time investments. Thus, farmers need to be sure that the new technology will provide the expected environmental benefits and effect

Another factor closely related to risk is the farmers' economic ability. When the farmers' economic situation is not economically solved, they may tend to overexploit natural resources in order to maintain their operation. In such a case, the negative interactions among the components of sustainability, especially environmental and economic, can also be a barrier to adoption. This has been identified mainly in low income countries where poverty and ecological degradation are found to be closely relate

Labor demand is another economic factor that negatively affects profitability and the farmers' decision to adopt. Nowak (1991) cites that increase on labor requirement is one reason that farmer do not adopt residue management systems. Northwest Area Foundation (2004) found that increased labor demands represent a substantial barrier to adoption for many conventional farmers (Horticulture). Conversely, for farmers who have already adopted sustainable practices, labor concerns ceased. Reed (2004) explains that for organic farmers, labor demand represents a constraint to the economic rationality of transition to such production systems

that prevent adoption at the farm level, external factors such as policies may negatively influence farmers' adoption decisions. Adoption of sustainable agriculture practices is commonly affected by influences from higher levels (e.g. National, regional, and watershed). National policies influence the economic environment upon which farmers decide if whether adopting new agricultural practices is feasible or not (Norman et al., 1997). Moreover, Pannell (1998) explains that farming systems are the result of "farmers' reaction to government policies and institutions in place".

Farmers' Personal Characteristics. Some personal characteristics are barriers to adoption of sustainable agriculture. The frequently mentioned personal and demographic farmers' characteristics that act as barriers are: reluctant to change, age, and other attitudes. Farmers' perceptions of environmental problems and media promotion are other barriers to adoption. Farmers are likely to adopt environmental innovations when they perceive a risk of environmental degradation by using traditional

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practices. However, the extensive literature that gives images of dramatic environmental degradation may have contrary effects. Farmers may feel incapable of solving these problems. In some cases, farmers may not perceive they have such dramatic damage and thus take no action to solve the problem . Incompatibility. Compatibility of sustainable practices with the current agricultural systems in terms of management style, farm size, physical setting, and production goals is often identified as a barrier to adoption. Also, incompatibility with farm and personal objectives is a barrier to adoption. When practices are complex and non divisible, they tend to require substantial changes in farm management . As Roling and Jiggins (1994) explain "sustainable management requires profound changes in the activities which constitute farm practices," thustend to be incompatible with current management strategies. Land tenure issues are often found to be an important barrier to adoption of sustainable practices in developing countries, and in developed countries such as the United States. Antle and Diagana (2003) explain how insecure property rights would make very unclear and thus difficult to establish contracts for carbon sequestration with farmers from developing countries. Moreover, farmers with insecure property rights may degrade soil unintentionally. Insecure property rights have existed in Honduras for a long period of time, causing a conflict that affects many resource poor farmers. This has been demonstrated to have a deterrent effect on the adoption of sustainable practices. Plots that were owned by farmers were four times more likely to employ minimum tillage and conservation tillage . Physical and social infrastructures may present other barriers to adoption. Physical infrastructure such as marketing infrastructures may constrain the adoption of an innovation. Social infrastructure is very important because farmers often refer their peers for information. Therefore, most farmers wait until there is sufficient interest in the innovation by their peers before adoption occurs.

II. CONCLUSION

It is clear to address the efforts not only to the farmers, but to change communities, general public as well. This can help to reduce some of the beliefs and perceptions that are hindering adoption and the same time increase public support to the concept. Public support in the long run will help sustainable agriculture assert its role as contributing to food security and national security.

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A STUDY ON DEVELOPMENT OF DAIRY PRODUCTS IN TAMILNADU

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I. INTRODUCTION

Dairy development has assumed significant importance in the rural economy of India due it is immense potential for supplementing income and employment generation for the rural people. According to the 18thlivestock census, India possessed the largest livestock in population in the world, after Brazil. It accounts for 56 per cent of world's buffalo population and 14 per cent of total cattle population.

India stands first in the cattle population as well as the production of milk from cow and buffalo. However, India is not able to fully exploit the export market of the world in the milk products. The opening of the economy since 1990 paved the way for global market for Indian dairy products. Already the cooperative sector is dominant in the milk production and marketing. Hence, a study on the performance of milk production, milk cooperatives of India is highly needed topic for research. In this backdrop this paper aims to analyse the milk production and its marketing in Tamil Nadu.

The operation flood aims at setting up of a modern dairy system to meet the India's growing demand for milk both internally and externally. Further, the operation flood would help dairy farmers to improve their livelihood as well as giving a helping hand to expand their dairy resources. A national milk grid which has been inaugurated in India has strengthened the dairy industry across 700 cities and towns of India. This system takes care to reduce seasonal and regional price variations found in the market and ensure the fair price for producers in a transparent manner.

This system has also increased the opportunities of larger population depended on agriculture and allied sector. The growing technology has been helping the dairy farmers to increase the efficiency level in maintaining the cattle population and the production of milk to cater the increasing needs of the consumers. The dairying is one of the oldest professions since the dawn of the civilization. In this backdrop this paper aims to analyse the milk production and its marketing in Tamil Nadu. The study is based on secondary data found in the budgetary documents of Tamil Nadu government and annual reports of the cooperative institutions.

Conceptualization of Milk Production

After the implementation of Five Year Plans in India since 1950, many schemes have been implemented to uplift this profession so as to generate additional income to the people living in the rural areas during the agricultural off-season. The opening of economy in 1990, posed many challenges to the dairy developmental activities in terms of competition and efficiency from foreign producers. The milk cooperatives have been playing a significant role in Tamil Nadu as a producer and supplier to the government and non-governmental units. In this context, the state level marketing federations help the dairy units to grow and face the challenges related to dairy sector. Therefore, this thesis makes a serious attempt to assess the performance of milk marketing

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by the cooperative units, private sector units in Tamil Nadu.

Though many theses in social sciences have touched the issues partially with different perspectives, this study fills the gap by analyzing the issues from the point of view of management aspects. The present study mainly focuses on the issues of milk units in cooperatives and private sectors and their marketing strategies. It is to be pointed out that there is a declining trend in the cattle population both India and Tamil Nadu during the last two decades. The Government of India and Tamil Nadu Government have realized this declining trend and took appropriate measures to control the declining trend in cattle population and milk production. Tamil Nadu Government has envisaged a new scheme by providing cows and goats to the poor sections at free of cost living below the poverty line. This scheme paved the way for increased milk production since 2011.

Tamil Nadu is the first ranking state in implementing socio-economic measures for the upliftment of the neglected sections of the society. Since dairying activities constitute a major profession in the rural areas generating employment and income, the Government of Tamil Nadu has been giving importance in the policy making for the promotion and welfare of the dairy sector. Tamil Nadu government through cooperative network is procuring milk on daily basis through state owned Aavin. The milk production in India is around 12.9 Crore metric tonnes per day with the country being the largest milk producer in the world. Tamil Nadu ranks eighth in milk production and leading to inaugurate the 'Second White Revolution'. Milk production in the Tamil Nadu during 2012-13 was around 1.82 Crore litres per day. Solutions to improve the economic status of the milk producers are being arrived at, by the Government viz., timely payment of the milk producers are being arrived at, by the Government viz., timely payment to the producers, remunerative price, subsidy schemes and inputs like breeding facilities, cattle feed etc.

There are 11,397 Milk Producers' Co-operative Societies including 1,722 Milk Producers' Women Co-operative Societies function in the State, besides 62 Milk Consumer Co-operative Societies which cater to the needs of the milk consumers. The 4.25 Lakh pouring members of the Societies are paid dividend for their share capital, bonus and patronage rebate when the Society earns profit. 17 District Co-operative Milk Producers' Unions function in the state and the Primary Milk Cooperatives functioning in the area of operation are affiliated to the District Unions concerned. In the absence of an elected Board, the Collector of the District where the Union is located acts as the Special Officer Administrator of the Union.

The commercial activities of the Dairy Development Department were handed over to the Tamil Nadu Dairy Development Corporation in July 1972. The Tamil Nadu Co-operative Milk Producers' Federation was started on 01.02.1981 encompassing all the District unions under its control. Designed on the 'Anand model' of Gujarat State, the Dairy Development Programmes are being implemented through a network of co-operatives, under the brand name 'Aavin'.

Outline of Dairy around the world Since 1980 the demand for the dairy products grew especially in Asian region from 32 kg per capita in 1981 to 64 kg per capita in 2011, the Asian consumers presented almost a half of the world demand for milk and milk products. Growing income and change in food composition in China, India and other Asian countries are the factors of the increasing demand. The governmental support of milk consumption like school milk programs and new dairy products supported this expansion (FAO, 2011). This growing demand and higher prices created market

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opportunities for the local producers and in 2010 Asia became the world largest milk producer with grows 35% in 2001-2011. Details of per capita milk consumption, milk equivalents during 1981- 2011 is given in table 1

Table 1: Per capita Mil Consumption, Milk equivalents.

Particulars	1981	1991	2001	2011
World	86	80	104	119
Developed	222	180	235	256
Developing	35	40	56	77
China	3	6	11	35
India	50	63	79	...
US	271	274	287	317
EU	...	363	469	396

Dairying in India Dairy development in India has been acclaimed as one of modern India's most accomplished development programmes. The State like Gujarat, Maharashtra, Uttar Pradesh, Haryana, Rajasthan, Andhra Pradesh, Karnataka and Tamil Nadu are surplus in milk production. The consumption pattern indicates that 45 per cent of milk is consumed in liquid form, while butter milk/separated milk (butter and ghee) constitutes 34 per cent. The balance is in the form of milk powder, ice creams, cheese and other products. Indian dairying is emerging as a sunrise industry.

India represents one of the world's largest and fastest growing markets for milk products due to the increasing disposable incomes among the 250 million strong middle class. The world dairy is zooming on India for its rapidly growing markets that promise the 'moon'. The changing international dairy trade pattern, following General Agreement on Tariffs and Trade (GATT) and the emergence of the World Trade Organisation (WTO), offer to the Indian dairy industry an opportunity to take its bow as an exporter. India's enthusiasm to integrate with the world economy is reflected in technological upgradition, professional excellence and cost-effective approach.

Indian dairy co-operative network is very wide and large. Total 170 milk unions are operated in 346 districts in India and nearly about, 1, 22,534 village level dairy co-operative societies are working under this union. In India 12.96 million farmers are the members of Dairy Co-operative Societies of which 3.4 million are women. The dairy sector provides 70 million farm families triple benefits of nutritive food, supplementary income and employment for family labours who are mainly women.

India is the world's largest milk producer, accounting for more than 13% of world's total milk production. As it is the world's largest consumer of dairy products, but consuming almost 100% of its own milk production. Dairy products are a major source of cheap and nutritious food to millions of people in India and the only acceptable source of animal protein for large vegetarian segment of Indian population, particularly among the landless, small and marginal farmers and women. In India, about three-fourth of the population live in rural areas and about 38% of them are poor.

Indian dairy industry is one of the fastest growing sectors in India. It has seen incredible growth for the last several years. India holds number one position in the world in milk production – 88 MT (2011-2012). The global milk production in the year 2012 was reported at 600 million 186ulch (FAO, 2013). Indian dairy industry is growing very rapidly at 4.5 per cent per annum. The world milk production by 2020 is expected to rise to 350-700 million 186ulch. India's share to world milk production at that time would substantially increase to 175 MT and 200 MT of milk by the year 2015 and 2020 respectively.

From the present production figure of 108 MT, India's dairy sector is expected to triple its production in the next 10 years in view of expanding potential for export to Europe, Middle East and South East. India's dairy export share is less than one per cent. The cost of production of milk per litre in India is the

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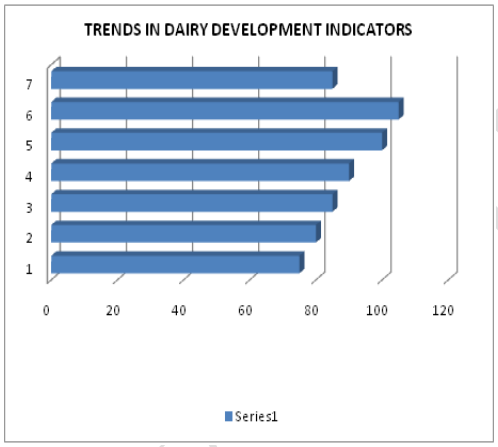
lowest in the world. In order to take the advantage of lowest cost and increasing production of milk in India, MNC's are planning to expand their activities in India. The details of trends in dairy development indicators are given.

Table 2.Trends in Diary Development Indicaters

YEAR	Milk production (million qtls)	Per capita availability (gms/day)	Br'dble Bovine (millions)
1950-51	175	125	75
1960-61	200	120	80
1970-71	225	110	85
1980-81	350	135	90
1990-91	580	185	100
2000-01	770	210	105
2010-11	175	125	85

Chart 2: Trends in Dairy Development Indicators

Year Milk production (million qtls) Per capita availability (gms / day)



Most indicators of dairy development have maintained an increasing trend around the third period. The increasing trend in some of the indicators of dairy development such as milk throughput and milk productivity has become robust during the period. This period may be referred to as a phase of qualitative growth. The performance of Indian dairy sector during the 50s and 60s was not remarkable. However with the successful implementation of OFP during the 70s, the dairy sector achieved four-fold growths rate by touching the mark of 4.51 during a single decade from 2001-11. Since then a gradual increase in growth rate has been observed with 5.21 till 2012 in an era which acknowledged the emergence of more globalized and liberalized policies in world trade. Soon after this, growth of Indian dairy sector declined by the end of the year 2012 and moved down to the mark of 4.42. The growth rate of milk production in Indian is presented in table 3.

Table 3: Growth rate of Indian Dairy Sector (Milk Production) Year Compound Growth Rate (%)

Year	Year Compund Growth rate (%)
1970-71 to 1980-81	1.64
1980-81 to 1990-91	1.15
1990-91 to2000-2001	4.51
2000-2001 to 2010-2011	4.42

Dairy Cooperatives

The progress of dairy cooperatives in India is given in table 5. There are 133349 dairy cooperatives, 13893000 Farmer Members of which 3916000 are Women Members in India. On an average the Indian co-operatives procured 25089 Tonne Kg per Day and marketed 20041Tonne Litres per Day. In Tamil Nadu, there are 9900 dairy cooperatives including conventional societies and Taluka unions formed earlier, 2203000 farmer members of which 863000 are women members. The average milk procured by dairy co-operatives in Tamil Nadu is 2246 Tonne Kg per day and the average milk marketed is 1900 Tonne Litres per day. The production of milk by dairy co-operatives in Tamil Nadu is approximately 9 per cent of milk procured by the dairy co-operatives in India.

Tamil Nadu Co-operative Milk Producer's Federation The Tamil Nadu Co-operative Milk Producers' Federation Limited, the Apex body of 17 District Co-operative Milk Producers' Unions, was established on 1st February of 1981. The Federation has 3 dairy plants in Chennai which collect milk from District Unions, process and pack in sachets and send for sale to consumers in and around Chennai City.18 Ambathur product dairy is engaged in the

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manufacturing of milk products. Recently, closed circuit T.V monitoring system has been installed at Ambattur Metro Dairy for effective supervision. Further, 5 numbers of new Road Milk Tankers were purchased at an estimated cost of Rs.71.60 lakhs by Tamil Nadu Cooperative Milk Producers' Federation Limited to maintain cold chain of transportation of milk.

Milk Procurement Most of the rural people especially women eke out their livelihood by rearing milch animals and supplying milk to the Milk Cooperatives. Keeping this in view and to improve the rural economy, Government directed the Tamil Nadu Cooperative Milk Producers Federation limited and District Cooperative Milk producers Unions to raise the procurement price of the cow's milk from Rs. 9.50 to Rs. 10.50 per litre and buffalo's milk from Rs.11.44 to Rs 12.50 per litre with effect from 1.6.2012 and that the milk cost as per the revised procurement price should be disbursed to the Milk Producers without any delay.

Average milk procurement in Tamil Nadu during the study period. The average milk procurement was 14.41 LLPD in 2002-03 which was increased to the average milk procurement of 17.26 LLPD during the year 2011-12. The steady increase in the milk procurement is highest in the history of "Aavin".

Average milk sales in Tamil Nadu during the study period. The sale of liquid milk was 607611 LPD in the Year 2002-03 which was increased to 669198 LPD during the year 2011-12. The Federation is taking continuous efforts to increase the sale of liquid milk. In sales turnover, Chennai Metro Dairies achieved second rank from among Metro Dairies in the Country, creating a record for the first time by the Tamil Nadu Cooperative Milk Producers' Federation.

Tamil Nadu – Dairy Tamil Nadu is endowed with a large livestock population of 91.41 lakh cattle and 16.58 lakh buffaloes. The state has a well developed dairy infrastructure constituting 8949 milk cooperative societies, 17 cooperative milk producers unions having 22.60 lakhs producer members. The average procurement of milk by cooperative dairy plants is around 26.10 lakh litres/ day the handling capacity of cooperative union dairy plants is around 19.42 lakh liters / day.

Dairy Co-Operatives The establishment and growth of cooperatives is regarded as one of the important instruments for socio economic change and for human development.The international labour organisation considered "cooperatives to be established and developed as a means of increasing national income, export revenues and employment by a fuller utilisations of resources aimed at bringing fresh areas into productive useIn Indian cooperation has developed and is being developed as a constructive instrument for economic and social upliftment .

As an emerging sector it is not only desired but also desirable. It is no more confined only to credit movement. There has been horizontal and vertical expansion of the cooperatives. It is embracing wider and wider fields of action and is considered as a diversified movement.

Primary Milk Society The primary milk society is the foundation of the cooperative structure. The efficiency of the movement solely lies in the strength of these 'grass root level societies. PMS are organised as one society per village. The purpose of such society is to promote the economic interests of its members by improving quality, and increasing quantity of milk production per dairy animal and to provide necessary guidance and assistance to its members and supply milk to the milk unions.

Findings & Problems and Remarkable improvement of dairy enterprises

Statement of Problems although there is remarkable improvement of dairy enterprises in recent years, the sample farmers faced some problems in developing their dairy enterprise. The major

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constraints hindering the development of dairy sector in the study are.

1. Shortage of green fodder and feed concentrate is the root cause of poor performance of dairy sector in general as

2. The genetic milk production potential of cross breed animals could not be exploited fully in absence of proper nutrition.

3. Lack of marketing facilities and extension services

4. Poor perception of the farmers towards dairy enterprise as a viable alternative to crop husbandry. 5. Lack of access to urban markets for remunerative prices of milk and milk products is one of the major constraints affecting the development dairy farming in the state.

6. Lack of specific state policy on animal breeding and strategies for livestock development in the state plan with proper perspective.

8. Unorganized fragmented market for milk and milk products involved a chain of middleman who reaps the actual benefit depriving the producers from their due share.

The government of India and the state government of Tamil Nadu already have taken lot of constructive steps to improve the milk producers' economic status. But the cooperative community is not reached its peak, when compared to the developed countries (fallen under India in the milk production) Indian co-operative producers are earn very few and the life status also very low. So government has to take more initiatives to develop the dairy industry.

II. CONCLUSION

India being the country with lot of diversified farming locations and dairying being practiced by the masses rather than mass production. Dairying is therefore, largely viewed as an important tool for the poverty alleviation brining self reliance to the rural poor and farmers. Agriculture in this country even though practical as main occupation, due to its dependence on monsoon and uncertain price for the produce the farmer are bound to depend on animal husbandry as a source of security and additional income. The investment and achievements in modernizing the Indian dairy industry have had a major impact on milk production. A number of programmer and policies have played a role in this success. Certainly, the introduction of modern technology, both at the farmer level and in the processing of milk and products, has been important. Similarly, establishing an urban market has provided the stability necessary to encourage farmers to invest in increased milk production.

The government of India and the state government of Tamil Nadu already have taken lot of constructive steps to improve the milk producers' economic status. But the cooperative community is not reached its peek, when compared to the developed countries (fallen under India in the milk production) Indian co-operative producers are earn very few and the life status also very low. So government has to take more initiatives to develop the dairy industry. The milk producer's unawareness about the technology know how and marketing practices are high level in the Tamilnadu. Cooperative societies should come forward and or more numbers of awareness programmes then only milk producers can utilize the schemes offered by the government

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RECENT TREND IN AGRICULTURAL CREDIT IN INDIA

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I. INTRODUCTION

At independence the economy was predominantly agrarian. Most of the population was employed in agriculture, and most of those people were very poor, existing by cropping their own small plots or supplying labor to other farms. Agriculture in India has always been heavily dependent on the monsoons and has hence been an inherently risky activity. With the intermittent failure of the monsoons and other customary vicissitudes of farming, rural indebtedness has been a serious and continuous characteristic of Indian agriculture. The Central Government and the Reserve Bank of India have been making efforts to enhance institutional credit in rural areas particularly to assist in agricultural operations. It began with the enactment of the Cooperative Credit Societies Act (1904) but efforts were redoubled after the nationalization of Scheduled Commercial Banks in 1969.

Objectives:

1. To study the importance of agricultural credit and the role of banks in creating credit in India.
2. To analyze the recent trend in Indian agricultural production and the recent flow of credit.

Research Methodology

The study is undertakenonly secondary data.The secondary data is taken from the reputed Published Sources like Economic Survey, various books and websites on Internet.

Importance of Agricultural Credit:

The institutional credit has been conceived to play a pivotal role in the agricultural development of India.A large number of institutional agencies are involved in the disbursement of credit to agriculture. Availability and access to adequate, timely and low cost credit from institutional sources is of great importance especially to small and marginal farmers. Agricultural credit is an important input for improving agricultural production and productivity and mitigating farmer distress. Bank credit is available to the farmers in the form of short-term credit for financing crop production programs and in the form of medium-term/long–term credit for financing capital investment in agriculture and allied activities

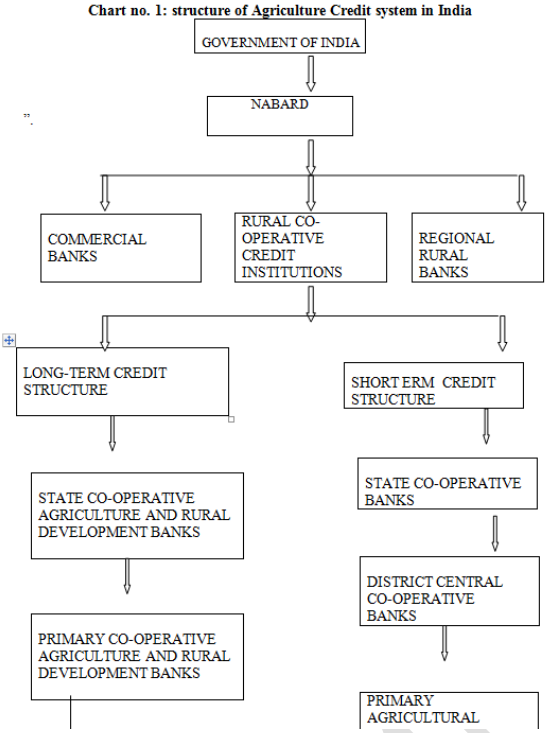
Sources of Agricultural Credit:

The finance to agriculture is broadly in two parts direct and indirect it is later in which more emphasis has been and thus direct support to agriculture has been minimal. The flow of agriculturalcredit depends on theavailability of funds with financial institutions, rate ofinterest, and the government policies.The co-operative credit societies, commercial banksand regional rural banks are financing agriculture. In order to select & prioritize the works for loan assistance from National Bank for Agriculture and Rural Development (NABARD) under Rural Infrastructure Development Fund (RIDF) Scheme, launched in 1995-96, a Cabinet Sub-Committee on

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RIDF has been constituted under the chairmanship of the Minister for Public Works.

Chart no. 1: structure of Agriculture Credit system in India



Recent Trend in Agricultural Credit:

Direct lending to farmers by institutional agencies (co-operative banks, commercial banks andregional rural banks) takes the form of either short-term or long-term credit. In addition, there issubstantial lending for allied activities, which is deemed to constitute indirect financing ofagriculture. During 2014–15, banks have disbursed`8,40,643 crore (provisional) credit tothe agriculture sector, against a targetof `8,00,000 crore. Commercial banks,cooperative banks and RRBs disbursed`5,99,691 crore (provisional), `1,38,469 croreand `1,02,483 crore, respectively (Table .1)

Agency	*2010–11*	*% share*	*2011–12*	*% share*	*2012–13*	*% share*	*2013–14*	*% share*	*2014–15*	*% share*
CBs	3,45,877	74	3,68,616	72	4,32,491	71	5,09,005	71	5,99,691	71
RRBs	44,293	9	54,450	11	63,681	11	82,652	12	1,02,483	12
Coops	78,121	17	87,963	17	1,11,203	18	1,19,964	17	1,38,469	17
Total	4,68,291	100	5,11,029	100	6,07,375	100	7,11,621	100	8,40,643	100

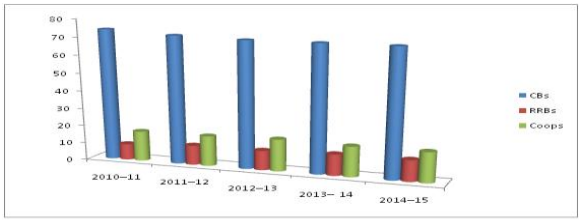
CBs: commercial banks; RRBs: regional rural banks; Coops: cooperative banks

Sources: (1) NABARD (based on reporting by RRBs and cooperative banks)

(2) Indian Banks Association (for commercial banks)

Chart 2

Agency-wise ground-level credit flow



The agency-wise share of credit flow tothe agricultural sector during the last fiveyears is

furnished in Table 2 Agriculturalcredit disbursement is dominated bycommercial banks, followed by co-operativebanks and RRBs.

Recent trend in Agricultural Production:

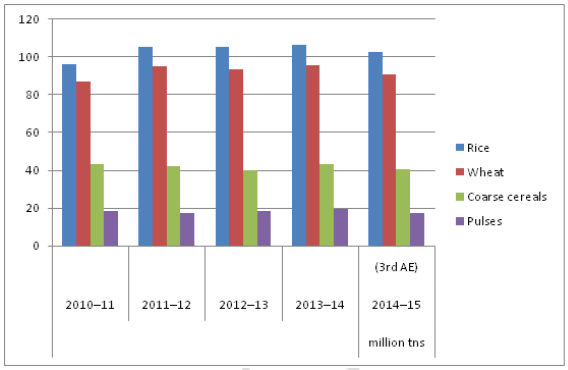
The CSO had estimated a positive growthrate of 0.2 per cent for agriculture in Indiafor 2014–15, recording a sharp declinein growth following a bumper year in2013–14. Below Table 2 indicates that thetotal foodgrain production in the countrystood at 251.1 MT in 2014–15, showing adecline of 13.9 MT from 2013–14. Among thecommercial crops, groundnut, soybean andoilseeds (nine) have experienced a steadydecline in production during the last three years theproduction of foodgrains declined by 5.5per cent compared to the previous year. Thedecline in the current year's production hasoccurred on account of lower productionof rice, coarse cereals and pulses due toerratic rainfall.

Table 2 Agricultural production (foodgrain production in million tonnes)

Crop	*2010–11*	*2011–12*	*2012–13*	*2013–14*	*2014–15 (3rd AE)*
Rice	95.98	105.30	105.24	106.65	102.54
Wheat	86.87	94.88	93.51	95.85	90.78
Coarse cereals	43.40	42.01	40.04	43.29	40.42
Pulses	18.24	17.09	18.34	19.25	17.38
Total foodgrains	244.49	259.28	257.13	265.04	251.12

Source: Directorate of Economics and Statistics, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India

Chart 3 Agricultural production (foodgrain production in million tonnes)



In spite of impressive increase in the flow ofagricultural credit, the recent years have again been

Characterized by a concern over the falling share of agricultural credit in total credit. It is mainly attributed to the high growth witnessed by the non-agricultural sector in recent years.

II. Conclusion

The structure of the sources of credit has witnessed a clear shift and commercial banks have emerged as the major source of institutional credit to agriculture in the recent years. Though the outreach and theamount of agricultural credit have increased over theyears, several weaknesses have crept in which haveaffected the viability and sustainability of theseInstitutions. . A number ofsocio-economic variables affect the amount ofagricultural credit to be borrowed by the households. All India Rural Credit Survey (AIRCS) has confirmed that formal credit institutions provided less than 9% of rural credit needs in India. Money lenders, traders and rich landlords accounted for more than 75% of rural credit. But it is important to Impart training to borrowers regarding procedural formalities of financial institutions could be helpful in increasing their access to institutional credit. Further, procedure for loan disbursement could be made simple so that it may not be difficult for the less-educated and illiterate households to access institutional financing agencies for credit.

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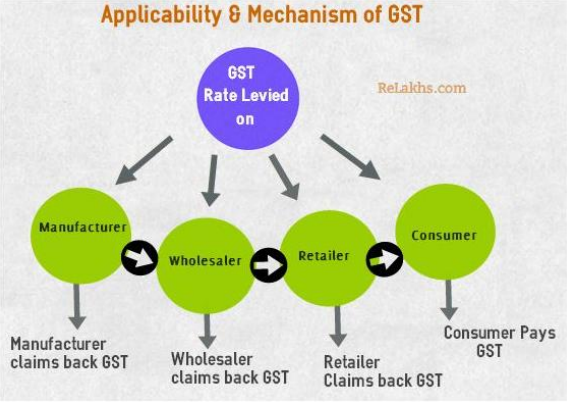
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IMPACT OF GOODS AND SERVICE TAX IN INDIA

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I. INTRODUCTION

GST was first introduced during 2007-08 budget session. On 17th December 2014, the current Union Cabinet ministry approved the proposal for introduction GST Constitutional Amendment Bill. On 19th of December 2014, the bill was presented on GST in Loksabha. The Bill will be tabled and taken up for discussion during the coming Budget session. The current central government is very determined to implement GST Constitutional Amendment Bill.It has been long pending issue to streamline all the different types of indirect taxes and implement a "SINGLE TAXATION" system. This system is called as GST (GST is the of Goods & Services Tax). The main expectation from this system is to abolish all indirect taxes and only GST would be levied. As the name suggests, the GST will be levied both on Goods and Services.The GST is an indirect tax which means that the tax is passed on till the last stage wherein it is the customer of the goods and services who bears the tax. This is the case even today for all indirect taxes but the difference under the GST is that with streamlining of the multiple taxes the final cost to the customer will come out to be lower on the elimination of double charging in the system.GST is collected on value-added goods and services at each stage of sale or purchase in the supply chain. GST paid on the procurement of goods and services can be set off against that payable on the supply of goods or services.The manufacturer or wholesaler or retailer will pay the applicable GST rate but will claim back through tax credit mechanism. But being the last person in the supply chain, the end consumer has to bear this tax and so, in many respects, GST is like a last-point retail tax. GST is going to be collected at point of Sale.



The GST is an indirect tax which means that the tax is passed on till the last stage wherein it is the customer of the goods and services who bears the tax. This is the case even today for all indirect taxes but the difference under the GST is that with streamlining of the multiple taxes the final cost to the customer will come out to be lower on the elimination of double charging in the system.

The current tax structure does not allow a business person to take tax credits. There are lot of chances that double taxation takes place at every step of supply chain. This may set to change with the implementation of GST. Indian Government is opting for Dual System GST. This system will have two components which will be known as

- Central Goods and Service Tax (CGST) and
- State Goods and Service Tax (SGST).

Let us understand the above supply chain of GST with an example:

GST Supplychain example (Assuming GST rate @ 8%)				
Supply of Goods	GST Flow	Input Costs (ex-GST)	Sale Price (ex-GST)	GST Collected
A weaver sells a fabric to a tailor for Rs 108 per metre	The weaver pays GST of Rs 8	0	Rs 100	Rs 8
The tailor sells a ready made completed shirt to a retailer for Rs 270	The tailor pays GST of Rs 12 (After input tax claim. Weaver claims tax credit for Rs 8)	Rs 100	Rs 250	Rs 12
The retailer sells the readymade shirt in his showroom for Rs 540	The retailer pays GST of Rs 20 (After input tax claim. Tailor claims tax credit for RS 12)	Rs 250	Rs 500	Rs 20
You purchase the shirt for Rs 540	No Tax credit claim. You pay entire GST Rs 40 @ 8%	NA	NA	Total : Rs 40

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The current taxes like Excise duties, service tax, custom duty etc will be merged under CGST. The taxes like sales tax, entertainment tax, VAT and other state taxes will be included in SGST. GST will be levied on the place of consumption of Goods and services. It can be levied on :• Intra-State supply and consumption of goods & services• Inter-State movement of goods• Import of Goods & ServicesThe rate (percentage) of GST is not yet decided. As mentioned in the above table, there might be CGST, SGST and Integrated GST rates. It is also widely believed that there will be 2 or 3 rates based on the importance of goods. Like, the rates can be lower for essential goods and could be high for precious/luxury items.

Benefits of GST Bill Implementation:

- The Tax structure will be made lean and simple
- The entire Indian market will be a unified market which may translate into lower business costs. It can facilitate seamless movement of goods across states and reduce the transaction costs of businesses

.• It is good for export oriented businesses. Because it is not applied for goods/services which are exported out of India

.• In the long run, the lower tax burden could translate into lower prices on goods for consumers.

- The Suppliers, manufacturers, wholesalers and retailers are able to recover GST incurred on input costs as tax credits. This reduces the cost of doing business, thus enabling fairer prices for consumers

.• It can bring more transparency and better compliance.

- Number of departments (tax departments) will reduce which in turn may lead to less corruption
- More business entities will come under the tax system thus widening the tax base. This may lead to better and more tax revenue collections.
- Companies which are under unorganized sector will come under tax regime. Challenges for implementing Goods & Services Tax System•

The bill is yet to be tabled and passed in the Parliament• To implement the bill (if cleared by the Parliament) there has to be lot changes at administration level, Information Technology integration has to happen, sound IT infrastructure is needed, the state governments has to be compensated for the loss of revenues (if any) and many more..•

GST, being a consumption-based tax, states with higher consumption of goods and services will have better revenues. So, the co-operation from state governments would be one of the key factors for the successful implementation of GSTSince GST replaces many cascading taxes, the common man may benefit after implementing it. But it all depends on 'what rate the GST is going to be fixed at?' Also, Small Traders (based on Annual Business turnover) may be exempted from it. France was the first country to introduce this system in 1954. Nearly 140 countries are following this tax system. GST could be the next biggest Tax reform in India. This reform could be a continuing process until it is fully evolved. We need to wait few more months for more details on Goods & Services Tax system.The Goods and Services Tax (GST) is a vast concept that simplifies the giant tax structure by supporting and enhancing the economic growth of a country. GST is a comprehensive tax levy on manufacturing, sale and consumption of goods and services at a national level. The Goods and Services Tax Bill or GST Bill, also referred to as The Constitution (One Hundred and

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Twenty-Second Amendment) Bill, 2014, initiates a Value added Tax to be implemented on a national level in India. GST will be an indirect tax at all the stages of production to bring about uniformity in the system.On bringing GST into practice, there would be amalgamation of Central and State taxes into a single tax payment. It would also enhance the position of India in both, domestic as well as international market. At the consumer level, GST would reduce the overall tax burden, which is currently estimated at 25-30%. Under this system, the consumer pays the final tax but an efficient input tax credit system ensures that there is no cascading of taxes- tax on tax paid on inputs that go into manufacture of goods. In order to avoid the payment of multiple taxes such as excise duty and service tax at Central level and VAT at the State level, GST would unify these taxes and create a uniform market throughout the country. Integration of various taxes into a GST system will bring about an effective cross-utilization of credits. The current system taxes production, whereas the GST will aim to tax consumption. Experts have enlisted the benefits of GST as under:• It would introduce two-tiered One-Country-One-Tax regime.• It would subsume all indirect taxes at the center and the state level.• It would not only widen the tax regime by covering goods and services but also make it transparent.• It would free the manufacturing sector from cascading effect of taxes, thus by improve the cost-competitiveness of goods and services.• It would bring down the prices of goods and services and thus by, increase consumption.• It would create business-friendly environment, thus by increase tax-GDP ratio.• It would enhance the ease of doing business in India.

Why no to GST

There appears to be certain loopholes in the proposed GST tax regime which may be detrimental in delivering the desired results. They are: India has adopted dual GST instead of national GST. It has made the entire structure of GST fairly complicated in India. The centre will have to coordinate with 29 states and 7 union territories to implement such tax regime. Such regime is likely to create economic as well as political issues. The states are likely to lose the say in determining rates once GST is implemented. The sharing of revenues between the states and the centre is still a matter of contention with no consensus arrived regarding revenue neutral rate.Chief Economic Advisor Arvind Subramanian on 4 December 2015 suggested GST rates of 12% for concessional goods, 17-18% for standard goods and 40% for luxury goods which is much higher than the present maximum service tax rate of 14%. Such initiative is likely to push inflation.The proposed GST structure is likely to succeed only if the country has a strong IT network. It is a well-known fact that India is still in the budding state as far as internet connectivity is concerned. Moreover, the proposed regime seems to ignore the emerging sector of e-commerce. E-commerce does not leave signs of the transaction outside the internet and has anonymity associated with it. As a result, it becomes almost impossible to track the business transaction taking place through internet which can be business to business, business to customer or customer to customer. Again, there appears to be no clarity as to whether a product should be considered a service or a product under the concept of E-commerce. New techniques can be developed to track such transactions but until such technologies become readily accessible, generation of tax revenue from this sector would continue to be uncertain and much below the expectation. Again E-commerce has been insulated against taxation under custom duty moratorium on electronic transmissions by the WTO Bali Ministerial Conference held in 2014. Communication is considered to be necessity and one cannot do without communication. In modern times,

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communication has assumed the dimension of telecommunication. The proposed GST regime appears to be unfavorable for telecommunication sector as well "One of the major drawbacks of the GST regime could be the direct spike in the service tax rate from 14% to 20-22%" (GST: Impact on the Telecommunications Sector in India). The proposed GST appears to be silent on whether telecommunication can be considered under the category of goods or services. The entire issue of telecommunication sector assumes a serious proportion when India's rural teledensity is not even 50%. The proposed GST regime intends to keep petroleum products, electricity, real estate and liquor for human consumption out of the purview of GST.It is a well-known fact that petroleum products have been a major contributor to inflation in India. Inflation in India depends on how the government intends to include petroleum products under GST in future. Electricity is essential for the growth and development of India. If electricity is included under standard or luxury goods in future then it would badly affect the development of India. It is said that GST would impact negatively on the real estate market. It would add up to 8% to the cost of new homes and reduce demand by about 12%. The proposed GST regime "would be capable of being levied on sale of newspapers and advertisements therein". This would give the governments the access to substantial incremental revenues since this industry has historically been tax free in its entirety". It sounds ridiculous but the provision of GST is likely to make the supervision of operations by its Board/senior managers across the company's offices in different parts of the country a taxable service by allowing each state to raise a GST demand on the company.Again there appears to be lack of consensus over fixing the revenue rate as well as threshold limit. One thing is for sure, services in India are going to be steeply costly if GST is fixed above the present service tax rate of 14% which in turn will spiral up inflation in India. "Asian countries which implemented GST all had witnessed retail inflation in the year of implementation.

II. CONCLUSION

The proposed GST regime is a half-hearted attempt to rationalize indirect tax structure. More than 150 countries have implemented GST. The government of India should study the GST regime set up by various countries and also their fallouts before implementing it. At the same time, the government should make an attempt to insulate the vast poor population of India against the likely inflation due to implementation of GST. No doubt, GST will simplify existing indirect tax system and will help to remove inefficiencies created by the existing current heterogeneous taxation system only if there is a clear consensus over issues of threshold limit, revenue rate, and inclusion of petroleum products, electricity, liquor and real estate. Until the consensus is reached, the government should resist from implementing such regime.

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AGRARIAN DISTRESS IN ANDHRA PRADESH (A CASE STUDY OF GUNTUR DISTRICT)

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I. INTRODUCTION

Agriculture is back bone of Indian economy more than 58 per cent of the population depended on the agriculture and allied activities. Although the share of agriculture sector in gross domestic product has been declined from 48 per cent to 14.5 per cent during the last sixty years.The rainfed agriculture plays an important role in the development of agriculture. In India 68 per cent of total net sown area (136.8 m.ha.) is rainfed. Rainfed crops account for 48 per cent of area under food crops and 68 per cent of area under non-food crops. Half of the total rural workforce and 60 per cent of the livestock depend on rainfed agriculture. The economic policies of the country for the last 60 years have had negative effects on development in rainfed regions. It is not able to provide full employment and sufficient income for the people living in dryland agriculture. Farm profitability has witnessed a sharp decline due to land degradation, risk and uncertainty associated with dryland agriculture. As farming alone is not able to generate sufficient income to small and marginal farmers,dryland farmers are in deep crisis.

II. REVIEW OF LITERATURE

P. Narasimha Rao and K.C. Suri (2006), in their study found that a large number of farmers who cultivated cotton, chillies and groundnut committed suicides because the cost of cultivation is very high when compared to neighbour state. An increasing cash expenditure on modern inputs and a decline in productivity have been steadily taking place over the year and have resulted in a continuous decline in the net surplus from agriculture activity. Most of the farmers to carry out cultivation without taking loans from informal sector and suicides of co-farmers not only affected cost of cultivation but also effected multiple factors like seeds and pesticides, non-remunerative price for their product, increasing expenditure on health and education etc. Economic factors coupled with social factors like a low literary rate breakdown of the joint family system and the collapse of the other social institutions has created depressed conditions in the agrarian economy.

The suicide scenario and agrarian situation in Maharashtra are discussed in Micro level analysis on field survey in the districts of Wardha, Washim and Yavatmal Srijit Mishra (2006) pointed out that over the year profitability from cotton and chillies has declined on average the former has a higher outstanding debt, a relatively lower ownership of assets and access to basic amenities a large family size and a lower value of output. It is evident from declining public investment in agriculture, poor agriculture extension service, and a diminishing role of formal institutions in rural finance market among others. The former now depends on the input dealer for advice leading to supplier induced demand and on informal source of credit with a greater interest burden.

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Parvathi Menon (2003) in her study on How Debt Burden Leading to Death, explained that crop losses caused by three successive years of inadequate rainfall and the diminishing presence of institutional credit forced a large number of Karnataka farmers in to the debt trap. Some of them chose death as a way out.

Farmers indebtedness has been singled out as the fore most cause for farmer suicides in a few states.R.S. Deshpande and Nagesh Prabhu's (2005) report clearly shows that 48.6 per cent of the farmers are indebted. The largest percentage of indebted farmers is located in the size class of 0.01 to 1 hectare. The large share of borrowings (50%) is available from banks and co-operative societies. Professional money lenders and tenders lent almost 26 per cent of the borrowed amount from banks. The report on some aspects of farming provides few interesting fact about farming households. It is evident that about two-thirds of farmers did not really like farming because it is not a profitable activity and 40 percent of farmers are even ready to give up farming provided they could secure some other jobs.

Objectives

The paper concentrates on the following objectives. The present paper attempt to examine the socio economic status of the respondents in the study area. And to estimate the indebtedness among the farm households in two agro climatic regions of the state of Andhra Pradesh.

Methodology

A multi stage random sampling method will be employed for the study. In the first stage Guntur district can be dividing in to four revenue regions, namely Guntur,Tenali, Narasaraopet and gurazala. In the second stage one mandal will be selected which is mangalagiri from Guntur, Sattenapalli from narasaraopeta, Vemuru from Tenali and rentachintala from Gurazala mandal. In the third stage one village from each mandal will be selected which is nidamarru from mangalagiri, kantepudi from sattenapalli, battiprolu from vemuru and rentachintala from rentachintal mandal altogether four villages selected. A proportionate sampling method has employed to select the farm households in the state. As a result 300 farm households will be selected, out of the 300 farm households 226 belongs to dryland farm households and 74 are from irrigated farm households

III. RESULTS OF THE EMPIRICAL STUDY.

As indicated earlier, 300 farm households are selected to examine socio economic dimension of the farmers in dry land and irrigated conditions. Of this total 226 farm households are derived from dryland conditions and 74 farm households are from to irrigated condition in the study area. The distribution of selected dry land and irrigated farm households by size wise are presented in the table-1. The table shows that 75.33 percent (226) of farm households are under dry land cultivation and remaining 24.67 percent (74) of farm households are under irrigated cultivation. In the total 300 farm households 22.67 percent (68) are marginal farms. Out of these 24.50 percent (55) are in dryland cultivation and 18.00 per cent (13) are irrigated cultivation. And 32.67 percent (98) of farm households are small. Out of this total 35.00 percent (79) are dry land farm households and 25.00 percent (19) are irrigated farm households, 25.66 percent (77) are semi medium farmhouse holds. Out of total semi- medium farm house holds 22.50 percent (51) are in dryland cultivation, 35.00 percent (26) are in irrigated cultivation. Finally 19 percent (57) of farm households are medium and large. Out of the total medium and large farms 18.00 percent are in dryland cultivation and 22.00 percent are irrigated cultivation. Finally the table conclude that the 75.33 percent of farm households are in dry land condition and 240 (3) percent of farm households are in irrigated conditions.

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Table –1 The distribution of farm households by size of holdings

Farming Category	Dry Land	Irrigated	Total
Marginal	55 (24.50)	13 (18.00)	68 (22.67)
Small	79 35.00	19(25.00)	98 (32.67)
Semi-medium	51 (22.50)	26(35.00)	77 (25.66)
Medium and Large	41 (18.00)	16 (22.00)	57 (19.00)
Total	226 (100.00)	74 (100.00)	300(100.00)

Source: Primary Data

Note : Figures in parenthesis indicates the percentage to the total

Socio economics status of the sample respondents

Type of family is again another important social variable that influences social behavior of an individual in the society. It reveals that joint family system is a common phenomenon in the rural Indian society. However in the present study, out of 300 farm households,40 accounting for 13.33 per centare joint families.86.67 per cent are nuclear families. This nuclear family system still exists in the study area inspite of its backwardness. The joint family system is closely associated with large farms. The joint family system is found to be high in irrigated farms in the study area. Level of literacy is one of the important parameters that indicate the social and economic status of farm households.It can be seen from the table that the literacy percentage is higher on irrigated farms than that of on dry land farms. Literacy rate is directly related to farm size and irrigated farms. The literacy rate is 11 per cent higher in irrigated farm when compared to that of dry land farms. It is observed that the literacy rate is very low in marginal and small farms of dry land farm households.

The social group composition of sample household's under different conditions is presented in table-2. An examination of data reveals that out of the total 226 dry land farm house holds 47.35 percent belong to backward cast, followed by 37.17 per cent of forward caste, scheduled caste with 12.39 percent and scheduled tribe with 3.09 percent. The proportion of farm households' in the irrigated farming is 67.57 percent are backward castes, followed by forward castes with 29.73 percent and scheduled castes with 2.70 percent only. This table clearly indicates that under both conditions the forward castes are economically sound and scheduled caste and scheduled tribes are economically very poor. Large portion of land is in the hands of forward castes under both the condition and very small patches of land is in the hands of SCs and STs, this situation can be interpreted that forward castes are economically well settled in the study area .While SCs and STs are in poor economic conditions under both dryland farming and irrigated farming.

Housing status of the respondent clearly reveals that 26.99 percent of (61) dryland farm households have pacca houses, 49.12 percent of (111) farm households have semi-pucca houses and the remaining 23.89 percent (44) of farm households are live in katcha houses. Similarly in irrigated condition 33.78 per cent (25) of farm household have pacca houses, 56.76 percent of farm households have semi-pacca houses and the remaining 9.46 (7) percent of households are have katcha houses. This clearly indicates the low slandered of living of the dryland farm households. That is to say, 25 per cent and 49 percent of dryland farm house holds respectively have kattcha semi-pacca houses.

Occupation impacts socio-economic status of the household. So occupational distribution of the farm households is examined to know the levels of living.A close scrutiny of the distribution of households under different occupations reveals that the proportion of family members engaged in occupations other than cultivation is 4.51 per cent high in irrigated farm households than that of dryland farms. 17.70 per cent of dryland respondents are dependent on wage labour. Thus it is clear that there is diversity in the occupational pattern. Still the dry land farmers depend on cultivation and wage labour.

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Table-2 Socio economic variables of the respondents

Indicators	Variables	Dryland		Irrigated	
		Number	Percentage	Number	Percentage
Type of family	Joint family	200	88.50	60	81.08
	Nuclear family	26	11.50	14	18.92
Literacy level	Literate	99	43.81	24	32.43
	Literates	127	56.17	50	67.56
Caste category	SC	28	12.39	2	2.70
	ST	7	3.09	0	0.00
	OBC	107	47.35	50	67.570
	General	84	37.17	22	29.57
Housing status	Pacca	61	26.99	25	33.78
	Semi-Pacca	111	49.12	42	56.76
	Katcha	44	23.89	7	9.46
Occupational status	Cultivators	170	75.22	59	79.73
	Agricultural labours	40	17.70	6	8.11
	Service	13	5.75	5	6.76
	Govt of Private employe	3	1.33	4	5.40

Source: *Primary data.*

Asset structure of farm households

The value of assets of both irrigated and dry land farm households is presented in the table-3. All the farms put together the value of assets per farm worked out to 80.29 lakh in irrigated farms and 69.46 lakh in dryland farms. This clearly shows that the value of assets of the farm households is higher on irrigated conditions. The total value of assets is found to be high by irrigated farms than that of dryland farms. A similar pattern with some variation is found among different farm size groups.All the farms put together land alone accounts for 70.60 per cent and 7.64 percent of the total assets in dry land and irrigated farms. This is followed by dwelling house, which ranges from 15.68 per cent to 15.82 per cent on both conditions. There is a slight difference in the proportion of value of dwelling house in the total of assets between dryland and irrigated farms.

The share of value of implements is found to be high on irrigated farms while the value of liquid assets is high on irrigated farms. The proportion of value of live stock in the total value of assets is found to be high on drylad farms than that of irrigated farms. A similar pattern with a variation in the proportion is observed among different categories and different size group of farms.

Table-3 Assets Value of the respondent in both dryland and irrigated farms

(In Rupees)

Dryland							
Farming Category	**Land**	**House**	**Implements**	**Livestock**	**Consumer durables**	**Liquid**	**Total**
Marginal	285600	110000	45041	30666	7800	35236	514343
Small	617100	120176	75650	32355	12500	48950	906731
Semi-medium	1103300	205000	115269	35362	15963	76522	1551416
Medium and Large	3460350	355666	125989	41252	24987	125366	4133610
Total	1497700	197710	90487	34908	15312	71518	1907635
Irrigated							
Marginal	658932	125250	52635	22620	10000	55698	925135
Small	1578945	145630	89789	20800	15898	79857	1930919
Semi-medium	2529987	229879	125369	19000	22693	112569	3039497
Medium and Large	6789756	337898	158963	25000	32678	158965	7503260
Total	2889405	209664	106689	21855	20317	101772	3349702

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The proportion of the value of land to total asset value shows a declining trend with the declining level of irrigation facilities. Further, it is observed that proportion of value of land to total of assets and farm size are directly related .The proportion of the value of livestock to total assets is positively related with the farm size. The proportion of liquid assets to total assets value is directly related with the farm size.

Source of Credit

In the dryland cultivation, agricultural credit assumes more importance when compared to other irrigated farming. Limited availability of money for farmers to save does not allow them to finance farm expenses. Though private agencies play an exploitative role, credit through institutional channels is the only way to break agricultural stagnation in dryland regions. So the farmers depend on loan from various institutional sources to meet the costs in raising the crops. Farmers are engaged in cultivation to make profit out of capital by investing on land and extracting surplus value from work, but as a means of self-employment and family maintenance. Typically, a farmer in India, particularly in dryland regions would still be the owner cultivator, who mainly cultivates land with family labour. The returns they get from land in a large measure are a response of their family labour expected in the production process. However, since cultivation needs cash investments, farmers have to borrow money to carry out the agricultural activities, either from government or from cooperative institution or from private money lenders. It should be kept in mind that unlike other professions and occupations, farmers do not receive their income on a daily or weekly or monthly basis. Income for them comes only at the end of the crop season. So, farmers borrow money not only to meet the cultivation expenses, but also to meet their consumption and family needs. It is also difficult to demarcate clearly the loans taken by farmers as the ones taken for cultivation purpose and family needs, as they may spend the loan amount on both, as the situation demands.

The credit requirements of the farms are met by obtaining loans from institutional and non-institutional agencies. Institutional agencies particularly that provide loan to farmers are banks, cooperative societies and bank sponsored self help groups. The non institutional agencies include commission agents, input dealers, money lenders and others. Source wise distribution of credit by irrigated and dryland farm households are presented in the table-4. The data evidently shows that more than 50 per cent of both irrigated and dryland farm households are depended on non-institutional sources on an average of Rs 37,794/- among irrigated farms and Rs 29973/- among dryland farms. Moreover, it can be noticed that major chunk of both categories of farm households depends on money lenders. As shows in the table, 33 per cent of dryland farms and 40 per cent of irrigated farm households borrow loans from money lenders to meet the farm expenditures. It clearly shows that the outstanding debt of irrigated farm households is higher than that of dryland farm households among all farming categories. On an average amount of Rs 13,426/- of credit is higher with irrigated farm households. The small and marginal farms need credit to meet their family expenditure also when they work in their farms. Low return to cultivation and absence of non-farm opportunities are said to be the indication of the larger socio- economic analysis of dryland cultivation. This will be alienated by multiple risks like, income, yield, price and credit among others. This has led to the incidence of indebtedness among farm households.

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Indebtedness among Farm Households

The indebtedness among farm households is the indication of distress in dryland and irrigated farm households. The outstanding debt of the farm households by size wise and source wise is presented in the table-5. A farmer gets income from cultivation, and also from other than cultivation, besides, wages employment, non-farm employment, pension and other sources. A farm household is considered to be indebted if he could not repay the loan out of the total receipts from all sources of income at the end of the agricultural year. The indebtedness of farm households is presented in the table. Out of 300 farm households, 226 (75 per cent) are dryland farm households and the remaining 25 per cent (74) are irrigated farm households. The indebtedness is higher by 27.51

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Table-4 Source-wise Distribution of Credit by Irrigated and Dryland farm households

Source	Dryland									
	Marginal		Small		Semi-medium		Medium &Large		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Banks	8357	22.93	12300	26.80	23978	37.13	30596	35.14	18808	32.15
Co-operative societies	4553	12.49	5693	12.40	4836	7.49	10984	12.62	6517	11.14
Self Help Group	3589	9.85	4109	8.95	3543	5.49	1551	1.78	3198	5.47
Total Institutional (A)	**16499**	**45.28**	**22102**	**48.16**	**32357**	**50.11**	**43131**	**49.54**	**28522**	**48.76**
Commission agent	2500	6.86	3289	7.17	4896	7.58	8956	10.29	4910	8.39
Input dealers	4479	12.29	3808	8.30	6532	10.12	7998	9.19	5704	9.75
Money lenders	12963	35.57	16698	36.38	20789	32.19	26983	30.99	19358	33.09
Total Non-institutional (B)	**19942**	**54.72**	**23795**	**51.84**	**32217**	**49.89**	**43937**	**50.46**	**29973**	**51.24**
Outstanding Total (A+B)	**36441**	**100.00**	**45897**	**100.00**	**64574**	**100.00**	**87068**	**100.00**	**58495**	**100.00**
	Irrigated									
Banks	10436	26.08	12829	25.22	20854	27.95	38537	31.54	20664	28.73
Cooperatives	4631	11.58	7247	14.25	10046	13.46	18733	15.33	10164	14.13
Self Help Group	4254	10.63	3205	6.30	2800	3.75	2935	2.40	3299	4.59
Institutional outstanding (A)	**19321**	**48.29**	**23281**	**45.77**	**33700**	**45.16**	**60205**	**49.28**	**34127**	**47.45**
Commission agents	3207	8.02	3912	7.69	6033	8.08	8397	6.87	5387	7.49
Input dealers	2800	7.00	3200	6.29	3904	5.23	3111	2.55	3254	4.52
Money lenders	14680	36.69	20477	40.25	30987	41.52	50467	41.31	29153	40.53
Non-Institutional outstanding (B)	**20687**	**51.71**	**27589**	**54.23**	**40924**	**54.84**	**61975**	**50.72**	**37794**	**52.55**
Outstanding Total (A+B)	**40008**	**100.00**	**50870**	**100.00**	**74624**	**100.00**	**122180**	**100.00**	**71921**	**100.00**

Source: Primary Data

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per cent in dryland cultivation .The prevalence of indebtedness is increasing with the increasing farming category among the both irrigated and dryland farm households: except among medium and large farms in dryland cultivation. The percentage of indebtedness of all the farm sizes is higher in dryland farming than that of irrigated farming.

Table-5 Distribution of category-wise respondents by Credit (Debt)

Farming Category	Dryland			Irrigated		
	Number of Sample households	Number of Indebted households	Average amount per acre	Number of Sample households	Number of Indebted households	Average amount per acre
Marginal	55	48 (87.27)	22682	13	7 (53.85)	18500
Small	79	72 (91.14)	32787	19	10 (52.63)	35650
Semi-medium	51	47 (92.16)	44623	26	15 (57.69)	49423
Medium and large	41	33 (80.49)	75743	16	10 (62.30)	78567
Total	226	194 (85.84)	41846	74	42 (58.33)	42723

Source: Primary Data

Note : Figures in parenthesis indicates the percentage to farming category.

It is 33.42 per cent higher in marginal farms, 38.51 per cent higher in small, 34.47 per cent in semi-medium and 18.19 per cent in medium and large farms. The average amount of debt per acre in irrigated farms is Rs 18,500 of marginal farms, Rs 35,650/- of small farms, Rs 49,423/- of semi-medium farms and Rs 78,567/- of medium and large farms, while the amounts of debts are Rs 22,682/- of marginal, Rs 32,787/- of small, Rs 44,623/- of semi-medium and Rs 75,743/- of medium and large respectively in dryland farms .This clearly shows that the indebtedness is higher by 27.51 per cent in dryland cultivation.The prevalence of indebtedness is increasing with the increasing farming category among the both irrigated and dryland farm households. And also shows a slight variation between dryland and irrigated farms in per acre average debt amount. It is reported that the institutional credit availability is not sufficient for the farmers to meet the required agricultural expenses besides difficulty in securing loans from institutional sources due to their restrictive formalities. So the farmers go for credit from non-institutional sources. Further, as the returns are not favorable, they are borrowing from non-institutional sources to repay loans taken from the institutional sources. It leads to a situation that debt gets accumulated over the years. Thus the debt brings out situation of debt trap among farm households. This clearly reveals the distress conditions of farm households and ultimately its leads to farmers' suicides in the dryland cultivation

Utilization of Loan Amount

The main purpose of agricultural loan is to meet the expenses in crop cultivation. The farmers get income only at the end of crop season. As there is no other main source of income other than agriculture, the farmers borrow money not only to meet the agricultural expenditure but also to meet the consumption expenses and other socio-domestic needs. In this regard, the relation between indebtedness and loan utilization has to be examined to understand the roots of indebtedness. The utilization of loan by farm households is presented in the table-6.The table shows that 58.20 per cent of dryland farmers and 68.68 per cent of irrigated farmers are utilizing loan for productive purpose, while 41.81 per cent of dryland farmers and 31.62 per cent of irrigated farm households are spending the loan amount on unproductive purpose. When compared, the utilization of

loans on productive purposes among irrigated is 10 per cent higher than that of dryland farms. Regarding utilization of loan amount on unproductive purpose is 10 per cent of higher among dryland farm households. It is to be noticed that the utilization of loan for unproductive purpose is higher among marginal and small farm households in both irrigated and dryland conditions. The data clearly reveals that the indebtedness among farm households is due to un-productive consumption like social ceremonies, marriages and other religious ceremonies and may be causing for piling up of indebtedness.

Table -6 Utilization of Loan Amount

Purpose	**Dryland**					**Irrigated**				
	Marginal	**Small**	**Semi medium**	**Medium and Large**	**Total**	**Marginal**	**Small**	**Semi medium**	**Medium and Large**	**Total**
Agricultural inputs	6.75	2.90	5.89	0.85	4.10	6.75	2.9	9.68	2.8	5.53
Labour charges	0.46	5.82	5.73	4.38	4.10	0.46	0.82	5.73	4.38	2.85
Productive purposes	**7.21**	**8.72**	**1.62**	**5.23**	**8.20**	**7.21**	**3.72**	**5.41**	**7.18**	**8.38**
Health	35	.98	1.54	.22	.02	.35	.98	1.54	.22	.52
Education	0.77	.38	.87	.31	.33	.77	.38	.87	.31	.83
Marriage/ rituals	50	.07	.23	.14	.74	.14	.07	.23		.36
House construction	6.63	7.85	2.74	0.10	4.08	.53	2.85	.95	.3	.66
Consumption	3.54	0.00	.00	.00	.64	2	0		0	.25
Un-Productive purposes	**2.79**	**1.28**	**8.38**	**4.77**	**1.81**	**2.79**	**6.28**	**4.59**	**2.83**	**1.62**
Total	**00.00**	**00.00**	**00.00**	**00.00**	**00.00**	**00.00**	**00.00**	**00.00**	**00.00**	**00.00**

Source: Primary Data

Note : Figures in parenthesis indicates the percentage to the total

Functional Analysis:

It is important to study the factors associated with indebtedness. Linear regression is tried to analyse the relative indebtedness of the farm households categorized from the three regions as given below.

$Y_i = a_0 + a_1x_1+a_2x_2+a_3x_3+a_4x_4$

$Y_{ui} = b_0+b_1x_1+b_2x_2+b_3x_3+b_4x_4$

Y_i = Indebtedness in irrigated region

Y_{ui}= indebtedness in dryland region.

X_1 = Income from Cultivation

X_2 = ratio of credit from non- institutional source to that from institutional sources

X_3 = Income from subsidiary occupation

X_4 = Expenditure on unproductive purpose of borrowed fund

X5 = Educational level

X7 =family size

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In order to analyze the variation in the significance of factors influencing the magnitude of indebtedness, region wise analysis has also been done and it has presented in the table-7. The estimated of regression coefficient suggested that the variation in the magnitude of indebtedness among the two regions of the farm households in the study area explained size of the family, ratio of credit from institutional and non-institutional sources, income from subsidiary occupation, expenditure on unproductive purpose, educational status and farm size.

The regression coefficients for family size in all the selected region irrigated and dryland region are positive and non significance. The regression coefficient for ratio of credit from non institutional sources and expenditure on unproductive purpose are found to be positive and non significance. The income from subsidiary occupation is found to be negative in dryland region in case of irrigated farm marginal and small farm households are also found to be negative signs, relationship with indebtedness and educational levels has a negative signs. There variables are significant at one per cent level of probability dryland regions. The educational level of the farm households has inverse relationship with indebtedness and also the farm size. The variation of expenditure on unproductive bears a direct relationship with indebtedness implying an expenditure on unproductive purpose it is found to be high in dryland regions. This indicates that the capacity of the farmers to taken loans increases with increasing the farm size. The values of R square are of the order of 0.68 and 0.80 in the both dry and irrigated regions respectively.

Table-7 Factors Determining Indebtedness of farm households in the study area

Factors	**Marginal**	**Small**	**Semi-Medium**	**Medium and Large**	**Total**
	Dryland				
Family size	0.8926 (1.58)	0.732** (1.32)	0.6332** (1.01)	0.9156* 1.86)	0.8326** (2.01)
Credit	0.853* (1.88)	0.7314* (1.99)	0.536** (1.87)	0.966** (4.10)	0.8774* (2.12)
Income	-0.1763* (2.25)	-0.5393* (3.23)	-0.578* (3.03)	0.356* (2.75)	-0.653* (2.00)
Expenditure on unproductive purpose	0.703** (1.02)	0.615** (2.05)	1.532*** (2.86)	1.895** (3.02)	0.981** (2.39)
Education	-0.5652* (3.02)	-0.9562* (2.85)	-1.236* (3.58)	-0.0378** (1.05)	-0.4532* (2.98)
Farm size	0.2782** (0.94)	0.5563** (1.55)	0.783* (1.58)	0.795* (1.60)	0.5982** (1.458)
R2	**0.69**	**0.75**	**0.74**	**0.69**	**0.68**
	Irrigated				
Family size	0.8514 (1.34)	0.710** (1.19)	0.5220*** (1.10)	0.498* (1.92)	0.786* (2.00)
Credit	0.729* (1.90)	0.614* (1.80	0.869*** (1.95)	0.967* (4.10)	0.8867* (2.09)
Income	-0.504* (3.24)	- 0.6822** (1.04)	0.3016** (4.23)	0.215** (1.80)	0.012* (1.18)
Expenditure on unproductive purpose	1.218** (1.05)	0.5525** (1.03)	0.3974* (2.27)	0.121* (1.50)	0.653* (1.25)
Education	- 0.1839 (2.96)	- 1.576* (3.12)	-0.3507 (2.48)	0.190 (2.45)	-0.2589* (3.04)
Farm size	0.1743*** (0.94)	-0.4322 (1.20)	0.7833** (1.34)	0.2303* (0.58)	0.2312** (2.96)
R2	**0.72**	**0.74**	**0.89**	**0.92**	**0.80**

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Suggestions

Keep the emerging challenges in view the present study made the following suggestions for improving the distressed situation of farmers and farming in dryland agriculture

- Physical resource constrains of dryland farms like small size, scarcity of finance and low creditworthiness high risk in returns, it is suggested to encourage collective farming (either co- operative joint farming or informal group farming)
- The shift in policy to focus on dryland farming through technology, extinction, price, and other intensives.
- There is a need to emphasis rural economic diversification to more value-added activities and non-agriculture activities.
- Provision of irrigation facilities through watershed and micro irrigation system will improve farm income and farm labour employment through improvement in the cropping intensity.
- National Rural Employment Programme in the dryland regions could be dedicated to improve the watershed areas.
- To provide insurance for crops in case of crop failure due to floods or droughts
- The crisis in agriculture cannot be tackled effectively within the framework of agriculture alone. Improving the quality of education in rural areas and small towns needs urgent attention. It can equip farmers with capacity to acquire knowledge of technology and obtain opportunities not only from agriculture but also from outside. Similarly, rural infrastucture including roads, warehouses, computer access etc. need vast improvement. It could facilitate diversification of the rural economy.
- Setting up of an 'Agri Risk Fund' which could help in mitigating risks of the lending banks and the hardships of the farmers.
- Live stock based farming system should be encouraged.
- There is need to undertake a significant shift in Government investment from irrigated areas to rainfed areas, with a major emphasis on aforestation and soil conservation projects organised on watershed basis.
- Seed banks must be established with government support in order to help farmers adopt contingent strategies whenever.
- There is need to strengthening the policies of Price support and procurement mechanism for crops grown in rainfed area.
- Government should avail insurance policies that should be covering all the farmers in dryland regions. The bankers should bear the burden of payment of insurance premium instead of farmers.
- In case of crop failure insurance amount should be paid in the same crop season.

IV. CONCLUSION

The empirical data clearly shows that the indebtedness among farm households is the indication of distress in dryland and irrigated farm households.Out of 300 farm households, 226 (75 per cent) are dryland farm households and the remaining 25 per cent (74) are irrigated farm households. The indebtedness is higher by 27.51 per cent in dryland cultivation .The prevalence of indebtedness is increasing with the increasing farming category among the both irrigated and dryland farm households: except among medium and large farms in dryland cultivation. The percentage of indebtedness of all the farm sizes is higher in dryland farming than that of irrigated farming. And also shows a slight variation between dryland and irrigated farms in per acre average debt amount.The data shows that 58.20

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per cent of dryland farmers and 68.68 per cent of irrigated farmers are utilizing loan for productive purpose, while 41.81 per cent of dryland farmers and 31.62 per cent of irrigated farm households are spending the loan amount on unproductive purpose. The data clearly reveals that the indebtedness among farm households is due to un-productive consumption like social ceremonies, marriages and other religious ceremonies and may be causing for piling up of indebtedness.The regression coefficients for family size in all the selected region irrigated and dryland region are positive and non significance. The regression coefficient for ratio of credit from non institutional sources and expenditure on unproductive purpose are found to be positive and non significance. The income from subsidiary occupation is found to be negative in dryland region in case of irrigated farm marginal and small farm households are also found to be negative signs, relationship with indebtedness and educational levels has a negative signs. There variables are significant at one per cent level of probability dryland regions. The educational level of the farm households has inverse relationship with indebtedness and also the farm size. The variation of expenditure on unproductive bears a direct relationship with indebtedness implying an expenditure on unproductive purpose it is found to be high in dryland regions. This indicates that the capacity of the farmers to taken loans increases with increasing the farm size. The values of R square are of the order of 0.68 and 0.80 in the both dry and irrigated regions respectively.

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INVESTMENT IN AGRICULTURE FOR INCLUSSIVE GROWTH : A CASE OF MADHYA-PRADESH

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I. INTRODUCTION

Madhya-Pradesh is a state of agriculture economy. In this state, 69 percent working population is dependent on agriculture and 85.6 percent rural working population is dependent on agriculture for its livelihood. The state has 3.08 lakh sqkm geographical area which is 9 percent of the total national geographical area. The state is an important state of India in agricultural performance. The state has been awarded "Krishi Karman Award" for last two year 2011-12 (18.9 % Ag.growth rate) & 2012-13 (24..8 % Ag.growth rate) for its excellent agricultural growth performance. The state produces 51 % Soyabean of the country and is at the first rank. It produces 20 % wheat of the country and has third rank. It produces e 33 % gram of the country and has first rank. It produces 26 % oilseeds and has third rank. It produces 25 % pulses and has first rank among the pulse producing states in the country. The productivity of pulses in Madhya-Pradesh (8.03 qtls per ha) is very high from the all India (6.99 qtls per ha.) pulse productivity. All these good signs are possible by the major role played by irrigation capacity created and utilized in the state. Besides the adverse conditions of structural causes and climatic conditions, state is registering constantly high agricultural growth. The share of small holding is constantly increasing and the share of large holdings is constantly decreasing. The share of small holdings was 85.29 % in 2001which increased to 87.42 % and 90.11 % in 2005 and 2011 respectively. On the other hand, the share of large holdings was 14.7 % in 2005, this decreased to 12.58 % and 9.89 % in 2005 and 2011 respectively. The average size of holdings was 2.22 ha. This has reduced to 2.02ha and 1.78 ha in 2005 and 2011 respectively. All these are negative drivers of agricultural growth.

2- Objectives

i) To know the status of irrigation capacity in Madhya-Pradesh.

ii) To know the impact of irrigation potential on agricultural growth with two dimensions- a) on cropped area growth and b) on production increase.

iii) To examine the relationship between irrigation and agricultural development in the state.

iv) To find out results of the study with reference to agricultural growth in Madhya-Pradesh.

v) To suggest policy measures for acceleration of agricultural growth through irrigation capacity augmentation.

3- Research Methodology

This paper deals with an important agriculture-economy based state Madhya-Pradesh in India. All the discussions, findings, results and data analysis is related for five years duration from 2009-10 to 2013-14. The conclusions are based only on the coverage of selected crops for the study. So, Foodgrain (Wheat, Rice and Maize), Pulses (Tuar and Gram), oilseed (Soyabean and Mustard) , Spices (Mirch, Dhaniyan, Adarak and Lahsun) and for vegetables (Potato, Tomato, Sweet potato, Pea ,Onion and Bhoolgobhi) related information is used for analyzing the variables. Main variables are taken into considerations and calculated as - Created irrigation potential, Utilized created irrigation potential, Crop area, Crop production and their growth index and growth rates. This paper is based on secondary data. Analysis of data has been done in the main part of the paper. All related tables are placed at the end of the paper after references.

4- Discussions

i) *Irrigation Potential Creation : High Increasing Trends*

Irrigation is the most important factor of agricultural growth .It increase production and productivity both. It has very high positive correlation with agricultural growth. During the concern period, in research area, irrigation potential created and utilized, both parameters has increased at very rates. The area under selected corps as irrigation potential created was 3011 lakh ha. In the first year of this study which raised to 3976 lakh ha. In the last year of the study. This shows 32 % increase in the irrigation potential created during this period. This has been possible due to large irrigation projects implementation in the state. The irrigation potential creation for large irrigation projects has been higher than the irrigation potential creation within medium and small irrigation projects in the state. Irrigation Potential Creation for large project has witnessed 45 % increase while for medium and small irrigation projects it has been 11.1 and 17.0 receptively. In the same manner, the area of IPC was 408 lakh ha for medium and 922 lakh ha for small irrigation projects in the first year of the study and this raised to 453 lakh ha and 1078 lakh ha respectively in the last year of the study. This shows progressive trends in all respects.

ii) *Irrigation Potential Utilization : Remarkable Increasing Trends*

The picture about the utilization of created irrigation potential is brighter than the picture of Irrigation Potential Creation in the state. The utilization status of irrigation potential created has been very high in the state. The total area of the utilization was 887 lakh ha. In the first year of the study .It rose to 2281 lakh ha. In the last year of the study. It shows increase of 157.2 % over the first year capacity. The ratio of irrigation potential creation and utilization has also shows very progressive trends. The share of utilization of irrigation potential with the created irrigation potential was 32.4 % in the first year of the study. It rose to 57.2 % in the last year of the study. It reveals 77.2 5 increase in this context.

This ratio has been highest for small irrigation projects as it has showed 196.4 increase in the last year of the study over first year. The ration has been higher for large irrigation projects as it has been showed 173.6 % increase in the last of the study over the first year. Thus, it may simply be stated that the utilization trends of irrigation capacity generated in the state has been very high and fast increasing.

iii) *Crop Coverage Area Growth : Remarkable Increasing Trends*

As a result of irrigation potential creation, the area under selected crops has shown constantly increasing trends. The total coverage area under selected crops was 592239.6 lakh ha. In the first year if the study. It rose to 1202331 lakh ha. In the last year of the study. It shows 103.0 % increase of

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coverage area under the selected crops in the state over the first year of the study. But there is a negative sign also with reference to pulses. The coverage area of pulses decreased in minor volume. It showed 1.0 % decrease over in the last year of the study over first year. So, this is a matter of concern. Although, it is true that the pulse- crops do not require more irrigation. But, this trend forces to draw attention towards shrinking of pulse coverage area in the state .On the other hand, the growth of coverage area under spices s has been highest among the all selected crops in the study. The coverage area growth of vegetables has been 150.3 % in the last year of the study over first year. the growth of coverage area under spices s has been highest among the all selected crops in the study. The status of coverage area of spices has been higher than other crops except vegetables The coverage area growth of spices has been 73.5 % in the last year of the study over first year. The coverage area of selected oilseeds and Foodgrain crops also increased in the duration of the study. But, these two crops do not show very high growth trends. The growth of coverage area for both oilseeds and Foodgrain crops has been 11.1 % and 9.6 % respectively in the last year of the study over the first year of the study.

iv) Crop Production Growth : Very High Increasing Trends

As it is known that irrigation is the key factor of agricultural production and productivity, this hypothesis is acceptable with findings of the study. The overall production of selected crops has been increased at a remarkable level. The total production of selected crops was 28339.45 metric tons in the first year of the study which rose to 43005.85 metric tons in the last year of the study. It is 54.6 % increase over the first year. During the period of study, the production of spices registered very splendid growth. The production of spices increased ten times over the first year of the study. The index of spices production rose to 1010.3. In the same way, the Foodgrain production index rose to 170.0. The oilseeds production index rose to 134.1. The vegetables production index rose to 396.1. And finally, the production index of selected crops rose to 154.6 in the study period. The growth rate of selected crops production has been negative for second year of the study (2011-12) as it was -3.8. But this trend was not seen in future period of the study. It corrected and has been 24.5, 51.5 and 54.6 for the next successive years respectively.

5- Findings

The study reveals very important facts and relations between Irrigation potential and agricultural growth in the state. Some main findings may be stated as-

i) During the study period, the irrigation potential is constantly increased in the state.

ii) The utilization of created irrigation potential also increased.

iii) The rate of growth for utilization of created irrigation potential has been higher than the growth rate of created irrigation potential.

iv) The coverage area of selected crops also increased very significantly in the study period. Except pulses, the coverage area of selected crops has been increased. The growth of coverage area of vegetables has been highest (150.3 %) followed by spices (73.5 %).

v) The production of selected crops has also been increased during this research-period. All the growth rates of selected crops have been very high and positive. The growth rate of spices has been highest (910.3 % over the first year) followed by vegetables (296.1 % over the first year).

vi) These trends reveal very high positive correlation between Irrigation and agricultural growth in Madhya-Pradesh State.

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6- **Way forward**

Very high positive correlation between Irrigation and agricultural growth has been seen in Madhya-Pradesh State in the duration of the concerning research period. So, it is required to augment irrigation potential creation and utilization in the state for the growth of agriculture. Through the increase of irrigation capacity, the higher and faster agricultural growth rate may be achieved in the state. The irrigation capacity may be increased by investing in agriculture especially in irrigation projects to augment irrigation potential in the state. The evidence from this study is an important advice to emphasize more on large and small irrigation projects for creation of irrigation potential and utilization of created irrigation potential. By doing so, the high agricultural growth target is achievable.

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A STUDY ON IRRIGATION REQUIREMENT OF INDIAN AGRICULTURE

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I. INTRODUCTION

Water is a basic good for all human activities andit is also important for the economic development of a nation. Water covers almost 70 percent of the global surface. It is all around us as vapour in the air. There is about 1.4 billion cubic kilo meter of water in the hydrosphere. Of this about 77.2 percent of fresh water is lodged in ice caps and a glacier, 22.4 percent occurs in underground pools and soil moisture and 0.36 percent is distributed in swamps, lakes and rivers.

The importance and scarcity of water could be seen from the fact that on global level the per capita availability of water is about 10000 cubic meter per year whereas in India, it is only about cubic metre per person per year. This quantity will be proportionately reduced in the coming years as the population is increasing steadily especially in India. However the minimum requirement of water for a reasonable living including irrigation, industry and household purposes is about 1000 cubic meter/ person/ year. It shows that there is an urgent need to conserve and use the water to the maximum efficiency.

Irrigation presently claims more than, 90 percent of the water available in the country. It is estimated that the allocation of water to agriculture will be reduced to about 70 percent in the next 10-15 years since the demand of water for industries and municipal needs is expected to increase substantially. Since agriculture takes bulk of the nation/u2019s water budget, saving even ‘a small percentage means a large amount of water to meet other needs. The irrigation efficiency in the major irrigation projects have been estimated at about 35% - 40% and by raising the irrigation efficiency by 10% enough water would to be saved to supply for the needed areas.

Problem related with Water Resources

In Morden days global warming, deforestation and depletion of ground water intimidate every individual. Increase in population and expansion in industry and agriculture have produced more demand of water. In India increasing scarcity of water and its implication for the economy of the country have become the most concern of the government and it may be expected that this will increase in the year to come. The traditional water resources likes ponds, tanks and rivers are misused and continuously neglected. Rivers are polluted as urban and industrial wastes are dumped into them. Due to the growth of population deforestation and denudation, a large portion of the monsoon water flows into sea.

Objectives

1. To analyse the importance of irrigation requirement in Indian agriculture.

2. To study the factor that determines the implementation of irrigation system.

Need for Economics use of Water

It has been recognized that among the basic factors of Agriculture productivity. Adequate (not excess) and to timely provision of irrigation water is crucial. The development of irrigation is given top priority in Indian economy as agriculture contributes about 20% of grass National Product (GNP). The overtone of irrigation also arises due to the fact that over 70% of the people live in rural areas of which more than 70% are directly or indirectly dependent on agriculture for their livelihood. Further the investment per hectare in irrigation project has been rising enormously in the last 5 – 10 years and it will be more in the coming years due to escalation of prices. The cost was about Rs. 1500/ hectors during the first plan period and now it is between 1.50 ro 2.0 lakh per hectare. Hence it is necessary to adopt modern methods to economise the use of water, to increase productivity and to bring more areas more areas under irrigation. This will not only increase the production needed, but also minimise the hazards of water logging which bring large areas under salinity and alkalinity every year.

Water Resources Availability and Utilisation

India is blessed with good rainfall and water resources, still the scarcity is felt everywhere not only for agriculture but also for drinking purposes. The average annual rainfall is about 1150 mm compared to would average of about 850mm. The sunshine is also favourable to take.

Crops throughout the year, but the every- growing population demand the optimum utilisation of the fixed land and water resource of the country. It is estimated that the average annual surface flow is about 195 MHM of which only about 69 MHM is harmessable/ utilisable due to the terrain conditions rain during a few months, suitable sites for dams are limited and due to political reasons. Similarly, the annual recharge of ground water is estimated at about 43 MHM and the utilisable amount is about 39.5KHM.

Table-1: Estimates Of Water Resource In India

Agency	**Estimate in bcm**	**Deviation from 1869 bcm**
First irrigation commission (1902-03)	1443	-23%
Dr. A. N. Khosla (1949)	1673	-10%
Central water and power commission (1954-66)	1881	+0.60%
National commission on Agriculture	1850	-1%
Central water commission (1988)	1880	+0.60%
Central water commission (1993)	1869	

Source: Eleventh five year plan – 2007-12

Table-2 elucidate water requirement for various sections. Water resource management is varyingimportant issues with regarded to the conservation and the production. Water demand management is meant to mage the available water resource wisely and to deliver the necessary amount for sustainable development.

Table-2: Water Requirement For Various Sectors

Sector	**Water demand in km3 (or bcm)**				
	Standing subcommittee of MoWR			**NCIWRD**	
	2010	**2025**	**2050**	**2010**	**2025**
Irrigation	688	910	1072	557	611
Drinking	56	73	102	43	62
Industry	12	23	63	37	67
Energy	5	15	130	19	33
Others	52	72	80	54	70
Total	813	1093	1447	710	843

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The blow Table-3 shows that as a consequence of the increasing demand on finite water resource to meet the varied demands of burgeoning population, its availability declining with each passing day. While the total water resource availability in the country remains constant, in the per capita availability of water has been steadily declining since 1951 due to population growth.

Table – 3: Population Growth And Percapita Water Availability In India

Year	Population (Million)	Per capita water availability (Cubic Meters)
1951	361	5177
1955	395	4732
1991	846	2209
2001	1027	1820
2025	1394	1341
2050	1640	1140

Table- 4 explains the irrigation potential created and utilised in india. The pace of creation of additional irrigation potential came down sharply from an average of about 3 percent per annum during 1950 – 51 to 1989-90 to 1.2 percent, 1.7 percent and 1.8 percent per annum, respectively during the eighth, ninth and tenth five year plan periods. The radio of growth of utilisation of the potential created declined to 1 percent per annum during the ninth five year plan period and improved to 1.5 percent per annum during the tenth five year plan period. The average annul rate of utilisation remain lower than the average annual addition to the irrigation potential resulting in the cumulative utilisation witnessing continues erosion. This not only amounts to an in efficient use of founds, but also a forgone income from irrigated land.

Plan	Potential created				Total	Potential utilized			Total
	Major and Medium	SW	Minor GW	Total		Major and Medium	SW	Minor GW	
Upto 1951 per plan	9.70	6.40	6.50	12.90	22.60	9.70	6.40	6.50	12.90
First plan 1951-56	12.20	6.43	7.63	14.06	26.26	10.98	6.43	7.63	14.06
Second plan 1956-61	14.33	6.45	8.30	14.75	29.08	13.05	6.45	8.30	14.75
Third plan 1961-66	16.57	6.48	10.52	17.00	33.57	15.17	6.48	10.52	17.00
Annual plan 1966-69	18.10	6.50	12.50	19.00	37.10	16.75	6.50	12.50	19.00
Fourth plan 1969-74	20.70	7.00	16.50	23.50	44.20	18.39	7.00	16.50	23.50
Fifth plan 1974-78	24.72	7.50	19.50	27.30	52.02	21.16	7.50	19.80	27.30
Annul plan 1978-80	26.61	8.00	22.00	30.00	56.61	22.64	8.00	22.00	30.00
Sixth plan 1980-85	27.70	9.70	27.82	37.52	65.22	23.57	9.01	26.24	35.25
Seventh plan 1985-90	29.92	10.90	35.62	46.52	76.44	25.47	9.97	33.15	43.12
Annual plan 1990-92	30.74	11.46	38.89	50.53	81.09	26.31	10.29	36.25	46.54
Eight plan 1992-97	32.95	12.51	40.80	55.31	86.26	28.44	11.07	37.70	48.77
Ninth plan 1997-2002	97.05	13.60	43.30	56.90	93.95	31.01	11.44	38.55	49.99
Tenth plan 2002-2007	42.35	14.31	46.11	60.42	102.80	34.42	12.00	40.81	52.81

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Water management practices

The following are the new irrigation strategies

1. Proper method of irrigation canals and tanks command areas. Specially for paddy.
2. Providing drainage and reuse of drained water if it is suitable.
3. Conjunctive use of surface and ground water.
4. Using sprinkler irrigation in canal or tanks command area for closely spaced millets and commercial crops.
5. Introducing drip irrigation in well irrigated areas for wide spaced high value crops.
6. Micro irrigation for closely spaced crops like sugarcane, vegetables, cotton, etc., by adopting crop geometry (paired row method).
7. Introducing concept of supplemental irrigation/productive irrigation even for dry land crops to increase the yield.
8. The irrigation based on water/fertilizer production function curves.
9. Training the farmers and extension officers on water management.
10. Conducting seminar/work shop in villages to bring awareness to all farmers in villages.
11. Demonstration/ pilot programmes in the farmers' field to use water judiciously such us:

a. Proper method of irrigation in canals command areas specially for paddy.
b. In major irrigation projects, water is flowing continuously and the farmers use as much water as possible without understanding the adverse effect of over irrigation. In many cases, they do it? So they are not sure whether they can get water for the next irrigation. In many projects especially in the southern states, the fixed and canals are designed taking the duty (water requirements) us 40 – 60 acres/cusec for paddy and 80/ 100 acres/ cusec for dry crops. Its observed that the farmers use about 1500-3000 mm of water for paddy though the consumptive requirement its only about 800 mm. Unless, the design of the channel and concept duty are changed, it's not possible to economise the use of water since paddy crop consumes about 45 percent of the total agricultural water in the country and about 70 percent-75 percent of the water in Tamil Nadu state. It is necessary to introduce the water saving method of irrigation which means irrigating only to a depth of 3-4 cm as soon as the standing water disappears in the filled. It is also suggested that the channels should have proper water control structures to regulate and supply of water. SRI method is the latest technology for paddy irrigation to save water and to increase the yields.

II. Conclusion

The word 'drought' indicates scarcity of water for ecosystems, land and human use, resulting in filling crops livestock, livelihoods and human health. Drought is a complex and least understood natural disaster, the impacts of which often depend upon the nature of socio environmental background in the region, and affects more people than any other disaster.

Where we are and what we do, we are all dependent on water. We need it every day, in so many ways. We need it to stay healthy, for growing food, vegetation, transportation, irrigation, industry, energy and its sheer life giving properties. For increasing the availability of water resources, there is a need for better management of existing water resources. The vast majority of sicknesses and deaths of people caused by waterborne illness and it can be eliminated by improved water quality, hygiene, and sanitation. Research and new technology should form the foundation for new strategies designed to address

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the challenges for increasing food production, improving water supply and ensuring efficient environmental protection. If initiatives are not pushed forward, water will become a more constraining factor in the quest for inclusive and sustainable growth.

III. REFERENCE

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