

SOUTH ASIAN JOURNAL OF MANAGEMENT RESEARCH (SAJMR)

Volume 8 Number 2

July 2016

CONTENTS

Editorial Note

- The Determination of Exchange Rate in India:
An Empirical Investigation** 649
Sivakiran Guptha, K. and Sai Pranav
- Policy Implications of Access To Higher Education
by Social Groups in India** 655
Dr. P. S. Kamble
- Rural Woman Empowerment Through Women Self Help Groups:
A Study of SGSY in Goa** 667
Ms. Smita Shrivastav and Dr. C. S. Dalvi
- Case Study**
Climate Change and Indian Agriculture: Macro Perspectives 674
Dr. Sanatan Nayak
- Book Review**
Management : Multi - Dimensional Approach 678
Dr. Durgesh Valvi



**Chhatrapati Shahu Institute of Business
Education and Research (CSIBER)**

(An Autonomous Institute)

University Road, Kolhapur- 416 004 Maharashtra State, India.

SOUTH ASIAN JOURNAL OF MANAGEMENT RESEARCH (SAJMR)

ISSN 0974-763X

(An International Peer Reviewed Research Journal)

Published By

Chhatrapati Shahu Institute of Business Education and Research (CSIBER)
University Road, Kolhapur – 416 004, Maharashtra, India

Ph: 91-231-2535706/07 Fax: 91-231-2535708 Website: www.siberindia.co.in
Email: sajmr@siberindia.co.in, sibersajmr@gmail.com



- Patron
Late Dr. A. D. Shinde
- Editor
Dr. T. V. G. Sarma
CSIBER, Kolhapur, India
- Editorial Board Members
Dr. Francisco J. L. S. Diniz
CETRAD, Portugal
Dr. R. A. Shinde
CSIBER, Kolhapur, India
Dr. Paul B. Carr
Regent University, USA
Dr. M. M. Ali
Director, CSIBER, Kolhapur, India
Dr. R. V. Kulkarni
CSIBER, Kolhapur, India
Dr. Babu Thomas
St. Aloysius Inst. Of Mgt. & IT. Mangalore, India
Dr. K. Lal Das
RSSW, Hyderabad, India
Dr. M. Nand Kumar
Goa University, Goa
Dr. Gary Owens
CERAR, Australia
Dr. P.R. Puranik
NMU, Jalgaon, India
Dr. Babu Zachariah
SIBER, Kolhapur, India
Dr. Rajendra Nargundkar
IFIM, Bangalore, India
Dr. Yogesh B. Patil
Symbolis Inst. of International Business, Pune, India
Dr. R. M. Bhajracharya
Kathmandu University, Nepal
Dr. R. L. Hyderabad
Karnataka University, India
Dr. K. Pradeepkumar
SIBER, Kolhapur,
Dr. K. V. M. Varambally
Manipal Inst. of Management, India
Dr. B. U. Dhandra
Gulbarga University, India
- Academic Assistance
Mr. V. Ravi Kishore Kumar
CSIBER, Kolhapur

Editorial Note

In the last few years it is being observed that the world economies are getting integrated. There is greater acceptance in the world community that growth cannot be achieved in isolation. The mutual exchange of goods and services at the international level is the only way forward for all the countries. The interdependence of the economies has made the exchange rates of the countries highly volatile. The interlink ages among the world currencies is examined with the help of econometric techniques in the very first article of this issue. The authors review the significance of the topic for the business communities as well as policy makers. The use of recent advancements in the econometric techniques makes the observations in the study more scientific.

Apart from international integration from economic perspective within societies there is a greater discussion on inclusion in the growth and prosperity. It is being examined whether all communities in any country are able to enjoy the fruits of development. In this regard the access to education is an important aspect. The article included in this issue of the journal addresses the inclusivity in the education sector in the Indian case. Inclusion can also be achieved through empowerment. This the research issue examined in the third article in the context of Goa state.

The research articles and the book review included in this issue of SAJMR touch upon the recent concepts in the area of management and social sciences. The methodology and the techniques used for analysis gives a good direction to young researchers.

Dr. T. V. G. Sarma

Editor

net loss would increase to 33.6 percent, 34.3 percent and 84.3 percent of agricultural value due to increase in temperature 3.5°C along with 14 percent precipitation during 1956-70, 1971-86 and 1987-99 respectively. Third, the study observed that the loss percentage declined from 24.8 percent to 17.4 percent in period of 1971-1985 and again increased to the loss of 61.6 percent in the last period. The decline in the middle period could possibly be due to improved resilience of Indian agriculture and also due to the regional variation in the climate projections. Four, further the results of net revenue of all the districts in each sub-periods showed significant positive spatial autocorrelations. The implication of significant positive spatial autocorrelations has been confirmed by collection of data from a field survey in Andhra Pradesh and Tamil Nadu. The author has confirmed that inter farmer communication could among other factors be responsible for spatial autocorrelation.

The impact of climate change on food-grain yields namely rice and millets has been estimated in India by using crop-specific agricultural production function with exogenous climate variables, such as precipitation and temperature and control for key inputs such as irrigation, fertilizer and labour at the district level panel dataset for the period 1966-99 (Gupta, S. et al., 2012). There are few significant observations, which are as follows. First, higher rainfall leads to higher yield of rice at a decreasing rate (as per quadratic functions), whereas higher temperatures lower the yield. Further, the quadratic function of temperature shows higher temperatures would mean lower yield rates at an incremental rate. Further, all the control variables such as irrigation, fertilizer consumption and labour show positive relationship with crop yields. Second, the impact of rainfall on pearl millet production shows greater the rainfall, higher the yield and it increases in declining rate. However, the impact of average temperature and other variables on production is insignificant and diluted. Third, in case of sorghum higher the rainfall, there would be higher impact on yield, however, higher the average temperature would lower the yield. Higher the temperature, lower the rate of decrease of yield with temperature (as was the case with pearl millet), and higher the rainfall, lower the rate of increase of yield with rainfall. Four, there is differential regional

climatic impacts on the production of rice, millet and sorghum. Five, while simulating with an increase of 0.5°C uniform increase in temperature, and a 4 percent increase in precipitation over the values in 1961-1990, it is predicted that rice would decline by 1.21 percent in the wettest areas, and 0.92 percent in the driest areas. Further, there would be an overall increase in production of millet, and the yield of sorghum is expected to decline by 1.42 percent across all regions. Six, damages caused due to global warming are very asymmetric in nature, i.e., it is expected to affect the low lying coastal areas more than that of areas in inland.

Projections for climate in the medium-run for India seem to indicate it will be warmer and wetter but with significant regional variation. Overall there will be (i) an increase in average surface temperature by 2 to 4 degrees C, (ii) changes in the distribution of rainfall (inter-temporal and spatial) during both monsoon and non-monsoon months, (iii) decrease in the number of rainy days by more than 15 days, (iv) an increase in the intensity of rainfall by 1-4mm/day, and (v) an increase in the frequency and intensity of cyclonic storms (Ranuzzi and Srivastava, 2012).

The impact of climatic variables such as temperature and precipitations on per hectare gross value of output are estimated in India by using the panel data approach (Birthal, P.S., 2014). Few of the significant observations of the study are as follows. First, higher the growing period, the temperature in kharif and rabi season adversely affect the agricultural productivity. A 1°C rise in temperature reduces the gross value of output per hectare by 4.0 percent and 5.6 percent in rabi and kharif respectively. However, irrigation acts as neutralizing factors of rising temperature. Second, the effect of kharif rainfall is positive on production and irrigation plays similar role in both with and without scenarios. The effect of rabi rainfall is positive on production and irrigation enhances the production further. Third, the climatic factors affect in different dimensions and magnitude in various agro climatic zones. Arid and semi-arid regions are more vulnerable to climatic factors. Four, it is predicted that the gross value of output due to change in climatic factors will decline by 9 percent, 16 percent and 21 percent by 2035, 2065 and 2100 respectively.

3.0 Dimensions of Damages

Agriculture is the dominant source of livelihood for world's poor. Due to increase in temperature vis-a-vis drop in agricultural production, many of the earlier literature did not focus how the damages have been distributed across various categories of populations. Therefore, by using various cross section as well as panel data in general equilibrium static model, the study attempted to find impact of global warming on the changes in prices of land, labour and food-grains and subsequent impact on rural household in India (Jacoby, H., et al., 2011). It has been observed that due to drop in agricultural production (17 percent) in the next 30 years, there shall be modest decline of consumption of food-grains mostly because of majority of the households generate income mostly from wage employment and rural wages. Second, climatic impacts are disproportionately distributed depending on geographical factors. Third, the welfare effects of rising cereal price are regressive in nature, i.e., falling more on poor than well off in the society. Further, the biggest losers are from rural areas. Four, the national poverty rate will rise by 3 to 4 percentage points. Five, the benefits of adaptation will accrue disproportionately in favour to the rich. Six, better policy in this respect would be helpful to reduce the share of rural income derived from climate sensitive employment, i.e., to increase the share of income derived from non-agricultural activities. Promoting the non-farm sector, or at least removing obstacles to its development, would be one step in this direction.

4.0 Summary

Numerous studies conducted at the global vs national level unanimously agreed that climate change would affect adversely the agriculture sector largely through increase in temperature though magnitudes are different based on geographical locations, nature of the economy and time factor. Further, increase in precipitations acts as a neutralizing factor for production along with other control variables such as irrigation, fertilizer consumption and labour positively helps to crop yields. At the early 90's, it was observed that the agricultural value or productivity or land value had adverse linear or quadratic relationship with the increase in temperature. Subsequently, in the early 2000's it was added that warmer regions of the globe would bear the damages more than the cooler regions. Further, due to decline in food-grains production in developing nation like India, there might be decline of consumption of food-grains because of majority of the households generate income mostly from wage employment and rural wages. The welfare effects of rising cereal price would be regressive in nature, i.e, the benefits to richer section would be more compared to poorer sections. The national poverty rate will rise by 3 to 4 percentage points and benefits of adaptation will accrue disproportionately in favour to the rich.

REFERENCES

- Bidwai, Praful (2012), *The Politics of Climate Change and the Global Crisis: Mortgaging Our Future*, Orient Black Swan, New Delhi.
- Birthal, P.S, Digvijay S. Negi, Shiv Kumar, Shaily Aggarwal, A. Suresh and Md. Tajuddin Knan (2014), "How sensitive is Indian Agriculture to Climate Change?", *Indian Journal of Agricultural Economics*, Vol.69, No.4.
- Deschenes, O., and M. Greenstone (2007), "The Economic Impact of Climate Change: Evidence from Agricultural Output and Random Fluctuations in Weather", *American Economic Review*, Vol.97, No.1.
- Government of India, (2012), "Press note on Poverty Estimates, 2009-10", Planning Commission, New Delhi.
- Gupta, Shreekanth, Partha Sen and Suchita Srinivasan (2012), *Impact of Climate Change on the Indian Economy: Evidence from Foodgrains Yields*, Centre for Development Economics, Working Paper No. 218.

Jacoby, H., Rabassa M., and E.Skoufias (2011), "Distributional Implications of Climate Change in India", Poverty Research Working Paper 5623, The World Bank, Washington D.C.

Kothawale, D.R., A.A. Munot and K. Krishna Kumar, 2010, "Surface Air Temperature Variability over India during 1901–2007, and Its Association with ENSO." *Climate Research*, Vol. 42.

Kumar K.S.K. (2009), "Climate Sensitivity of Indian Agriculture?", Working Paper No.39/2009, Madras School of Economics, Chennai.

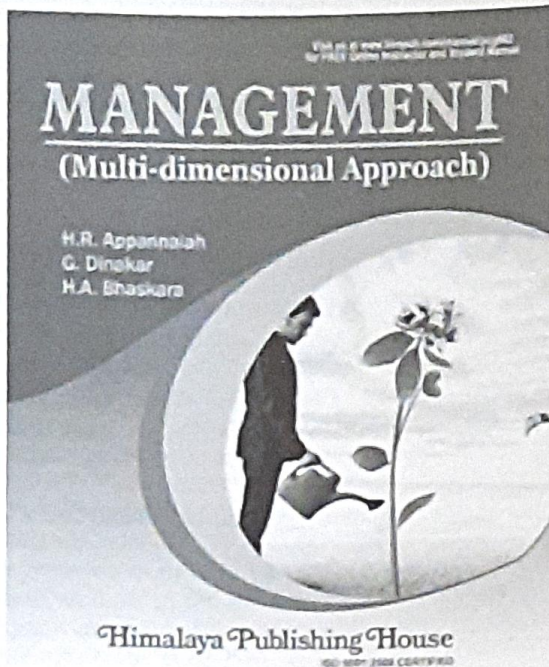
Mendelsohn, R., W.D. Nordhus and D.Shaw (1994), "The Impact of Global Warming on Agriculture: A Ricardian Analysis", *American Economic Review*, Vol.84.

Mall, R.K., R. Singh, A. Gupta, G. Srinivasan, and L.S. Rathore (2006), "Impact of Climate Change on Indian Agriculture: A Review", *Climatic Change*, Vol. 78.

Rosenberg, N.J., (1992), "Adaptation of Agriculture to Climate Change", *Climate Change*, Vol. 21

Ranuzzi, Anna and Richa Srivastava (2012), "Impact of Climate Change on Agriculture and Food Security in India." ICRIER Policy Series, No. 16, Indian Council for Research on International Economic Relations (ICRIER), New Delhi.

Sanghi, A. and R. Mendelsohn (2008), "The Impact of Global Warming on Farmers in Brazil and India", *Global Environmental Change*, Vol.18.



Title:
**Management
(Multi- dimensional Approach)**

Author:
H.R. Appannaiah,
G.Dinkar,
H.A.Bhaskara

Publisher:
Himalaya Publishing House

First Edition: 2016

This book, “Management: Multi-dimensional Approach”, is standalone source book for students, researcher, scholars, managers and management faculties, who want to get started in management field. The newcomers may get easy introduction about management discipline. Quality, ethics and global business environment are posing several challenges to current performers. This book is an attempt to blend time honored management principles with modern practices in the era of Information Technology.

Authors skillfully prepared chapter design with an Insight which provides an overview of the chapter content. Chapter scheme is presented in sequential order commencing with the analysis of concepts and logical flow of the theme. Relevant theories and appropriate examples are given for better understanding of the concept. Vital feature is that each concept in chapter is presented in margin box. At the end of every chapter key terms are listed to clarify the terms. Chapter summary is presented with detailed analysis of the caselets to understand the chapter theme. Study questions and skill exercises in some chapters are provided to

connect theory and information of the chapter with real time business operations.

This book is divided into three major sections. The first section of the book contains chapters on general management and process. The chapters are on Management, Manager, Organizing, Controlling, Staffing, Communication, Motivation, Morale, Directing, Delegation, Decision making, Leadership and Coordination. The chapter on Development of management Thought focuses on contribution of Management Gurus, traditional and contemporary thinkers, which are given in detail. Planning Dimensions chapter has meaning, nature and objectives of planning, which provides information on planning process, premises, types and methods. Social responsibility of Business and ethics covers CSR concept, Ethics and Social Responsibility, models of Social Responsibility.

Second section deals with chapters on functional aspects of Production and Operations Management. Financial management chapter gives an overview of

nature, scope, function, investment, financing, dividend decisions, theories and changing role of Manager. Human Resource Management chapter throws light on HR communication, recruiting, performance appraisal, compensation employee relations, strategic HR planning which are briefly explained. Chapter on Strategic Planning deals with different functional areas of management process, strategies tools and control aspects are analyzed.

The Third section covers supportive issues and application of Management principles to various activities.

Learning Organization chapter explains concept, history, features and benefits, the problems and disturbing factors learning organization are analyzed. This section covers three chapters on Quality management. It also discusses how Total in Quality Management can be achieved in real life.

Quality management –I chapter is on concept, process, principles and tools of QM. Associated aspects such as quality policy, benchmarking, QM cost and relations to management functions are discussed widely covered. Quality management –II fully explains the lean management aspects, which include concept, principles, process and working plan of lean. The measuring of lean with its benefits and wastes in practice is discussed. Quality management –III deals with Six Sigma as one of the quality tools. The concept, objectives, methodology, execution and tools are briefly analyzed.

Supply Chain Management topic is presented in three chapters. Supply chain

management-I deals with concept, process, vendor and inventory management. Supply chain management-II deals with outbound logistics, viz., and warehousing and transport management. Supply chain management-III covers role of Information Technology and packing of Supply chain management process. Issues and challenges faced by employers and employees stress are addressed in Stress Management chapter. An introduction of technology in huge proportion results into job related stress. It gives guidance for balance of work life and remedial measures to avoid stressful life.

Conflict is an inevitable happening in any workplace. Conflict may be positive or negative. Positive conflict will always do well to the organization. Conflict is caused due to wrong job description, non-judicious allocations of scarce resources, defective communication system, personality clashes, hierarchy in operations which create status differentials, employee dissatisfaction about one's job, compensation and work environment. These issues are dealt in Conflict management chapter.

Service management chapter depicts service process and its management, customer relationship management in service activities and brief analysis of service marketing.

In the end it can be said that the book is kind of a volume, which can serve as a compendium of management principles and practices. This book is focused on learners of management principles, to reach them easily through understandable communication. Any Management learner will surely enjoy reading this book and gain new insights.

Dr. Durgesh Valvi

Asst. Professor, Dept. of Social Work,
CSIBER, Kolhapur, MS (India)

Email : dvalvi@siberindia.edu.in

relationship between the real exchange rate, level of capital flows, volatility of the flows, fiscal and monetary policy indicators and the current account surplus for the Indian economy period Q2: 1993 to Q1:2004. The Cointegration analysis found that real exchange rate is cointegrated significantly with all the variables. Sunil Kumar (2010) attempted to identify determinants of real exchange rate in India using auto regressive distributed lag modelling approach for the period Q2:1997-Q2:2009. Among the variables productivity differentials, external openness, terms of trade and net foreign assets turn out to be statistically significant. Chunming (2011) modelled the effects of macroeconomic determinants on the nominal exchange rates; the Australian dollar (AUD), the Canadian dollar (CAD), the British Pound (GBP) and the Japanese Yen (JPY) through the transitional probabilities in the Markov process. The purchasing power parity, the real interest rate differentials and portfolio balance model, the maximum likelihood estimates suggested that the macroeconomic determinants can largely affect the dynamics of exchange rates. Wong Hock Tsen (2011) examined the real exchange rate determination in Asian economies using quarterly data Japan, Korea and Hong Kong countries. The methods showed that productivity differential, terms of trade, oil prices are found to be important in the real exchange rate determination in the long run. Khorshed (2012) examined the determinants of the real exchange rate of Australia using ARDL model. The results showed that terms of trade, government expenditure, and net foreign liabilities, interest rate differentials, openness in trade, per worker labor productivity have a significant impact on the exchange rate of Australia. Amir Kia (2013) developed a theoretical monetary model of the real exchange rate and showed that in the long run real exchange rate is a function of money supply, interest rate differentials, real GDP, govt. expenditure, deficit per GDP, domestic and foreign outstanding debt per GDP, externally financed debt per GDP for the Canadian dollar. The analysis has been done using quarterly data found that all variables, except money supply, interest rate differentials, debt have a statistically significant impact on

the Canadian dollar in the long run. Amita Mirchandani (2013) investigated how various macroeconomic variables leading to acute variations in the India's exchange rate for the period 1991 to 2010. Variables such as inflation, interest rate, current account, GDP growth, and FDI are considered for the correlation analysis. It has been found that among the variables interest rates and inflation have a strong correlation with the exchange rate movements in India. Nguyen (2013) used the monthly data from 1981 to 2012 to show that some US short term federal funds rates are related to exchange rates between US and China. The results confirmed that US short term federal funds rate, US manufacturing capacity and other types of US commercial bank loans are the determinants of the exchange rate between US and China. Mohammad Shafiq, et.al (2014) using a linear regression model found that inflation rate, GDP growth rate, interest rate and current account balance are the major determinants of Bangladesh exchange rate for the period of 1990 to 2011. Taoufik Bouraour, et al (2015) have investigated the relation between the macroeconomic fundamentals on the behavior of the exchange rate of the Thai Baht against the US Dollar. The multiple regression technique for the monthly data 2004-2013 revealed that the terms of trade, international reserves have a significant impact on the exchange rate. The interest rate differential, manufacturing production index, monetary base and government debt do not have any impact on the Thailand exchange rate. This paper is organized as follows: the first section deals with the introduction and a brief literature of the topic. The second section gives the data and methodology. The third section explains the empirical results of the study. The summary and concluding remarks are presented in the last section of the paper.

2.0 Data and Methodology

The monthly data from 2005 April to 2015 September used in this study has been collected mainly from two sources. The dependent variable Nominal Exchange Rate (EX) INR/USD and the explanatory variables Index of Industrial Production (IIP), Balance of Trade (TD), Foreign Institutional Investments (FII), Terms of Trade (TOT) and

Call money Rates(CALL) are taken from The Reserve Bank India(RBI) Handbook of Statistics on the Indian Economy. The US Fed Rates are considered as foreign country rates to calculate interest rate differentials(INT) and the data is taken from the www.federalreserve.gov

2.1 Explanation of the variables:

Index of Industrial Production (IIP) is an index which shows the growth rates in different industry groups of the economy in a period of time. IIP index is taken for the analysis with 2004-05 base years. Increasing country's industrial sector production denotes the health of industries in the economy. Hence, the currency value also increases (appreciation).

Balance of Trade (TD) is the difference between country's exports and imports of goods. When the country has the deficit in its trade it is spending more on trade than its earning. Deficit in trade due to spending more of its currency on importing products than it earning through exports causes depreciation

Foreign Institutional Investment (FII) increasing foreign investments appreciates the currency due to supply of foreign currency in the country is increasing.

Terms of Trade (TOT) is a ratio of export prices to import prices. If the price of exports are smaller than that of its imports, the currency value will decrease or depreciate.

Interest rate differentials(INT) is the difference between the home rates and foreign rates. Higher interest rates of home currency attracts foreign capital and cause the exchange rate to rise.

3.0 Methodology

3.1. Stationarity Tests

As the stationarity condition is a prerequisite for any time series analysis, here we used Augmented Dickey Fuller (ADF) test to assess the order of integration in this study.

The ADF test consists of estimating the following regression equation with trend and intercept

$$\Delta y_t = \mu + \delta y_{t-1} + \sum_{i=1}^p a_i \Delta y_{t-i} + \gamma_t + \varepsilon_t \dots\dots\dots(2.1)$$

The null hypothesis in the above equation is that $H_0: \delta = 0$; i.e. there is a unit root i.e., time series is not stationary.

Since the possibility of the presence of structural breaks make the ADF test unreliable for testing stationarity, we also use the PP test to test the unit roots.

The regression equation for the PP test is given by

$$\Delta y_t = a + \beta y_{t-1} + \varepsilon_t \dots\dots\dots(2.2)$$

3.2 Framework of Vector Auto Regression (VAR):

VAR is an extension of univariate auto regression model. VAR is commonly used for analyzing the dynamic impact of random disturbances on the system of variables.

The VAR equation can be expressed as

$$x_t = A_0 + A_1 x_{t-1} + A_2 x_{t-2} + \dots + A_p x_{t-p} + \varepsilon_t \dots\dots\dots(2.3)$$

Where $x_t = an(n \times 1)$ vector containing each of the n variables included in the VAR

$A_0 = an(n \times 1)$ vector of intercept terms

$A_i = (n \times n)$ matrices of coefficients

$\varepsilon_t = an(n \times 1)$ vector of error terms

3.3 Impulse Response Functions:

In applications it is often of interest to know the response of one variable to an impulse in another variable in a system that involves number of further variables as well. An impulse response function traces the effect of a one standard deviation shock to one of the innovations on the current and future values of the endogenous variables. A shock to the i^{th} variable directly affects the i^{th} variables and is also transmitted to all the endogenous variables through the dynamic structure of the VAR. Impulse response function shows the possible dynamic response of all the variables in the system to shock or innovation in each variable. The results of this are appeared in a graphical form.

4.0 Empirical Analysis

To determine the order of integration of the variables considered we used Augmented Dickey Fuller (ADF) test as well as Phillips Perron (PP) test and the results are shown in the following table 1. These results indicate that IIP, INT, FII, TOT, TD are stationary at levels i.e. I (0), whereas EX is stationary at first difference i.e. I (1) with trend and intercept

Table 1: Testing of Unit Root Tests

Variables	ADF Test		PP Test	
	Levels	First Difference	Levels	First Difference
Exchange Rate(EX)	-1.5136	-8.0991*	-1.8261	-7.7886*
Index of Industrial Production(IIP)	-5.8438*		-6.0284*	
Balance of Trade (TD)	-5.1309*		-5.3225*	
Foreign Institutional Investments(FII)	-7.8052*		-7.7638*	
Terms of Trade(TOT)	-6.7949*		-6.7565*	
Interest Rate Differentials(INT)	-3.9766**		-3.9969**	

Note: * is significant at 1% and **5% levels respectively

4.1. Regression Results

To know the determinants of India's Exchange Rate, we estimated the multiple regression equation by using Ordinary Least Squares (OLS) method. The estimated equation is

$$D(EX) = -1.796704 - 0.009253 \cdot IIP(-1) + 0.000140 \cdot TD(-1) - 0.006056 \cdot FII + 0.035249 \cdot TOT - 0.005202 \cdot INT(-1) + 1.840578 \cdot DUM$$

(-2.167)
(-2.076)
(6.543)
(-8.501)
(3.552)
(-0.142)
(4.404)

R²=0.57 Adj. R²=0.55 D-W Stat=1.75 P(F-Statistic)=0.0000
 (The Parenthesis values indicate the t-values)

From the results we can infer that Index of Industrial production, Trade accounts, foreign investments, Terms of trade turned out to be highly significant variables except interest rate differentials in explaining the exchange rate in India. The negative coefficient for industrial index, foreign investments and interest rate differentials show that the exchange rate appreciates as the index of production, foreign investment increase. However, high domestic rates than the foreign rate would increase more investment due to higher returns for their investments which would eventually lead to increase in the value of exchange rate. In the analysis, though the negative coefficient captured the effect it is not significant in determining the exchange rate of India. It is clear from the results that trade and terms of trade have positive coefficients which states the depreciation of the exchange rate. The dummy variable is used for the months where

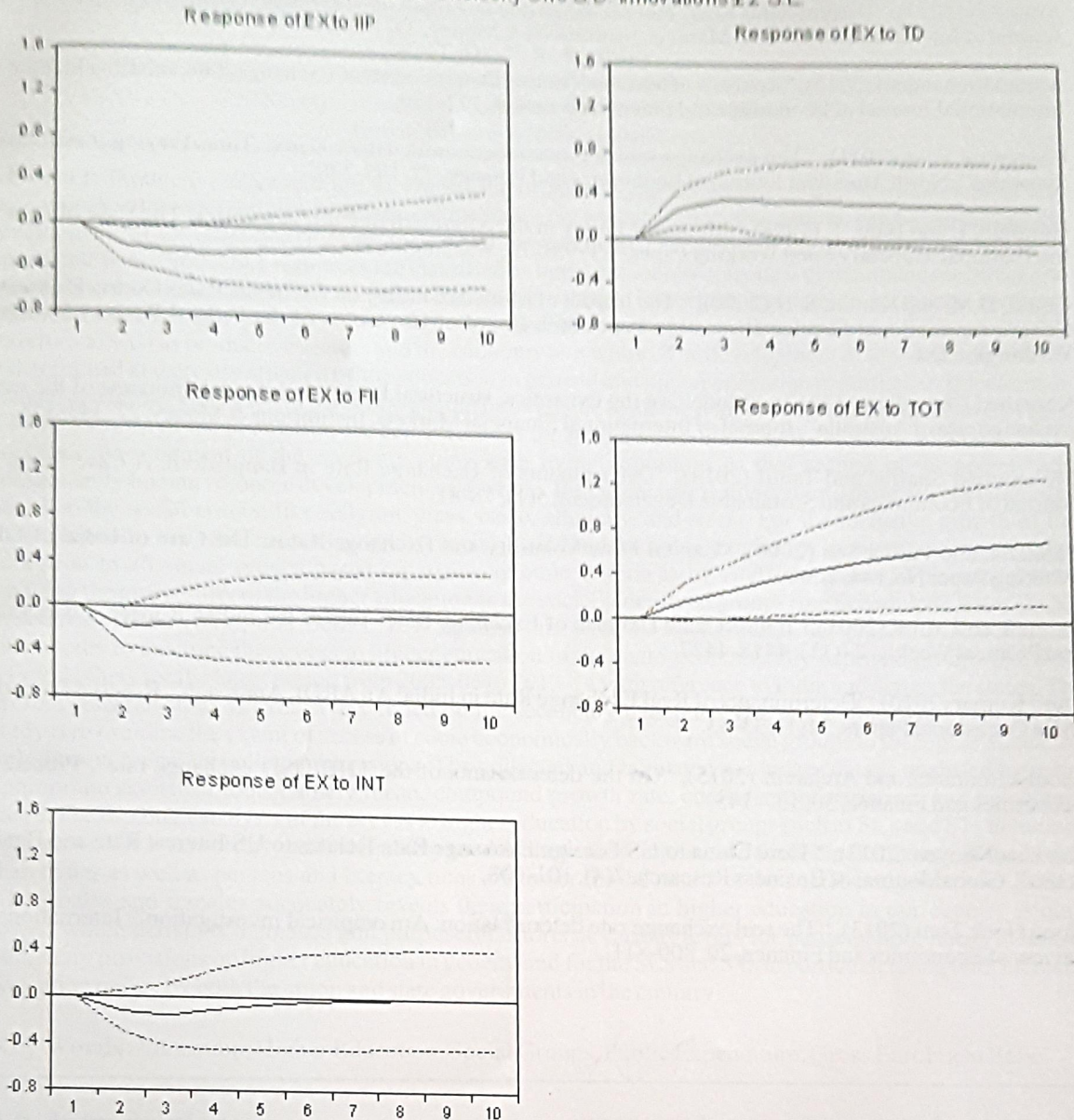
the outliers were found. The first and second months are September 2008 and March 2009 which captured the impact of financial crisis, the third outlier showed the effect of exchange rate crisis in 2013 August. Overall, it has been observed that the model fits the data well, as indicated by the R-square and adjusted R-square. Also the F value is highly significant indicating the overall significance of the model.

4.2. VAR & Impulse Response Function Results

A VAR model is estimated by using Akaike Information Criteria (AIC) and we fixed the lag length of 2. VAR framework, which is used for measuring the dynamic relationship, indicated that exchange rate is influenced by its own with a lag of one month and the industrial production, trade account, terms of trade and foreign investments with one lag. The interest rate differentials is not affecting the exchange rate at any lag. In terms of impulse response given in the figure1, the response of exchange rate to IIP, FII and INT is declining till second month later on it is stagnant up to tenth month. Which is in line with the economic theory that the exchange rate appreciates when the production, investment and domestic interest rates are high. On the other hand, the response of exchange rate to TOT, TD is positive till the second month and later on it is again same till the tenth month. Which is the phenomenon that exchange rate depreciates as the country's deficit increases.

Figure 1 Response of EXR to IIP, TD, FII, TOT and INT

Response to Cholesky One S.D. Innovations ± 2 S.E.



5.0 Summary & Conclusions:

Exchange rate plays a crucial role in the trade of every economy and especially for developing countries the fluctuations in exchange rates is a major concern. Because all the developing countries by its nature are net importers in their trade with other nations. As the exchange rate affects the decisions of foreign exchange investors, exporters, importers, it's important to know the variables

that determine the exchange rates in India. In this paper we have used a few macroeconomic variables which can determine the exchange rate. The OLS method and VAR technique used in the analysis have found that among the variables considered the FII, TOT, TD, and IIP are significant in determining the exchange rate. However, the INT is not significant.

REFERENCES:

- Amir Kia (2013), "Determinants of the real exchange rate in a small open economy: Evidence from Canada", *Journal of International Financial Markets, Institutions & Money*, 23, 163-178
- Anita Mirchandani (2013), "Analysis of Macroeconomic Determinants of Exchange Rate Volatility in India", *International Journal of Economics and Financial Issues*, 3, 172-179
- Chunming Yuan (2011), "The exchange rate and macroeconomic determinants: Time-Varying transitional dynamics", *North American Journal of Economics and Finance*, 22, 197-220.
- Goldfajn, I. and Baig, T. (1998), "Monetary Policy in the Aftermath of Currency Crises: The Case of Asia", *International Monetary Fund Working Paper*, WP/98/170, Washington D.C.
- Gould, D.M. and Kamin, S. B.(2000), "The Impact of Monetary Policy on Exchange Rates During Financial Crisis", *International Finance Discussion Paper 669*, Board of Governors of the Federal Reserve System, Washington D.C.
- Khorshed Chowdhury (2012), "Modelling the dynamics, structural breaks and the determinants of the real exchange rate of Australia", *Journal of International Financial Markets, Institutions & Money*, 22, 343-358.
- Mohammad Shafiur and Tanjil (2014), "Determinants of Exchange Rate in Bangladesh: A Case Study", *Journal of Economics and Sustainable Development*, 5(1), 78-81.
- PamiDua and Partha Sen (2006), "Capital Flow Volatility and Exchange Rates: The Case of India", *CDE Working Paper No.144*, 1-38.
- Pattnaik and Mitra (2001), "Interest Rate Defence of Exchange Rate: Tale of the Indian Rupee", *Economic and Political Weekly*, 24(11), 4418-4427.
- Sunil Kumar (2010), "Determinants of Real Exchange Rate in India: An ARDL Approach", *Reserve Bank of India Occasional Papers*, 31(1), 33-63.
- TaoufikBouraoui and Archavin (2015), "On the determinants of the THB/USD exchange rate", *Procedia Economics and Finance*, 30, 137-145.
- Van Hoa Nguyen (2013), "How China to US Foreign Exchange Rate Relates to US Interest Rate and Bank Loans", *Global Journal of Business Research*, 7(4), 101-108.
- Wong Hock Tsen (2013), "The real exchange rate determination: An empirical investigation", *International Review of Economics and Finance*, 20, 800-811

Policy Implications of Access to Higher Education By Social Groups in India

Prof. Dr. P. S. Kamble

Head, Department of Economics
Shivaji University, Kolhapur, Maharashtra (INDIA)
Email: pskamble2006@gmail.com

Abstract: Productive resources are of crucial importance in the beginning as well development of any economic development activity. In absence of resources not a single productive activity can be started and the development of all other activities as well as of the productive sectors and the economy as a whole is impossible only. Productive resources are classified as human resources, physical or manmade resources and natural resources. All categories of resources are very much important, but human resources are more important because they use all other categories resources and achieve development of the productive activities as well as productive sectors and the economy as a whole. The development of the human resources is determined and greatly affected by the education in general and higher education in particular. Education in general and higher education in particular should be available to all the people in the age group 18 to 23 years, if some sections of the population are deprived from the higher education it will definitely adversely affect economic development of the economy along with living conditions of that section of the society and consequently human resource development as a whole. Indian society is divided into different social groups based on the social criteria like religion, class, caste, ethnicity, and so on. For the inclusive growth of the Indian economy as a whole as well as equity, social justice and desirable standard of living providing of higher education to all social groups based on socioeconomic criteria is of vital importance. This necessitates studying the availability of the higher education to the socially deprived groups like Scheduled Castes (SCs), Scheduled Tribes (STs), and others. It is against this over all background, the present research study endeavours to examine the access to higher education to the socio-economically deprived groups like SCs, STs and others for the latest period from 2005-06 to 2013-14 with reference to India and across the states. The present research study is exclusively relied on the secondary data only. The prime objective of the present study is to examine the extent of access of socio economically backward social groups to the higher education in India and reveal its policy implications. The collected and tabulated secondary data is analysed by using appropriate statistical tools namely mean, compound growth rate, coefficient of variation, and percentage share. The thorough analysis of the access to higher education by social groups such as SCs and STs in India as well across the states clearly and adequately reveals the policy implication that Female literacy is the lowest than males as well as persons and literacy rates are lower for the adults in the social categories such as SCs, STs , males and females adequately reveals their participation in higher education in our country is quite lower, which demands increased and purposeful efforts at various levels for participation, needs increased budgetary provisions on higher education in general and for the SCs and STs in particular along with inclusive education policy by both the union and state governments in the country

Key Words: Education, Higher Education, Social Groups, Public Expenditure, Gross Enrolment Ratio

1.0 Introduction:

Productive resources are of crucial importance in the beginning as well development of any economic development activity. In absence of resources not a single productive activity can be started and the development of all other activities as well as of the productive sectors and the economy as a whole is impossible only. The productive resources availability and allocation and utilisation enable rapid and all round economic development of the economy as whole. The proposition can be greater availability and

proper and rational use of the productive resources realizes rapid and all round economic development of the economy as whole, along with the productive sectors also. Productive resources are classified as human resources, physical or manmade resources and natural resources. All categories of resources are very much important, but human resources are more important because they use all other categories resources and achieve development of the productive activities as well as productive sectors and the economy as a whole. The development of the human resources is

determined and greatly affected by the education in general and higher education in particular. This implies that higher education to the people is a very important key for the development of economic activities and productive sectors and the economy as whole. Thus higher education is greatly influencing factor on the rapid and all round development of the economy. Education in general and higher education in particular should be available to all the people in the age group 18 to 23 years, if some sections of the population are deprived from the higher education it will definitely adversely affect economic development of the economy along with living conditions of that section of the society and consequently human resource development as a whole. India has a society divided into different social groups based on the social criteria like religion, class, caste, ethnicity, and so on. For the inclusive growth of the Indian economy as a whole as well as equity, social justice and desirable standard of living providing of higher education to all social groups based on socioeconomic criteria is of vital importance. This necessitates studying the availability of the higher education to the socially deprived groups like Scheduled Castes (SCs), Scheduled Tribes (STs), and others. It is against this over all background, the present research study endeavours to examine the access to higher education to the socio-economically deprived groups like SCs, STs and others also taking into consideration data availability for the latest period from 2005-06 to 2013-14 and others also taking into account the data availability and its relevance with reference to India.

2.0 Review of Research Studies:

A review of research studies relating to the research topic is of vital importance, which provides the number of insights about the nature and scope of the research topic and more importantly the lapses and gaps in the research on research topic into consideration, which provides the direction of the present research as well as its scope. In this backdrop a review of the relevant research studies relating to the present research topic has been taken here. Patel Sujata (2004) in her study talks about the challenges before the higher education in India. The study has enlisted the number problems before the higher education institutes in India before 1990 and after also. The author argues that higher education in India has got the nature of commodity market, which is growing like

market but the problem of quality, knowledge and global excellence. Basant and Sen (2014) in their study explore the role of socio-religious affiliations in determining participation in higher education in India, and whether the importance of these affiliations changes over time. The study concludes that Hindu SC may not have had higher chances of participation than Hindu ST as the marginal effects are not statistically significant. Hindu OBC was more likely to complete HE compared to Hindu SC in the full sample, with stronger effects in urban areas. But among the eligible population, Hindu OBCs seem to have lower chances of participation, particularly in rural areas. Anjum and Tiwari (2012) explore the trend of supply of professional education institutions to investigate the reasons for large number of vacant seats in professional colleges. The study observes that the last two decades had witnessed unprecedented growth in institutes of higher education primarily due to private sector participation. The private sector is expected to provide useful contribution in achieving the target of 30% GER by 2020 set by government of India. Though the private institutes have grown in number they are not able to attract the high ranking students. The issues of quality, access, equity, inclusiveness require urgent attention of the stakeholders. Tilak B G (2008) in an article examines the allocations to the education sector in the union budget for 2008-09 are substantially more than in 2007-08, but the hike is not as large as in previous years. The author argues that budget marks a shift in priorities in a number of areas. The important are; higher priority to secondary, technical and higher education, and less to elementary education, a preference for expansion of elite over mass-based system, and, three, a preference for funding from cesses over allocations from the general budget. Tilak B G (2011) in his paper says the Mid-Term Appraisal of the Eleventh Plan calls for exploration of the possibility of converting existing private institutions into public partnerships. The government believes that strict regulation and enforcement will ensure that the private sector contributes significantly to equitable education, but the government's record until now in terms of both its willingness and ability to do so has been poor. The author concludes that ensues during admissions at various levels of education. Initially, the government pretends to fight the irregularities and finally gives in to the pressures from the

private schools. Tilak B G (2014) in his study states that an important feature of the very high rate of growth of higher education experienced in India, particularly since the beginning of the 1990s, is the alarming growth of private higher education. He is of the view that the size of the private sector is about twice that of the public sector in terms of the number of institutions and student enrolments. This has several consequences, some of which are already being felt. Apart from refuting several claimed advantages of private higher education, the dangers involved in a high degree of dependence on the private sector for the development of higher education in a country like India.

The foregoing review of research studies relating to the present research topic reveals that no doubt some studies have been undertaken, but they are a few only. Higher education in India has a number of issues and aspects which are very much necessary to be examined for which there is need for the number of research studies. Besides the access of higher education to the socioeconomic deprived groups is a very missing aspect about the studies on higher education in India. It is therefore the present study has been taken up which endeavours the state of access of higher education to the social groups like SCs and STs in India with reference to the latest period.

3.0 Data and Research

Methodology:

The present research study is exclusively relied on the secondary data only. The prime objective of the present study is to examine the extent of access of socio economically backward social groups to the higher education in India and reveal its policy implications. The period covered by the present study is latest one from 2005-06 to 2013-14 prominently. But in some cases the period is considered as per the data availability. The necessary secondary data has been collected from the sources such as Census of India, Government of India Budgetary Documents,

Statistics of Higher and Technical Education publication, All India Survey on Higher Education (AISHE), and a research study by Basant and Sen. The collected data is classified and tabulated in the light of objective of the present study. The tabulated data is analysed by using appropriate statistical tools namely mean, compound growth rate, coefficient of variation, and percentage share so

as to arrive at the average situation of the variable into consideration the tool of mean is used. In an attempt to identify the degree of variations in the variables the coefficient of variation is calculated. The growth in the variables into considerable the compound growth rate for the study period is computed. The relative positions of some of the variables in total or at aggregative level percentages are calculated. The results from the data analysis have been interpreted so as to draw inferences about the access to higher education in India across the social groups. Besides this, some important data results also have been represented with the help of graphs.

4.0 Results and Discussion: Access To Higher Education By Social Groups in India

This is very important section of the present research study, because it analyses the access to higher education by social groups in India with the help of results derived from the data analysis.

Literacy rate is an indicator of level of general educational development in a country. It talks about the educational progress in general. So as to arrive at the scenario of the general level of Educational attainment the necessary data and their results have been presented in table below.

Table 1: Literacy Rates in India (% age)

Census Year	Persons	Males	Females
1951	18.3	27.2	8.9
1961	28.3	40.4	15.4
1971	34.5	46.0	22.0
1981	43.6	56.4	29.8
1991	52.2	64.1	39.3
2001	64.8	75.3	53.7
2011	73.0	80.9	64.6
SGR	4.98% pa	3.29% pa	10.43% pa
Mean	5.24	6.50	3.89

Source: Census of India- 2011. 1951 □ 1971:
Aged 5+, 1981-2011: Aged 7+

It is observed that in 1951 the literacy rate of persons in India was just 18.3%, which very significantly rose to 73% in 2011, which stood at 5.24% on an average. It grew at the rate 5.24% pa during 1951 to 2011. The literacy among the males was always higher than the literacy among females as well as person. It

increased from 27.2% to 80.9% during the same period with an average of 6.50%, but it grew at the rate of 6.50% pa was a comparatively higher rate of growth than the persons during the study period. The female literacy in India was very much lower in 19951 which was just 8.9% that significantly rose to 64.6% in 2011, with an average of 3.89 during the study period but grew at the highest rate of 10.43% pa. The

noteworthy thing is that female literacy is the lowest than males as well as persons in India.

As the present research study exclusively focuses on the access to higher education for the social groups like SCs and STs in India, hence it is of vital importance to examine the state of literacy among these social groups. The necessary data is given below.

Table 2 :
Literacy Rates (7+ Age Group)
across Social Groups in India (2001 and 2011) (in percentage)

	2001			2011			Change		
	Total	SC	ST	Total	SC	ST	Total	SC	ST
Literacy Rates (7+ Age Group)									
Total	64.8	54.7	47.1	73.0	66.1	59.0	8.2	11.4	11.9
Male	75.3	67.0	59.0	80.9	75.2	68.5	5.6	8.2	9.5
Female	53.7	42.0	35.0	64.6	56.5	49.4	10.9	14.5	14.4
Adult Literacy Rates(15+ Age Group)									
	Total	SC	ST	Total	SC	ST	Total	SC	ST
Total	61.0	44.1	40.8	69.3	60.4	51.9	8.3	16.3	11.1
Male	73.4	59.3	54.8	78.8	71.6	63.7	5.4	12.3	8.9
Female	47.8	28.5	26.7	59.3	48.6	40.2	11.5	20.1	13.5

Source: O/O RGI, Census 2001 & 2011

It is found that the total literacy rate in the 2001 was higher than the STs and STs and the same scenario remained in the year 2011 for all sub groups namely total, males and females. But the striking feature is that the literacy rate was higher for the males and lowers for the females for total as well SCs and STs. But when the change in the literacy rate between 2001 to 2011 across the social groups is taken into account, the higher progress is found among SCs and STs than Total , and females are rapid than males in all categories , is a salient and noteworthy peculiarity. As the present study focuses on the higher education, it is also of crucial importance to observe the trends in the adult literacy rates in the age group above 15+ because it is the age of taking higher education. The results are clear that the literacy rates are lower for the adults in all the categories such as total, SCs , STs , males and females in the age group 15+ than 7+ adequately reveals that participation in higher education in our country is quite lower. But the noteworthy thing is that change during the period 2001 to 2011 is greater

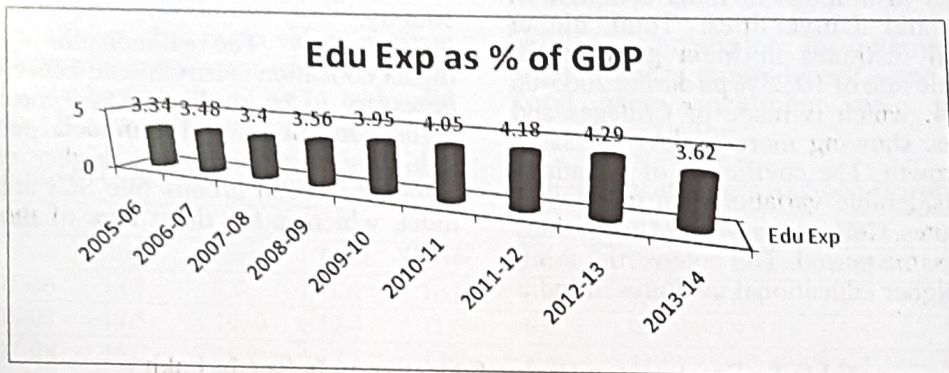
for the SCs and STs and for the females more importantly.

Education is a social service hence the role of the government in its supply is of vital importance because it can only satisfy the social want for the education. It is therefore of crucial importance to examine the role of government in progress and development of the education in India. For this purpose the necessary data is depicted in the table below. The Indian higher education system is presently facing several challenges. The challenge of global competitiveness has been added to other demanding tasks such as access, equity, relevance, quality, privatisation and internationalization in the face of a resource crunch. It argues that without appropriate policy interventions in school education, it would be of little use to have interventions at the higher educational level, which discriminate in favour of girls, SCs and STs (Ved,Prakash,2007, p3249).

Table 3:
Public Expenditure on Education and Gross Domestic Product (GDP)

Year	GDP at Current Price (at Factor cost) (Rs. crore)	Total Expenditure on Education by Education & other Departments (Rs. crore)	Expenditure on Education by Education & other Departments as % of GDP
2005-06	3390503	113228.71	3.34
2006-07	3953276	137383.99	3.48
2007-08	4582086	155797.27	3.40
2008-09	5303567	189068.84	3.56
2009-10	6108903	241256.01	3.95
2010-11	7248860	293478.23	4.05
2011-12	8391691	351145.78	4.18
2012-13	9388876	403236.51	4.29
2013-14	10487074	380104.69	3.62
CGR	15.47% pa	18.41%	2.48% pa
Mean	6539426.2	251633.3	3.76
CV	38%	44%	9.50%

Source: Government of India Budgetary Documents



It is adequately observed that the GDP of India hence economic growth was achieved at the very significant rate more than 15% pa during the period 2005-06 to 2013-14, is no doubt a good thing. At the same time government expenditure on education also increased at the higher rate of more than 18% pa is also a thing of appreciation. But this is not sufficient so far as the role of the government in educational development is concerned. It is of crucial importance to examine the level of educational expenditure in a country, and educational commissions and Chh. Shahu a king of Kolhapur also stated that educational expenditure should be at least 5% of GDP and surprisingly and disappointingly it necessitates say that we could not attain minimum 5% level of educational expenditure. This is a clear indicator that India is not in the proper direction and magnitude so far as the role of government

in educational development is concerned which is a thing of serious concern and can affect the availability of educational facilities in the country.

The quantum of supply of higher education facility depends on the availability of the institutions engaged in providing higher education. This necessitates examining availability and growth in the higher educational institutions in India. Although the Prohibition of Unfair Practices in Technical Educational Institutions, Medical Educational Institutions and Universities Bill 2010, which was introduced in Parliament recently, acknowledges the widespread prevalence of malpractices in our institutions of higher education, it is inadequate for tackling the host of corrupt and unfair practices (Tilak, 2010, p19).

Table 4 : Number of Higher Education Institutes in India

Year	Colleges	Universities	Total
2005-06	16982 (98%)	350 (2%)	17332 (100)
2006-07	19812 (98)	371 (2)	20183 (100)
2007-08	23099 (98)	406 (2)	23505 (100)
2008-09	27882 (98)	440 (2)	28322 (100)
2009-10	25938 (98)	436 (2)	26374 (100)
2010-11	32974 (98)	621 (2)	33595 (100)
2011-12	34852 (98)	642 (2)	35494 (100)
2012-13	35829 (98)	665 (2)	36494 (100)
2013-14	36671 (97)	712 (3)	37383 (100)
CGR	10.23% pa	10.24% pa	10.23% pa
Mean	28227 (98%)	516 (2%)	28742
CV	26%	27%	26%

Source: Statistics of Higher and Technical Education publication, All India Survey on Higher

Education (AISHE)

It is observed that Total number of higher educational institutions in India comprise of Colleges and Universities. Total higher educational institutes in India grew at the considerable rate of 10.23% pa during 2005-06 to 2013-14, which is made of Colleges and Universities showing more or less the same rates of growth. The coefficient of variations shows considerable variations but positive in Total institutes, Colleges as well as Universities during the same period. The noteworthy thing about the higher educational institutes in India

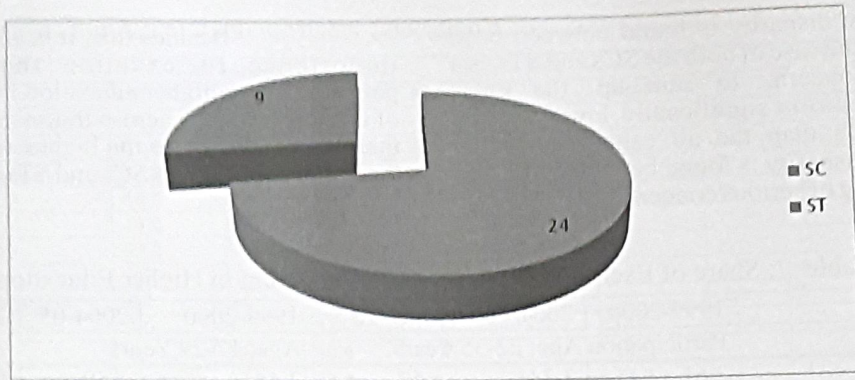
is that they are dominated by the Colleges than the Universities (98%) indicate the need for increasing number of the Universities in the country.

The real indicator of access to higher education is enrollment; hence it is very necessary to be studied. When enrolment in higher education is studied in social perspective it highlights the access to higher education across the social groups like SCs and STs in India, which is the thirist area of the present study.

Table 5 : Enrolment in Higher Education in India (In Lakh)

Year	All Categories			SCs			STs		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2005-06	53	38	91	10	6	16	4	2	6
2006-07	55	40	95	12	6	18	4	3	7
2007-08	53	46	99	15	9	24	6	3	9
2008-09	56	49	105	14	8	22	6	3	9
2009-10	58	51	109	15	9	24	7	4	11
2010-11	60	53	113	17	13	30	7	5	12
2011-12	63	59	122	20	16	36	7	6	13
2012-13	64	61	125	20	16	36	7	6	13
2013-14	66	63	128	NA	NA	NA	NA	NA	NA
CGR	2.95% pa	6.6	4.56	9.79	16.72	12.50	9.12	9.12	12.06
Mean	58.66 (54%)	51.11 (46)	109.66 (100)	15.37 (59)	10.37 (41)	25.75 (24%)	6 (60)	4 (40)	10 (9%)
CV	8.25%	17.37	12.20	16.52	39.53	29.47	22.33	37.75	2.67

Source: Statistics of Higher and Technical Education publication, All India Survey on Higher Education (AISHE)



Despite some improvement in enrolment rates over the decades, at the end of 2002 hardly 9.28 per cent of boys and 6.71 per cent of girls belonging to the relevant age-group population in the country had been enrolled in higher education institutions (Upadhyay,2007,p161). The above data results adequately show that SCs and STs were very much ahead so far as growth rate of enrolment in higher education in India is concerned, which was 12.50%, 12.06% and 4.56% respectively during 2005-06, is no doubt a good thing. But mean values indicate that All categories enrollment was very much higher (110 lakh) than the SCs (26 lakh) and STs 10 lakh) is a thing of concern. The relative

position of different social groups in enrolment in higher education clearly indicates a very merge share of the SCs (24%) and STs (9%) in total enrolment in higher education. The gender dimension of enrolment in higher education reveals that all social groups have male bias, but at aggregate level the situation is good.

Along with the absolute enrolment in higher education it is also very much essential to assess the trends in gross enrolment ratio in general as well as across the social groups in India so as to explore the relative place of different social groups like SCs and STs in the Total gross enrolment ratio, which is endeavoured below.

Table 6: Gross Enrolment Ratio (GER) in Higher Education across Social Groups

Year	All Categories			SCs			STs		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2005-06	13.5	9.4	11.6	10.1	6.4	8.4	8.6	4.7	6.6
2006-07	14.5	10.0	12.4	11.5	6.9	9.4	9.5	5.5	7.5
2007-08	15.2	10.7	13.1	13.2	8.6	11.0	12.4	6.7	9.5
2008-09	15.8	11.4	13.7	12.5	8.3	10.5	11.6	6.7	9.2
2009-10	17.1	12.7	15.0	13.0	9.0	11.1	13.1	7.5	10.3
2010-11	20.8	17.9	19.4	14.6	12.3	13.5	12.9	9.5	11.2
2011-12	22.1	19.4	20.8	15.8	13.9	14.9	12.4	9.7	11.0
2012-13	22.3	19.8	21.1	16.0	14.2	15.1	12.4	9.7	11.0
2013-14	NA	NA	NA	NA	NA	NA	NA	NA	NA
CGR	8.22 %	12.88	10	6.32	12.95	8.79	5.04	11.40	7.52
Mean	17.66%	13.91	18.88	13.33	9.95	11.73	11.61	7.5	9.53
CV	20%	31	25%	15	31	21	14	26	18

Source: Statistics of Higher and Technical Education publication, All India Survey on Higher Education (AISHE)

It is found that for all categories the gross enrolment ratio in higher education has increased from 12% to 21% during 2005-06 to 2012-13 at the annual rate of 10% pa and average of 19%. No doubt there is some disparity in gross enrolment ration in higher

education between boys and girls. But the gross enrolment ratio in higher education for the SCs and STs is very much lower compared to all categories, which was just 11.73% and 9.53% respectively. Their growth is lagging than the growth for all categories. Besides this, a

considerable disparity is found between boys and girls in the case of both the SCs and STs, is a thing of concern. To sum up, the gross enrolment ratio is significantly lower for the SCs and STs than the all categories and a significant disparity is found between girls and boys is a thing of serious concern.

Besides this, it is also of crucial importance to examine the level of participation in higher education in the context of eligible students across the social groups so that the real access to the higher education for the social groups likes SCs and STs is indicated.

Table 7: Share of Each Social Group in Participating in Higher Education

	1999-2000	2004-05	2009-10	1999-2000	2004-05	2009-10
	Participation Age: 22-35 Years			Age: 17-29 Years		
Hindu SC	3.61	3.74	5.57	2.48	3.59	6.43
Hindu ST	2.11	2.34	3.53	2.97	3.42	4.23
Hindu OBC	5.22	6.39	9.62	3.49	5.00	10.38
Hindu UC	17.69	19.29	24.42	9.58	11.24	18.15
Muslim OBC	2.97	3.26	5.42	2.12	3.92	6.15
Muslim general	4.80	5.09	4.97	3.05	4.09	6.26
Other minorities	12.40	11.89	16.12	8.04	8.00	13.64
Total	8.25	8.62	11.42	5.03	6.07	10.44
	Eligible (Age: 22-35 Years)			Eligible (Age: 17-29 Years)		
Hindu SC	52.81	43.67	49.1	32.29	32.25	42.81
Hindu ST	39.17	40.56	35.95	40.42	41.71	33.56
Hindu OBC	50.62	44.88	48.41	29.91	28.86	40.11
Hindu UC	64.65	58.50	59.4	33.80	31.55	41.05
Muslim OBC	48.89	40.94	48.36	29.20	36.09	40.55
Muslim general	54.66	51.17	44.58	32.88	35.40	43.46
Other minorities	61.53	46.62	52.06	35.12	27.89	36.81
Total	58.68	51.04	52.71	32.97	31.13	40.42

Source: Basant and Sen, 2014

The participation in education of the students in the age group both the 22-35 years and 17-29 years is participation in higher education only. It is observed that the actual participation in higher education in the age group 22-35 years was very much lower for the SC, ST, Muslim OBC during 1999-2000 to 2009-10, which is good for Upper Caste Hindus and Other minorities, but it is not so much satisfactory for the total (11.12%). The same scenario is found in the age group 17-29 years. This is not sufficient, the actual participation of different social groups in higher education is very much necessary to be compared with the eligible students. This reveals that the extent of eligible

students in both the age groups is significantly higher for all the social groups taken into account, but the extent of participation in higher education is very much lower. It is good for the Upper Caste Hindus and Minorities and worse for all other social groups especially SC, ST, OBC and Muslims also.

India is a huge country not only in population but also in geographical area. It is therefore India has number of states and union territories. Hence it is of crucial importance to assess the access to higher education for the social groups like SCs, STs across the states also.

Table 8: Gross Enrolment Ratio in Higher Education across States in India (18-23Yrs)2011-12

States/ UTs	All Categories			SCs			STs		
	M	F	Total	M	F	Total	M	F	Total
Andaman & Nico.	11.0	13.8	12.3	-	-	-	4.6	10.0	7.2
Andhra Pradesh	33.3	26.4	29.9	28.2	22.9	25.6	29.5	19.2	24.2
Aruna Pradesh	22.5	20.2	21.3	-	-	-	27.1	22.7	24.8
Assam	14.6	14.8	14.7	12.8	12.2	12.5	15.7	16.0	15.9
Bihar	14.0	10.8	12.5	9.4	6.1	7.8	15.9	14.0	15.0
Chandigarh	33.2	54.4	42.2	15.3	22.5	18.5	-	-	-
Chhatisgarh	11.0	10.1	10.5	8.8	7.3	8.1	4.9	4.5	4.7
Dadra, Nagar, Ha	6.4	6.4	6.4	6.5	5.8	6.2	2.9	0.9	1.9
Daman & Diu	3.0	6.2	3.9	11.6	18.5	14.8	17.4	7.5	12.5
Delhi	38.9	39.0	38.9	19.7	17.0	18.5	-	-	-
Goa	21.5	25.9	23.5	21	24.5	22.7	11.8	13.6	12.7
Gujarat	18.1	14.7	16.5	18.3	15.1	16.8	9.5	8.7	9.1
Haryana	28.3	27.7	28	18.3	16.6	17.5	---	---	---
Himachal Prad.	24.6	25.1	24.8	13.9	13.9	13.9	19	19.6	19.3
Janmu and Kash	21.8	24	22.8	8.9	12.1	10.5	8	5.8	6.9
Jharkhand	10.2	9.5	9.9	6.5	4.9	5.8	5.3	6	5.6
Karnataka	24.9	22.7	23.8	17.5	14.2	15.8	15.8	12.7	14.3
Kerala	17.8	25.6	21.8	12	21.8	16.9	12.9	15	14
Lakshadweep	6.2	17.5	11.5	---	---	---	1.5	4.9	3.2
Madhya Pradesh	22	14.6	18.5	13.7	10.9	12.4	8.4	5.8	7.1
Maharashtra	28.1	24.3	26.3	25.7	22	23.9	14.2	8.6	11.4
Manipur	30.4	29.9	30.2	55	54.6	54.8	20.5	18.2	19.4
Meghalaya	16.3	18.5	17.4	33.5	32.5	33	13.6	16.1	14.9
Mizoram	19.6	18.3	19	78.4	112.7	90.8	20	18.4	19.2
Nagaland	18.2	13.4	15.8	---	---	---	11.7	12.8	12.3
Odisha	18.3	15	16.6	10	8.4	9.2	7.2	6	6.6
Puducherry	40.4	36.3	38.3	31.3	26.6	28.8	---	---	---
Punjab	22.4	23.6	23	8	8.8	8.4	---	---	---
Rajasthan	20.6	15.5	18.2	14.1	9.3	11.8	15.1	10.1	12.7
Sikkim	28.9	27.4	28.2	28.9	26.8	27.8	15.6	22.4	19
Tamil Nadu	43.2	36.8	40	30.3	26.7	28.5	36.1	29.1	32.5
Tripura	14.6	10.2	12.4	12.6	8.5	10.6	8.3	4.8	6.4
Uttar Pradesh	17.5	17.2	17.4	12.6	13.2	12.9	23.6	17.2	20.5
Uttrakhand	30.1	32.3	31.1	17.1	17.2	17.2	39.1	41.4	40.2
West Bengal	15.4	11.8	13.6	10.2	7.6	9	7.7	5.3	6.4
All India	22.1	19.4	20.8	15.8	13.9	14.9	12.4	9.7	11

Source: All India Survey on Higher Education (AISHE) 2011-12 T-75, Ministry of HRD, New Delhi

It is observed that in 2011-12 the gross enrolment ratio was 21% for all categories and 22% and 19% for males and females respectively. There were just 50% states which cross the national level gross enrolment ratio in higher education, but a few states like Andhra Pradesh, Delhi, Puducherry, Tamil Nadu, Manipur and Uttarakhand had higher level of gross enrolment in higher education for all categories. Even for all categories also disparities between male and female is found. For SCs and STs at national level the gross enrolment ratio in higher education was very much lower at 14.9% and 11% only. There are only a few states which have crossed the gross enrolment ratio for the SCs at national level,

with appreciable performance in the some states like AP, Goa, Delhi, Manipur, Meghalay, Mizoram and Tamil Nadu. More or less, same is the of STs so far as their gross enrolment in higher education is concerned. The male female disparity among both the SCs and STs is found across the states. Thus the picture of access to higher education by the social groups is not very much satisfactory and appreciable.

Working as a teacher in higher education is also an indicator of access to higher education, which further can increase access to higher education. This necessitates studying the participation of the social groups as teachers in higher education in India and across the states as well.

Table 9: State wise Number of Teachers Higher Education across Social Groups in India 2011-12

States / UTs	All Categories			SCs			STs		
	M	F	Total	M	F	Total	M	F	Total
And & Nico.	123	45	168	2	0	2	0	2	2
Andhra Pradesh	105133	58777	163906 (100)	13	7055	17689 (11%)	2659	1209	3868 (2%)
Arunachal Prad	674	224	898	13	6	19	227	145	372
Assam	13727	8221	21948	765	463	1228	1070	690	1760
Bihar	22859	5553	28412	381	93	474	52	40	92
Chandigarh	945	1474	2419	97	61	158	7	5	12
Chhatisgarh	8531	6542	15073	483	253	736	341	353	694
Dadra, Nagar, Ha	66	58	124	3	0	3	3	3	6
Daman & Diu	120	43	163	4	0	4	4	1	5
Delhi	8189	8855	17044	657	441	1098	160	127	287
Goa	922	1172	2094	5	3	8	4	2	6
Gujarat	28047	15127	43831	1527	575	2102	1134	452	1586
Haryana	22672	18200	40872	1099	556	1655	44	23	67
Hima Pradesh	4886	3345	8231	380	180	560	125	65	190
Jammu and Kash	4565	4028	8593	161	82	243	69	26	95
Jharkhand	6045	2089	8134	159	49	208	254	322	576
Karnataka	72004	49538	121542 (100)	5381	2496	7877 (6.48)	1657	680	2337 (1.92)
Kerala	20196	24369	44565	578	630	1208	40	54	94
Lakshadweep	35	24	59	3	2	5	7	7	14
Madhya Pradesh	35391	22628	58019	2373	1042	3415	1075	573	1648
Maharashtra	97030	56437	153467 (100)	11278	4966	16244 (11%)	1797	595	2392 (1.55)
Manipur	2717	2082	4799	133	71	204	346	227	573
Meghalaya	1237	1854	3091	30	15	45	599	1386	1985
Mizoram	799	609	1408	14	8	22	594	564	1158
Nagaland	852	852	1704	18	8	26	515	765	1280
Odisha	255000	10930	36430	755	278	1033	275	179	454
Puducherry	3453	2175	5629	315	161	476	36	7	43
Punjab	20967	20044	41011	927	698	1625	35	30	65
Rajasthan	37098	21008	58066	2600	741	3341	1365	304	1669
Sikkim	699	464	1163	36	29	65	72	110	182
Tamil Nadu	89948	79011	168959 (100)	8026	6072	14098 (8.34)	321	241	562 (0.33)
Tripura	1415	648	2063	142	64	206	129	74	203
Uttar Pradesh	87966	42001	129967 (100)	5523	1897	7420 (5.70)	307	98	405 (0.31)
Uttrakhand	8178	4263	12441	456	169	625	67	46	113
West Bengal	27497	13663	41160	1718	540	2258	189	130	319
All India	761104	486349	1247453 (100)	56676	29704	86380 (7%)	15579	9535	25114 (2%)

Source: All India Survey on Higher Education (AISHE) 2011-12 T-77, Ministry of HRD, New Delhi

The fact that we arrive at is the participation of the social groups SCs and STs as teachers in higher education as an indicator of access to higher education is not very much satisfactory and appreciable. It is very much lower than desirable at national level, which is just 7% and 2% for the SC and STs respectively. In this

perspective, if it examined with reference to a few big states it is adequately found that a single state we did not find that has filled posts as per reservation norms of recruitment for the SCs and STs, but comparatively the Andhra Pradesh and Maharashtra are in good position.

5.0 Policy Implications of Access to Higher Education by Social Groups In India:

The thorough analysis of the access to higher education by social groups such as SCs and STs in India as well across the states during the latest period from 2005-06 to 2013-14 clearly and adequately reveals the policy implications. They are; Female literacy is the lowest than males as well as persons and literacy rates are lower for the adults in the social categories such as SCs, STs, males and females adequately reveals their participation in higher education in our country is quite lower, which demands increased and purposeful efforts at various levels for participation. India is not in the proper direction and magnitude in the role of government in educational development, which indicated by the educational expenditure as well as the lower rate of growth of higher educational institutes in the country which urgently requires the whole hearted and active participation of the government in educational development in general and higher education development in particular. The relative position of different social groups in enrolment in higher education clearly indicates a very merge share of the SCs (24%) and STs (9%) in total enrolment and gross enrolment ratio is significantly lower for the SCs and STs than all categories and a significant disparity is found between girls and boys is a thing of serious concern, which demands a special education policy for the social groups like SCs and STs. The extent of eligible students in both the age groups is significantly higher for all the social groups taken into account, but the extent of participation in higher education is very much lower indicates the urgent need for bridging this gap. For the SCs and STs at national level the gross enrolment ratio in higher education is very much lower just at 14.9% and 11% only, and there are only a few states which have crossed the gross enrolment ratio for the SCs at national level, with appreciable performance by the some states like AP, Goa, Delhi, Manipur, Meghalay, Mizoram and Tamil Nadu

necessitates a continuous review and monitoring by the government of India across the states. Participation of the social groups SCs and STs as teachers in higher education is very much lower than desirable level at national level and a single state we did not find in the country that has filled in posts as per reservation norms of recruitment for the SCs and STs, but comparatively the Andhra Pradesh and Maharashtra are in good position, which urgently demands the strict and rigorous implementation of the reservation policy in the recruitment with honest participation of union and state governments in India. The dismal and disappointing situation of access to higher education for the deprived social groups like SCs and STs can be improved with increased budgetary provisions on higher education in general and for the SCs and STs in particular along with inclusive education policy by both the union and state governments in the country also needs incentives and encouragements through programmes and schemes.

6.0 Concluding Remarks:

We as an India are in the era of inclusive economic growth and consequently inclusive education particularly higher education is of crucial importance and highly needed which requires honest and honest efforts especially by the government in India at different levels. The formulation and implementation of the comprehensive and inclusive educational policy is very much needed in the country requires policy inputs which can be provided by such studies. The present study is a little bit endeavour in that direction. But it is not sufficient and adequate, number research studies in the form of research dissertations, theses, projects are required so as to enable inclusive economic growth along with inclusive education especially higher education in India. If the present study provides the necessary direction and enhances active participation of the stake holders in higher education particularly the social groups like SCs, STs and all others concerned, will serve its very purpose.

REFERENCES:

- Patel Sujata (2004). Higher Education at the Cross Roads, Economic Political Weekly (EPW), Special Articles, May 22, 2004, Mumbai, pp1-6.
- Basant and Sen (2014). Access to Higher Education in India: An Exploration of Its Antecedents, December

20, 2014 vol xlix no 38 51 , Economic & Political Weekly, Mumbai, pp38-45.

Anjum and Tiwari (2012). AN EXPLORATORY STUDY OF SUPPLY SIDE ISSUES IN INDIAN HIGHER EDUCATION, ASIA PACIFIC JOURNAL OF MARKETING AND MANAGEMENT REVIEW Vol.1 Issue 1, SEPTEMBER 2012, ISSN 2319-2836, pp 15-24.

Tilak B G (2008). Education in 2008-09 Union Budget, Economic & Political Weekly, EPW May 17, 2008, Mumbai, pp49-56.

Tilak B G (2011). Education for Profit, Economic & Political Weekly EPW February 26, 2011 vol xlvi no 9, Mumbai, pp 18-19.

Tilak B G (2014). Private Higher Education in India, Economic & Political Weekly October 4, 2014 Vol xlix 32 no 40, Mumbai, pp 32-38.

Tilak B G (2010). A Weak Attempt to Curb Unfair Practices in Higher Education, Economic & Political Weekly EPW Mumbai, September 18, 2010 vol xlv no, pp 19-22.

Upadhyay, Sugeeta (2007). Wastage in Indian Higher Education, Economic and Political Weekly January 13, 2007, Mumbai, pp161-68.

Ved, Prakash, (2007). Trends in Growth and Financing of Higher Education in India, Economic and Political Weekly August 4, 2007, Mumbai. pp3249-3258.

Altbach, Philip G, Liz Reisberg and Laura E Rumbley (2009): "Trends in Global Higher Education: Tracking an Academic Revolution", report prepared for the UNESCO 2009 World Conference on Higher Education, Paris, available at [http:// www.uis.unesco.org/Library/Documents/trendsglobal- higher-education-2009-world-conference-en.pdf](http://www.uis.unesco.org/Library/Documents/trendsglobal-higher-education-2009-world-conference-en.pdf)

Basu, Sambit (2012): "Private Sector in Education: An Overview" in IDFC Foundation (ed.), India Infrastructure Report 2012: Private Sector in Education (New Delhi: Routledge for IDFC Foundation), xxiii-xxxviii.

Bok, Derek (2003): Universities in the Marketplace: The Commercialization of Higher Education (Princeton: Princeton University Press).

– (2013): Higher Education in America (Princeton: Princeton University Press).

Bortolotti, Bernardo and Enrico Perotti (2007): "From Government to Regulatory Governance: Privatization and the Residual Role of the State", World Bank Research Observer, 22(1): 53-66.

Gieger, Robert L (1987): Private Sectors in Higher Education (Ann Arbor: University of Michigan Press).

Goswami, Amlanjyoti (2012): "Higher Education Law and Privately-Funded University Education in India" in IDFC Foundation (ed.), India Infrastructure Report 2012: Private Sector in Education (New Delhi: Routledge for IDFC Foundation), 185-98.

Kamerman, S and A Kahn, ed. (1989): Privatization and the Welfare State (Princeton, NJ: Princeton University Press).

Rural Woman Empowerment Through Women Self Help Groups: A Study of SGSY in Goa

Ms. Smita Shrivastav
Faculty, St. Xavier's College, Goa

Dr. C. S. Dalvi
Faculty, CSIBER, Kolhapur

Abstract: The paper assesses the status of implementation and functioning WSHG under SGSY. A proper detailed evaluation of whether the scheme guidelines were followed in constituting the SHGs, whether their day to day working adheres to stipulated dos and don'ts, to what extent have the women members benefitted economically, are they socially and politically empowered, have the Panchayat, DRDA and banks dispensed their roles judiciously and importantly, what are the problems ,if any, these SHGs and their members are facing? Answering these questions is of paramount importance. In the past studies pertaining to Goa attempt was made to find out how SHGs under SGSY scheme can empower rural women in Goa. The study was limited to two talukas of Goa, namely, Ponda and Quepem. The present paper attempts to study the socio-economic background of the women members prior to and subsequent to their joining the SHGs, and if SHGs have helped them to attain leadership qualities. The groups taken up for study were exclusively all- women groups from all talukas of Goa state. Statistical tests are adopted to examine the various hypothesis in the study.

Keywords: WSHG, SGSY, Woman Empowerment, Economic Upliftment

1.0 Introduction

Improvement in any form, of any aspect calls for a check of the existing ground reality. This is imperative to lend the right direction for the future course of concerted action. SGSY was launched in the state of Goa on 1.4.1999. There is a felt need to assess the status of its implementation and functioning. A proper detailed evaluation of whether the scheme guidelines were followed in constituting the SHGs, whether their day to day working adheres to stipulated dos and don'ts, to what extent have the women members benefitted economically, are they socially and politically empowered, have the Panchayats , DRDA and banks dispensed their roles judiciously and importantly, what are the problems ,if any, these SHGs and their members are facing? Answering these questions is of paramount importance. This is precisely what this study intends to accomplish. SGSY was launched in the state of Goa on 1.4.1999. As of March, 2014; the state had a total of 1,475 SHGs. This figure is inclusive of SHGs which are exclusively Women Self Help Groups (WSHGs), SHGs which are exclusively Men Self Help Groups and SHGs which include both men and women as their members.

The only study conducted to evaluate the performance of the SGSY scheme in Goa was - 'Empowering Rural Women in Goa: An

Appraisal of Self Help Groups under SGSY' by Arlette Mascarenhas; GIRDA(now GIPARD), Goa in 2005 as a Research Project sponsored by NIRD, Hyderabad wherein attempt was made to find out how SHGs under SGSY scheme can empower rural women in Goa. The researcher tried to study the socio-economic background of the women members prior to and subsequent to their joining the SHGs, and if SHGs have helped them to attain leadership qualities. The study was limited to two talukas of Goa, namely, Ponda and Quepem. The groups taken up for study were exclusively all-women groups. However the current study covers all talukas of Goa state.

2.0 Objectives of the study:

The following are the objectives with respect to implementation of SGSY in the state of Goa:

- i. To study the nature of economic activities undertaken by WSHGs/SHGs under SGSY.
- ii. To evaluate the impact of economic activities undertaken on the social status of WSHG members.
- iii. To assess the role of capacity building in the success of SGSY.
- iv. To suggest measures for the effective implementation of SGSY.

3.0 Research Methodology:

3.1 Primary data collection:

Primary data has been collected from WSHG leaders by using the survey method. Personal interviewing technique was used wherein field researchers administered structured questionnaire to the respondents.

3.2 Hypothesis:

Monthly Earnings and the social uplift aspects are associated.

3.3 Sampling technique and sample size:

The researcher adopted stratified random sampling. At the time the research proposal was made, the state of Goa had 11 talukas (now there are 12). So it was decided that from each taluka, self help groups would be selected so as to get an all Goa representation. Thus at the first stage the researcher has used 'stratified sampling'. As on 31.3.2008, the total number of Women Self Help Groups (WSHG) under Swarnajayanti Gram Swarozgar Yojana (SGSY) in the state of Goa were 645 (six hundred and forty five) with a total membership of 5,409. Talukawise sample selected proportionately. During the course of the survey, a total of 109 leaders

3.4 Secondary data collection:

Secondary data used comprises taluka wise SGSY records maintained by the Rural Development Agency (RDA), Government of Goa, annual reports of Ministry of Rural Development, various publications of state, central, international agencies, microfinance sector reports, reputed academic journals, books and websites of public and private agencies.

3.5 Tools for data analysis:

In this study the secondary data has been analysed using simple percentages. The primary data was also analysed using simple percentages but in addition it was analyzed using the STATA and SPSS analysis package. Z-test and Chi-square test tests have been applied for testing the hypothesis.

4.0 Data Analysis and Interpretation:

Nature of Economic Activities undertaken

by WSHG. In case of economic activities, SGSY laid stress on the cluster approach which means that instead of funding diverse activities, each block was to concentrate on a few select activities (key activities) and attend to all aspects of these activities, so that the swarozgaris could draw sustainable incomes from their investments. The success of SGSY thus depended on the choice of activities. Further, the choice of activity was expected to be based on the local resources, the aptitude as well as the skill of the people. It was also necessary that the products have a ready market.

4.1 Occupation

Table 4.1 Occupation before joining SHG

Occupation	Leaders	
	Frequency	Percent
Housewife	79	72.48
Agricultural labourer	8	7.34
Marginal Farmer	4	3.67
Rural artisan	2	1.83
Self-employed (Vendor)	7	6.42
Domestic worker	2	1.83
Casual labourer	5	4.59
Casual trade	1	0.92
Any other	8	7.34

Source: Primary data

The above table details the occupation of the leaders before joining the SHG. It has been proved from many earlier studies that the SHG programme considerably motivates housewives to step beyond the four walls of their homes and participate in paid work which in turn aids the process of empowerment of these women. This is borne out by the present study wherein it is seen that 72.48 percent leaders were housewives before joining the SHG. Further, about 6.42 percent were self-employed and 4.59 percent were casual labourers. However, a few of them were agricultural labourers, marginal farmers and rural artisan. In the 'any other occupation' category, it is found that they were engaged in tailoring, running small shops and hotels.

4.2 Income

Table 4.2-Nature of Income Generating Activity

Nature of IGA	Leaders		Members	
	Frequency	Percent	Frequency	Percent
Agriculture	15	34.88	90	34.35
Horticulture	5	11.63	24	9.16
Poultry	--	0.00	1	0.38
Dairy	--	0.00	5	1.91
Vendor	11	25.58	1	0.38
Handicraft	11	25.58	64	24.43
Other	31	72.09	123	46.95

Source: Primary data

The above table shows the economic activity being pursued by the leaders and members. Of the leaders and members who started IGA, 34.88 percent leaders and 34.35 percent of members are pursuing agriculture activity. Agriculture is the major IGA which is identified by the survey. The second major IGA is Handicraft. It is observed that 25.58 percent leaders and 24.43 percent members are pursuing handicraft activities such as Agarbatti making, bamboo craft, masala making,

tailoring, jute bag making etc. In the leaders category about 25.58 percent are vendors. However, a less than 1 percent of members pursuing IGA are vendors. No leader is pursuing poultry and dairy but about 3 percent of the members are pursuing these activities. In the 'other activities' category, about 72.09 percent leaders and 46.95 percent members are pursuing the activities like, preparing eatable items (hot chips), catering, running small hotels, small shops, etc.

4.3 Reasons For Current Activity

Table 4.3-Reason/s for choosing the economic activity in which currently engaged

Reasons	Leaders		Members	
	Frequency	Percent	Frequency	Percent
Lack of credit availability	13	11.93	53	10.6
Traditional skill	47	43.12	172	34.4
Locally available resources/inputs	12	11.01	69	13.8
Ready market available to sell	18	16.51	103	20.6
Lack of infrastructure support	1	0.92	1	0.2
Others were doing it	12	11.01	53	10.6
Was advised to do so	4	3.67	23	4.6
Had received specific training	10	9.17	29	5.8
Did not want to take a loan	2	1.83	7	1.4
Any other	0	0	0	0
	119	109.17	510	102

Source: Primary data

The above table shows that the most common reason (43.12 per cent) for the leader respondents to be engaged in any particular economic activity is the fact that they already possessed traditional skills required for that activity. The second dominant reason (16.51 per cent) was the availability of a ready market for the sale of their products/services. The next major reason which impacted the choice of economic activity was the lack of credit

availability which means the members are forced to choose a particular economic activity because it is not possible to start any other business with the limited amount of money available to them. It must be noted that just about 9 per cent of the leaders had selected a particular IGA because they had received a training for that particular activity. This suggests the need to bolster the training component for the swarozgaris.

4.4 Time Taken

Table 4.4 Time taken to get the revolving fund

In Months	Leaders	
	Frequency	Percent
NR(no response)	2	1.83
0	9	8.26
1	1	0.92
2	1	0.92
3	2	1.83
5	0	0
6	43	39.45
8	2	1.83
10	2	1.83
12	27	24.77
18	1	0.92
24	14	12.84
30	1	0.92
36	2	1.83
48	2	1.83
60	0	0
Total	109	100.0

Source: Primary data

Though the process of SHG formation cannot be standardized, a few guidelines had been laid down with regard to the various stages of SHG evolution. SHGs that had been in existence for about six months and demonstrated the potential of a viable group were to receive the Revolving Fund from the DRDA and Banks as a cash credit facility. From the table it is seen that around 40 per cent of the

SHGs did receive the Revolving fund within 6 months. This means that a majority of the groups (60 per cent) took more than 6 months to receive it. Also around 20 per cent of the SHGs in the sample have taken more than one year to receive the revolving fund more than 15 per cent have needed two years or more for the same.

4.5 Purpose

Table No. 4.5 Purpose of use of the Revolving Fund

Use of RF	Leaders		Members	
	Frequency	Percent	Frequency	Percent
NR(no response)	21	19.27	0	0
Consumption Purpose	40	36.69	170	34.0
Production Purpose	48	44.04	330	66.0
Total	109	100.0	500	100

Source: Primary data

Once the group received the revolving fund, it was expected to utilize the fund in the manner and purpose it deemed fit. The purpose of giving the revolving fund was that the group should develop the capacity to utilize funds which it received from outside. The revolving fund could have been used for the purchase of raw materials, or infrastructure support for income generating activities. Alternatively, it could also have been used for lending to individual members for their own purposes¹. The SGSY expected that there would be a gradual shift from consumption loans to

production loans.

4.6 Hypothesis Testing:

Hypothesis 1: The proportion of members who have taken up IGA agreed that the loan was made for the same amount as per the eligibility and the amount disbursed was same as the sanctioned amount.

H_0 : $p=0.5$, The growth of WSHGS is insignificant given easy credit availability.

H_1 : $P>0.5$ The growth of WSHGS is significant given easy credit availability.

Table 4.6-Statistical Analysis: Z test

Statement	The total frequency of the responses strongly agree and agree	Proportion (out of 262)	Z value	Decision against H_0 : $p=0.5$ and H_1 : $P>0.5$
The loan was made for the same amount as per eligibility	219	0.836	10.8733	Reject H_0
The amount disbursed was the amount sanctioned	210	0.802	9.7766	Reject H_0
Average		0.819	10.3269	Reject H_0

In the above table all the Z values obtained are greater than the Z critical value (1.645) at 5 percent level of significance. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted. Thus, it is inferred that there is significant impact of easy credit availability on the growth of SHGs.

4.7 Hypothesis-

H_0 : The levels of social uplift and the monthly income are independent.

H_1 : The levels of social uplift and the monthly income are dependent.

Table 4.7-Statistical Analysis: Chi-square test

Statement	Chi-square	df	Critical value at 5 percent l.o.s	Decision
1. Role in making decisions about your children's education has increased after joining WSHG	40.131	28	44.4608	Accept H_0
2. Role in making special purchases/consumer durable purchases has increased after joining WSHG	34.261	20	34.1696	Reject H_0
3. Role in mobilizing the community against social evil (e.g. dowry, smoking) has increased after joining WSHG	67.608	20	34.1696	Reject H_0
4. Confidence about visiting any govt. office for any work has increased after joining WSHG	46.416	20	59.3417	Accept H_0
5. The village shopkeepers allow you to make purchases on credit after joining WSHG	87.205	40	34.1696	Reject H_0
6. Shop alone for your family's day to day purchases after joining WSHG	28.994	20	34.1696	Accept H_0
7. Attending PTA meetings/visiting children's school after joining SHG	25.885	24	39.3641	Accept H_0
8. Attending gram sabha meetings after joining SHG	37.263	29	45.7223	Accept H_0

Source: Z test results based on Primary data

From the above test results, the levels of income generated from IGA is having significant impact in the social uplift with reference to role in making special purchases/consumer durable purchases, role in mobilizing the community against social evil (e.g. dowry, smoking) and the village shopkeepers allow the WSHG members to make purchases on credit. Thus, the null hypothesis is rejected for these three statements.

5.0 Findings

5.1 Demographic details:

It is observed that 46 per cent of the total SHGs of North Goa are in the Bardez taluka and the least SHGs are in Tiswadi taluka. The SHG formation under SGSY in the state of Goa is seen rather unevenly distributed between the two districts of Goa. The North district has twice the number of SHGs that the South district has and hence there is a need to even out this unequal distribution. The bright part is that almost all of the SHGs formed till date are functional and just about 1.44 per cent of the groups have been declared defunct. Around 78 per cent of the SHGs in North Goa are women's self help groups, also around 91 per cent of the swarozgaris are female and only about 9 per cent are males.

5.2 Nature of economic activities undertaken by WSGs

The fact that SHG programme considerably motivates housewives to step beyond the four walls of their homes and participate in paid work is borne out by the present study wherein it is seen that more than 60 per cent of the leaders as well as members were housewives before joining the SHG, around 10 per cent of the leaders were either self-employed or casual labourers. In case of members 18 per cent were casual labourers and agricultural labourers. The study showed that around half of the leaders as well as members are engaged in productive activities. However, higher per cent of leaders are seen to be engaged in IGA as compared to members.

5.3 Impact of economic activities undertaken on the social status

Moving out of their homes helps women develop their own social networks and groups which in turn provide them an exposure to the outside world. As the mobility of women increases, their social networks and ability to access information increases. The findings

show that a sizeable number of swarozgaris make their purchases and/or sales outside their own villages. The study also showed that dependence on husband or some other family member for micro enterprise related sales or purchases both in case of leaders and member respondents is seen in not more than 13 per cent of the swarozgaris. Access to institutional finance/financial services is considered crucial for women empowerment. The study revealed that more than 75 per cent of the swarozgaris had their own individual or personal accounts. Improved economic status translates into better social status. An evidence of higher social status may be observed in local shopkeepers allowing the SHG members to make purchases on credit. However the findings of the study convey that village shop keepers allow the swarozgaris lesser opportunities to make purchases on credit after joining SHG (Table 6.3.16). A possible reason for this may be that the shop keepers are aware that these women now have the funds to make cash payment.

6.0 Suggestions:

- 6.1 It would be really unfortunate if the SHGs lose the spirit of 'self help' and end up getting reduced to mere savings organisations. This happens when inertia sets in and group meetings are reduced to mere occasions for collecting members' monthly contributions. In fact with passage of time meetings may be about few members attending and the rest sending their contributions through proxy members. In a worst scenario group meetings may get substituted by door to door monthly collections. The researcher has found that lethargy has already crept in a significant number of WSHGs in Goa.
- 6.2 There is need to identify such areas of cooperation and joint action so that schemes of different line departments can be converged with NRLM and the benefit can be reaped by the WSGs. Thus it is suggested that the Rural Development Authority puts in place a 'Convergence Team' whose mandate is to study the schemes of various line departments, contact the concerned line departments and work out modalities on how well convergence can be affected and subsequently make the findings available in documented form to SHG mobilisers/TAs.

6.3 It would be really unfortunate if the SHGs lose the spirit of 'self help' and end up getting reduced to mere savings organisations. This happens when inertia sets in and group meetings are reduced to mere occasions for collecting members' monthly contributions. In fact with passage of time meetings may be about few members attending and the rest sending their contributions through proxy members.

In a worst scenario group meetings may get substituted by door to door monthly collections.

The researcher has found that lethargy has already crept in a significant number of WSHGs in Goa. There are issues with the WSHGs which are not quite right but the structured questionnaires used by the researcher were unable to capture them.

REFERENCES :-

- Agarwal, B.(2010). *Gender and Green Governance: The Political Economy of Women's Presence Within and Beyond Community Forestry*. New York: Oxford University Press.
- Agarwal, B.(1994). *A Field of One's Own: Gender and Land Rights in South Asia*. Cambridge, UK,: Cambridge University Press.
- Amendariz, B.; Morduch, J.(2007). *The Economics of Microfinance*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Bajaj, R.(2015). *Economic Impact of Microfinance*. New Delhi: Pearl Books.
- Beaman, L.; Duflo, E.; Pandey, R.; Topalova, P. Forthcoming, "Political Reservation and Substantive Representation: Evidence from Indian Village Councils." In: Beri, S.; Bosworth, B.;
- Panagariya, A.:(Eds) *India Policy Forum, 2010*. Washington DC, and New Delhi: Brookings Institution Press and the National Council of Applied Economic Research.
- Becker, G.(1957). *The Economics of Discrimination*. Chicago: University of Chicago Press.
- Bhagwati, J.(2004). *In Defense of Globalization*. New York: Oxford University Press.
- Bhargava, H.; Sharma, R(Eds).(2006). *Managing Microfinance – A Corporate Approach*, (Eds.), Hyderabad: The Icfai University Press.
- Braun, V.; Joachim; Kennedy, E.(Eds.).(1994). *Agricultural Commercialization Economic Development, and Nutrition*. Baltimore .MD: Johns Hopkins University Press for International Food Policy Research Institute.
- Chowdhury, A.; Bhuiya, A.(2001). *Do Poverty Alleviation Programmes Reduce Inequity in Health: Lessons from Bangladesh*. In: Leon, D.; Walt, G.(Eds) *Poverty Inequity and Health*. Oxford: Oxford University Press, 2001.
- Cooper, D.; Schindler, P.(2000). *Business Research Methods*. Delhi: Tata McGraw Hill.
- Ghate, P.(2007); *Indian Microfinance: The Challenges of Rapid Growth*. New Delhi: Sage Publications
- Harper, Malcolm, Ezekiel Esipisu, A. K. Mohanty and D. S. K. Rao(1998). *The New Middlewomen – Profitable Banking through On-Lending Groups*, Oxford & IBH Publishing Co. Ltd, New Delhi.}
- Harper, M.(2003). *Practical Microfinance*. New Delhi: Vistaar Publications.
- Hewett, P.; Amin, S.; Sen, B.(2001). *Assessing the Impact of the Garment Work on Quality of Life Measures*. In: Sen, B.(Ed.). *Growth of Garment Industry in Bangladesh: Economic and Social Dimensions*. Dhaka: UPL Publications
- Hunt, J.; N. Kasynathan (2001) *Pathways to empowerment? Reflections on microfinance and transformations in gender relations in South Asia*. In: C.Sweetman.(Ed.). *Gender, development and money*. Oxford, UK: Oxfam.
- Kabeer, N.(2000). *The Power to Choose : Bangladeshi Women and Labour Market Decisions in London and Dhaka*. London: Verso.

Climate Change and Indian Agriculture: Macro Perspectives

Sanatan Nayak

Professor, Department of Economics, B.B. Ambedkar University (A Central University),
Raebareli Road, Vidya Vihar, Lucknow-226025, India. Email: sanatan5@yahoo.com.

1.0 Introduction

Measuring the damages caused to the agricultural sector due to changing nature of climatic factors has become an important debatable issue since early 90's as various complex measurement issues are involved with it. Numerous empirical literature focuses on predicting the impact of changing climatic factors on national or global agricultural production based on three distinct approaches, viz., Agronomists based crop damage assessments method or production function approach (Rosenberg, N.J., 1992); Economists based hedonic approach or Ricardian approach (Mendelsohn et al., 1994) and Panel data approach (Deschenes and Greenstone, 2007). There has been systematic development of methodological approaches through incorporation of new indicators for capturing the agricultural impacts due to change of climatic factors though all the methods have provision of adaptation. Ricardian approach is advantageous over production function approach as it captures the present land value over future streams of profits by using the discount rate, regional differences in land values or productivity, it accounts full range of farmers adaptations and neutralize (lower) the impacts. Further, the panel data approach has been used in recent years as it is advantageous over the others in numerous ways, such as it captures the effects of time-invariant variables, weather variables rather than climate normal and it accounts for short term effects of adaptations on productivity.

Agriculture sector places an important position of the GDP in the country. As the share of agricultural sector to GDP is declining over the years, obviously linkages of agriculture to socio-economic fabrics of the country get affected in India. Therefore, the sensitivity of climatic factors on agriculture sector presume important for India predominantly due to two factors, i.e., (i) more than two third of its labour force depend on agricultural sector, (ii) nearly 69 percent of the rural population depends on

agriculture and it has both forward and backward linkages to rest of the economy (GoI, 2012). Further, numerous studies has confirmed that mean temperature at the global level is increasing (Bidwai, Praful, 2012). The mean temperature for India as a whole has also increased by 0.51°C during 1901-2007 (Kothawale et al., 2010). Important, accelerated warming has been observed in the last approximately 40 years (1971-2007). Increase in the mean temperature have been accompanied by a rise in both maximum and minimum temperature at the all India level by 0.71 and 0.27 degrees Celsius respectively for last 100 years during the period 1901-2007 (Gupta, S, et al., 2012). Large number of projections made up to 2100 AD on India indicates that the overall temperature would increase 2 to 4°C (Mall et al., 2006; Kumar, K.S., 2009). The predictions of these literatures suggest that there would be substantial drop in the productions of cereals such as rice and wheat. Sanghi and Mendelsohn (2008) have used different approach and showed that a 2°C temperature rise and seven percent increase in rainfall would lead to almost 10 percent loss in farm level net revenue at 1990 base year. The regional differences are significantly large with northern and central Indian districts along with coastal districts bearing relatively large impact.

2.0 Extent of Damages

The impact of climate factors on agriculture by using Ricardian Approach based on two illustrative uniform climate change scenarios has been estimated (2°C temperature change along with 7 percent precipitation change; and 3.5°C temperature change along with 14 percent precipitation change) in three different sub periods, i.e., 1956-70, 1971-86 and 1987-99 (Kumar, K.S., 2009). The author observed: first, there has been loss of net revenue of 6.1 percent, 8.7 percent and 21.3 percent of agricultural value due to increase in temperature of 2°C along with increase in 7 percent precipitation during 1956-70, 1971-86, and 1987-99 respectively. Second, further the