INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT

IJRCM

CONTENTS

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

iii

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to the recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Rural Economics; Co-operation; Demography: Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

Anybody can submit the **soft copy** of unpublished novel; original; empirical and high quality **research work**/**manuscript** *anytime* in _M.S. Word format_ after preparing the same as per our **GUIDELINES FOR SUBMISSION**; at our email address i.e. infoijrcm@gmail.com or online by clicking the link **online submission** as given on our website (*FOR ONLINE SUBMISSION, CLICK HERE*).

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1.   **COVERING LETTER FOR SUBMISSION:**

                                                                        DATED: _____

THE EDITOR

IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF   .**

(e.g. Finance/Mkt./HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript titled '_____' for likely publication in one of your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published anywhere in any language fully or partly, nor it is under review for publication elsewhere.

I affirm that all the co-authors of this manuscript have seen the submitted version of the manuscript and have agreed to inclusion of their names as co-authors.

Also, if my/our manuscript is accepted, I agree to comply with the formalities as given on the website of the journal. The Journal has discretion to publish our contribution in any of its journals.

NAME OF CORRESPONDING AUTHOR	:
Designation/Post*	:
Institution/College/University with full address & Pin Code	:
Residential address with Pin Code	:
Mobile Number (s) with country ISD code	:
Is WhatsApp or Viber active on your above noted Mobile Number (Yes/No)	:
Landline Number (s) with country ISD code	:
E-mail Address	:
Alternate E-mail Address	:
Nationality	:

* i.e. Alumnus (Male Alumni), Alumna (Female Alumni), Student, Research Scholar (M. Phil), Research Scholar (Ph. D.), JRF, Research Assistant, Assistant Lecturer, Lecturer, Senior Lecturer, Junior Assistant Professor, Assistant Professor, Senior Assistant Professor, Co-ordinator, Reader, Associate Professor, Professor, Head, Vice-Principal, Dy. Director, Principal, Director, Dean, President, Vice Chancellor, Industry Designation **etc**. _The qualification of author is not acceptable for the purpose_.

NOTES:

a) The whole manuscript has to be in *ONE MS WORD FILE* only, which will start from the covering letter, inside the manuscript. *pdf. version is liable to be rejected without any consideration*.

b) The sender is required to mention the following in the **SUBJECT COLUMN of the mail**:

New Manuscript for Review in the area of (e.g. Finance/Marketing/HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

c) There is no need to give any text in the body of the mail, except the cases where the author wishes to give any **specific message** w.r.t. to the manuscript.

d) The total size of the file containing the manuscript is expected to be below **1000 KB**.

e) Only the **Abstract will not be considered for review** and the author is required to submit the **complete manuscript** in the first instance.

f) *The journal gives acknowledgement w.r.t. the receipt of every email within twenty-four hours* and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of the manuscript, within two days of its submission, the corresponding author is required to demand for the same by sending a separate mail to the journal.

g) The author (s) name or details should not appear anywhere on the body of the manuscript, except on the covering letter and the cover page of the manuscript, in the manner as mentioned in the guidelines.

2. **MANUSCRIPT TITLE**: The title of the paper should be typed in **bold letters**, **centered** and **fully capitalised**.

3. **AUTHOR NAME (S) & AFFILIATIONS**: Author (s) **name**, **designation**, **affiliation** (s), **address**, **mobile/landline number** (s), and **email/alternate email address** should be given underneath the title.

4. **ACKNOWLEDGMENTS**: Acknowledgements can be given to reviewers, guides, funding institutions, etc., if any.

5. **ABSTRACT**: Abstract should be in **fully Italic printing**, ranging between **150** to **300 words**. The abstract must be informative and elucidating the background, aims, methods, results & conclusion in a **SINGLE PARA**. *Abbreviations must be mentioned in full*.

6. **KEYWORDS**: Abstract must be followed by a list of keywords, subject to the maximum of **five**. These should be arranged in alphabetic order separated by commas and full stop at the end. All words of the keywords, including the first one should be in small letters, except special words e.g. name of the Countries, abbreviations etc.

7. **JEL CODE**: Provide the appropriate Journal of Economic Literature Classification System code (s). JEL codes are available at www.aeaweb.org/econlit/jelCodes.php. However, mentioning of JEL Code is not mandatory.

8. **MANUSCRIPT**: Manuscript must be in *BRITISH ENGLISH* prepared on a standard A4 size *PORTRAIT SETTING PAPER*. *It should be free from any errors i.e. **grammatical, spelling** or **punctuation.** It must be thoroughly edited at your end*.

9. **HEADINGS**: All the headings must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

10. **SUB-HEADINGS**: All the sub-headings must be bold-faced, aligned left and fully capitalised.

11. **MAIN TEXT**:

THE MAIN TEXT SHOULD FOLLOW THE FOLLOWING SEQUENCE:

INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

LIMITATIONS

SCOPE FOR FURTHER RESEARCH

REFERENCES

APPENDIX/ANNEXURE

The manuscript should preferably be in *2000 to 5000 WORDS*, But the limits can vary depending on the nature of the manuscript.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT   vi

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

12.   **FIGURES & TABLES:** These should be simple, crystal **CLEAR**, **centered**, **separately numbered** & self-explained, and the **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. *It should be ensured that the tables/figures are referred to from the main text*.

13.   **EQUATIONS/FORMULAE:** These should be consecutively numbered in parenthesis, left aligned with equation/formulae number placed at the right. The equation editor provided with standard versions of Microsoft Word may be utilised. If any other equation editor is utilised, author must confirm that these equations may be viewed and edited in versions of Microsoft Office that does not have the editor.

14.   **ACRONYMS:** These should not be used in the abstract. The use of acronyms is elsewhere is acceptable. Acronyms should be defined on its first use in each section e.g. Reserve Bank of India (RBI). Acronyms should be redefined on first use in subsequent sections.

15.   **REFERENCES:** The list of all references should be alphabetically arranged. ***The author (s) should mention only the actually utilised references in the preparation of manuscript*** and they may follow Harvard Style of Referencing. **Also check to ensure that everything that you are including in the reference section is duly cited in the paper**. The author (s) are supposed to follow the references as per the following:

●   All works cited in the text (including sources for tables and figures) should be listed alphabetically.

●   Use (**ed.**) for one editor, and (**ed.s**) for multiple editors.

●   When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc., in chronologically ascending order.

●   Indicate (opening and closing) page numbers for articles in journals and for chapters in books.

●   The title of books and journals should be in italic printing. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.

●   For titles in a language other than English, provide an English translation in parenthesis.

●   *Headers, footers, endnotes and **footnotes** should **not be used** in the document.* However, **you can mention short notes to elucidate some specific point**, which may be placed in number orders before the references.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

●   Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.

●   Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

●   Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

●   Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

●   Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

●   Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

●   Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

●   Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

SOCIO-ECONOMIC CHALLENGES IN A REBASED ECONOMY: A CASE STUDY OF NCHANGA TOWNSHIP OF CHINGOLA DISTRICT, ZAMBIA

DR. B. NGWENYA
DEAN
FACULTY OF BUSINESS
SOLUSI UNIVERSITY
ZIMBABWE

C. MWANTAKAMA
STUDENT
SOLUSI UNIVERSITY
ZIMBABWE

ABSTRACT
Many countries have rebased or redenominated their currencies or legal tender as a monetary policy strategy for addressing costs associated with accumulated loss in the value of the currency, mainly as result of high inflation rates over a lengthy period of time. Zambia has gone through the experience of currency rebasing since 2011. Thus, this study attempted to identify the socio-economic challenges in the rebased economy of Zambia. Based on a descriptive quantitative methodology, the major findings of this study are that inflation, expenditure on food, energy and power, and shelter and housing were identified as the most significant socio-economic challenges in the rebased economy of Zambia. While factor analysis further extracted 9 factors as latent dimensions, with expenditure on basic needs rated as the highest socio- economic challenge in the rebased economy, followed by fuel and education, shelter and housing, income, energy and power, labour market friction and unemployment, expenditure on food, rebasing, and funds. The major conclusion is that, by its nature the results of this study can be generalised to reflect the state of the Zambian economy as a whole. The success of currency rebasing can only be supported by sustainable economic growth.

KEYWORDS
socio-economic challenges, rebased economy, inflation, expenditure on food, energy and power, transport and communication, literacy and education, shelter and housing, income erosion.

INTRODUCTION
Currency rebasing or the redenomination of a country's currency mainly encompasses dropping some zeroes or zero digits. The main reason countries drop zeroes in their currencies is to attain certain monetary economic goals and objectives. Whereas resolutions to be achieved with rebasing of currencies might appear practical than being partisan, a country's checks and balances coupled with its management of its currency as well as transactions contained by limitations remains a unique guarantee of the modern nation and state (Mosley, 2005). Rebasing of a country's legal tender is as the result of the need to address costs associated with accumulated loss in the value of the currency that weakens its basic function as a store of value, medium of exchange and measure of value. This loss of value is inevitable because of high inflation rates over a lengthy period of time. Many countries have rebased or redenominated their currencies. Examples of countries, which have in recent times rebased their currencies due to hyperinflation, include Zimbabwe in 2006, 2008 and 2009 (Robert, 2009); Angola, which rebased its currency in 1995 when inflation rate was 2,672 % (Mosley, 2005); Brazil, which rebased its currency in 1994 when its inflation rate was 2076% (Chitala, 2012). The same transformation happened in Ghana, where Ghana replaced the old 10,000 Cedi with a new Ghana Cedi by getting rid of four zeroes from the old currency. For the same reason, Argentina rebased its currency in January 1992 by re-introducing the Peso to replace the Austral at the rate of one Peso: 10,000 Austral, and then pegged its international exchange rate at one Peso: 1US$. After rebasing, inflation in Ghana dropped from 172% in 1991 to one percentage in 1998. Israel rebased its currency in 1980 and 1987 with inflation at 131% and 307%, respectively. Taking a leaf from the experiences of these countries, the Zambian government decided to rebase its currency in 2011.

NEED FOR THE STUDY
The purpose of this study was to determine and establish the latent dimensions of the socio-economic challenges in a rebased economy: labour market friction and unemployment; inflation; literacy and education; transport and communication; income erosion; expenditure on food; shelter and housing; and energy and power, in Zambia, with Nchanga South Township of Chingola as a case study area. The benefits of this research are important, since the study provided enlightenment on the socio-economic challenges obtained in a rebased economy. It is hoped that the findings of this study will be useful to policy makers and decision makers in both the public and private sectors in Zambia. Furthermore, it is hoped that the findings of the study will contribute to knowledge and literature regarding socio-economic challenges obtaining in a rebased economy; and by so doing stimulate further future research in this field. Finally, the study will broaden the researchers understanding of economy rebasing and its socio-economic impact on the society or citizens of the economy rebasing country.

STATEMENT OF THE PROBLEM
The decision to rebase had arisen from the need to address costs associated with an accumulated loss in value of the national currency arising from high inflation that characterized the Zambian economy in the 1990s and the early 2000s. In 2007-2011, the economy relatively stabilized. Consequently, the Government decided that it was the right time to rebase the currency by removing three zeroes. Some economists argued that while currency rebasing may reduce the cost of doing business, in reality it has no tangible benefits directly or indirectly to the Zambian masses. Other scholars further argued that, rebasing, if not handled carefully may worsen the situation and the benefits of currency rebasing may be short term and the country might slide back to the old situation. The big question is has the currency rebasing addressed the intended objective of mitigating socio-economic challenges in Zambia?

OBJECTIVES OF THE STUDY
1. To determine the socio-economic challenges in the rebased economy of Zambia.
2. To establish the latent dimensions of the socio-economic challenges in a rebased economy as extracted by factor analysis.

HYPOTHESIS
H1: The rebased economy of Zambia has been significantly susceptible to the following socio-economic challenges:
- Inflation
- Labour market friction and unemployment

- Expenditure on food
- Energy and power
- Transport and communication
- Literacy and education
- Shelter and housing
- Income erosion

METHODOLOGY

Data was collected using an interview schedule and a structured questionnaire that was administered directly to respondents. A Likert scale comprising five responses was used with the matrix questions. Due to time, feasibility and cost of conducting this research, the researchers used convenient sampling and judgmental sampling technique. The sample selected was 290 respondents from a population of 400.

LITERATURE REVIEW

Redenomination or rebasing of currency: Currency rebasing, according to Bank of Zambia article, Technical Guidelines on Rebasing, involves the dividing of a currency unit by a defined denominator and adapting that rebased currency to every amount expressed in both notes and coins (Bank of Zambia, 2012). In addition, Ahmed (2011) defines currency rebasing as a method where a new unit currency replaces the old unit with a certain ratio achieved by taking out zeroes from a currency. Currency rebasing is a government's effort to reaffirm economic power. If people fail to have assurance in the national currency, they may possibly resort to start using other national currencies especially those with better value stability. This can result in being both a mental and fiscal setback to the government as it causes the currency to lose its functions as a legal tender (Cohen, 2004).

Financial and Accounting Impact of Redenomination: Rebasing of a Currency has no direct bearing on the economy. As the worthiness of the currency remains the same, so is purchasing power. Its impact on the economy is mainly in micro change. The change is on government expenditures, balance of payments and net exports and net investments. These merely experience minor changes without facing any economic effect. As regards household expenditure, the probable effect on expenditure pattern will be purely psychological as there will be no economic change between the pre and post rebased currency (Mosley, 2002). Therefore, only redenomination of all economic values; prices of goods and services, financial assets and liabilities, salaries and social benefits, to mention but a few, in terms fiscal policies, situations may not be the same. Currency rebasing reduces the physical monetary cash in circulation even though the real value does not change but remains constant (Mosley, 2002).

Inflation: In economics, inflation is a sustained increase in the general price level of goods and services in an economy over a period of time (Burda, 2000). When the general price level rises, each unit of currency buys fewer goods and services. Consequently, inflation reflects a reduction in the purchasing power per unit of money, a loss of real value in the medium of exchange and unit of account within the economy (Blanchard, 2000). A chief measure of price inflation is the inflation rate, the annualized percentage change in a general price index (normally the consumer price index) over time (Barro, 2000). Inflation's effects on an economy are various and can be simultaneously positive and negative. Positive effects of inflation include ensuring that central banks can adjust real interest rates (to mitigate recessions), (Mankiw, 2002) and encouraging investment in non-monetary capital projects.

Labour market friction and unemployment: The other factor susceptible to the rebased economy is the labour market (Özçay, 2006). The important signs shareholders will pay attention to are the total employment and the unemployment rate. The people who are in work signify the employed, while those who are actively looking for work are the unemployed. The unemployment rate does not take account of citizens without jobs who are not looking for jobs, such as students, retirees, or citizens who are disheartened and have merely given up trying to find a job (Özçay, 2006). As the distribution of assets vary in the economy, established by what citizens are purchasing, some firms go out of business while other companies may be static or expanding. This allows a flow of labour from losing to winning industries but it is not a sudden development. Some workers may leave their jobs by choice. That means there is always some amount of unemployment built into the economic structure, which is often termed the "natural" level of unemployment (Özçay, 2006).

Expenditure on food: In recent years, demand studies, mostly in developing countries have focused on analysing consumer demand behavior across differences income groups (Abdulai and Aurbeta, 2003). The findings from these studies have been important for designing development policy options such as poverty reduction programs targeting low-income families (such as food support to the poor and child food programs). Gibson (2001) observed that in Papua New Guinea, structural food demand and income elasticity differed between rural and urban areas. Considering that rural homes consume large parts of their own subsistence production than urban households, different model specifications may be required to account for the effect of subsistence consumption in households. Omitting subsistence consumption in model specification could lead to incorrect inferences. In economics, consumer theory models are used to examine consumer behavior by assuming that a consumer purchases goods and services with limited income, which is allocated among goods to maximize utility (Goldman and Uzawa, 2000).

Energy and Power: The Kwacha rebasing has also affected the energy and power industry. Before the Kwacha was rebased, the cost of power was relatively low as compared to after the exercise. For any economy to function at optimum, it needs energy. Zambia is no exception, as Shachinda, (2014) cited that, "the operations of the Nchanga Integrated Business Unit (IBU) have already been grossly affected by the Copper belt Energy Company's (CEC) restricted power supply to the giant mining company. The restriction in power supply will adversely affect Konkola Copper Mines (KCM) operations and compromise safety of the employees and job security." He added that it should be noted that prior to April 2014, CEC had increased power tariffs by over 100% in accordance with the Power Supply Agreement (PSA) and this had resulted in KCM having the highest power tariffs in the mining industry in Zambia. Shachinda further reported that KCM was now paying more than 700 million Kwacha (rebased currency) per year in electricity tariffs. He further reported that KCM regretted that the Copperbelt Energy Company (CEC) had chosen not to pursue this matter in accordance with the PSA provisions on dispute resolution.

Transport and Communication: According to Zulu (2013) the Zambian government through the Bank of Zambia used hefty sums of money in printing new notes and sensitizing the public about the rebasing exercise and note changes. As such, many reforms were put in place to assist the government save money and recover the economy among them being the abolishment of the reserve price on fuel. This meant that the consumer had to pay an extra cost on fuel. The other factor that affected fuel prices was the system of rounding off digits. Following the rebasing of the Kwacha in arriving at new fuel prices, Zulu observed that, "some reports had indicated that the price of petrol had increased by 0.06 per cent while diesel was adjusted upwards by 0.05 per cent at Kobil and Mount Meru service stations. The reports also indicated that petrol was selling at KR8.16 (K8, 160) from K8, 155 per litre whereas Diesel was priced at KR7.57 (K7, 570) from K7, 566 per litre. Zulu argued that the perceived increase was necessitated by the rounding off the rebased pump price to two decimal places instead of rebasing it to three decimal places to match the old price" (Zulu, 2013).

Literacy and Education: Following the recent economic adjustment policies, the government has reduced funding to schools. Chiwela (2014) argues that "although the Zambian government recognizes the centrality of adult literacy to development and its signing up to the United Nations' Education for All (EFA) goal of 50% reduction in adult literacy by 2015, it is unfortunately investing scandalously little in programme to deliver that goal. The literacy rate for the population aged 15 years and above is only 67.2%. In the age group 15 to 24 years, the literacy rate is only 70.1%. The illiteracy rate among women aged 15 and above is estimated to be at 41% as compared to that of men estimated at 23.9%. While these statistics are sobering, the number of illiterate adults is increasing rather than decreasing." In 2013, the Government made a declaration to standardize the school fees to K 550, and the following year 2014, the fees were increased by K200 to make it K750; thus making it difficult for an average poor family to afford education for their children. Another contributor to the declining literacy levels in Zambia is low attainment levels in primary schools, poor transition rates from primary to secondary levels of education and inadequate capability of government and other service benefactors to provide for a developing uneducated population. This situation brings in uncertainties of Zambia attaining the Millennium Development goal on literacy by 2015. This situation has severe consequences on the accomplishment of other millennium development goals to which literacy is inherent (Chiwela, 2014).

Shelter and housing: The right to housing and shelter is an economic, social and cultural right of every human being. It is documented in several national establishments and in the Universal Declaration of Human Rights and International Covenant on Economic, Social and Cultural Rights. (Kapatamoyo, 2014) Article 25 of

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT 2

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

the Universal Declaration of Human Rights identifies the right to housing as part of the right to an acceptable standard of living. An average one bedroom apartment in Lusaka city centre used to fetch about USD $ 658.98 in 2009, and as of 2014 such an apartment is rated at USD $ 800.00, while a similar apartment used to be USD $ 329.49 outside the city centre and now it is rated at USD $ 500.00 (Numbeo, 2014). Much of the hike in house rental rates happened in slightly after the rebasing exercise, with most proprietors justifying the increases with the rising prices of goods and services. Kapatamoyo (2014) observes that a three-bedroom house is regarded to be customarily decent and acceptable for an average family of six. It is also the suitable size to validate a decent standard of living for the girl-children, boy-children and for the parents.

Income erosion: In Zambia, income and assets seem a little scarce for an average family, with the annual inflation that stood around 10% in 2012. According to the Jesuit Centre for Theological Reflection (JCTR), the JCTR's Basic Needs Basket's (BNB) for June 2012 total amounts to K3, 395,660 for an average family of five living in Lusaka. Yet the minimum monthly wage for an average domestic workers is about K525 000 after being increased from K256 000. The wages of other workers - such as shop assistants, farmworkers, and construction workers, increased from K250, 000 to K1 100, 000. Despite the new increased basic salaries, the JCTR survey still shows that the incomes are still relatively low thus, making it difficult for citizens to save any income. Families all over the nation have reduced the amount of meals they consume, so that they can save the little family income. Almost every average family in Zambia is living on a dollar or less a day, with about 500,000 citizens who were employed by the formal sector, according to the country's Central Statistical Office (Keith and Idah, 2012).

ANALYSIS OF THE STUDY

TABLE 1: DESCRIPTIVE STATISTICS ON THE CHALLENGES OF ECONOMY REBASING

Economy Rebasing Challenges	N	Mean	Standard Deviation
Inflation average	200	3.1050	1.1740
Labour Market friction and unemployment average	200	2.2675	1.0203
Expenditure on food Average	200	3.0425	1.2012
Energy and Power Average	200	3.5540	1.1798
Transport and Communication Average	200	2.5010	1.1858
Literacy and Education Average	200	2.7617	1.1782
Shelter and Housing Average	200	3.3060	1.1644
Income erosion Average	200	2.2063	1.0588

Table 1 above presents the data gathered in response to the questions on inflation in Chingola district in Zambia. The overall score of the mean of 3.105 (SD=1.174) implies that inflation is a socio-economic challenge in the rebased economy of Zambia. Table 1 also presents the data gathered with respect to the questions on labour market friction and unemployment in the Chingola district of Zambia. The overall mean score of 2.2675 (SD=1.02025) indicates that labour market friction and unemployment is a socio-economic relative challenge in the rebased economy of Zambia. The overall mean score of 3.0425 (SD=1.20115) indicates a significant impact of expenditure on food as a socio-economic challenge in a rebased economy. The overall variable mean for energy and power registered as 3.554 (SD= 1.1798) implies that energy and power is very significant socio economic challenge in a rebased economy. On average, transport and communication has been a slight challenge as a socio-economic indicator in a rebased economy with an average mean score of 2.501 (SD=1.1857). Literacy and education; shelter and housing; and income erosion had means of 2.7617 (SD=1.1782); 3.3060 (SD=1.1644); and 2.2063 (SD=1.0588) respectively, indicating that the challenges varied in terms of significance.

TABLE 2: TOTAL VARIANCE EXPLAINED

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Eexpenditure on basic needs	6.331	20.423	20.423	6.331	20.423	20.423
Fuel and education	3.281	10.583	31.006	3.281	10.583	31.006
Shelter and housing	2.312	7.457	38.464	2.312	7.457	38.464
Income	1.945	6.274	44.737	1.945	6.274	44.737
Energy and power	1.871	6.036	50.773	1.871	6.036	50.773
Labour market	1.560	5.034	55.807	1.560	5.034	55.807
Expenditure on food	1.493	4.815	60.622	1.493	4.815	60.622
Rebasing	1.206	3.891	64.512	1.206	3.891	64.512
Funds	1.116	3.599	68.112	1.116	3.599	68.112
Extraction Method: Principal Component Analysis.						

Factor analysis from Table 2 above extracted nine factors, accounting for 68.112% of the variance as socio-economic challenges in the rebased economy of Zambia. The nine factors are expenditure on basic needs, fuel and education, shelter and housing, income, energy and power, labour market, expenditure on food, rebasing and funds. According to the responses received, expenditure on basic needs was rated as one of the highest socio- economic challenge in a rebased economy with percentage variance of 20.423%. Funds was rated as one of the least socio-economic challenge in a rebased economy and accounted for percentage variance of 3.599%. In the above table, we are most interested in the "Extraction Sums of Squared Loadings" which represents the "work" done by the factor analysis. As can be seen, the first eigenvalue is equal to 6.331, and corresponds to 20.423% of the variance. The second eigenvalue is equal to 3.261, corresponding to the second factor, is associated with 10.583% of the variance. The third eigenvalue is equal to 2.312, corresponding to the third factor, is associated with 7.457% of the variance. The fourth eigenvalue is equal to 1.945, corresponding to the fourth factor, is associated with 6.274% of the variance. The fifth eigenvalue is equal to 1.871, corresponding to the fifth factor, is associated with 6.036% of the variance. The sixth eigenvalue is equal to 1.560, corresponding to the sixth factor with 5.034% of the variance; the seventh eigenvalue is equal to 1.493, corresponding to the seventh factor with 4.815% of the variance. Furthermore, the eighth eigenvalue is equal to 1.206 corresponding to the eighth factor with 3.891% of the variance; the ninth eigenvalue is equal to 1.116, corresponding to the ninth factor 3.599% of the variance.

FIGURE 1: SCREE PLOT FOR THE NINE LATENT DIMENSIONS EXTRACTED BY FACTOR ANALYSIS
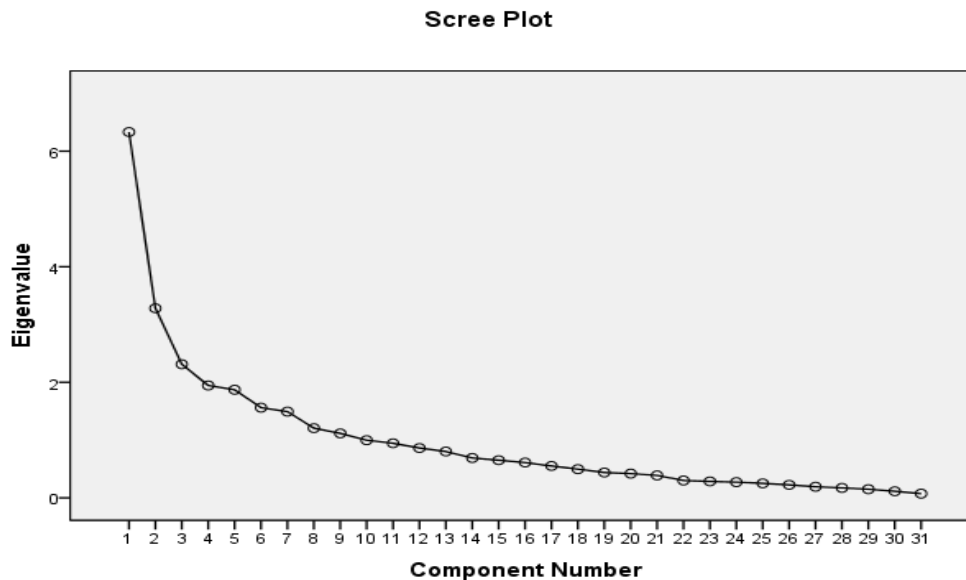
Figure 1 above is the scree plot of the eigenvalues plotted from the largest to the smallest. The factor with the highest eigenvalue is the greatest socio- economic challenge in the rebased economy and in the scree plot it is factor 1 (expenditure on basic needs). The second socio- economic challenge is factor 2 (fuel and education), then factor 3 (shelter and housing), followed by factor 4 (income), then factor 5 (energy and power), factor 6 is (labour market), factor 7 (expenditure on food), factor 8 is (rebasing) and the least socio- economic challenge is factor 9 (funds).

FINDINGS AND SUGGESTIONS
The above findings suggest that the identified socio-economic challenges obtaining in the rebased economy of Zambia from 2011 vary in their level of significance and impact on the society or citizens of Zambia.

Suggestion 1: The socio-economic challenges are inflation, labour market friction and unemployment, expenditure on food, energy and power, transport and communication, literacy and education, shelter and housing, and income erosion.

Suggestion 2: Inflation, expenditure on food, energy and power, and shelter and housing were identified as the most significant socio-economic challenges in the rebased economy of Zambia with mean scores or values of 3.1050, 3.0425, 3.5540, and 3.3060 respectively, while the rest of the socio-economic challenges were identified as less significant with mean score or values less than 3.0000.

Suggestion 3: Factor analysis, particularly principal component analysis extracted 9 factors from the identified socio-economic challenges as latent dimensions and ranked them according to their statistical significance as depicted in table 2 (total variance) and figure 1 (scree plot). The nine factors are expenditure on basic needs, fuel and education, shelter and housing, income, energy and power, labour market, expenditure on food, rebasing and funds, accounting for 68.112% variance in socio-economic challenges in a rebased economy of Zambia.

Suggestion 4: Expenditure on basic needs was rated as the highest socio- economic challenge in the rebased economy with variance of 20.423%, followed by fuel and education, with a variance of 10.583%, shelter and housing, with a variance of 7.457%, income, with a variance of 6.274%, energy and power, with a variance of 6.036%, labour market, with a variance of 5.034%, expenditure on food, with a variance of 4.815%, rebasing, with a variance of 3.891%, and funds, with a variance of 3.599%.

REFERENCES
1. Abdulai, A., & Aurbeta, D. (2003). Across Section Analysis of Household Demand for Food and Nutrient in Tanzania.
2. Ahmed, B. (2011). Rebasing of Zambian Kwacha: Pros and Cons of the Policy.
3. Bank of Zambia. (2012). Currency Rebasing. Retrieved from www.boz.zm
4. Barro. (2000). Determinants of Economic Growth: A Cross -Country Empirical Study. EH.NET.
5. Blanchard. (2000, November). What Do We Know About Macroeconomics That Fisher and Wicksell Did Not? Quaterly Journal of Economics, pp. 1375-1409.
6. Burda, M., & Wyplosz, C. (2000). Macroeconomics: A European Text. Oxford University Press: London.
7. Chitala, M. (2012). Dollarization and Kwacha Rebasing Need More Consultation. Lusaka: The Post Newspaper.
8. Chiwela, J. M. (2014). Adult Literacy –The Way Forward in Zambia. Lusaka: Peoples Action Forum.
9. Cohen, B. (2004). The Future of Money. Princeton University Press: Princeton.
10. Gibson, J. (2001). Food Demand on Rural and Urban Sectors of Papua New Ginuea. University of Waikato: New Zealand.
11. Goldman, S. M., & Uzawa, H. (2000). A Note on Separability in Demand Analysis. Econometrica, 1073–1092.
12. Kapatamoyo, M. (2014). Housing in Zambia is too expensive. Retrieved from Mywage.org/Zambia: m.mywage.org/Zambia
13. KCM workers' lives in danger. (2014, September 22). Daily Nation. Word Press. Retrieved from Daily Nation: Lusaka.
14. Keith, & Idah. (2012, August 27). Average, Minimum and Living Wages. Retrieved from www.jctr.org.zm
15. Lead Capital Limited. (2007). Nigerias Naira Redenomination Strategy. Retrieved from http://www.leadcapitalng.com/resources/nairaredenomination.
16. Mankiw. (2002). Macroeconomic. Worth Publishers Inc: U.S.A
17. Mosley, L. (2003). Global Capital and National Governments. Cambridge: Cambridge University Press.
18. Mosley. (2005). "dropping zeros" gaining credibility? Currency redenomination in developing nations. Paper presented at the 2005 annual meeting of the American Political science association. Washington DC, USA.
19. Numbeo. (2014, September). Cost of Living in Zambia: Prices in Zambia. Retrieved from Numbeo: http://www.numbeo.com/common/
20. Özçay. (2006). The New Turkish Lira. Retrieved from www.vostroknutor.com/teaching/pelf/2008 spring.
21. Pollack, Wales, Mitchell, & Lawrence, L. (1978). Econometrics. 46(4 (July)), 843-868.
22. Robert, J. (2009, April 23). The Zimbabwean Economy. The finanial Gazette.
23. Shachinda, M. (2014, August 19). Literate. Retrieved from http//www.merriam.webster.com/dictionary literate.
24. Zulu, M. (2013). Possible Effects of Rebasing of the Kwacha and Dolarisation Ban. Times of Zambia. (E. Soko, Interviewer) Times of Zambia. Lusaka.

DYNAMIC FORECASTING ON ENERGY INTENSITY BY GREY THEORY FOR GREATER CHINA REGION AND IMPLICATION OF SUSTAINABLE ECONOMIC DEVELOPMENT

PENG JIANG
RESEARCH SCHOLAR
DEPARTMENT OF BUSINESS ADMINISTRATION
CHUNG YUAN CHRISTIAN UNIVERSITY
CHUNG LI DIST.

GHI-FENG YEN
PROFESSOR
DEPARTMENT OF BUSINESS ADMINISTRATION
CHUNG YUAN CHRISTIAN UNIVERSITY
CHUNG LI DIST.

YI-CHUNG HU
PROFESSOR
DEPARTMENT OF BUSINESS ADMINISTRATION
CHUNG YUAN CHRISTIAN UNIVERSITY
CHUNG LI DIST.

HANG JIANG
RESEARCH SCHOLAR
PH.D. PROGRAM IN BUSINESS
CHUNG YUAN CHRISTIAN UNIVERSITY
CHUNG LI DIST.

ABSTRACT
A prediction model, GM (1, 1), is established based on the panel data of energy intensity during 1998-2012 for Mainland China, Taiwan, Hong Kong, and Macao. Then, based on the prediction results, the heterogeneity of four districts will be discussed. Finally, according to the industrial advantages of four places, the strategies for economic sustainable development are proposed. This paper aims to providing a convenient and feasible method for governmental agencies to predict energy intensity efficiently.

KEYWORDS
Greater China region; energy intensity; GM (1, 1); dynamic forecasting; sustainable economic development.

1. INTRODUCTION

Since the latter half of the 20th century, the rapid growth of the economy in the Asia Pacific region won worldwide attention. In the early 1970s, Taiwan and Hong Kong, in the Greater China region, have been among the Asia four little dragons and become an important economic growth pole of the Asia Pacific region; with the tourism industry and the gaming industry as the main pillar industries, Macao's per capita GDP has ranked first in Asia, and second in the world; with the implementation of reform and opening up policy for more than 30 years, China Mainland has achieved magnificent economy and social development, while promoting the economy sustainable development of the Greater China region.

Rapid economic growth has also increased the amount of energy consumption. As is known to all, energy is the guarantee to achieve sustainable economic development, but also the foundation of human survival, which are most fundamental core factors to ensure the national economic health and stable operation (Zhang, 2014). Therefore, how to improve the energy efficiency has gained great attention of all parties. At present, the energy intensity is usually used as one of the indicators to measure the energy utilization.

Energy intensity represents, in a certain period of time, a country (region) create per unit of gross domestic product (GDP) by using the amount of primary energy, namely the ratio of energy consumption to economic output. This indicator mainly reflects the economic structure of the country (region) and the overall level of energy portfolio. The formula can be expressed as: $EI_t = \frac{EC_t}{GDP_t}$, where EI_t represents the energy intensity of the year t, EC_t represents the primary energy consumption of year t, and GDP_t represent the gross domestic product for the year t. when $EI_t > EI_{t+1}$, the energy intensity of the numerical tends to decrease with the time-variation, which indicates the country (region) towards the direction of development of low carbon economy and in line with the requirements of sustainable development for the economic, and vice versa. Hence energy intensity is an essential indicator to measure of economic sustainable development.

Current research on energy intensity is still inadequate. Wang, He, and Wang (2010) analyzed the evolution characteristics of low carbon economy in China from the perspective of energy intensity. Fan (2010) discusses the relationship between energy intensity, energy consumption structure and economic structure of Taiwan. Sun, Li, and Chen (2011) used Zhejiang Province as an example to discuss the factors driving the development of low carbon economy. Zhao et al. (2013) analyzed the impact of energy intensity change on energy structure and industrial structure in China from 1990 to 2010. Fang et al. (2013) applied nonlinear dynamics theory to discuss the development of new energy sources and the influence on energy intensity and economic development. Sun, Guo, and Shi (2013) applied spatial econometric techniques to analyze the spatial spillover effects of energy intensity of 30 provinces in the mainland China.

The above research on energy intensity is very useful for the application and development of this concept in economics. It also emphasizes that energy intensity can be used as an important indicator to measure the sustainable development of economy. As mentioned above, although the Greater China region has become the most noticeable whole in Asia Pacific Economic Circle, but due to the geographical, historical and cultural factors, the economic development of the four places has their own characteristics. In addition, because of the differences in industrial structure, the performance of energy intensity is quite different as well. Therefore, it is highly necessary to predict the dynamic change of the energy intensity and analyze the difference of these four places. Finally, based on the prediction and considering the industrial advantages, strategies for sustainable economic development are proposed.

2. METHODOLOGY

2.1 Grey System

The grey system proposed by Deng in 1982, believed that there is a relationship between any two systems in the real world, but sometimes our understanding of this relationship is not yet mature (Hu, Chen, Hsu, & Tzeng, 2002). There are three types of systems—white, black, and grey. A system is called a white system when its information is totally clear. When a system's information is totally unknown, it is called a black system. If a system's information is partially known, then it is called a grey system (Pi, Liu, & Qin, 2010). Grey system takes the incomplete and small data or the systems with uncertain information as the research objects (Liu, 2014). By generating and developing the known information, it will be transformed into some valuable information (Hu, 2016). After realizing the correct expression of the behavior and evolution law of the system, future changes could be predicted dynamically (Deng, 1982). The grey theory has been successfully applied in many fields such as management, economy, engineering, finance, etc. (Knox & Richardson, 2003; Zorzano, Hochberg, & Morán, 2004; Hu, 2007; Hu, 2008; Bai & Sarkis, 2010; Hu, 2012; Wang, Dong, Wu, Mu, & Jiang, 2011; Lin, 2013; Neupane, Paudyal, & Thapa, 2014; Chithambaranathan, Subramanian, Gunasekaran, & Palaniappan, 2015).

2.2 Establishment of the GM(1,1) Model

By observing certain equal time interval segments of the system, a set of numerical sequences are obtained, named as original numerical sequences $X^{(0)}$:

$$X^{(0)} = \{x^{(0)}(k)\} \tag{1}$$

where $x^{(0)}(k) \gg 0, k = 1, 2, \ldots, n$.

Let $X^{(0)}$ be a primal time sequence, and obtain its First-order Accumulated Generating Operation 1-AGO) data $X^{(1)}$:

$$X^{(1)} = \{x^{(1)}(k)\} \tag{2}$$

where $x^{(1)} = \sum_{i=1}^{k}(k), \quad k = 1, 2, \ldots, n$, and

$$x^{(0)}(k) + ax^{(1)}(k) = b \tag{3}$$

is the original form of GM(1,1) model, and essentially, it is a difference equation.

Make quasi-smoothness verification and exponential law verification on $X^{(1)}$, and find out whether it is possible to establish the GM(1,1) model. According to:

$$\rho(k) = \frac{x^{(0)}(k)}{x^{(1)}(k-1)}, k = 2, 3, \ldots, n-1 \tag{4}$$

when $\rho(k) \in [0, \varepsilon], k = 3, 4, \ldots, n$, and $\varepsilon < 0.5$, $X^{(1)}$ was called as quasi-smoothness sequence. Also according to:

$$\sigma^{(1)}(k) = \frac{x^{(0)}(k)}{x^{(1)}(k-1)}, k = 2, 3, \ldots, n-1 \tag{5}$$

when $\sigma^{(1)}(k) \in [a, b], k = 3, 4, \ldots, n$, and $\delta = b - a = 0.5$, $X^{(1)}$ follows the quasi-exponential law. When $X^{(1)}$ satisfies the quasi-smoothness sequence and quasi-exponential law at the same time, the GM(1,1) model can then be established.

Make the least-squares estimation on the parameter sequence $\hat{a} = [a, b]^T$, and obtain:

$$\hat{a} = (B^T B)^{-1} B^T Y \tag{6}$$

where

$$B = \begin{bmatrix} -Z^{(1)}(2) & -Z^{(1)}(3) & \cdots & -Z^{(1)}(n) \\ 1 & 1 & \cdots & 1 \end{bmatrix}^T \tag{7}$$

$$Y = [x^{(0)}(2), x^{(0)}(3), \ldots, x^{(0)}(n)]^T \tag{8}$$

$$Z^{(1)}(k) = 0.5x^{(1)}(k) + 0.5x^{(1)}(k-1) \tag{9}$$

$x^{(0)}(k) + az^{(1)}(k) = b$ is called the differential equation of GM(1,1), it is the essential form of the GM(1,1) grey forecasting model.

Determine the whitenization equation and time response formulae of $X^{(1)}$, and build the GM(1,1) forecasting model as follows:

$$\frac{dx^{(1)}}{dt} + ax^{(1)} = b \tag{10}$$

$$\hat{X}^{(1)}(k) = \left(X^{(0)}(1) - \frac{b}{a}\right) e^{-a(k-1)} + \frac{b}{a} \tag{11}$$

$$\hat{X}^{(0)}(k) = \hat{X}^{(1)}(k) - \hat{X}^{(1)}(k-1) \tag{12}$$

Where a is the development coefficient, b is the grey action quantity, $\hat{X}^{(1)}$ is the simulative value of $X^{(1)}$, while $\hat{X}^{(0)}$ is the simulative value of $X^{(0)}$. Therein make $x^{(1)}(1) = x^{(0)}(1)$, make inverse accumulated generating operation (I-AGO) on $\hat{X}^{(1)}$, $\hat{X}^{(0)}$ can be obtained. Eqsuations (10), (11) and (12) are the mathematic expression for the GM(1,1) model. The advantage of this model is to reduce the randomness of the original time series, if $X^{(0)}$ is a set of non-negative sequences, then $X^{(1)}$ is a growing sequence (Liu *et al.*, 2012).

2.3 Accuracy Check-up for the GM(1,1) Model

The established GM(1,1) models need to be checked-up to confirm whether they satisfy the accuracy requirements. We usually check their accuracy by methods such as the "posterior error," "residual error," and "degree of grey association." This article took the "posterior error" method as the tool to check the model accuracy (Liu et al., 2012). The steps can be observed as:

Calculate the mean value $\bar{X}$ and mean square deviation S_1^2 of the original sequences:

$$\bar{X} = \frac{1}{n} \sum_{k=1}^{n} X^{(0)}(k) \tag{13}$$

$$S_1^2 = \frac{1}{n} \sum_{k=1}^{n} (X^{(0)}(k) - \bar{X}) \tag{14}$$

Calculate the mean value $\bar{\varepsilon}$ and mean square deviation S_2^2 of the residual errors:

$$\bar{\varepsilon} = \frac{1}{n} \sum_{k=1}^{n} \varepsilon^{(0)}(k) \tag{15}$$

$$S_2^2 = \frac{1}{n} \sum_{k=1}^{n} (\varepsilon^{(0)}(k) - \bar{\varepsilon}) \tag{16}$$

Calculate the mean square deviation ratio C and small error probability p:

$$C = \frac{S_2}{S_1} = \sqrt{\frac{S_2^2}{S_1^2}} \tag{17}$$

$$p = P\{|\varepsilon(k) - \bar{\varepsilon}| < 0.6745 S_1\} \tag{18}$$

Check-up the models by C, p values:

A small C value usually means the discreteness of the prediction errors is small; while a large p value usually means the probability of the smaller errors is big. So, the smaller the C value, the bigger the p value, and the higher the forecasting precision. Table 1 gives the reference values of the forecasting precision levels. As far as C and p stay in the allowed scope, the GM(1,1) model can be used to make the prediction (Feng, Ma, Song, & Ying, 2012).

TABLE 1: THE GRADING STANDARDS OF GM(1,1) MODEL PRECISION TEST

Accuracy class	C	p
First (Good)	< 0.35	> 0.95
Second (Qualified)	0.35 - 0.5	0.95 - 0.8
Third (Scarcely Qualified)	0.5 - 0.65	0.8 - 0.7
Fourth (Unqualified)	> 0.65	< 0.7

3. EMPIRICAL RESEARCH

Energy intensity forecasting can be regarded as grey system problem, because a few factors such as GDP, income, industrial structure and degree of industrialization are known to influence the energy intensity but how exactly they affect the energy demand is not clear (Suganthi and Samuel, 2012). In this study, the data of energy intensity for China mainland, Hong Kong and Macao are selected from the World Bank Open Data, while Taiwan's data is obtained from Bureau of Energy, Ministry of Economic Affairs of Taiwan. To reduce the computational error caused by fluctuation of exchange rates, the selected year data of 1998, 2000, 2002, 2004, 2006, 2008, 2010, and 2012, as shown in Table 2, are converted to purchasing power parity (PPP) based on the PPP of 2005, to ensure that the data from four places are comparable.

TABLE 2: THE ENERGY INTENSITY OF GREATER CHINA REGION (1998 -2012)

Year	China mainland	Hong Kong	Macao	Taiwan
1998	11.51	2.65	1.71	9.30
2000	10.67	2.50	1.63	10.08
2002	9.75	2.41	1.47	9.41
2004	10.53	2.10	1.24	8.96
2006	9.93	1.93	1.00	8.60
2008	8.67	1.85	0.79	7.84
2010	8.57	1.75	0.64	7.67
2012	8.34	1.70	0.48	7.44

Soruce: 1. World Bank Open Data：http://data.worldbank.org/；2. Bureau of Energy, Ministry of Economic Affairs of Taiwan：
http://web3.moeaboe.gov.tw/ECW/populace/home/Home.aspx。

Following the previous steps we built the GM(1,1) models for energy intensity of Greater China Region, respectively, and forecasted the energy intensity for the upcoming 8 years (2014, 2016, 2018 & 2020). Now we take the energy intensity of China mainland as an example to explain how to build and calculate these models.

The energy intensity from 1998 to 2012 is:

$$X^{(0)} = \left(x^{(0)}(1), x^{(0)}(2), \dots, x^{(0)}(8)\right) = (11.51, 10.67, 9.75, 10.53, 9.93, 8.67, 8.57, 8.34)$$

Make 1-AGO operation on $X^{(0)}$ and get:

$$X^{(1)} = \left(x^{(1)}(1), x^{(1)}(2), \dots, x^{(1)}(8)\right) = (11.51, 22.18, 31.93, 42.46, 52.39, 61.06, 69.63, 77.97)$$

According to Eq. (4) and by quasi-smoothness verification on $X^{(1)}$, we know:

$\rho(3) \approx 0.44$; $\rho(4) \approx 0.33$; $\rho(5) \approx 0.23$; $\rho(6) \approx 0.17$; $\rho(7) \approx 0.14$; $\rho(8) \approx 0.12$;

According to Eq. (5) and by exponential law verification on $X^{(1)}$, we know:

$\sigma(3) \approx 1.44$; $\sigma(4) \approx 1.33$; $\sigma(5) \approx 1.23$; $\sigma(6) \approx 1.17$; $\sigma(7) \approx 1.14$; $\sigma(8) \approx 1.12$.

When $k > 3, \rho(k) < 0.5$, $\sigma(k) \in [1, 1.5]$, $\delta = b - a = 0.5$, $X^{(1)}$ satisfies the two requirements for the quasi-smoothness sequence and quasi-exponential order, so the GM(1,1) can be established.

According to Eq. (9), calculate the generated sequence of the immediate neighboring average value:

$$Z^{(1)}(k) = \left(z^{(1)}(2), z^{(1)}(3), \dots, z^{(1)}(8)\right) = (16.85, 27.06, 37.20, 47.43, 56.73, 65.35, 73.80)$$

Hence we can figure out:

$$B = \begin{bmatrix} -z^{(1)}(2) & 1 \\ -z^{(1)}(3) & 1 \\ \vdots & \vdots \\ -z^{(1)}(8) & 1 \end{bmatrix} = \begin{bmatrix} -16.85 & 1 \\ -27.06 & 1 \\ -37.20 & 1 \\ -47.43 & 1 \\ -56.73 & 1 \\ -65.35 & 1 \\ -73.80 & 1 \end{bmatrix} \quad Y = \begin{bmatrix} x^{(0)}(2) \\ x^{(0)}(3) \\ \vdots \\ x^{(0)}(8) \end{bmatrix} = \begin{bmatrix} 10.67 \\ 9.75 \\ 10.53 \\ 9.93 \\ 8.67 \\ 8.57 \\ 8.34 \end{bmatrix}$$

According to Eq. (6), then the parameter sequence can be further determined as

$$\hat{a} = [a, b]^T = (B^T B)^{-1} B^T Y = \begin{bmatrix} 0.041741 \\ 11.428123 \end{bmatrix}$$

because $a > 0$, the original sequence showed a downward trend.

According to Eq. (11), we obtain the GM(1,1) model for China mainland:

$$\hat{X}^{(1)}(k) = \left(X^{(0)}(1) - \frac{b}{a}\right) e^{-a(k-1)} + \frac{b}{a} = -262.27511 e^{-0.041741(k-1)} + 273.78875,$$

By further calculation, we obtain:

$$\hat{X}^{(1)} = \left(\hat{x}^{(1)}(1), \hat{x}^{(1)}(2), \dots, \hat{x}^{(1)}(8)\right) = (11.51, 22.24, 32.52, 42.38, 51.84, 60.92, 69.62, 77.97)$$

According to Eq. (12), make I-AGO on $\hat{X}^{(1)}$, we obtain the simulative value of $X^{(0)}$:

$$\hat{X}^{(0)} = \left(\hat{x}^{(0)}(1), \hat{x}^{(0)}(2), \dots, \hat{x}^{(0)}(8)\right) = (11.51, 10.72, 10.28, 9.86, 9.46, 9.07, 870, 8.35)$$

According to Eqs. (13) to (18), examining this model by "posterior error" method, we get:

$\bar{X} \approx 9.75$; $S_1^2 \approx 1.31$; $\bar{\varepsilon} \approx -0.0005$; $S_2^2 \approx 0.1874$,

Hence, the mean square deviation ratio is:

$$C = \frac{S_2}{S_1} \approx 0.3789 \in [0.35, 0.50]$$

$p = \text{P}\{|\varepsilon(k) - \bar{\varepsilon}| < 0.6745 S_1\} = \text{P}\{|\varepsilon(k) - \bar{\varepsilon}| < 0.7706\}$,

Because $|\varepsilon_2 - \bar{\varepsilon}| = 0.0533 < 0.7706$, $|\varepsilon_3 - \bar{\varepsilon}| = 0.5338 < 0.7706$, $|\varepsilon_4 - \bar{\varepsilon}| = 0.6648 < 0.7706$, $|\varepsilon_5 - \bar{\varepsilon}| = 0.4651 < 0.7706$, $|\varepsilon_6 - \bar{\varepsilon}| = 0.3997 < 0.7706$, $|\varepsilon_7 - \bar{\varepsilon}| = 0.1364 < 0.7706$, $|\varepsilon_8 - \bar{\varepsilon}| = 0.0067 < 0.7706$, $p = \frac{7}{7} = 1 > 0.95$. According to Table 1, it means the energy intensity of China mainland could be used to make the prediction. The calculation results can be observed in Table 3.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/   7

TABLE 3: SIMULATIVE VALUES AND ERRORS OF GM(1,1) MODEL FOR ENERGY INTENSITY OF CHINA MAINLAND (1998-2012)

No.	Year	Original quantity	Simulated quantity	Absolute error	Relative error
1	1998	11.51	11.51	0	0
2	2000	10.67	10.72	0.05	0.49%
3	2002	9.75	10.28	0.53	5.47%
4	2004	10.53	9.86	0.66	6.32%
5	2006	9.93	9.46	0.47	4.69%
6	2008	8.67	9.07	0.40	4.60%
7	2010	8.57	8.70	0.14	1.59%
8	2012	8.34	8.35	0.01	0.07%
Average error					2.90%
Model accuracy					97.10%

Additionally, according to the forecasting standards of the grey system, when the development coefficient a = 0.041741 < 0.3, the GM(1,1) model can be used in the mid-long term forecasting (Liu and Deng, 2000). The calculation result is:

$$\hat{X}^{(0)} = \left(\hat{x}^{(0)}(9), \hat{x}^{(0)}(10), \hat{x}^{(0)}(11), \hat{x}^{(0)}(12)\right) = (8.01, 7.68, 7.36, 7.06)$$

Similarly, we can build the GM(1,1) model for the energy intensity of Hong Kong, Macao and Taiwan from 2014 to 2020. The results are shown in Tables 4–6.

TABLE 4: SIMULATIVE VALUES AND ERRORS OF GM(1,1) MODEL FOR ENERGY INTENSITY OF TAIWAN (1998-2012)

No.	Year	Original quantity	Simulated quantity	Absolute error	Relative error
1	1998	9.30	9.30	0	0
2	2000	10.08	9.98	0.10	0.99%
3	2002	9.41	9.47	0.06	0.62%
4	2004	8.96	8.98	0.02	0.25%
5	2006	8.60	8.52	0.08	0.91%
6	2008	7.84	8.08	0.25	3.12%
7	2010	7.67	7.67	0.00	0.00%
8	2012	7.44	7.28	0.16	2.20%
Average error					1.01%
Model accuracy					98.99%

TABLE 5: SIMULATIVE VALUES AND ERRORS OF GM(1,1) MODEL FOR ENERGY INTENSITY OF HONG KONG (1998-2012)

No.	Year	Original quantity	Simulated quantity	Absolute error	Relative error
1	1998	2.65	2.65	0	0
2	2000	2.50	2.49	0.01	0.34%
3	2002	2.41	2.32	0.09	3.80%
4	2004	2.10	2.16	0.07	3.14%
5	2006	1.93	2.01	0.08	4.06%
6	2008	1.85	1.88	0.03	1.50%
7	2010	1.75	1.75	0.00	0.17%
8	2012	1.70	1.63	0.08	4.55%
Average error					2.20%
Model accuracy					97.80%

TABLE 6: SIMULATIVE VALUES AND ERRORS OF GM(1,1) MODEL FOR ENERGY INTENSITY OF MACAO (1998-2012)

No.	Year	Original quantity	Simulated quantity	Absolute error	Relative error
1	1998	1.71	1.71	0	0
2	2000	1.63	1.70	0.07	4.51%
3	2002	1.47	1.41	0.06	3.85%
4	2004	1.24	1.17	0.07	5.83%
5	2006	1.00	0.97	0.03	2.90%
6	2008	0.79	0.80	0.01	0.91%
7	2010	0.64	0.66	0.02	2.68%
8	2012	0.48	0.55	0.07	15.11%
Average error					4.47%
Model accuracy					95.53%

For the convenience of comparison, Figures 1–4 are given to show the fitting curves for the forecasting values of the four models and the corresponding actual measured values respectively.

FIGURE 1: THE ACTIVE TREND OF ENERGY INTENSITY OF CHINA MAINLAND (1998-2020)
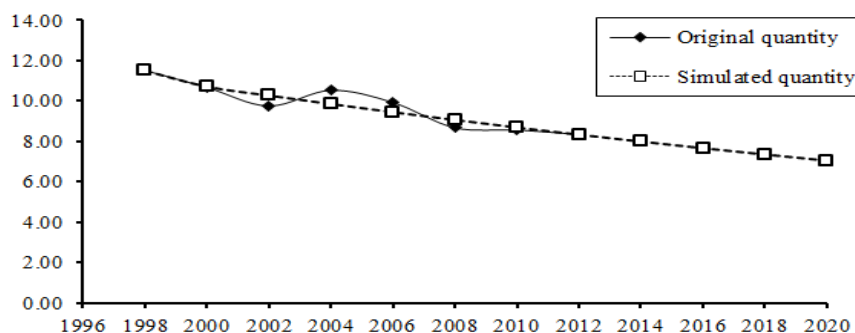
FIGURE 2: THE ACTIVE TREND OF ENERGY INTENSITY OF TAIWAN (1998-2020)
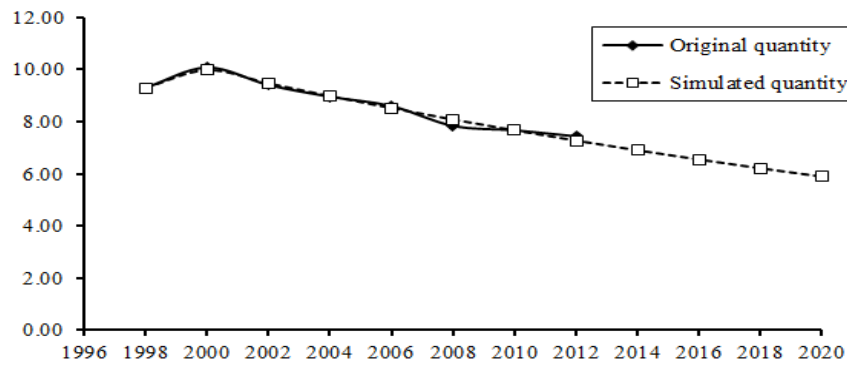
FIGURE 3: THE ACTIVE TREND OF ENERGY INTENSITY OF HONG KONG (1998-2020)
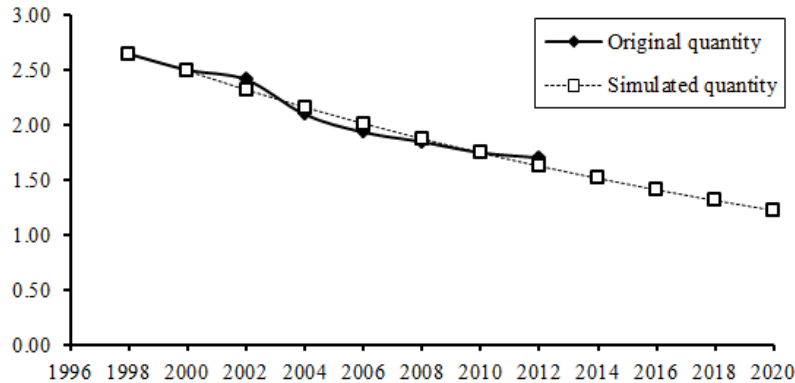
FIGURE 4: THE ACTIVE TREND OF ENERGY INTENSITY OF MACAO (1998-2020)
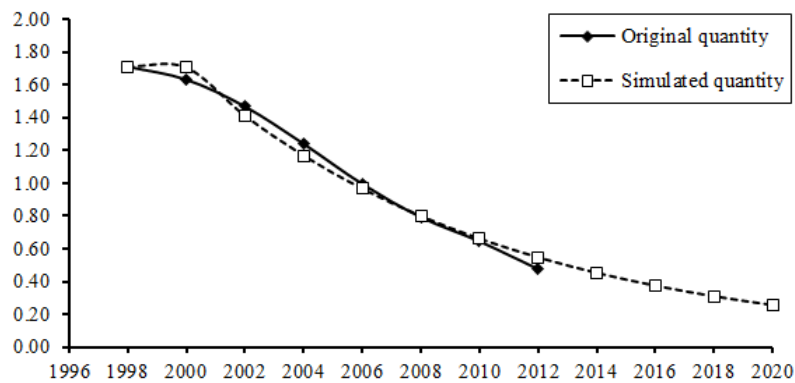
4. RESULTS

According to the results of empirical research, the GM(1,1) prediction models of four places constructed by the 8 sets of energy intensity using the data from 1998 to 2012 are displayed as follow:

$\hat{X}_{cn}(k) == -262.27511e^{-0.041741(k-1)} + 273.78875$

$\hat{X}_{tw}(k) == -194.53883e^{-0.052666(k-1)} + 203.83883$

$\hat{X}_{hk}(k) == -36.247971e^{-0.071273(k-1)} + 38.8973611$

$\hat{X}_{mo}(k) == -9.8860556e^{-0.189263(k-1)} + 11.5968062$

As shown by the formulas and Figure 1 to Figure 4 above, the development coefficient of four models are all greater than 0, which represents that the energy intensity of these four districts will obviously decline in the future. In other words, per unit of GDP growth will consume less and less amount of energy, and probably low carbon economy will get considerable development.

In this paper, the posterior probability method is used to verify the accuracy of model, and the verification results are displayed in table 3-6. The four simulation degrees of simulation value and the actual value for mainland China, Taiwan, Hong Kong and Macau are 97.10%, 98.99%, 97.80% and 95.53% respectively. Due to all models meet the demand of long-term forecast, the results can reasonably reflect the dynamic change tendency of energy intensity in Greater China region.

The predictions result for 2012, 2014, 2016 and 2018 are shown in Table 7. As can be seen, the descent rate of mainland China is the slowest, with an average of 4.08% per year. The descent rates for Taiwan and Hong Kong are 6.01% and 8.65%, and ranked 2 and 3 respectively, while energy intensity of Macao rapid decline with an annual average of 16.56%. Figure 5 displays the downward tendency of energy intensity for four places.

TABLE 7: THE ENERGY INTENSITY PREDICTION OF GREATER CHINA REGION (2014-2020)

Year	China mainland	Taiwan	Hong Kong	Macao
2014	8.01	6.90	1.51	0.45
2016	7.68	6.55	1.41	0.38
2018	7.36	6.21	1.31	0.31
2020	7.06	5.89	1.22	0.26
Average growth rate	-4.08%	-6.01%	-8.65%	-16.56%

FIGURE 5: THE ENERGY INTENSITY DYNAMIC DECLINE TENDENCY OF GREATER CHINA REGION (1998-2020)
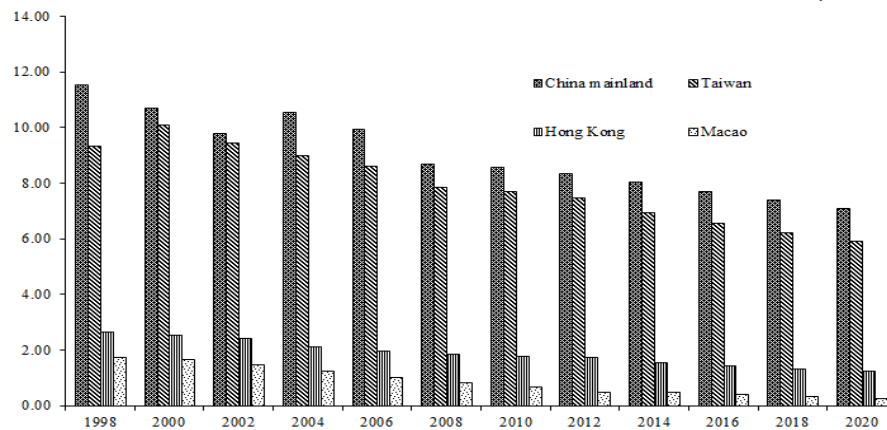
According to Figure 5, the absolute values of energy intensity in mainland China and Taiwan are much larger than Hong Kong and Macao, which is mainly caused by the differences of industrial structure.

In the beginning of 1960s, the western developed countries transfer labor-intensive industries to the developing countries gradually. Taiwan used this opportunity to attracting a large number of foreign funds and technology and quickly embarked on the path of development. Today, Taiwan has become one of the world famous high-tech industrial bases. Since the reform and opening up in mainland China, the productivity has increased dramatically so that the first, second and third industries have made considerable progress. And due to super high-speed development of the second industry, China has become a veritable factory of the world. The development of manufacturing industry cannot be separated from the energy consumption, that why mainland China and Taiwan present a greater absolute value in energy intensity. Because of the influence of geographical and political factors over a long period of time, the third industry in Hong Kong and Macao is highly developed and compose a unique industrial structure. With respect to the development of manufacturing industry, energy consumption of third industry is much lower. Thus energy intensity of Hong Kong and Macao shows a lower value.

CONCLUSION

In summary, there is a significant difference in the performance of energy intensity on these four places. In order to provide a steady stream of energy supply for the economic sustainable development, four places should continuing make efforts to reduce energy consumption. Hong Kong and Macao should maintain the existing industrial structure and strive to stable growth in the GDP at the same time to no longer increase energy consumption. China and Taiwan should strive to change the economic growth mode, adjust the industrial structure, and accelerate the transformation and upgrading of the industry to reduce the proportion of manufacturing industry in the GDP. For China, it is imperative for economic growth mode to transform from extensive type to lean type. Taiwan should exert its natural and geographical advantages to vigorously develop the tertiary industry, to strive for innovation in the field of service and content, and to rational allocation of industrial structure to reduce the energy consumption. In addition, developing the scientific energy policy, changing the existing energy structure with coal as the main fuel, improving the usage of clean energy, and developing new energy source are the important channel to reduce energy intensity and achieve economic sustainable development.

REFERENCES

1.   Bai, C. G., and Sarkis, J., 2010, Integrating sustainability into supplier selection with grey system and rough set methodologies, International Journal of Production Economics, 1:252-264.
2.   Chithambaranathan, P., Subramanian, N., Gunasekaran, A., and Palaniappan, P. L. K., 2015, Service supply chain environmental performance evaluation using grey based hybrid MCDM approach, International Journal of Production Economics, 166:163-176.
3.   Deng, J. L., 1982, Control problems of grey systems, Systems Control Letters, 5: 288–294.
4.   Fan, X., 2010, Energy intensity, energy consumption structure and economic structure, Asia-pacific Economic Review, 06:138-142.
5.   Fang, G. C., Tian L. X., Fu, M., and Sun, M., 2013, Impacts of new energy on energy intensity and economic growth, Systems Engineering-Theory & Practice, 11: 2795 – 2803.
6.   Hu, Y. C., 2007, Grey relational analysis and radial basis function network for determining costs in learning sequences, Applied Mathematics and Computation, 184(2): 291-299.
7.   Hu, Y. C., 2008, Nonadditive grey single-layer perceptron with Choquet integral for pattern classification problems using genetic algorithms, Neurocomputing, 72(1–3):331-340.
8.   Hu, Y. C., 2012, Wang, J. H., and Chang, C. Y., Flow-based grey single-layer perceptron with fuzzy integral, Neurocomputing, 91(15):86-89.
9.   Hu, Y. C., 2016, Tolerance rough sets for pattern classification using multiple grey single-layer perceptrons, Neurocomputing, 179(29):144-151.
10. Hu, Y. C., Chen, R. S., Hsu, Y. T., and Tzeng, G. H., 2002, Grey self-organizing feature maps, Neurocomputing, 48(1–4):863-877.
11. Knox, D., and Richardson, M., 2003, Trade policy and parallel imports, European Journal of Political Economy, 19(1):133-151.
12. Lin C. S., 2013, Forecasting and analyzing the competitive diffusion of mobile cellular broadband and fixed broadband in Taiwan with limited historical data, Economic Modelling, 35:207-213.
13. Liu, S. F., Xie, N. M., Yuan, C. Q., et al., 2012, Systems Evaluation: Methods, Models, and Applications. New York: Taylor & Francis Group.
14. Neupane, S., Paudyal, K., and Thapa, C., 2014, Firm quality or market sentiment: What matters more for IPO investors? Journal of Banking & Finance, 44:207-218.
15. Pi, D., Liu, J., and Qin, X., 2010, A Grey Prediction Approach to Forecasting Energy Demand in China, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 32(16): 1517-1528.
16. Suganthi, L., and Samuel, A. A., 2012, Energy models for demand forecasting-A review, Renewable and Sustainable Energy Reviews, 16:1223-1240.
17. Sun, J. S., Li, Z. J., and Chen, Z. R., 2011, On Driving Factors of Low Carbon Economy Development Based on Zhejiang Province, Journal of Zhongnan University of Economics and Law, 2:48-55.
18. Sun, Q. G., Guo J. E., Shi, B., 2013, The Analysis of Spatial Spillover Effect of Energy Intensity across Chinese Provinces, China Population, Resources and Environment, 11:137-143.
19. Wang, J. Z., Dong, Y., Wu, J., Mu, R., and Jiang, H., 2011, Coal production forecast and low carbon policies in China, Energy Policy, 39(10):5970-5979.
20. Wang, S. X., He, Y. Q., and Wang, X. D., 2010, Analysis of Low Carbon Economy Development in China: Based on Energy Intensity Perspective, China Soft Science, 9: 25 – 32.
21. Zhang, Y., Zhang, H. Q., Ou yang, B., and Da, Y. B., 2014, Relational analysis between green low-carbon transport and industrial structure and forecasting the trend of energy intensity, China Population, Resources and Environment, S3:5-9.
22. Zorzano, M. P., Hochberg, D., and Morán, F., 2004, Dynamic renormalization group and noise induced transitions in a reaction diffusion model, Physica A: Statistical Mechanics and its Applications, 334(1–2):67-77.

ECONOMIC SCALE OF NON-LIFE INSURANCE COMPANIES IN INDIA

M. MUTHUMEENA
RESEARCH SCHOLAR
DEPARTMENT OF COMMERCE
ALAGAPPA UNIVERSITY
KARAIKUDI

DR. A. MUTHUSAMY
PROFESSOR
DEPARTMENT OF INTERNATIONAL BUSINESS
ALAGAPPA UNIVERSITY
KARAIKUDI

ABSTRACT
The Indian non-life insurance segment registered significant growth during the review period (2009–2013), despite the global financial crisis in 2009. The increase was primarily due to growing awareness of compulsory motor third-party liability insurance, and rising property prices in major Indian cities such as Mumbai and Bangalore. This was encouraged by rising income levels that increased demand for motor and property insurance. These factors are expected to enable the segment to record a forecast-period (2009–2018) CAGR of 11.3%. The study mainly concentrated on measuring financial performance in terms of financial health of the public and private Non-Life Insurance Companies. It has taken eight (Four Public and Four Private) registered Non-Life insurers and examined data of nine years from 2006-07 to 2014-15. This model helps to predict the business performance and helps to take necessary step for this course of action. This financial health analysis the companies can improve and encounter their problem of business and financial performance.

KEYWORDS
business performance, factors, financial performance, financial health, non-life insurance.

INTRODUCTION
Indian Insurance Industry is one of the booming Industries of the economy and is growing at the rate of 15-20 % per annum. Along with banking services, it contributes to about 7% to the country's GDP. Insurance is being a federal subject in India and which is governed by Insurance Act, 1938, the Life Insurance Corporation Act, 1956 and General Insurance Business (Nationalization) Act, 1972, Insurance Regulatory and Development Authority (IRDA) Act, 1999 and other related Acts. Indian Insurance Industry is flourishing with several national and international players competing and growing at rapid rates. The success comes usually from the easing of policy regulations, and India has become more familiar with different insurance products and the period from 2010 - 2015 is projected to be the 'Golden Age' for the Indian insurance industry. The Indian non-life insurance segment registered significant growth during the review period (2009–2013), despite the global financial crisis in 2009. The increase was primarily due to growing awareness of compulsory motor third-party liability insurance, and rising property prices in major Indian cities such as Mumbai and Bangalore. This was encouraged by rising income levels that increased demand for motor and property insurance. These factors are expected to enable the segment to record a forecast-period (2009–2018) CAGR of 11.3%.

The public sector companies will definitely face an extremely competitive situation from the private sectors and the private sectors will in turn have to prove their competency to gain an edge over the public sectors and to grab a major piece of the market pie. Another major development in the future would be the number of private insurers in the space. This is expected to grow as various foreign companies have announced intentions to establish joint ventures. Given the low level of penetration in some segments, this trend towards foreign participation is likely to continue for some time. So, India will witness a major competition in the general insurance market and this definitely indicates a tough but exciting road ahead for the existing and upcoming players. This study aims to analysis the short-term and long-term financial strengths and the overall financial health of Non-Life Insurance Companies in India.

IMPORTANCE OF THE STUDY
Non-Life insurance is an important for every person who would like to live a risk-free life. Risk is associated with everything and so, it is important to secure all the things that we own and that security is provided by insurance. Non-life insurance covers insurance policies like burglary, theft, etc. Personal insurances like health and accident insurance are also covered up by general insurance. The present study focused on analyzing the various aspects to the financial performance of the Non-Life Insurance in India. This study will be of immense help to the society by enabling the policyholders and other shareholders of the Non-Life Insurance in India to take economic decisions. The companies in Non-Life Insurance in India will also be able to know their existing financial strength by this study so as to take the policy decision relating to finance in future.

STATEMENT OF PROBLEM
The financial performance is an important factor which indicates the growth of any industry. The financial performance of non-life insurance is influenced by some factors like cost, revenue, capital and other related variables. If the Z score analysis is made on all the aspects related to the non-life insurance companies gives a clear cut picture about the financial performance, it can be used for some policy decision for its future. One of the major problems affecting the industry, like in all developing economies is the shortage of trained insurance professionals and technicians at all levels. So companies that are able to recruit and grow talent that continue to provide innovative insurance solutions for the underserved Indian market will be the ones that will rise and shine in the general insurance industry.

METHODOLOGY
COLLECTION OF DATA
The study is based on secondary data, collected from annual reports of the public and private sector general insurance companies in India. Data were also collected from the Insurance Hand Book published by IRDA and various journals, magazines and websites.
SAMPLE COMPANIES
The study has covered non-life insurance business establishments from both from public and private sector Non-Life Insurance Companies in India.
1) Public sector companies
- United India Insurance (UIICL),
- National Insurance Company (NICL),
- Oriental Insurance (OICL) and
- New India Assurance Company (NIACL).

2) Private sector companies
- Bajaj Allianz General Insurance Company Ltd. (BAGIL)
- ICICI Lombard General Insurance Company Ltd. (ICICIL)
- Tata AIG General Insurance Company Ltd. and
- HDFC Ergo General Insurance Company Ltd.

PERIOD OF STUDY

The present study analyses data covering a period of 9 years from 2006-07 to 2014-15.

ANALYSIS

The analytical method is implemented for this study. The secondary data have been analyzed and presented various statistical techniques, such as mean, standard deviation and Z score analysis have been used for analyzing and interpreting the data.

1. (A) SHORT-TERM FINANCIAL STRENGTH

The Short-Term financial strength refers to the liquidity position of the business firm. Liquidity refers to the firm's ability to meet its short-term obligations. "Liquidity is the case with which assets may be converted into cash without loss".

The quick ratio is the second widely used device for judging the short-term repaying ability of a firm in the near future. This ratio shows the ability of a business to meet its immediate financial commitments.

(B) LONG-TERM FINANCIAL STRENGTH

The long-term financial strength of the firm is measured by Debt Equity Ratio, Fixed Assets to Net Worth Ratio and Fixed Assets to Total Debt Ratio.

The debt-equity ratio shows the relative equity and long-term debt in the case of a firm which includes loans on mortgage and all the term loans and debentures. The amount of equity includes net worth. The ratio of fixed assets to net worth shows the proportion of fixed assets financed by the owners in a firm. The fixed assets to total debt ratio is also an important ratio for judging the long-term financial strength of a firm because at the time of liquidation or in long-term lending, one sees only the fixed assets of that firm.

FINANCIAL STRENGTH OF NATIONAL INSURANCE COMPANY LIMITED

The technical solvency in the near future and financing fixed assets requirements of the National Insurance Company was exhibited with the help of short-term and long-term financial strength. The ratios, namely, current ratio and quick ratio were calculated to measure the short-term financial strength, whereas the debt-equity ratio, fixed assets to net worth ratio and fixed assets to total debt ratio were analyzed to measure the long-term financial strength. The resulted ratios were shown in the table 1.

TABLE 1: FINANCIAL STRENGTH OF NATIONAL INSURANCE COMPANY LIMITED

Year	Short-term Financial Strength		Long-term Financial Strength		
	Current Ratio	Quick Ratio	Debt-Equity Ratio	Fixed Asset to Net worth	Fixed asset to Total Debt
2006-07	0.539794	0.536419	0.043428	0.041853	0.009442
2007-08	0.507644	0.504059	0.043506	0.040875	0.009174
2008-09	0.53229	0.528191	0.05204	0.039811	0.00739
2009-10	0.548222	0.507138	0.049064	0.069429	0.01296
2010-11	0.419062	0.414612	0.055934	0.068124	0.011636
2011-12	0.319598	0.315068	0.052112	0.050007	0.009122
2012-13	0.410698	0.407146	0.049	0.057684	0.010001
2013-14	0.43122	0.427792	0.047051	0.058129	0.011276
2014-15	0.442918	0.440125	0.031253	0.05182	0.011356
Mean	0.461272	0.453394	0.047043	0.053081	0.010262
S.D (σ)	0.076298	0.072069	0.007181	0.011194	0.001691

Source: Computed

The short-term financial strength of the current ratio was higher value in 0.548 during the year 2009-10 and the lower value of 0.319 during the year 2011-12 and the quick ratio was lower value is 0.315 during the year 2011-12 and the higher value of 0.536 during the year 2006-07. The averages of the above ratios are 0.461 and 0.453 times respectively and S.D of the above ratios is 0.08 and 0.07 respectively. The long-term financial strength of the debt equity ratio was 0.0559 during the year 2011-12 and lower value of 0.0312 during the year 2014-15. Fixed asset to net worth was 0.0694 increased values and decreased value is 0.0398 and finally the ratio of fixed asset to total debt was 0.007 and increased value of 0.012. The averages of the above ratios are 0.04, 0.05 and 0.0.01 times respectively and S.D of the above ratios is 0.07, 0.01 and 0.001 respectively.

FINANCIAL STRENGTH OF NEW INDIA ASSURANCE COMPANY LIMITED

The New India assurance Company was analyzed with the help of short-term and long-term financial strength. The ratios, namely, current ratio and quick ratio were calculated to measure the short-term financial strength, whereas the debt-equity ratio, fixed assets to net worth ratio and fixed assets to total debt ratio were analyzed to measure the long-term financial strength. The calculated ratios were shown in the table 2.

TABLE 2: FINANCIAL STRENGTH OF NEW INDIA ASSURANCE COMPANY LIMITED

Year	Short-term Financial Strength		Long-term Financial Strength		
	Current Ratio	Quick Ratio	Debt-Equity Ratio	Fixed Asset to Net worth	Fixed asset to Total Debt
2006-07	0.711163	0.708864	0.020707	0.022034	0.012569
2007-08	0.841025	0.838436	0.020368	0.016528	0.010388
2008-09	0.972876	0.969189	0.021422	0.021602	0.012882
2009-10	1.035128	1.031749	0.022832	0.021823	0.011701
2010-11	0.922005	0.91955	0.028434	0.022053	0.009776
2011-12	0.983536	0.983078	0.028893	0.020012	0.00804
2012-13	0.93236	0.932051	0.028587	0.017936	0.007166
2013-14	0.950617	0.949432	0.029036	0.018345	0.006899
2014-15	0.823895	0.822012	2.983246	0.018926	0.004006
Mean	0.908067	0.90604	0.353725	0.019918	0.00927
S.D (σ)	0.099364	0.099358	0.986078	0.002073	0.002971

Source: Computed

The short-term financial strength of the current ratio was higher value of 1.035 during the year 2009-10 and the lower value of 0.711 during the year 2006-07 and the quick ratio was lower value of 0.7088 during the year 2006-07 and the higher value of 1.031 during the year 2007-08. The averages of the above ratios are 0.908 and 0.906 times respectively and S.D of the above ratios is 0.09 and 0.09 respectively. The long-term financial strength of the debt equity ratio was 2.98 during the year 2014-15 and lower value of 0.0203 during the year 2007-08. Fixed asset to net worth was 0.02205 in increased value and decreased value was 0.0165 and finally the ratio of fixed asset to total debt was 0.011 and decreased value is 0.004. The averages of the above ratios are 0.354, 0.019 and 0.009 times respectively and S.D of the above ratios is 0.98, 0.002 and 0.003 respectively.

FINANCIAL STRENGTH OF ORIENTAL INSURANCE COMPANY LIMITED

The Oriental Insurance Company was analyzed with the help of short-term and long-term financial strength. The calculated ratios were shown in the table 3

TABLE 3: FINANCIAL STRENGTH OF ORIENTAL INSURANCE COMPANY LIMITED

Year	Short-term Financial Strength		Long-term Financial Strength		
	Current Ratio	Quick Ratio	Debt-Equity Ratio	Fixed Asset to Net worth	Fixed asset to Total Debt
2006-07	0.624076	0.623881	0.033398	0.036067	0.011858
2007-08	0.55507	0.554771	0.035335	0.046307	0.014155
2008-09	0.668299	0.668074	0.039135	0.041542	0.01083
2009-10	0.744734	0.744482	0.04286	0.044812	0.010644
2010-11	0.57456	0.574467	0.046137	0.039123	0.008376
2011-12	0.572122	0.571983	0.048159	0.044871	0.009537
2012-13	0.541222	0.541146	0.045755	0.035941	0.008019
2013-14	0.589548	0.589494	0.044528	0.030218	0.007156
2014-15	0.598936	0.598448	0.043813	0.030549	0.007098
Mean	0.607618	0.607416	0.042125	0.038826	0.009742
S.D (σ)	0.063912	0.063878	0.005075	0.006066	0.002359

Source: Computed

The short-term financial strength of the current ratio was higher value in 0.744 during the year 2009-10 and the lower value of 0.541 during the year 2012-13 and the quick ratio was lower value is 0.541 during the year 2012-13 and the higher value of 0.744 during the year 2009-10. The averages of the above ratios are 0.608 and 0.607 times respectively and S.D of the above ratios is 0.06 and 0.06 respectively. The long-term financial strength of the debt equity ratio was 0.048 during the year 2011-12 and lower value of 0.033 during the year 2006-07. Fixed asset to net worth was 0.0463 in increased value and decreased value is 0.0302 and finally the ratio of fixed asset to total debt was 0.014 and decreased value of 0.0070. The averages of the above ratios are 0.042, 0.038 and 0.009 times respectively and S.D of the above ratios is 0.005, 0.006 and 0.002 respectively.

FINANCIAL STRENGTH OF UNITED INDIA INSURANCE COMPANY LIMITED

The Financial strength of United India Insurance Company was analyzed with the help of short-term and long-term financial strength. The calculated ratios were shown in the table 4.

TABLE 4: FINANCIAL STRENGTH OF UNITED INDIA INSURANCE COMPANY LIMITED

Year	Short-term Financial Strength		Long-term Financial Strength		
	Current Ratio	Quick Ratio	Debt-Equity Ratio	Fixed Asset to Net worth	Fixed asset to Total Debt
2006-07	0.421473	0.420536	2.822395	3.563041	0.015053
2007-08	0.44741	0.446528	2.68257	2.53738	0.011673
2008-09	0.518476	0.517588	2.587919	3.43573	0.016415
2009-10	0.596836	0.595795	2.46912	2.61168	0.013042
2010-11	0.433948	0.433048	2.720345	2.035622	0.008831
2011-12	0.458451	0.457724	3.202128	2.277734	0.008316
2012-13	0.3918	0.391121	3.380902	2.245318	0.007531
2013-14	0.389269	0.388769	3.355013	2.136235	0.007092
2014-15	0.353884	0.353423	3.454211	2.512846	0.008077
Mean	0.445727	0.444948	2.963845	2.595065	0.01067
S.D (σ)	0.073781	0.073625	0.38221	0.547789	0.003485

Source: Computed

The short-term financial strength of the current ratio was higher value in 0.596 during the year 2009-10 and the lower value of 0.353 during the year 2014-15 and the quick ratio was lower value in 0.353 during the year 2014-15 and the higher value of 0.595 during the year 2009-10. The averages of the above ratios are 0.445 and 0.444 times respectively and S.D of the above ratios is 0.07 and 0.07 respectively. The long-term financial strength of the debt equity ratio was 3.454 during the year 2014-15 and lower value of 2.46 during the year 2009-10. Fixed asset to net worth was 3.56 in increased value and decreased value is 2.03 and finally the ratio of fixed asset to total debt was 0.0070 and increased value of 0.016. The averages of the above ratios are 2.96, 2.59 and 0.011 times respectively and S.D of the above ratios is 0.38, 0.54 and 0.003 respectively.

FINANCIAL STRENGTH OF BAJAJ ALLIANZ GENERAL INSURANCE COMPANY LIMITED

The Bajaj Allianz General Insurance Company was analyzed with the help of short-term and long-term financial strength. The ratios, namely, current ratio and quick ratio were calculated to measure the short-term financial strength, whereas the debt-equity ratio, fixed assets to net worth ratio and fixed assets to total debt ratio were analyzed to measure the long-term financial strength. The calculated ratios were shown in the table 5

TABLE 5: FINANCIAL STRENGTH OF BAJAJ ALLIANZ GENERAL INSURANCE COMPANY LIMITED

Year	Short-term Financial Strength		Long-term Financial Strength		
	Current Ratio	Quick Ratio	Debt-Equity Ratio	Fixed Asset to Net worth	Fixed asset to Total Debt
2006-07	0.48151	0.478739	0.980141	0.116102	0.037201
2007-08	0.543135	0.540727	1.004384	0.173689	0.050474
2008-09	0.572276	0.570441	1.000042	0.191149	0.051529
2009-10	0.558947	0.556999	1.000012	0.193438	0.052169
2010-11	0.406529	0.404278	1.000006	0.186779	0.043222
2011-12	0.435847	0.434459	0.999994	0.217041	0.047075
2012-13	0.431391	0.430446	0.099976	0.226346	0.053793
2013-14	0.356702	0.354381	0.099982	0.173468	0.047255
2014-15	0.353997	0.352496	0.099978	0.126954	0.042319
Mean	0.460037	0.458107	0.698279	0.178329	0.047226
S.D (σ)	0.08362	0.083505	0.448778	0.036785	0.005446

Source: Computed

The short-term financial strength of the current ratio was higher value in 0.572 during the year 2009-10 and the lower value of 0.353 during the year 2014-15 and the quick ratio was lower value in 0.352 during the year 2014-15 and the higher value of 0.5704 during the year 2008-09. The averages of the above ratios are 0.46 and 0.083 times respectively and S.D of the above ratios is 0.08 and 0.08 respectively. The long-term financial strength of the debt equity ratio was 1.004 during the year 2008-09 and lower value of 0.099 during the year 2014-15. Fixed asset to net worth was 0.226 in increased value and decreased value is 0.116 and finally the ratio of fixed asset to total debt was 0.053 and decreased value of 0.037. The averages of the above ratios are 0.698, 0.178 and 0.047 times respectively and S.D of the above ratios is 0.44, 0.036 and 0.005 respectively.

FINANCIAL STRENGTH OF HDFC ERGO GENERAL INSURANCE COMPANY LIMITED

The Financial strength of HDFC Ergo General Insurance Company was analyzed with the help of short-term and long-term financial strength. The calculated ratios were shown in the table 6.

TABLE 6: FINANCIAL STRENGTH OF HDFC ERGO GENERAL INSURANCE COMPANY LIMITED

Year	Short-term Financial Strength		Long-term Financial Strength		
	Current Ratio	Quick Ratio	Debt-Equity Ratio	Fixed Asset to Net worth	Fixed asset to Total Debt
2006-07	0.638471	0.628483	0.756228	0.11676	0.100298
2007-08	0.562589	0.556053	0.686014	0.076121	0.062952
2008-09	0.686028	0.679075	0.635776	0.084836	0.057828
2009-10	0.693512	0.651954	0.597235	0.059479	0.038037
2010-11	0.343941	0.319512	0.71767	0.141131	0.075392
2011-12	0.34535	0.335558	0.686102	0.128658	0.053923
2012-13	0.284482	0.276646	0.889819	0.138035	0.043651
2013-14	0.34555	0.335068	1	0.182892	0.052343
2014-15	0.269058	0.265632	1	0.149796	0.042707
Mean	0.46322	0.449776	0.774316	0.119745	0.05857
S.D (σ)	0.178493	0.174549	0.152017	0.039567	0.019365

Source: Computed

The short-term financial strength of the current ratio was higher value in 0.6935 during the year 2009-10 and the lower value of 0.269 during the year 2014-15 and the quick ratio of lower value is 0.276 during the year 2012-13 and the higher value of 0.679 during the year 2008-09. The averages of the above ratios are 0.463 and 0.449 times respectively and S.D of the above ratios is 0.178 and 0.17 respectively. The long-term financial strength of the debt equity ratio was 1 during the year 2014-15 and 2013-14 and lower value of 0.597 during the year 2009-10. Fixed asset to net worth was 0.182 increased value and decreased value in 0.059 and finally the ratio of fixed asset to total debt was 0.038 and increased value of 0.1002. The averages of the above ratios are 0.774, 0.119 and 0.05 times respectively and S.D of the above ratios is 0.152, 0.03 and 0.019 respectively.

FINANCIAL STRENGTH OF ICICI LOMBARD GENERAL INSURANCE COMPANY LIMITED

The short-term and long-term financial strength of ICICI Lombard were analyzed with the help of five important ratios, namely, current ratio, quick ratio, debt-equity ratio, fixed assets to net worth ratio and fixed assets to total debt ratio from the year 2006-07 to 2014-15. The resulted ratios were shown in the table 7.

TABLE 7: FINANCIAL STRENGTH OF ICICI LOMBARD GENERAL INSURANCE COMPANY LIMITED

Year	Short-term Financial Strength		Long-term Financial Strength		
	Current Ratio	Quick Ratio	Debt-Equity Ratio	Fixed Asset to Net worth	Fixed asset to Total Debt
2006-07	0.91765	0.908296	2.015662	0.092219	0.02789
2007-08	0.728767	0.724587	2.359722	0.116462	0.028327
2008-09	0.799382	0.795389	2.238021	0.097818	0.024861
2009-10	0.75751	0.752925	2.787445	0.085671	0.018351
2010-11	0.646069	0.644344	3.726798	0.253541	0.038636
2011-12	0.579944	0.578604	5.171318	0.274061	0.026552
2012-13	0.505484	0.504396	4.861237	0.226777	0.024149
2013-14	0.435967	0.434942	4.106665	0.163578	0.021114
2014-15	0.371216	0.36961	3.494475	0.138015	0.022241
Mean	0.6379989	0.6347881	3.417927	0.1609047	0.025791
S.D (σ)	0.1801932	0.1778789	1.151574	0.072963	0.005807

Source: Computed

The short-term financial strength of the current ratio was higher value in 0.917 during the year 2006-07 and the lower value of 0.371 during the year 2014-15 and the quick ratio was lower value in 0.369 during the year 2014-15 and the higher value of 0.908 during the year 2006-07. The averages of the above ratios are 0.180 and 0.177 times respectively and S.D of the above ratios is 0.180 and 0.177 respectively. The long-term financial strength of the debt equity ratio was higher value of 5.17 during the year 2011-12 and lower value of 2.015 during the year 2006-07. Fixed asset to net worth was 0.274 in increased value and decreased value is 0.092 and finally the ratio of fixed asset to total debt was 0.038 and decreased value of 0.018. The averages of the above ratios are 3.41, 0.16 and 0.025 times respectively and S.D of the above ratios is 1.15, 0.07 and 0.005 respectively.

FINANCIAL STRENGTH OF TATA AIG GENERAL INSURANCE COMPANY LIMITED

The short-term and long-term financial strength of TATA AIG were analyzed with the help of five important ratios, namely, current ratio, quick ratio, debt-equity ratio, fixed assets to net worth ratio and fixed assets to total debt ratio from the year 2006-07 to 2014-15. The resulted ratios were shown in the table 8.

TABLE 8: FINANCIAL STRENGTH OF TATA AIG GENERAL INSURANCE COMPANY LIMITED

Year	Short-term Financial Strength		Long-term Financial Strength		
	Current Ratio	Quick Ratio	Debt-Equity Ratio	Fixed Asset to Net worth	Fixed asset to Total Debt
2006-07	0.67548	0.672855	0.062569	0.12111	0.061629
2007-08	0.535991	0.526421	0.039907	0.10354	0.044474
2008-09	0.782838	0.774108	0.024363	0.081203	0.036587
2009-10	0.620555	0.615372	0.086651	0.084779	0.031761
2010-11	0.335963	0.329457	0.120647	0.078116	0.024704
2011-12	0.280485	0.276136	0.16513	0.064531	0.016435
2012-13	0.287886	0.285651	0.141336	0.148131	0.039043
2013-14	0.276089	0.273586	0.226974	0.126001	0.03457
2014-15	0.330846	0.328367	0.149207	0.115991	0.03345
Mean	0.4584592	0.4535503	0.112976	0.1026004	0.03585
S.D (σ)	0.1968265	0.1954071	0.065495	0.0273121	0.012624

Source: Computed

The short-term financial strength of the current ratio was higher value in 0.782 during the year 2008-09 and the lower value of 0.276 during the year 2013-14 and the quick ratio was lower value in 0.273 during the year 2013-14 and the higher value of 0.774 during the year 2008-09. The averages of the above ratios are 0.458 and 0.453 times respectively and S.D of the above ratios is 0.19 and 0.19 respectively. The long-term financial strength of the debt equity ratio was 0.226 during the year 2013-14 and lower value of 0.024 during the year 2008-09. Fixed asset to net worth was 0.148 increased value and decreased value in 0.064 and finally the ratio of fixed asset to total debt was 0.016 and increased value of 0.0616. The averages of the above ratios are 0.112, 0.102 and 0.035 times respectively and S.D of the above ratios is 0.06, 0.02 and 0.012 respectively.

2. Z SCORE ANALYSIS

The financial health of the company can be determined through multiple discriminates analysis propounded by Edward Altman who has indicated the financial health of an organization, through Z scoring which was given below

a) **Z score model of Public Companies**

$Z = 1.2_{x_1} + 1.4_{x_2} + 3.3_{x_3} + 0.6_{x_4} + 0.99_{x_5}$

b) **Z score model of Private Companies**

$Z = 0.717_{x_1} + 0.847_{x_2} + 3.107_{x_3} + 0.420_{x_4} + 0.998_{x_5}$

Whereas,

X_1 – Working Capital /Total Assets

X_2 – Reserve and Surplus / Total Assets

X_3 – Earning before Interest and Tax (EBIT) / Total Assets

X_4 – Equity Capital / Debt

X_5 – Sales / Total Assets

Z – Index

The main purpose of calculating Z score is to caution the company of its financial problems that needs serious attention and to provide a guide for action to avert the trouble ahead. The companies can be classified into three different Zones on the basis of their Z score values. These are as follow.

$Z > 2.99$ – "Very Healthy" or "Safe" Zone

$1.8 < Z < 2.99$ – "Healthy" Zone or "Grey" Zone

$Z < 1.80$ – "Bankruptcy" Zone or "Distress" Zone

Z Scoring in National Insurance Company Limited

The Z scoring of the five key ratios of the National Insurance Company Limited from the year 2006-07 to 2014-15 were calculated and shown in the table-9

TABLE 9: Z SCORING IN NATIONAL INSURANCE COMPANY LIMITED

Years	X1	X2	X3	X4	X5	Z Score
2006-07	1.007284	0.733293	0.546071	0.009442	0.938396	3.234486
2007-08	1.145258	0.772976	0.204135	0.008639	0.967167	3.098175
2008-09	0.942607	0.549515	0.132089	0.007902	0.822519	2.454632
2009-10	0.965483	0.599642	0.256011	0.007075	0.833137	2.661348
2010-11	0.243446	1.122618	1.280753	0.006182	1.915257	4.568256
2011-12	0.294767	1.32256	0.5481	0.005519	2.449219	4.620165
2012-13	0.30023	1.410354	1.180284	0.004132	2.277198	5.172198
2013-14	0.2799	1.577727	1.229461	0.003697	2.343067	5.433852
2014-15	0.268039	1.751603	1.303282	0.003379	2.204111	5.530414

Source: Computed

The below diagram is helps to interpret and explain the Z score value of the National Insurance Company Limited (NICL) during the year from 2006-07 to 2014-15. This analysis helps to understand the company performance through Zones of discrimination after this analysis the national insurance company performance was "very healthy" Zone.

Z SCORING IN NEW INDIA ASSURANCE COMPANY LIMITED

The Z scoring of the five key ratios of the New India Assurance Company Limited from the year 2006-07 to 2014-15 were calculated and shown in the table-10.

TABLE 10: Z SCORING IN NEW INDIA ASSURANCE COMPANY LIMITED

Years	X1	X2	X3	X4	X5	Z Score
2006-07	0.968433	2.968973	0.194063	0.01137	1.471509	5.614348
2007-08	4.67414	2.968283	0.157175	0.010816	1.180083	8.990497
2008-09	1.050676	3.70235	0.036419	0.009773	1.539415	6.338633
2009-10	0.109408	2.748218	0.003219	0.00866	1.208898	4.078403
2010-11	2.686391	2.442162	0.034262	0.00748	1.507849	6.678144
2011-12	0.636494	2.500743	0.012222	0.006236	1.693404	4.849099
2012-13	2.599871	2.55129	0.073068	0.005625	1.286678	6.516532
2013-14	2.012553	2.507183	0.080578	0.004655	1.253426	5.858395
2014-15	0.67131	2.37032	0.94974	0.02385	1.27122	5.28644

Source: Computed

The below Figure explain the performance of Z score value of New India Assurance (NIACL) during the year from 2006-07 to 2014-15. This financial health analysis gives the "Safe" Zone of different years; it helps to elaborate their business in future.

Z SCORING IN ORIENTAL INSURANCE COMPANY LIMITED

The Z scoring of the five key ratios namely, X1, X2, X3, X4, X5 and finally calculate the Z score Index of the Oriental Insurance Company Limited from the year 2006-07 to 2014-15 were calculated and shown in the table-11.

TABLE 11: Z SCORING IN ORIENTAL INSURANCE COMPANY LIMITED

Years	X1	X2	X3	X4	X5	Z Score
2006-07	0.581223	1.936078	0.149206	0.009738	1.79186	4.468105
2007-08	0.539831	1.662809	0.901061	0.009051	1.480751	4.593503
2008-09	0.806923	1.948443	2.190502	0.007925	1.909308	6.863101
2009-10	0.610151	1.414559	1.60817	0.007387	1.632635	5.272902
2010-11	0.619356	1.36042	0.3070633	0.006475	1.680745	3.974059
2011-12	0.64955	1.457062	0.60534	0.005854	1.931652	4.649458
2012-13	0.665948	1.559883	1.198683	0.00776	1.846847	5.279121
2013-14	0.655878	1.623065	0.911996	0.009563	1.898729	5.099231
2014-15	0.648609	1.588203	0.775075	0.006677	1.702771	4.721335

Source: Computed

The below diagram is helps to interpret and explain the Z score value of the Oriental Insurance Company Limited during the year from 2006-07 to 2014-15. This analysis helps to understand the company performance through Zones of discrimination after this analysis the Oriental insurance company performance was "very healthy" Zone. It helps to predict the business performance and this financial health analysis the companies can improve and elaborate their business and financial performance.

Z SCORING IN UNITED INDIA INSURANCE COMPANY LIMITED

The Z scoring of the five key ratios of the United India Insurance Company Limited from the year 2006-07 to 2014-15 were calculated and shown in the table 12.

TABLE 12: Z SCORING IN UNITED INDIA INSURANCE COMPANY LIMITED

Years	X1	X2	X3	X4	X5	Z Score
2006-07	1.582719	1.747508	0.821237	0.013767	0.988833	5.154065
2007-08	2.191039	2.842077	1.426938	0.012756	1.435195	7.908006
2008-09	2.306414	3.741271	1.285828	0.011918	1.977764	9.323194
2009-10	1.51958	3.25762	1.578624	0.010831	1.693129	8.059784
2010-11	2.468391	3.072772	2.311497	0.009196	1.828792	9.690647
2011-12	2.7045	2.96354	7.454667	0.007235	2.205218	15.33516
2012-13	3.312804	2.919217	8.741417	0.006105	2.196999	17.17654
2013-14	3.182627	2.619232	8.136848	0.005573	2.2536	16.19788
2014-15	3.168739	2.539892	0.036673	0.005176	0.302956	6.053436

Source: Computed

The below Figure-4 explain the performance of Z score value of United India Insurance during the year from 2006-07 to 2014-15. This financial health analysis gives the "Safe" Zone of different years; it helps to elaborate their business in future.

FIGURE 1: Z SCORE VALUE OF PUBLIC SECTOR NON-LIFE INSURANCE COMPANIES
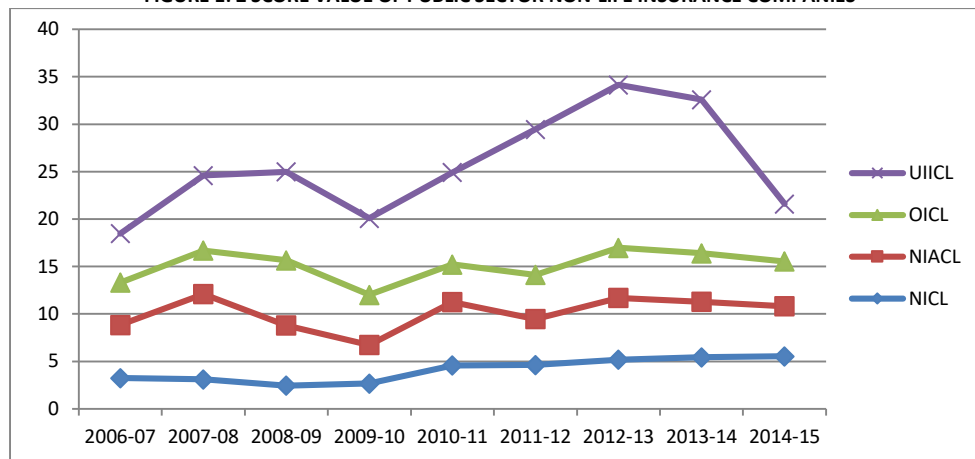
Z SCORING IN BAJAJ ALLIANZ GENERAL INSURANCE COMPANY LIMITED

The Z scoring of the five key ratios of the Bajaj Allianz General Insurance Company Limited from the year 2006-07 to 2014-15 were calculated and shown in the table-13.

TABLE 13: Z SCORING IN BAJAJ ALLIANZ GENERAL INSURANCE COMPANY LIMITED

Years	X1	X2	X3	X4	X5	Z Score
2006-07	0.153802	0.146463	0.214383	0.036011	0.53949	1.090149
2007-08	0.135408	0.154982	0.204359	0.023406	0.606329	1.124484
2008-09	0.140364	0.015037	0.146932	0.018559	0.53915	0.860042
2009-10	0.153057	0.155012	0.149677	0.015749	0.458971	0.932466
2010-11	0.221097	0.138357	0.043261	0.012821	0.451318	0.866854
2011-12	0.218712	0.013384	0.112051	0.010473	0.428566	0.783186
2012-13	0.216751	0.148362	0.200349	0.008765	0.4692	1.043427
2013-14	0.238769	0.016933	0.234605	0.007578	0.343537	0.841422
2014-15	0.230358	0.201264	0.271201	0.006934	0.373091	1.082848

Source: Computed

The below diagram is helps to interpret and explain the Z score value of the Bajaj Allianz General Insurance Company Limited (BAGICL) during the year from 2006-07 to 2014-15. This analysis helps to understand the company performance through Zones of discrimination after this analysis the Bajaj Allianz General insurance company performance was "Bankruptcy" Zone. It helps to predict the business performance and helps to take necessary action for this course of action. This financial health analysis the companies can improve and encounter their problem of business and financial performance.

Z SCORING IN HDFC ERGO GENERAL INSURANCE COMPANY LIMITED

The Z scoring of the five key ratios namely, X1, X2, X3, X4, X5 and finally calculate the Z score Index of the HDFC Ergo General Insurance Company Limited from the year 2006-07 to 2014-15 were calculated and shown in the table-14.

TABLE 14: Z SCORING IN HDFC ERGO GENERAL INSURANCE COMPANY LIMITED

Years	X1	X2	X3	X4	X5	Z Score
2006-07	0.211863	-	0.082288	0.360783	1.321232	1.976166
2007-08	0.291827	-	0.506373	0.347344	1.396994	2.542538
2008-09	0.340388	-	0.616107	0.286292	1.201253	2.44404
2009-10	0.318557	-	1.184127	0.268588	1.537808	3.30908
2010-11	0.717075	0.208037	0.267297	0.184814	1.422662	2.799885
2011-12	1.005618	0.401415	0.23195	0.118792	1.762508	3.520283
2012-13	1.151194	0.327473	0.788349	0.087124	1.602223	3.956363
2013-14	1.043417	0.338996	0.789748	0.072094	1.478671	3.722926
2014-15	1.195108	0.3906	0.437756	0.064523	1.4441	3.532087

Source: Computed

The below Figure explain the performance of Z score value of HDFC Ergo General Insurance during the year from 2006-07 to 2014-15. This financial health analysis gives the "Safe" Zone of different years except the 2006-07 because 1.976 is the "healthy" Zone. It helps to elaborate their business in future.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT   16

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

Z SCORING IN ICICI LOMBARD GENERAL INSURANCE COMPANY LIMITED

The Z scoring of the five key ratios of the ICICI Lombard General Insurance Company Limited from the year 2006-07 to 2014-15 were calculated and shown in the table-15.

TABLE 15: Z SCORING IN ICICI LOMBARD GENERAL INSURANCE COMPANY LIMITED

Years	X1	X2	X3	X4	X5	Z Score
2006-07	0.024925	0.131033	0.08427	0.045233	0.346423	0.631884
2007-08	0.088991	0.155953	0.106638	0.035829	0.325883	0.713294
2008-09	0.073399	0.185257	0.155514	0.026851	0.242308	0.683329
2009-10	0.094878	0.159723	0.073062	0.021704	0.240789	0.590156
2010-11	0.149311	0.115929	0.031091	0.016914	0.246811	0.560056
2011-12	0.20061	0.114285	0.116666	0.012184	0.272326	0.716071
2012-13	0.231406	0.101454	0.073738	0.011069	0.242564	0.660231
2013-14	0.260586	0.121066	0.119335	0.010133	0.255401	0.766521
2014-15	0.263151	0.14741	0.157148	0.010706	0.253798	0.832213

Source: Computed

The below diagram is helps to interpret and explain the Z score value of the ICICI Lombard ICICI Lombard General Insurance Company Limited during the year from 2006-07 to 2014-15. This analysis helps to understand the company performance through Zones of discrimination after this analysis the General insurance company performance was "Bankruptcy" Zone. It helps to predict the business performance and helps to take necessary step for this course of action. This financial health analysis the companies can improve and encounter their problem of business and financial performance.

Z SCORING IN TATA AIG GENERAL INSURANCE COMPANY LIMITED

The Z scoring of the five key ratios of the TATA AIG General Insurance Company Limited from the year 2006-07 to 2014-15 were calculated and shown in the table 16.

TABLE 16: Z SCORING IN TATA AIG GENERAL INSURANCE COMPANY LIMITED

Years	X1	X2	X3	X4	X5	Z Score
2006-07	0.29242	0.081488	0.525413	0.197241	1.905575	3.002137
2007-08	0.529647	0.161455	0.455892	0.156135	2.552617	3.855746
2008-09	0.183691	0.090828	0.080675	0.167358	1.408699	1.931251
2009-10	0.407397	0.093824	0.088318	0.136462	1.23073	1.956731
2010-11	1.273579	0.111735	0.208775	0.119313	2.492118	4.20552
2011-12	1.682785	0.030759	0.398877	0.104022	0.342548	2.558991
2012-13	1.473922	0.183107	0.850236	0.089719	0.252577	2.849561
2013-14	1.579719	0.327144	1.295554	0.080122	0.375479	3.658018
2014-15	1.251028	0.396157	0.925995	0.073272	2.451508	5.09796

Source: Computed

The below Figure-8 explain the performance of Z score value of TATA AIG General Insurance during the year from 2006-07 to 2014-15. This financial health analysis gives the "Safe" Zone of different years; it helps to elaborate their business in future.

FIGURE 2: Z SCORE VALUE OF PRIVATE SECTOR NON-LIFE INSURANCE COMPANIES
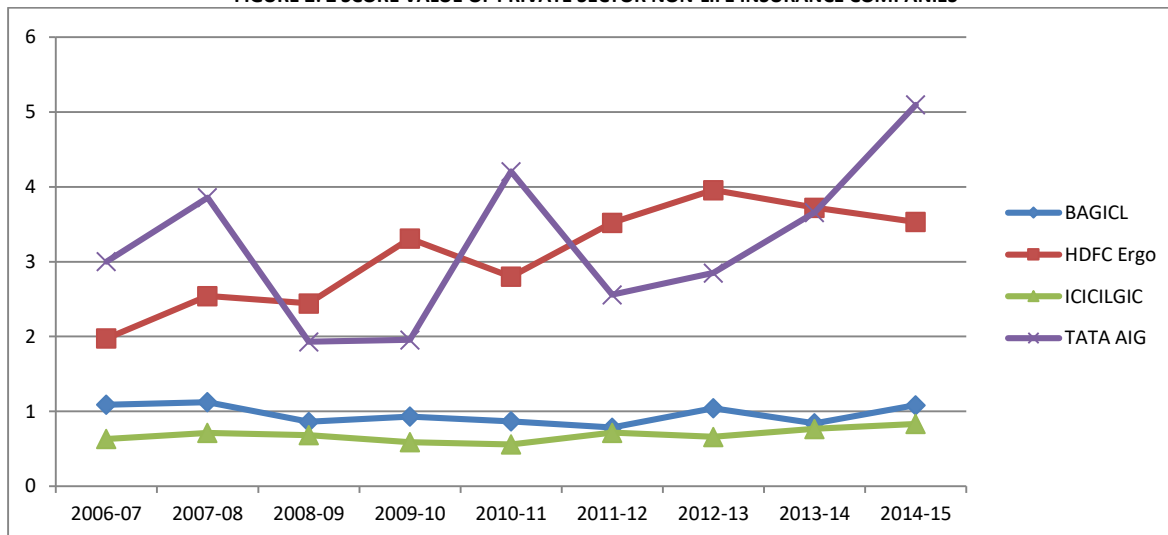
CONCLUSION

This paper study the financial strength of the Non-Life Insurance Companies in India was analyzed by comparing the vital financial ratios. The objective of this analysis was to identify the short-term and long-term financial strength of Non-Life companies under the study. Further, the financial health of Non-Life Insurance companies in India was studied, using Altman's Z score model. This model helps to know the different Zones of discrimination of the Public and Private sector on-Life Insurance Companies in India. All public companies perform the "Very Healthy" Zone and four Private Companies (out of 29 Companies) perform the "Bankruptcy" Zone except the HDFC Ergo General Insurance Companies and TATA AIG General Insurance companies. This model helps to predict the business performance and helps to take necessary step for this course of action. This financial health analysis the companies can improve and encounter their problem of business and financial performance.

REFERENCES

1. Chandra, "Financial Management Theory and practice".
2. Dr. P.K. Gupta (2004), "Insurance and risk management" first edition pp-77.
3. Dr. P.K. Gupta (2012), "Insurance and risk management" second edition pp-448.
4. Dr. Raymond Ting, CPA Nucleus Capital Ltd, "ALTMAN Z-SCORE Where lies its value in corporate M&A" Presented to ICPAS toward a new era in Corporate M&A 27 March 2004

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

17

5.   India Non-Life Insurance industry year book 2013-2014 and 2014-15.

ANNUAL REPORT

6.   Annual Report of Bajaj Allianz General Insurance Company Limited (2006-07 to 2014-15)
7.   Annual Report of HDFC ERGO General Insurance Company Limited (2006-07 to 2014-15)
8.   Annual Report of ICICI Lombard General Insurance Company Limited (2006-07 to 2014-15)
9.   Annual Report of National Insurance Company Limited (2006-2007 to 2014-2015)
10. Annual Report of New India Assurance Company Limited (2006-2007 to 2014-2015)
11. Annual Report of Oriental Insurance Company Limited (2006-2007 to 2014-2015)
12. Annual Report of TATA AIG General Insurance Company Limited (2006-07 to 2014-15)
13. Annual Report of United Insurance Company Limited (2006-2007 to 2014-2015)

COINTEGRATION APPROACH TO ESTIMATE INDIA'S TRADE ELASTICITIES

DR. AMAL SARKAR
ASSOCIATE PROFESSOR
NARASINHA DUTT COLLEGE
HOWRAH

ABSTRACT

The present paper has made an attempt to estimate the import and export demand elasticity for India using sample period 1974-2013. Both the export and import demands has been specified as a function of activity variable, and real effective exchange rate. As the time series data suffers from the problem of non-stationary, the application of ordinary least square method of estimation may lead the spurious relationship among the variables in the models. Therefore, the existence of long-run equilibrium relationship for the models is tested in terms of two alternative cointegration tests, namely the bound test and the error correction test. The results show the existence of long-run equilibrium relationship for the import demand in terms of bound test, and for the export demand model in terms of error correction test. Using the ARDL frame work, the long-run and short-run elasticities have been derived in the present study. In the long-run, both export and import demands are found to be elastic with respect to activity variables. In case of export demand, the coefficient of real effective exchange rate bears expected positive sign. A 10% depreciation of India's rupee would increase India's real export by 4%. In the import demand function, the coefficient of real effective exchange rate although bears expected negative sign, but failed to be statistically significant. In the short run, the elasticities of trade equations are found to be relatively lower than in the long-run. The stability test supports that parameters of the both models were quite stable during the sample period.

KEYWORDS
BDM test, bound Test, cointegration, elasticities, effective exchange rate.

JEL CLASSIFICATION
F14; C32.

INTRODUCTION

India has always experienced a deficit in the current account of the balance of payment except in few years. The huge volume of trade deficit is one of the main reasons behind the persistent deficit in the current account of our country. The fluctuation in exchange rate causes the changes in the trade balance. For example, the depreciation in the exchange rate of rupee makes the imports costly and the export cheaper. The export demand from the foreign countries is likely to increase while the import demand is likely to decrease. As a result, the trade balance is likely to improve for our country. Other factors which might affect the volume of trade balance are domestic income, and the volume of world trade. An increase in the domestic income is likely to raise the volume of import demand implying higher amount of trade deficit. On the other, an increase in world trade is expected to raise world's demand for India's exports implying a reduction in the trade deficit. The investigations of the determinants of trade flows are directed towards the measuring effects of currency depreciation on the trade balance.

In order to measure the effect of devaluation on the trade balance, the price elasticities of export and import demand functions are estimated in the traditional approach. If the sum of price elasticities in absolute term is greater than unity, then it is said that the policy of depreciation will improve a country's trade balance following the Marshall-Lerner condition. Generally, the export demand is specified as a function of world income and relative export prices while the import demand is specified as a function of domestic income and relative import prices. There exists a close linkage between the trade balance and exchange rate policies in any economy. One primary objective of present study is to quantify the direct impact of real effective exchange rate on India's exports and imports.

REVIEW OF LITERATURE

There exists a lot of literature on modelling trade flows. The first noticeable study was made by Orcutt (1950). He estimated the income and price elasticities of trade flows for industrial countries, and found that the trade flows were sensitive to changes in relative price. Khan (1974) estimated the trade equations for fifteen developing countries including India using sample period 1951-1969. In his study, the export demand was specified as a function of world income, and relative export prices while the import demand was specified as a function of domestic income, and relative import prices. Applying OLS method, he found that the price variable was statistically significant in explaining both the import and export demand functions. The most existing studies uses income and relative price variables in export and import demand models (Goldstein and Khan, 1985; Houthakker and Magee, 1969). In those studies, the effect of devaluation on trade balance is evaluated in terms of price elasticities of trade equation via Marshall-Lerner condition.

In a study by Junj and Rhomberg (1973), the trade flows were estimated for thirteen developed countries in terms of partial co relation between trade flows, prices and exchange rate. The result shows that the response of market share of trade flows to the exchange rate and prices have similar result. The trade flows for six develop countries were considered by Wilson and Takacs (1979) for the period 1957-1961. The study estimated export and import demand function in order to measure the relative response with respect to exchange rate and prices. Warner and Kreinin (1983) also included the exchange rate variable in the models for export and import. The main aim of their study was to estimate the effect of exchange rate under the floating exchange rate regime. The study did not highlight the Marshall-Lerner condition. In the study by Reinhart (1995), the effect of devaluation on trade flows was estimated for twelve developing countries, and found that the effect of devaluation was significant in most cases. One study was made by Bahamani-Oskooee (1986) for seven developing countries including India. He estimated both import and export demand functions using quarterly data from 1973-1980. He found that the effective exchange rate had an important effect on imports as well as exports for developing countries. However, this study did not test the Marshall-Lerner condition which is needed for the devaluation to be successful for a country. One limitation of such study is that the time series property of data series was not tested. Sinha (2011) has studied the trade equations for five Asian countries including India. In case of India, he estimated the export demand function using annual data from 1960 to 1996, and the import demand function using annual data from 1950 to 1996. Using Johansen-Julesius method (1990), no cointegration was found both for the export demand as well as import demand. The OLS method was applied for the export demand function while the Cochran-Orcutt autoregressive method was applied for the import demand function. The export demand was inelastic with respect to income and relative price. In explaining the import demand, the coefficient of income was negative and statistically insignificant. Further, the import demand was price inelastic.

Eita (2013) has estimated the export and import demand function for Namibia. He applied J-J multivariate method of co-integration using annual data from 1991-2011. The study has found one co-integration vector for each equation. The export demand has been specified as a function of world income and real effective exchange rate while the import demand function has been specified as a function of domestic income and real effective exchange rate. Both import demand and export demand have been found to be highly elastic. Further, the exchange rate variable has been found to be significant in explaining both import demand and export demand functions. The exchange rate elasticity for export demand is 0.44 and for import demand, it is -0.90. He concluded that the Marshall-Lerner condition is satisfied for Namibia as the sum of absolute values of exchange rate elasticity is greater than unity.

STATEMENT OF THE PROBLEM

There exist the limited studies where the exchange rate variable has been incorporated in the model explicitly. One advantage of such models is that the effect of devaluation on export and import can be measured directly. This kind of study has been made for Chaina by Thorbecke (2006), Japan by Bahamani-oskooee and Goswami (2004), for the USA by Chinn (2005), Mann and Pluck (2005). To the best of my knowledge, this kind of study is scarce for India. The previous studies (Bahamani-Oskooee, 1986, Khan, 1974) on India's trade elasticities did not deal with the issue of non-stationarity of the variables. As the macro variables are likely to be non-stationary in level form, the above study are likely to suffer from the problem of spurious relation (high value of R^2 and significant t statistics). In other words, the cointegration technique was not applied in case of non-stationarity in variables. Sinha (2011) study applied the JJ method of estimation which suffers from small sample bias (Mah, 2000, Pattichis, C., 1999). The present study deals with these issues with the application of recently developed two techniques to cointegration, namely the bound test and the error correction test. Further, the real effective exchange rate has been incorporated in the models in order to assess the direct effect of depreciation on export and import demands.

OBJECTIVES

The objectives of the present studies are:
1. To examine the existence of long-run equilibrium relationship both for the export and import demand functions.
2. To estimates the elasticities of India's export and import demands using the advanced econometric method.
3. To evaluate the policy of depreciation on real exports and imports.
4. To test the Marshall-Lerner condition.
5. To test the parameters stability over the sample period.

ANALYTICAL FRAMEWORK

In the conventional trade models, both the export and import demand is specified as a function of activity variables and the price variables. The activity variable is world income in the case of export demand while the activity variable is domestic income the case of import demand. However, in the present study, the activity variable is world imports in the case of export demand function (Sarkar, 2004)). Further, the real effective exchange rate has been used as proxy for price variables. One advantage of such specification is that the effect of devaluation on exports as well as imports can be measured directly. Secondly, the information on exchange rates is more accurate than those on export and import prices.

THE MODELS

The export demand function (X) is specified as a function of world imports (MW), and real effective exchange rate (REER) while the import demand function (M) is specified as a function of domestic income (Y) and real effective exchange rate (REER). Both the functions are expressed in log-linear form.

The export demand function: $X_t = a_0 + a_1.MW_t + a_2. REER_t + U_{1t}$ (1)

Where a_1 and a_2 measure the elasticity of export demand with respect to world imports and real effective exchange rate respectively. The expected signs of $a_1 > 0$, and $a_2 > 0$.

The import demand function: $M_t = b_0 + b_1.Y_t + b_2.REER_t + U_{2t}$ (2)

Where, b_1, and b_2 measure the elasticity of import demand with respect to domestic income and real effective exchange rate respectively. The expected signs of $b_1 > 0$, and $b_2 < 0$.

Where, X = Log of real India's export; M = Log of real India's imports; MW = Log of world real imports; REER = Log of real effective exchange rate and Y = Log of India's real GDP.

DATABASE

All the data series have been collected from IMF's International Statistics except real effective exchange. The value of India's exports is taken in US dollars. It has been deflated by unit value index of exports to convert it in real term. Similarly, the value of world imports in dollars has been deflated by unit value index of world imports to convert it in real term. The value of India's imports has been deflated by unit value index of import to convert it in real term. The index of real effective exchange rate of India's rupee is based on 36 countries bilateral weights. It is compiled from statistics released by RBI, various issues.

DATA ANALYSIS

As we deal with time series data, there may the problem of non-stationarity implying the spurious relationship among the variables. Therefore, we employ the augmented dickey-fuller (ADF) test for unit root. We perform ADF test both with intercept and no trend, and with an intercept and trend. The test assumes the null hypothesis of non-stationarity of the time series against the alternative hypothesis of stationarity. Table 1 shows that the estimated values of ADF-statistics with, and without trend in absolute terms does not exceed the critical value for all variables in level form. Therefore, the application of OLS method of estimation would lead spurious relationships for the demand models. However, the estimated value of ADF-statistics in absolute terms exceeds the critical value for all variables in first difference. Hence, the cointegration technique has to applied for the long-run relationship.

TABLE 1: AUGMENTED DICKEY-FULLER TEST

Variables /ADF Statistics	Level/First Difference	Constant No Trend	Constant With Trend
M_t (India's imports)	Level	0.233	-2.728
	First Difference	-4.449	-4.514
MW_t (World imports)	Level	0.115	-2.226
	First Difference	-4.931	-4.888
$REER_t$ (Real effective exchange rate)	Level	-1.706	-1.219
	First Difference	-5.038	-5.236
Y_t (India's real GDP)	Level	2.592	-0.626
	First Difference	-4.553	-5.784
X_t (India's exports)	Level	1.229	-1.537
	First Difference	-4.849	-5.275

Note: 1. 95% Critical value for ADF statistics without trend = -2.935,
2. 95% Critical value for ADF statistics with trend = -3.524.

RESEARCH METHODOLOGY

The most widely used two cointegration techniques are Engle-Granger residual based test (1987) and Johansen-Juselius maultivariate test (1990). One limitation of such techniques is that they are not reliable for small sample (Mah, 2000). Further, no cointegration can be found among the variables that are integrated of order one for small sample (Kremers et al., 1992). Another limitation with these tests is that variables within the model must be stationary of equal order of integration.

In the present study, two tests for cointegration are adopted for the export and import demand functions. First one is the ARDL-based bound test (Pesaran et al., 1995), and second one is the error correction test (Banerjee et al., 1998). Pesaran and others have suggested the bound test for cointegration using auto regressive

distributed lag (ARDL) model. One advantage of this approach is that this method can be applied even when the variables follows the different orders of integration. Secondly, the bound test is suitable even for a small sample.   Thirdly, a dynamic error-correction representation can be derived from the ARDL model through a simple linear transformation (Banerjee et. al., 1998). This approach does not push the short-run dynamics into the residual term as in the case of Engle-Granger technique (Pattichis, 1999).   Fourthly, the bound is applicable even when there are some endogenous explanatory variables in the model. Finally, this approach corrects the serial correlation among the residuals. For the bound test towards cointegration, an unrestricted error correction models (UECM) must be specified from the export and import demand functions (equations 1 and 2). Following Pesaran, the above trade equations may be expressed in the following maner:

Export demand function in unrestricted error correction framweork:

$DX_t = c_0 + c_1.X_{t-1} + c_2.MW_{t-1} + c_3.REER_{t-1} + c_4.\sum DX_t + c_5.\sum DMW_t + c_6.\sum DREER_t + \text{€}_t$ (3)

Import demand function in unrestricted error correction framweork:

$DM_t = d_0 + d_1.M_{t-1} + d_2.Y_{t-1} + d_3.REER_{t-1} + d_4.\sum DM_t + d_5.\sum DY_t + d_6.\sum DREER_t + \text{£}_t$ (4)

Where, D: Ist difference operator.

The bound method test has been applied to the models (3 & 4) imposing joint restrictions of zero coefficient to all lagged variables ($H_0 : c_1 = c_2 = c_3 = 0$ for equation 3; & $H_0 : d_1 = d_2 = d_3 = 0$ for equation 4). Under the null hypothesis, it is assumed that there does not exist any long-run equilibrium relationships. In the bound test, the F-test has a non-standard distribution, and is dependent on the number of regressors. The critical values of F-statistics for lower and upper bound have been tabulated by Pesaran et al. (2001). The lower critical value of F has been tabulated using assumption that all variables under consideration are purely stationary in the process. The upper critical value of F has been tabulated using the assumption that all variables under consideration are stationary in the first difference. If the calculated value of F is greater than the upper bound, then the null hypothesis of no-cointegration is rejected. If the calculated value of F is lower than the lower value of F-statistics, then the null hypothesis of no-cointegration is accepted. Finally, if the calculated value of F lies between lower and upper bounds, then the decision is in-conclusive.

Another test of cointegration is BDS (Banerjee-Dolado-Mestre) test which is also applied in the present study. This test is suggested by Banerjee, Dolado and Mestre (1998) within a single equation framework. This test is done in terms of significance of the lagged error term in the error correction models.

RESULTS & FINDINGS
COINTEGRATION TEST

The result of bound-test has been reported in table 2. As the sample size in the present study is relatively small (fourty observations), the critical values of upper and lower bounds of F-statistics have been extracted from Narayan (2005). The null hypothesis of zero restrictions on lagged variables (equation 3 & 4) is tested according to Schwarz Bayesian Criterion. In the case of import demand, the tabulated value of F-statistics (5.361) is greater than the critical values of upper bound of the F-statistics at 5 and 10 per cent significance level. Therefore, there exists a long-run relationship between the import demand and its determinants. However, in the case of export demand, the tabulated value of F-statistics (3.044) is less than the critical value of lower bound even at 10 per cent significance level. Therefore, the null hypothesis of no cointegration cannot be rejected for the export demand function.

TABLE 2: TEST FOR COINTREGATION (SAMPLE: 1974-2013)

Bounds F-test sample size = 40; Parameters=2.			
Critical value bounds of F-statistics: intercept and no trend*			
5 per cent level		10 per cent level	
I(0)	I(1)	I(0)	I(1)
4.133	5.260	3.373	4.377
Calculated F-statistics: Export Demand Function F(X / MW, REER): F(3, 31)= 3.044			
Calculated F-statistics: Import Demand Function F (M/ Y, REER): F(3, 28)= 5.361			

*Note: Critical value of bounds F-statistics are taken from table in appendix, case.III: unrestricted intercept and no trend Narayan (2005, p.1988).

LONG-RUN ELASTICITIES

The long-run elasticities of export and import demand derived from the ARDL models are shown in table 3. In case of export demand, the coefficients of world import and effective exchange rate bear the expected positive sign, and statistically significant. The export demand is elastic with respect to world import, but inelastic with respect to exchange rate. One per cent increase in world import would raise export demand by 1.6 per cent while one per cent increase in India's effective exchange rate would raise her export demand by 0.4 percent. In case of import demand, the coefficients of domestic income and effective exchange rate bear the expected positive and negative signs respectively. Although, income is statistically significant variable, real effective exchange rate is not statistically significant variable in explaining India's import demand. The import demand is elastic with respect to domestic income. One per cent increase in domestic income would raise import demand by 1.7 per cent.

TABLE 3: LONG-RUN ELASTICITIES FROM ARDL FRAMEWORK

Dependent variable: X_t	Export Demand Function: ARDL(1,0,1) selected based on Schwarz Bayesian Criterion	
Regressors	Long-run elasticity	't'-statistics'
MW_t	1.674	20.154
$REER_t$	0.410	1.790
Intercept	-2.282	-1.747
Dependent variable: M_t	Import Demand Function: ARDL(1,0,0) selected based on Schwarz Bayesian Criterion	
Regressors	Elasticity	't'-statistics'
Y_t	1.703	9.800
$REER_t$	-0.288	-0.402
Intercept	-1.498	-0.402

@ Note: (1) all the variables are expressed in logarithm terms. (2) *: significant at 5 % level.

SHORT-RUN ELASTICITIES

The short-run elasticities derived from error correction models are presented in table 4. It shows that the trade elasticities are lower in the short-run than in the long-run. The export demand is inelastic with respect to world imports while the import demand is inelastic with respect to domestic income. The effect of exchange rate on export demand is negative in the short-run implying J-curve phenomenon. However, it is statistically insignificant variable. The coefficient of error correction term is negative and statistically significant at 1 per cent level for the export demand model. This reveals the evidence of cointegration relationship between export demand, and it's determinants as per BDM approach to cointegration. The speed of adjustment towards equilibrium are 0.31 and 0.26 for export and import demand respectively. The plots of actual and fitted values for the export and import demands are shown in graph. 1 and graph. 2 respectively. It reveals that both the models have performed well; particularly in the main turning points.

TABLE 4: SHORT-RUN ELASTICITIES FROM ERROR CORRECTION MODEL

Dependent variable: DX_t	Export Demand Function	
Regressors	Elasticity	't'-Statistics'
DMW_t	0.530	3.248
$DREER_t$	-0.132	-0.947
Intercept	-0.723	-1.371
ECM(-1)	-0.316	-3.179
R-Squared.56297 R-Bar-Squared.49017 S.E. of Regression.077792 F-stat. F(3, 36) 6.6475[.001] Akaike Info. Criterion 43.0615 Schwarz Bayesian Criterion 38.8393 DW-statistic 1.9005		
Dependent variable: DM_t	Import Demand Function	
Regressors	Short-run elasticity	't'-Statistics'
DY_t	0.456	2.484
$DREER_t$	-0.077	-0.491
Intercept	-0.401	-1.833
ECM(-1)	-0.267	-1.591
R-Squared.36302 R-Bar-Squared.303274 S.E. of Regression.14376 F-stat. F(3, 36) 2.3373[.090] Akaike Info. Criterion 18.9336 Schwarz Bayesian Criterion 15.5558 DW-statistic 1.7565		

@ Note: (1) all the variables are expressed in logarithm terms. (2) *: significant at 5 % level.

Graph1: Error Correction Model for Export Demnad

Graph 2: Error Correction Model for Import Demand
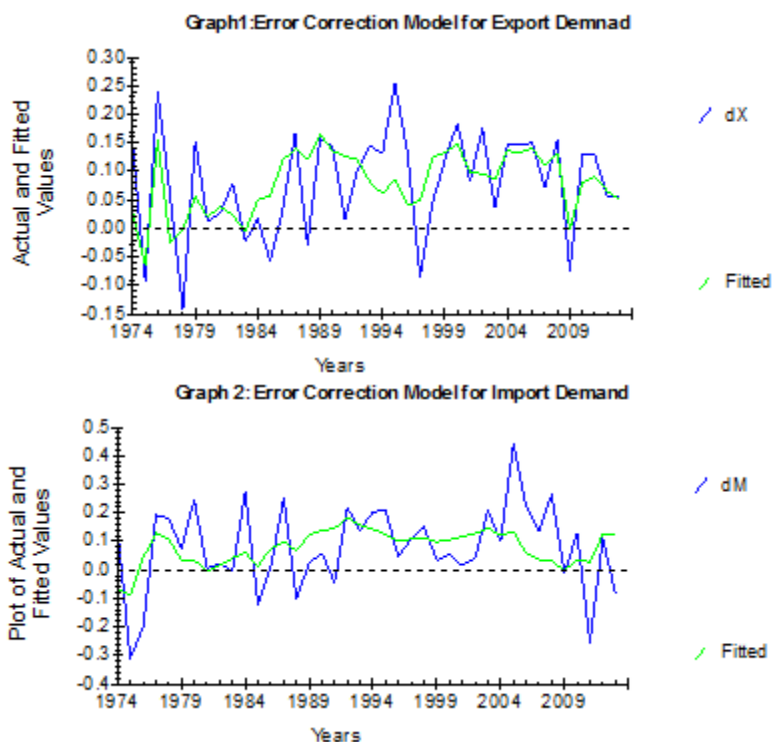
STRUCTURAL STABILITY

Using the CUSUM and CUSUMQ statistics (Brown et al., 1975), the structural stability of error correction model both for export and import demand functions have been tested within the sample period. Graphs 3 and 4 show the CUSUM and CUSUMQ statistics for export demand function while graphs 5 and 6 show the CUSUM and CUSUMQ statistics stability test for import demand function respectively. These graphs show that the recursive residuals of the import and export demand functions were fluctuated within the ±2 standard error bands. All the statistics fall within the critical lines at 5% significant level. The residual tests show that the models were quite stable during the sample period under estimation.

Graph.3: CUSUM Test for Export Demand Function

The straight lines represent critical bounds at 5% significance level

Graph 4. CUSUMQ Test for Export Demand Function

The straight lines represent critical bounds at 5% significance level

Graph 5. CUSUM Test for Import Demand Function

The straight lines represent critical bounds at 5% significance level

Graph 6.: CU SUMQ Test for Import Demand Function

The straight lines represent critical bounds at 5% significance level

SUMMARY & CONCLUSIONS

The present paper analyses the behaviours of import and export demands for the Indian economy during 1974-2013. While the bound test shows the cointegration relationship for import demand, and its determinants, the error correction test test shows the cointegration relationship for export demand, and it's determinants The results show that both exports and imports are elastic in the long-run with respect to world imports and domestic income respectively. However, they are inelastic in the short-run with respect to same variables.

As the coefficient of exchange rate is positive in the export demand function, the depreciation of rupee would encourage county's export demand. However, it would not reduce import demand significantly. As the sum of absolute values of exchange rate elasticities of export and import demands is less than unity, it can be inferred that the Marshall-Lerner condition was not satisfied for our country. In other words, the policy of depreciation would not helpful for reducing the trade imbalance for our country. Finally, the stability test suggests the parameters in both models were quite stable in the sample period.

REFERENCES

1. Bahamani-Oskooee, M. (1986). "Determinants of International Trade Flows: The case of Developing Countries", Journal of Developing Economics, Vol. 20, pp.107-123.
2. Bahamani-Oskooee, M. and Goswami, G.G. (2004), "Exchange Rate Sensitivity of Japans Bilateral Trade Flows", Japan and the World Economy, Vol.16, No.1, pp.1-15.
3. Banerjee, A.J., Dolado, J. and Mestre, R. (1998), "Error Correction Mechanism Tests for Cointegration in Single-Equation Framework", Journal of Time Series Analysis, Vol.19, pp. 267-283.
4. Brown, B.J.; Durbin, J. and Evans, J. (1975), "Techniques for Testing the Constancy of Regression Relationship over Time", Journal of Royal Statistical Society, Series B, Vol.37, pp. 149-172.
5. Chinn, M. (2005), "Dommed to deficits? Aggregate US trade flows re-visited", Review of world economics, Vol.141, pp.460-485.
6. Eita, J.H. (2013), "Estimation of Marshall Lerner condition for Namibia", International Business and Economics Research Journal, Vol.12, No.5, pp.511-517.
7. Engle, R.F. and Granger, C.W.J. (1987), "Cointegration and Error Correction: Representation, Estimation and Testing", *Econometrica*, 55(2), pp.251-276.
8. Goldstein, M. And Khan, M. (1985), "Income and Price Elasticities in Foreign Trade", in Jones, R. And Kenen, P.(eds.), Handbook of International Trade, Vol. 2, Amsterdam: North Holland,pp.1041-1105.
9. Houthakker, H.S. and Magee, S. (1969),"Income and Price Elasticities in World Trade", The Review of Economics and Statistics, Vol-51,No.2, pp.111-125.
10. Johansen, J.S.and Juselius K.(1990), "Maximum Likelihood Estimation and Inference on Cointegration –with applications to the Demand for Money", Oxford Bulletin of Economics and Statistics, Vol.52, No.2, pp. 169-210

11. Junj,H. And Rhomberg, R.R. (1973), "Price Competitiveness in Export Trade among Industrial Countries", American Economic Review, Papers and Proceedings, May, pp.412-418.
12. Khan, M.S. (1974), "Imports and Export Demands in Developing Countries", IMF Staff Papers, November, pp. 678-693.
13. Kremers, J.J.M., Ericssion, N.R. and Dolado, J.J. (1992), "The Power of Cointegration Tests", Oxford Bulletin of Economics and Statistics, Vol. 54, pp.325-348.
14. Mah, J. S. (2000), "An Empirical Examination of the Disaggregated Import Demand of Korea–The Case of Information Technology Products", Journal of Asian Economics, Vol.11, No.2, pp.237-44.
15. Mann, C.P. (2005), "The U.S. Trade Deficit: A Disarggregate Perspective", Working Paper No. 05-11, Institute for International Economics.
16. Narayan, P.K. (2005), "The Saving and Investment Nexus for China: evidence from cointegration tests", Applied Economics, Vol. 37, pp. 1979-1990.
17. Orcutt, G. (1950), "Measurement of Price Elasticities in International Trade", Review of Economics and Statistics, Vol.32, pp. 117-131.
18. Pattichis, C. (1999), "Price and Income Elasticities of Disaggregated Import Demand: results from UECMs and Application", Applied Economics, Vol. 31, pp. 1061-1077.
19. Pesaran, H.M. and Y. Shin (1995), "Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis", DAE Working Paper Series, No. 9514, Department of Economics, University of Cambridge.
20. Pesaran, M., Shin, Y. And Smith (2001), "Bound Testing Approaches to The Analysis of Level Relationship", Journal of Applied Econometrics, Vol.16, No.3, pp. 289-326.
21. Reinhart, C.M. (1995), "Devaluation, Relative Prices, an International Trade: Evidence from Developing Countries", IMF Staff Papers, Vol.42, No.2, pp.290-312.
22. Sarkar, A (2004), "A Trade Linkage System for SAARC", Foreign Trade Review, Vol. XXXIX, No.2, pp. 3-42.
23. Sinha, D. (2011), "A Note on Trade Elasticities in Asian Countries", International Trade Journal, V.15, No.2, pp. 221-237.
24. Thorbecke, W. (2006), "How would an appreciation of the renminbi affect the U.S. trade deficit with chaina?", Topics in Macroeconomics, Berkeley Electronic Press, Vol. 6, No. 3, pp. 1454-1468.
25. Warner, D. and Kreinin, M.E. (1983), "Determinants of International Trade Flow", Review of Economics and Statistics, Vol. 65, pp.96-104.
26. Wilson, J.F. and W. E. Takacs (1979), "Differential Response to Price and Exchange Rate Influences in the Foreign Trade of selected industrial countries", Review of Economics and Statistics, Vol.61, No.2, pp. 267-279.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT 24

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

CHALLENGES AND ITS MEASURES IN CORPORATE TAKEOVER AND ACQUISITIONS

NARESH KUMAR GOEL
RESEARCH SCHOLAR
MANAV RACHNA INTERNATIONAL UNIVERSITY
FARIDABAD

ANINDITA CHATTERJEE
ASST. PROFESSOR
MANAV RACHNA INTERNATIONAL UNIVERSITY
FARIDABAD

KULDEEP KUMAR
ASSOCIATE PROFESSOR
VEDATYA INSTITUTE
GURGAON

ABSTRACT

This review attempts to investigate the obstacles associated with corporate takeover and acquisitions. With the increase in number of corporate takeover & acquisitions deals in India, the legal environment is increasingly becoming more and more refined. Corporate takeover & acquisitions forms a major part of the economic transactions that take place in the Indian economy. The study found that a business faces many problems during integration with another firm but the extent of these is dependent of the management styles, research undertaken by the business and the willingness of employees to compromise familiar business cultures for another. A number of issues can prove to be obstacles in the way of cross-border takeover including language barriers, employee and management relationships, currency differences etc.

KEYWORDS
corporate takeover & acquisition, challenges, business style, ERISA.

INTRODUCTION

Acquisitions or takeovers, includes a number of different transactions. These transactions can range from one firm merging with another firm to create a new firm to managers of a firm acquiring the firm from its stockholders and creating a private firm.

Some firms are not managed optimally and others often believe they can run them better than the current managers. Acquiring poorly managed firms and removing incumbent management, or at least changing existing management policy or practices, should make these firms more valuable, allowing the acquirer to claim the increase in value.

REASONS FOR FAILURE OF CORPORATE TAKEOVER AND ACQUISITIONS

- **Over payment**: This is very common cause of failure of acquisition & mergers. DePamphilis D.M. (2005) found that overpayment often has destroys consequences. Overpayment leads to expectation of higher profitability which is not possible. Excessive goodwill as a result of overpaying needs to be written off which reduces the profitability of the firm.
- **Integration issues**: Straub. (2007) studied that business cultures, work ethics, etc. needs to be flexible and adaptable. Inefficiencies or administrative problems are a very common occurrence in a merger which often nullifies the advantages of the mergers.
- **Faulty Strategic Planning and unskilled execution**: Faulty Strategic Planning and unskilled execution often leads to problems over expectation of strategic benefits is another area of concern surrounding mergers. These issues lead to failures of takeovers. However, many merging organizations do not have adequate or complete integration and implementation plans in place. Only one out of five companies that have acquired another has developed a clear and satisfactory implementation plan.
- **Corporate Culture differences**: Irene Rodgers. (1999). Business International states that poor communications and inability to manage cultural differences are the two main causes of failed mergers.
- **Loss of Customers**: All companies need to remember: it's the people who produce profits, represent the company, establish rapport with the customers, and, ultimately, are the ones that will make the combined company succeed."
- **Power Politics**: Randall S. Schuler, Susan E. Jackson (2001) observed there is a tendency to assume that power disputes are more common in the case of acquisitions than mergers, there is no such thing as "a merger of equals". Further, it was clear that the distribution of power was not equally spread out. "We felt like we were marrying up, and it was clear that they thought they were marrying down."

The challenges associated with mergers and acquisitions in India which have been discussed below;

- **Regulatory Ambiguity**: Takeover laws and regulations are still developing and trying to catch up with the global takeover scenario. However because of these reasons the interpretation of these laws sometimes goes for a toss since there is ambiguity in understanding them.
  Several regulators interpreting the same concept differently increase confusion in the minds of foreign investors. This adversely affects the deal certainty which needs to be resolved if the Indian system wants to attract investments from foreign economies.
- **Legal Developments**: There have been consistently new legal developments such as the Competition Act, 2002, the restored SEBI Takeover Regulations in 2011 and also the notification of limited sections of the new Companies Act, 2013, has led to issues in India relating to their interpretations and effect on the deals valuations and process.
- **Shareholder Involvement**: Institutional investors in the minority position have become active in observing the investee companies. Proxy advisory companies are closely scrutinizing the related party transactions, appointment of several executives and their remuneration. There are cases where the approval of minority shareholders is required. The powers to the minority shareholders have been revamped, one of them includes to sue company against oppression and mismanagement.

These are some of the issues that pose a challenge towards the growth of corporate takeover and acquisitions in India which need considerate attention from the government to make our market attractive for foreign investment.

On a positive note Confederation of Indian Industry (CII), the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI) – the three main regulators of the mergers and acquisition activities – have been striving hard to further liberalize the norms that have been one of the biggest contributors to the country's industrial expansion.

Businesses are likely to engage in a takeover or merger based on the belief that the company will be better off merged with another or in an agreed partnership enjoying benefits such as higher profits, improved reputation, larger customer base, and so on. In the process of instigating a takeover or merger, a business will have to consider the effect the move will have on the market in terms of competition and how this will be dealt with. In addition, to prevent a reluctance or opposition to the takeover, the businesses will have to take into account the shareholder's values and how they will be affected post- merger.

However, in every takeover or merger there is likely to be some other problems as stated below.

PROBLEMS IN TAKEOVER OR MERGER

Firstly, by initiating a takeover or merger, a business may find itself experiencing problems in the assessment of the performance of the targeted business. Before any agreements or decisions are made, a business should undertake a due diligence investigation of the target business. This ensures that any 'deal-killers' are identified and the acquiring business knows all the facts, figures and transactions of the business before going ahead with anything. However, a business must be cautious when conducting this investigation as too much due diligence could offend the business and cause it to walk away from the deal.

Due diligence also needs to be carefully conducted as it can be very time-consuming and there could be other suitors to the deal who may beat them to the acquisition of the company. In terms of evaluating the success of the merger, the performance of the merged businesses could then be compared with figures pre-takeover to assess whether it was necessary to pay substantially more than the value of the business and go ahead with the deal. Lastly, it could be suggested that a business should not go ahead with a business takeover if the full due diligence has not been carried out, despite who they are competing with. This could greatly affect a business in the long-term as stakeholders or other business owners could sue the company for negligence of due diligence if they are negatively affected by the deal afterwards.

Secondly, as a result of a merger or a takeover, a business could experience corporate clashes**.** This is where the acquiring business proves to be dominating than the acquired business and they do not share full equality.

This occurs because of a variance of corporate culture, this can be described as the collective 'way we do things' consisting of processes within the business, organizational structure, control systems and rituals and routines. This determines communication between staff, managers, stakeholders, customers and other businesses. Problems can occur due to resistance from a business towards the change of their culture. This may be because they do not support the decision to takeover or merge with another business or simply because they have an overall reluctance to change. The impact of clashes between individual cultures could include lowered productivity as a result a dwindling motivation of staff and a lack of synergies due to unwillingness to 'join together'.

An example of intercultural failure is that of DaimlerChrysler. Both sides in the partnership set out to show that cultural problems could be overcome in their acquisition. In the period leading up to the Daimler-Chrysler merger, both firms were performing quite well and there was widespread expectation that the take-over or acquisition would be successful. People in both organizations expected that their "merger of equals" would allow each unit to benefit from the other's strengths and capabilities. Stockholders in both companies overwhelmingly approved the merger and the stock prices and analyst predictions reflected this optimism.

Performance after the takeover, however, was entirely different, particularly with Chrysler. In the months it was found that the high rate of turnover among management at acquired firms was not related to poor prior performance, indicating that the turnover was not due to the underperforming management at the acquired firm. The business also admitted that renewed and deep cost-cutting efforts had to be undertaken to boost the group's operating results. This takeover proves that not all agreements are equal, for instance, problems occurred due to the differing ways of the German and American manufacturing and operation.

The study observed that the success of a merger or takeover greatly depends on the skill of the managers and whether they have the ability to manage an enlarged business and the scale of research they have undertaken prior to the deal. Also, it is important that businesses are able to combine their cultures in order to gain success and work cooperatively. If this is not possible, it may lead to a domination of one business over another, undermining the initial takeover altogether.

Two specific cases of 'corporate marriages' that failed have been analyzed in this research. In order to discuss in specificity, the cultural issues involved with cross-border takeover & acquisition, this research capitalizes on German and American working relationships. The first case is of Wal-Mart's acquisition of Wertkauf and Interspar while the second involves the merger between Daimler-Benz and Chrysler. Both the cases highlighted how cultural impediments have affected alliances that would have been without doubt very notable.

The price to pay for acquiring another business is also an issue in corporate takeover as the target companies often expect a payout that is exceeds the company's market value. This is a problem for the acquirer because business consultants make predictions for profitability nonetheless; business does not always align with the predictions. Apart from the owners of the business, corporate takeover and acquisitions also affect other stakeholders such as employees. Employees are often apprehensive of corporate takeover as regards how it affects their job security. Decisions of corporate takeover also affect senior management and force them to retire. The company may have to spend huge amounts as redundancy payments or early retirement benefits.

MEASURES TO MITIGATE THESE CHALLENGES

When negotiating a corporate takeover transaction, there are many issues that should be addressed up front (preferably at the letter of intent stage or as soon as possible after the execution of a letter of intent). The target company and the acquiring company should consider the following issues when contemplating a transaction.

Deal Structure: Three alternatives exist for structuring a transaction: (i) stock purchase, (ii) asset sale, and (iii) merger. The acquirer and target have competing legal interests and considerations within each alternative. It is important to recognize and address material issues when negotiating a specific deal structure. Certain primary considerations relating to deal structure are: (i) transferability of liability, (ii) third party contractual consent requirements, (iii) stockholder approval, and (iv) tax consequences.

Transferability of Liability: Unless contractually negotiated to the contrary, upon the consummation of a stock sale, the target's liabilities are transferred to the acquirer by operation of law. Similarly, the surviving entity in a takeover will assume by operation of law all liabilities of the other entity. However, in an asset sale, only those liabilities that are designated as assumed liabilities are assigned to the acquirer while the non-designated liabilities remain obligations of the target.

Third party consents: To the extent that the target's existing contracts have a prohibition against assignment, a pre-closing consent to assignment must be obtained. No such consent requirement exists for a stock purchase or merger unless the relevant contracts contain specific prohibitions against assignment upon a change of control or by operation of law, respectively.

Stockholder approval: The target's board of directors can grant approval of an asset sale at the corporate level without obtaining individual stockholder approval. However, all selling stockholders are required to grant approval pursuant to a stock sale. When unanimity is otherwise unachievable in the stock sale context, a merger can be employed as an alternative whereby the acquirer and target negotiate a mutually acceptable stockholder approval threshold sufficient to consummate the deal.

Tax consequences: A transaction can be taxable or tax-free depending upon structure. Asset sales and stock purchases have immediate tax consequences for both parties. However, certain mergers and/or reorganizations/recapitalizations can be structured such that at least a portion of the sale proceeds (in the form of acquirer's stock a/k/a "boot") can receive tax deferred treatment. (1) From an acquirer's perspective, an asset sale is most desirable because a "step up" in basis occurs such that the acquirer's tax basis in the assets is equal to the purchase price, which is usually the fair market value (fmv). This enables the acquirer to significantly depreciate the assets and improve profitability post-closing. A target would be liable for the corporate tax for an asset sale and its shareholders would also pay a tax on any subsequent dividends. (2) Upon a stock purchase, the selling shareholders would pay long term capital gains provided they owned the stock for at least a year. However, the acquirer would only obtain a cost basis in the stock purchased and not the assets, which would remain unchanged and cause an unfavorable result if the fmv is higher. (3) A third possibility would be to defer at least some of the tax liability via a merger/recapitalization whereby the boot

remains tax free until its eventual future sale. (4) Compromises are possible including, by way of example, an "h(10) election" whereby the parties consummate a stock purchase with all of the aforementioned results being the same except, for tax purposes, the deal is deemed an asset deal and the acquirer obtains the desired basis step-up in the assets.

Cash versus Equity: The method of payment for a transaction may be a decisive factor for both parties. Deal financing centers on the following:

Cash: Cash is the most liquid and least risky method from the target's perspective as there is no doubt as to the true market value of the transaction and it removes contingency payments (excluding the possibility of an earn out) all of which may effectively pre-empt rival bids better than equity. From the acquirer's perspective, it can be sourced from working capital/excess cash or untapped credit lines but doing so may decrease the acquirer's debt rating and/or affect its capital structure and/or control going forward.

Equity: This involves the payment of the acquiring company's equity, issued to the stockholders of the target, at a determined ratio relative to the target's value. The issuance of equity may improve the acquirer's debt rating thereby reducing future cost of debt financings. There are transaction costs and risks in terms of a stockholders meeting (potential rejection of the deal), registration (if the acquirer is public), brokerage fees, etc. That said, the issuance of equity will generally provide more flexible deal structures.

The ultimate payment method may be determinative of what value the acquirer places on itself (e.g., acquirer's tend to offer equity when they believe their equity is overvalued and cash when the equity is perceived as undervalued).

Working Capital Adjustments: Corporate takeover transactions typically include a working capital adjustment as a component of the purchase price. The acquirer wants to insure that it acquires a target with adequate working capital to meet the requirements of the business post-closing, including obligations to customers and trade creditors. The target wants to receive consideration for the asset infrastructure that enabled the business to operate and generate the profits that triggered the acquirer's desire to buy the business in the first place. An effective working capital adjustment protects the acquirer against the target initiating (i) accelerated collection of debt, or (ii) delayed purchase of inventory/selling inventory for cash or payment of creditors. The typical working capital adjustment includes the delta between the sum of cash, inventory, accounts receivable, and prepaid items minus accounts payable and accrued expenses. In terms of measuring the working capital, the definitive agreement will include a mechanism that compares the actual working capital at the closing against a target level, which target level is viewed as the normal level for the operation of the business based on a historical review of the target's operations over a defined period of time. Certain unusual or atypical factors, "one-offs", add-backs, and cyclical items will also be considered as part of the W/C calculation. The true-up resulting from the post-closing working capital adjustment will usually occur within a few months of the closing and, to the extent that disputes between the parties arise concerning the calculation, dispute procedures are set forth in the definitive agreement.

Escrows and Earn-Outs: The letter of intent should clearly indicate any contingency to the payment of the purchase price in a transaction, including any escrow and any earn-out. The purpose of an escrow is to provide recourse for an acquirer in the event there are breaches of the representations and warranties made by the target (or upon the occurrence of certain other events). Although escrows are standard in corporate takeover transactions, the terms of an escrow can vary significantly. Typical terms include an escrow dollar amount in the range of 10% to 20% of the overall consideration with an escrow period ranging from 12 to 24 months from the date of the closing. Earn-out provisions are less common and are most often used to bridge the gap on valuation that may exist between the target and the acquirer. Earn-out provisions are typically tied to the future performance of the business, with the target and/or its stockholders only receiving the additional consideration to the extent certain milestones are met. When drafting earn-out terms, it is important to have the milestones be as objective as possible. Typical milestones include future revenue and other financial metrics. From the target's perspective, the concern with earn-outs is that post-closing the target loses control over the company and decisions made by the acquirer post-closing can dramatically impact the ability to achieve the milestones that were established.

Representations and Warranties: The acquirer will expect the definitive agreement to include detailed representations and warranties by the target with respect to such matters as authority, capitalization, intellectual property, tax, financial statements, compliance with law, employment, ERISA (The Employee Retirement Income Security Act) and material contracts. It is critical for the target and target's counsel to review these representations carefully because breaches can quickly result in indemnification claims from the acquirer. The disclosure schedules (which describe exceptions to the representations) should be considered the target's "insurance policy" and should be as detailed as possible. Targets are typically uncomfortable with such a broad statement, but without such a representation an acquirer often will question whether the target is withholding certain information. Acquirers and targets also struggle with the appropriateness of knowledge qualifiers throughout the representations. The target typically tries to insert knowledge qualifiers in many of the material representations, but the acquirer will want these types of risk to lie with the target.

Target Indemnification: Target indemnification provisions are always highly negotiated in any corporate takeover transaction. One of the initial issues to be determined is what types of indemnification claims will be capped at the escrow amount. In some instances all claims may be capped at the escrow. It is common to have a few exceptions to this cap – any claims resulting from fraud and/or intentional misrepresentation usually go beyond the escrow and often instead are capped at the overall purchase price. In addition, breaches of "fundamental reps" (such as intellectual property or tax) may go beyond the escrow as well. Another business term related to indemnification to negotiate relates to whether there will be a "basket" for indemnification purposes. In order to avoid the nuisance of disputes over small amounts, there is typically a minimum claim amount which must be reached before which the acquirer may seek indemnification – which could include a true "deductible" in which the acquirer is not permitted to go back to the first dollar once the threshold is achieved.

Joint and Several Liabilities: Related to the concept of indemnification is the issue of joint and several liabilities. As most transactions involve multiple target stockholders, one of the primary issues to consider regarding indemnification, from the acquirer's perspective, is to what extent each of the target's stockholders will participate in any indemnification obligations post-closing (i.e., whether joint and several, or several but not joint, liability will be appropriate). Under joint liability each target stockholder is individually liable to the acquirer for 100% of the future potential damages. However, if the liability is several, each target stockholder pays only for that target stockholder's relative contribution to the damages. It goes without saying that the acquirer will almost always desire to make each target stockholder responsible for the full amount of any future potential claims. However, target stockholders will generally resist this approach but, even more so, where there are controlling stockholders and/or financial investors (both of which traditionally resist joint and several liability in every situation).

Closing Conditions: A section of the definitive agreement will include a list of closing conditions which must be met in order for the parties to be required to close the transaction. These are often negotiated at the time of the definitive agreement (although sometimes a detailed list will be included in the letter of intent). These conditions may include such items as appropriate board approval, the absence of any material adverse change in the target's business or financial conditions, the absence of litigation, the delivery of a legal opinion from target's counsel and requisite stockholder approval. One of the more heavily negotiated closing conditions is the stockholder voting threshold which must be achieved for approval of the transaction. Although the target's operative documents and state law may require a lower threshold, acquirers typically request a very high threshold of approval (90% - 100%) out of concern that stockholders who have not approved the transaction might exercise appraisal rights. The target should review its stockholder structure carefully before committing to such a high threshold (although from a target perspective, the more stockholders approve the transaction the better, but the target just does not want the acquirer to have the ability to walk away from the transaction).

Non-competes & Non-solicits: Within the context of a corporate takeover transaction, a covenant not to compete or solicit is a promise by the selling shareholder(s) of the target to not, for a certain post-closing time frame or after termination of employment with the target/acquirer, (i) engage in a defined business activity that is competitive with the target's/acquirer's, or (ii) attempt to lure away customers or employees of the target/acquirer. Enforceability of such restrictions requires that the restrictions be (A) reasonable in time and scope, and (B) supported by consideration. Because the M&A context involves the sale of a business and payment to the selling shareholders of typically a material amount of consideration, courts generally have deemed such consideration adequate for purposes of enforceability both in terms of scope (i.e., any material business competitive with that of the target/acquirer) and multiple years of duration.

In the following case study, we will discover how companies have tried to manage corporate takeover in a cross-cultural situation.

CASE STUDY 1

BRIEF OVERVIEW OF WAL-MART

Wal-Mart first opened in 1962 alongside Target and K-mart; however, neither has been quite as successful as Wal-Mart. The 40-year history of Wal-Mart has experienced sporadic growth in the industry including through acquisitions of whole companies as in the case of Woolco in Canada or, part acquisition of Walmex in Mexico with 31% share of the company.

The company has become one of the biggest privately owned companies in the world. Wal-Mart has grown by acquiring companies in countries where it plans to expand. Moreover, the company has sought world dominance by other cross-border takeover in countries within America as well as in Asia including Japan and China. Although not its entire cross border takeover has been successful, the company still seeks to expand in many more countries in the world. Wal-Mart opens shop in India in 2009 albeit under a different brand name.

As part of its cross-border growth strategy, Wal-Mart in the late 1990s decided to compete in Germany by acquiring two smaller retail chains Wertkauf and Interspar. The 'corporate marriage' did not work out well for Wal-Mart and it eventually had to sell off its German subsidiaries.

WAL-MART ACQUIRES WERTKAUF AND INTERSPAR

Wal-Mart's acquisition of Wertkauf and Interspar was a strategic alliance to penetrate the European retail industry. Wal-Mart that started in the United States already had chains of stores in Canada and parts of South America including Mexico, Brazil and Argentina. It is possible for culture to have a negative effect on business if two cultures do not properly integrate especially at the beginning of cross-border takeover.

Wal-Mart that acquired two retail chains in Germany, Wertkauf in 1997 and Interspar in 1998 failed to sustain business and was eventually forced to liquidate at a loss of $1b. The company had around 85 stores around Germany yet did not gain the expected foothold. The company having been successful in America was facing imminent problems in Europe. The management of Wal-Mart underestimated the importance of the integration process in influencing performance of cross-border takeover. Ignorance of important internationalization strategies and cross-cultural management marked the failure of Wal-Mart in Germany.

Many critiques have argued that two of the reasons for the failure of Wal-Mart in Europe were (i) the managers, super-imposed American management technique on the Germans without consideration of their cultural differences and (ii) the entry of Wal-Mart into Germany by 'acquisition' was flawed.

AMERICAN MANAGEMENT TECHNIQUE ON GERMANS

Cross-border takeover is usually frustrated when careful consideration is not given to cultural differences in management and operation style. When companies do not fully appreciate specific differences in conditions in other countries, a 'clash of cultures' is often the result.

Firstly, Wal-Mart appointed an American CEO in Germany who was not willing to learn German and showed plenty of ignorance of the framework of the German retail market. This reflected a lack of respect of the German culture and was offensive to the employees. Another CEO who failed to integrate Interspar into Wal-Mart then replaced him. This created many upheavals between the two cultures.

Secondly, the business culture that forbade an employee from dating influential colleagues was introduced in Germany. Hitherto, this was an accepted culture in German business. Ideally, the HR managers at Wal-Mart should have analyzed the cross-cultural business differences of the German target companies. In situations where there are extreme differences in business culture, top management needs to find a middle ground for compromise. In order to create a flawless fusion, HR managers ought to understand their cultures first before trying to understand the cultures of target acquisition.

FLAWED ENTRY BY ACQUISITION

Wal-Mart's acquisition of Interspar is still widely criticized, as the supermarket was the weakest among leading supermarket chains in Germany. The company spent huge amounts in renovation of the dilapidated branches around Germany yet returns made from sales were not impressive and did not match the expenses. When companies decide to acquire targets, it is important, that the company's strategic purpose is clear and that stakeholders benefit from the corporate takeover. The risk of uncertainty is reduced in M&A by the initial strategic analysis. With Wal-Mart's acquisition of Interspar, the strategic purpose was not quite clear as the company was struggling and did not seem to have any potential.

Perhaps Wal-Mart did not quite understand the German market before they decided to enter. The main strategy of Wal-Mart that had previously been successful in its other acquisitions was 'constantly lowering prices'. In the German market however, the consumers already had a number of cost-leaders to choose from like Lidl and Aldi, so the 'Wal-Mart Effect' was not particularly special.

Again the company flawed by attempting some pricing policies that the German government considered illegal. Wal-Mart tried a policy of refunding customers that found the same items bought at lower prices elsewhere. This was an infringement of some important German laws. The company also never established good relationship with the labour unions in Germany.

The next case study shows how a partnership can go wrong if one group tries to dominate the other. The growth strategy is merger, which means both companies are supposedly of equal size.

CASE STUDY 2

DAIMLER-CHRYSLER MERGER

The merger between German automaker Daimler-Benz and American automaker Chrysler was one of the biggest transnational mergers ever. In 1998, the deal was signed in London and the combined net worth of both companies was $132b. The CEOs of both companies admitted in their press conference that both companies relied on the merger for an opportunity to compete on a global scale. The aim of the Daimler-Chrysler merger was to take advantage of a growth opportunity and expand geographically. The plan was use to create a situation whereby both companies could share capacities, infrastructure and facilities. Ideally, mergers should create better business condition where both companies mutually benefit from each other.

However, one of the major obstacles that stood in the way of the Daimler-Chrysler merger was more of cultural differences between the Germans and the Americans. In this case, it was not a 'merger of equals' as researchers like Farkas-DiNardo et al claimed. The merger witnessed a superiority of the Germans ensuring that the American top management employees were either sacked or forced to retire in the span of only two years.

Prior to the merger between German based Daimler-Benz and US based Chrysler, the automobile industry had not witnessed a merger of such magnitude. Part of the problem of this particular merger was that the Daimler merger team went into the agreement with the aim of being superior to the Americans thus, creating a struggle for leadership. On the other hand, the American team strived for equality between both companies rather than dominance of only one company. There was clearly a misunderstanding between the management of both companies concerning the terms of engagement.

CONFLICTS WITHIN DAIMLER-CHRYSLER

The management of both companies was probably not very thorough in their research before lunging into the merger and this reflected in all the conflicts that the company experienced. The location for the company was a problem for both companies as none of them was willing to compromise. The head of Daimler claimed he could never move the company out of Germany rather he would welcome the idea of integrating Chrysler into Germany. In addition, the naming of the new company was a cause of disagreement as the Germans refused to compromise. The Americans suggested "Chrysler Daimler-Benz" but their German counterpart refused, explaining that the name "Daimler-Benz" had a long history and as such could not be subject to such change.

The Germans clearly dominated most of the aspects of the new company with the Americans constantly forced to make compromise. The method of decision-making within the organization was another source of conflict as both companies had different backgrounds. Within the Americans, mid-level managers were empowered to make certain decisions whereas with the Germans, they were not. Even the work habits of both cultures were clearly very different. The Americans are generally more informal favoring dress-down style to work and meetings while their German colleagues were always formal adhering strictly to the suit-and-tie dress code of the company.

Another important source of disagreement between the two companies was the method of financial reporting which differed considerably in both countries. The styles of reporting financial information in the US was on an efficient quarterly basis while the Germans on the other hand reported based on full-year reports. It was very evident that the differences between the two cultures were a huge obstacle in the way of what would have been undoubtedly, the biggest merger in the automobile industry.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

28

To worsen the already bad working relationship between the Germans and the Americans, Jurgen Schrempp the CEO of Daimler-Benz had an autocratic style of leadership towards the dominance of the automobile world. He constantly overrode the decisions of his American co-chairman Bob Eaton.

It is important to note that culture will always play an important role in cross-border takeovers however; companies need to find a way to compromise on certain issues. From the case studies of Wal-Mart's flawed entry into Germany and Daimler-Benz's dominance of a supposed 'equal merger', one may conclude that both the Americans as well as the Germans have very strong cultural values and they never seem to be able to compromise when engaging in corporate takeover.

Human resource managers need to consider issues concerning culture when it comes to corporate takeover as people are hardly ready for acculturation in a culture conscious society. The culture shock that takes place within organization perhaps hits the employees that hardest as they experience first-hand the changes that have resulted from integrating a new culture.

CONCLUSION

The chances for success are hampered if the corporate cultures of the companies are very different. It's a mistake to assume that personnel issues are easily overcome. These aspects of a working environment may not seem significant, but if new management removes them, the result can be resentment and shrinking productivity.

The study concludes that companies often focus too intently on cutting costs following takeovers, while revenues, and ultimately, profits, suffer. Merging companies can focus on integration and cost-cutting so much that they neglect day-to-day business, thereby prompting nervous customers to flee. This loss of revenue momentum is one reason so many mergers fail to create value for shareholders. Further the study found some disadvantage of corporate takeover and acquisition like excess payment for goodwill during acquisition, reduced competition and choice for consumers in oligopoly markets, likelihood of job cuts, cultural integration/conflict with new management, hidden liabilities of target entity, the monetary cost to the company, lack of motivation for employees in the company being bought up etc. Finally, the study observed that most of the takeovers & acquisitions are found successful. Size and Global reach can be advantageous, and strong managers can often squeeze greater efficiency out of badly run rivals. Nevertheless, the promises made by deal makers demand the careful scrutiny of investors. The success of mergers depends on how realistic the deal makers are and how well they can integrate two companies while maintaining day-to-day operations.

REFERENCES

1. ACQUISITIONS AND TAKEOVERS. Retrieved August 12, 2016, from www.stern.nyu.edu/~adamodar/pdfiles/papers/acquisitions.pdf.
2. Depamphilis, D.M. (2005). Mergers, acquisitions, and other restructuring activities, 3rd 5. ed. Alseier inc, London
3. Essays, UK. (November 2013). Obstacles Associated with Cross Border Mergers and Acquisitions Management Essay. Retrieved August 20, 2016, from https://www.ukessays.com/essays/management/obstacles-associated-with-cross-border-mergers-and-acquisitions-management-essay.php?cref=.
4. Mergers and Acquisitions in India (April 2014). Retrieved August 28, 2016, from www.educba.com › eduCBA Blog › Finance.
5. Rodgers, I. (April 1999). Culture Bridging for International Performance, Personnel ANDCP.
6. Schuler, R.S., Jackson, S.E., & Luo, Y. (2004), Why Do Mergers and Acquisitions Fail to Create Synergy? Is the Situation Redeemable?, The Executive Issue, Issue 12, 2004
7. Starub, T. (2007). Reasons for frequent failure in mergers and acquisitions. A comprehensive analysis, DUV. Germany.
8. Zollo, S.S., Kerrigan, M.B. (August 2012). Top Ten Issues in M&A Transactions. Retrieved August 18, 2016, from www.mbbp.com/news/issues-in-ma-transactions.

DETERMINING QUALITY OF WOMEN HEALTH CARE SERVICES IN RURAL INDIA

T. KANNIKA
RESEARCH SCHOLAR
DEPARTMENT OF ECONOMICS
MADURAI KAMARAJ UNIVERSITY
MADURAI

DR. J. FREDRICK
DEAN & HEAD
DEPARTMENT OF ECONOMICS
N.M.S.S. VELLAICHAMY NADAR COLLEGE
NAGAMALAI

ABSTRACT
That study finds out that current public health care system is fraught with many problems that are perhaps making the users lose faith in it. The results throw light on areas requiring urgent and immediate attention so that suitable strategies are employed to improve the quality of health care services in public centres in order to make them more sensitive and responsible to the needs of the rural women. This could lead to restoration of faith in public health care centres and subsequently their increased consumption. The tool employed in the current study has highlighted some of the indicators of quality such as availability of drugs, doctors, medical, equipment's; interpersonal and diagnostic aspect of care; health care delivery; proper disposal system, cleanliness; health personnel conduct. These parameters can provide valuable assistance in developing a quality assurance/ improvement programme and be employed to assess the quality of current public health care centres with a view to bringing about improvement through incorporation of user perspectives. The use of purposive sampling for selection of sampling units at the last stage of sampling may constitute a limitation for the study. As the study was confined to a single state with specific socio-cultural features generalisations for the entire nation have to be used with caution.

KEYWORDS
women health care services, rural India.

INTRODUCTION

Maxwell (1984) has asserted that quality in health care comprises a comprehensive six dimensional framework that includes accessibility, relevance, effectiveness, equity, social acceptability and efficiency. However, this framework does not represent a holistic approach to health care as some of the essential elements like structure, process and outcome (Donabedian, 1966) have not been considered. Consequently, "Wright's matrix" that combines the two models has been proposed by Maxwell (1992). Health care quality can be assessed from two viewpoints: patients and technical or professional (Institute of Medicine, 2001). The former includes assessment of service provider's ability to meet customer demand, customers' perception and satisfaction (Chatterjee and Yilmaz, 1993). Customer perception with respect to evaluation of health care quality has been supported by a number of researchers (Donabedian, 1980, 1982; Palmer, 1991; Reerink and Sauerborn, 1996). Emphasising this Peterson (1988) opines that how the patient felt is more important than the caregiver's perception of reality. Researchers observe that quality perceptions impact satisfaction; that is the service quality is the antecedent of satisfaction (Cronin and Taylor, 1992; Parasuraman et al., 1994; Storbacka et al., 1994; Heskett et al., 1997; Kasper et al., 1999) and the latter exerts strong influence on purchase intentions (Cronin and Taylor, 1992). Studies conducted in Nepal (Lafond, 1995), Vietnam (Guldner and Rifkin, 1993), Sri Lanka (Akin and Hutchison, 1999), Bangladesh (Andaleeb, 2000) and Nigeria (Uzochukwu et al., 2004) support strong relationship between patient perception and health care service utilisation. Improving quality of healthcare services apart from increasing accessibility and affordability to its population in the face of limited resources has become a major challenge for developing support strong relationship between patient perception and health care service utilisation. Improving quality of healthcare services apart from increasing major challenge for developing countries that have taken little interest in the issue of improving quality of health care until recently (Reerink and Sauerborn, 1996; Smits et al., 2002; Uzochukwu et al., 2004).

NEED FOR THE STUDY

The Indian government has made stupendous efforts through the vast institutional network and diverse human resource (Satpathy and Venkatesh, 2006), comprising Accredited Social Health Activist (ASHA) workers, ayurveda, yoga and naturopathy, unani, siddha, and homoeopathy (AYUSH) practitioners, midwives, nurses, doctors, pharmacists, community health workers, Anganwadi[1] worker, lab technicians, and pharmacists, to reduce the regional imbalances and inequities and improve the accessibility of health care services to rural areas where the majority of the Indian population resides. The National Rural Health Mission (NHRM) was set up in 2005 with the objective of providing effective, efficient and accountable health care programs to the rural population in the country with special attention being focused on those states of the country that have either weak public health indicators or weak infrastructure or both. This mission also seeks to revitalise local health traditions by bringing AYUSH (Indian systems of medicine) into the mainstream public health system.

Though a number of initiatives in the form of health programmes and setting up a vast infrastructure have been undertaken by the government, the "selective, fragmented strategies and lack of resources have made the health system unaccountable": that is, unable to "address people's growing expectations" and deliver quality services (Ministry of Health and Family Welfare, 2005; Bhandari and Dutta, 2007). Consequently, the importance of public health care centres in India has been declining due to poor quality of services (Bhandari, 2006) and their inability to meet the health outcomes (Satpathy and Venkatesh, 2006). The lopsided focus on access and affordability causing negligence to quality has been reported in other developing nations as well (Reerink and Sauerborn, 1996).

Considering that almost 300 million people live below the poverty line and are greatly dependent upon the almost free health services from the public sector, its role cannot be undermined or ignored. Improving service quality is one of the measures that requires to be undertaken for achieving improvements in the health care system as the patients' perception impacts the "health-seeking behavior" (Uzochukwu et al., 2004; Ministry of Health and Family Welfare, 2005). User perspectives therefore constitute valuable inputs towards effective improvement in various areas of health care quality. Considering that very little research has been done on assessing the quality of health care services from a user perceptive in rural India, this paper seeks to address that gap.

METHOD OF ANALYSIS

Numerous studies on service quality in various service sectors have been guided by the SERVQUAL framework (Parasuraman et al., 1985, 1991, 1994). Despite its extensive use it has been debated upon by the academicians with respect to statistical properties (Carman, 1990; Cronin and Taylor, 1992; Brown et al., 1993; Boltan and Drew, 1991b; Babukas and Boller, 1992; Cronin and Taylor, 1994; Van Dyke et al., 1997), measurement problem (Reidenbach and Sandifer-Smallwood, 1990; Brown et al., 1993; Andaleeb and Basu, 1994) and the number of dimensions (Carman, 1990). Realising that appropriate measurement tool (Reerink and

Sauerborn, 1996) should be employed for measuring health care quality in developing nations researchers have made some attempts in this direction. However, a number of such studies have been confined to family planning while others have not established the validity of their research instruments. On the other hand, Haddad et al. (1998) have developed and proved the reliability and validity of their 20-item scale that recorded the user's opinion about the quality of primary health care services in Guinea. Their scale comprised two subscales: health care delivery, and facilities.

The same scale has been employed for the current study. However, in order to the instrument to reflect the cultural context an exploratory study was carried out. In total, six focus group discussions and 12 in-depth interviews were conducted in two districts of the state of Tamil Nadu to identify the factors employed in evaluating the quality of health care services. A large number of items were generated that overlapped with Haddad's study indicating conceptual similarity. The generated items with eigenvalue of more than 1 were included resulting in 23 items. Each scale item comprised five opinions that ranged from a score of 22 for "very unfavourable", 21 for "unfavourable", 0 for neutral, þ1 for "favourable" and þ2 for "very favourable." The questionnaire was translated from English into Tamil, the principal language of the state of Tamil Nadu, where the study was conducted. It was pre-tested to ensure that the wording, sequencing of questions, length and range of scale was appropriate.

METHODOLOGY

A sample size of 300 was chosen keeping in mind the average size of samples (Malhotra and Dash, 2009) in similar studies (Haddad et al., 1998; Baltussen et al., 2002; Duong et al., 2004; Uzochukwu et al., 2004). Data was personally collected during the period between March-August 2015. Verbal consent was obtained from the respondent prior to administration of questionnaire.

DATA ANALYSIS

Factor analysis based on principal component extraction followed by Varimax rotation was employed to examine the structure within the 23-item scale. The KMO value and Bartlett's test of sphericity were used to examine the strength of relationship among the factors. Reliability of the scale was investigated through Cronbach's alpha coefficient. ANOVA analysis and t-test were performed to understand the differences in perceived quality across socio-demographic characteristics of the patients

RESULTS

The respondents were curious about the purpose of study and were enthusiastic in expressing their views on the overall performance of health care centres. Though they were forthcoming in airing their views, their comments were general in nature. When it came to recording their responses to the questionnaire, a number of them were hesitant. They were coaxed into completing the questionnaire but only 246 complete questionnaires could be obtained.

TABLE I: LITERACY STATUS

Independent variable	No of n Respondents	Percentage
Literate	150	60.0
Illiterate	96	40.0
Total	246	100

A total of 60.9 percent of the respondents were literate, 40.0 percent were above 30 years.

TABLE II: AGE OF RESPONDENTS

Independent variable	No of n Respondents	Percentage
<30	110	44.8
>30	136	55.2
Total	246	100

A total of 44.8 percent of the respondents were < 30, 55.2 percent were above >30 years.

TABLE III: INCOME LEVEL (RS [A])

Independent variable	No of n Respondents	Percentage
< 1,000	51	20.7
1,001-3,000	82	28.3
> 3,000	133	51.0
Total	246	100

54 percent of them earned income above Rs. 3,000 per month. Table I shows the demographic profile of the respondents.

SCALE PROPERTIES

On the basis of item analysis, 23 items were selected (Table IV,V,VI). The factor analysis of the items based on the basis of principal component extraction by using Varimax rotation resulted in five homogeneous sub-scales with the eigenvalues of 4.1, 3.8, 3.8, 2.8 and 2.4. All the items had factor loading above 0.45 and the total variance explained after rotation was 74.22 percent with communalities after extraction ranging from 0.59 to 0.83. Appropriateness of factor analysis was assessed by examining sampling adequacy. The KMO measure of sampling adequacy of 0.92 and the significant Bartlett's test of sphericity clearly demonstrated that the factors were related.

TABLE IV

Items	Components / factors		Communalities after extraction
	1	2	
HEALTH CARE DELIVERY			
Adequate availability of doctors	0.49	--	0.66
Good diagnosis	0.54	--	0.83
Satisfaction over prescriptions	0.64	--	0.72
Quality of drugs	0.60	--	0.79
Recovery / cure	0.78	--	0.82
Sufficient time to patients	0.78	--	0.78
Payment arrangements	0.60	--	0.80
FACILITY			
Adequacy of rooms Proper	--	0.62	0.63
Adequate availability of doctors lady	--	0.63	0.80
Neat and clean hospital premises	--	0.73	0.67
Clean appearance of staff	--	0.56	0.59
Proper Disposal of waste	--	0.76	0.78
	17.95	16.51	

The facility, included five items: adequacy of rooms, adequate availability of doctors for women, neat and clean hospital premises, clean appearance of staff, and proper disposal of waste.

Refer Appendix Table 1

Refer Appendix Table 2

DISCUSSION

The paper seeks to understand the quality of services in women health care centres in rural India by using a reliable tool. The psychometric properties of the Indian version of the scale show good internal consistency and construct validity. Two factor were indentified from the factor analysis: "health care delivery system", "facility". The mean score was high for "health care delivery system". Earlier studies have reported a tendency among the respondents to judge favourably the various aspects of service quality (Haddad et al., 1998; Newman et al., 1998). However, contrary to these researches the current study does not report a favourable opinion of the respondents towards health care quality. This finding is similar to that in Burkina Faso (Baltussen et al., 2002). However, there has been a consistent higher rating given by females on several aspects of quality as opposed to that reported in Burkina Faso (Baltussen et al., 2002). There could be two possible reasons for higher scores among females on major issues: (1) The relative lower level of expectations among women owing to the social complications. (2) Most of the women's healthcare issues, especially those related to maternity, are covered under national programmes which get an extra push from the state government.

The overall mean score for the subscale Faculty was very low (0.10), revealing the scope of tremendous improvement in this component. Negative scores were obtained with regard to availability of adequate medical equipment. An earlier study has also pointed out the lack of equipment, improper functioning and poor repair facility (Bhandari and Dutta, 2007). Similar findings have been reported in other nations as well (Baltussen et al., 2002; Duong et al., 2004). Patients may not be able to assess the technical procedures involved in the diagnosis but human behaviour as well as the availability of machines does impact their perception of quality.

Unavailability of doctors especially for women is another item that has obtained a negative score as in case of Nigeria and Vietnam (Uzochukwu et al., 2004; Duong et al., 2004). Poor involvement of health care employees and high rate of absenteeism has been reported by earlier studies (Banerjee et al., 2004; Chaudhury et al., 2006). Researchers (Majumder and Upadhyay, 2002) have reported that the elasticity coefficient of paramedical staff is higher than that of medical staff thereby implying that the former are easily available. Lack of facilities such as proper schools for educating their children, regular supply of electricity, recreational facilities etc. are responsible for failure of health care centres to attract or retain doctors in these underdeveloped areas.

CONCLUSIONS

To conclude, it can be said that the current public health care system is fraught with many problems that are perhaps making the users lose faith in it. The results throw light on areas requiring urgent and immediate attention so that suitable strategies are employed to improve the quality of health care services in public centres in order to make them more sensitive and responsible to the needs of the rural women. This could lead to restoration of faith in public health care centres and subsequently their increased consumption. The tool employed in the current study has highlighted some of the indicators of quality such as availability of drugs, doctors, medical, equipments; interpersonal and diagnostic aspect of care; health care delivery; proper disposal system, cleanliness; health personnel conduct. These parameters can provide valuable assistance in developing a quality assurance/ improvement programme and be employed to assess the quality of current public health care centres with a view to bringing about improvement through incorporation of user perspectives. The use of purposive sampling for selection of sampling units at the last stage of sampling may constitute a limitation for the study. As the study was confined to a single state with specific socio-cultural features generalisations for the entire nation have to be used with caution.

REFERENCES

1. Akin, J. and Hutchison, P. (1999), "Health care facility choice and the phenomenon of bypassing", Health Policy and Planning, Vol. 14, pp. 135-51.
2. Andaleeb, S.S. (2000), "Public and private hospitals in Bangladesh: service quality and predictors of hospital choice", Health Policy Planning, Vol. 15, pp. 95-102.
3. Andaleeb, S.S. and Basu, A.K. (1994), "Technical complexity and consumer knowledge as moderators of service quality evaluation in the automobile industry", Journal of Retailing, Vol. 70, pp. 367-81.
4. Babukas, E. and Boller, G.W. (1992), "An empirical assessment of the SERVQUAL scale", Journal of Business Research, Vol. 24, pp. 253-68.
5. Baltussen, R.M.P.M., Ye, Y., Haddad, S. and Sauerborn, R.S. (2002), "Perceived quality of primary health care services in Burkina Faso", Health Policy Planning, Vol. 17, pp. 42-8.
6. Banerjee, A., Duflo, E.C. and Deaton, A. (2004), "Healthcare delivery in rural Rajasthan", Economic and Political Weekly, Vol. 34, pp. 944-9.
7. Bhandari, L. (2006), "Social infrastructure: urban health and education", available at: www. 3inetwork.org/reports/IIR2006/Social_Infra.pdf (accessed 11 January 2008).
8. Bhandari, L. and Dutta, S. (2007), "Health infrastructure in rural India", available at: www.iitk.ac. in/3inetwork/html/reports/IIR2007/11-Health.pdf (accessed 12 January 2008).
9. Boltan, R.N. and Drew, J.H. (1991a), "A multistage model of customer's assessment of service quality and value", Journal of Consumer Research, Vol. 17, pp. 375-85.
10. Boltan, R.N. and Drew, J.H. (1991b), "A longitudinal analysis of the impact of service changes on customer attitudes", Journal of Marketing, Vol. 55, pp. 1-9.
11. Boulding, W., Kalra, A., Staelin, R. and Zeithmal, V.A. (1993), "A dynamic process model of service quality from expectations to behavioral intentions", Journal of Marketing Research, Vol. 30, pp. 7-27.
12. Brown, T.J., Churchill, G.A. Jr and Peter, J.P. (1993), "Improving the measurement of service quality", Journal of Retailing, Vol. 69, pp. 127-39.
13. Carman, J.M. (1990), "Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions", Journal of Retailing, Vol. 66, pp. 33-55.
14. Chatterjee, S. and Yilmaz, M. (1993), "Quality confusion: too many gurus, not enough disciples", Business Horizon, Vol. 36 No. 3, pp. 15-18.
15. Chaudhury, N., Hammer, J., Knemer, M., Muralidharan, K. and Rogers, F.H. (2006), "Missing in action: teacher and health worker absence in developing countries", Journal of Economic Perspectives, Vol. 20, pp. 91-116.
16. Cronin, J.J. and Taylor, S.A. (1992), "Measuring service quality: a re-examination and extension", Journal of Marketing, Vol. 56, pp. 55-68.
17. Cronin, J.J. and Taylor, S.A. (1994), "SERVPERF versus SERVQUAL: reconciling performance-based and perceptions-minus-expectations measurement of service quality", Journal of Marketing, Vol. 58, pp. 125-31.
18. Donabedian, A. (1966), "Evaluating the quality of medical care", The Milbank Memorial Fund Quarterly, Vol. 44 No. 3, pp. 166-203.
19. Donabedian, A. (1980), Explorations in Quality Assessment and Monitoring, Vol. I: The Definition of Quality and Approaches to its Assessment, Health Administration Press, Ann Arbor, MI.
20. Donabedian, A. (1982), Explorations in Quality Assessment and Monitoring, Vol. II: The Criteria and Standards of Quality, Health Administration Press, Ann Arbor, MI.
21. Duong, D.V., Binns, C.W., Lee, A.H. and Hipgrave, D.B. (2004), "Measuring client-perceived quality of maternity services in rural Vietnam", International Journal for Quality in Health Care, Vol. 6, pp. 447-52.
22. Grinnell, R.M. and Unrau, Y.A. (2010), Social Work Research and Evaluation: Foundations of Evidence-based Practice, 9th ed., Oxford University Press, Oxford.
23. Guldner, M. and Rifkin, S. (1993), Sustainability in the Health Sector, Part 1: Vietnam Case Study, Save the Children Fund, London.
24. Haddad, S., Fournier, P. and Potvin, L. (1998), "Measuring lay people's perceptions of the quality of primary health care services in developing countries: validation of a 20-item scale", International Journal for Quality in Health Care, Vol. 10, pp. 93-104.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT 32

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

25. Heskett, J.L., Sasser, W.E. and Schlesinger, L.A. (1997), The Service Profit Chain: How Leading Companies Link Profit and Growth to Loyalty, Satisfaction, and Value, New Press, New York, NY.
26. Institute of Medicine (2001), Crossing the Quality Chasm, National Academic Press, Washington, DC, p. 21.
27. Kasper, H., van Helsdingen, P. and de Vries, W. (1999), Services Marketing and Management: An International Perspective, Wiley, Chichester.
28. Lafond, A.K. (1995), "Improving the quality of investment in health: lessons on sustainability", Health Policy Planning, Vol. 10, pp. 63-76.
29. Majumder, A. and Upadhyay, V. (2002), "An economic analysis of the primary health care system in india with focus on reproductive health related service", Proceedings of National Seminar on "Structure of Employment and its Interface with Technology: Present Status and Policy Imperatives for Productivity Enhancement", Indian Institute of Technology, Delhi.
30. Malhotra, N.K. and Dash, S. (2009), Marketing Research: An Applied Orientation, 5th ed., Pearson Education, New Delhi.
31. Maxwell, R.J. (1984), "Quality assessment in health", British Medical Journal, Vol. 288, pp. 1470-2.
32. Maxwell, R.J. (1992), "Dimensions of quality revisited: from thought to action", Quality in Health Care, Vol. 1, pp. 171-7.
33. Ministry of Health and Family Welfare (2005), National Commission on Macroeconomics and Health Report, Ministry of Health and Family Welfare, Government of India, New Delhi.
34. Newman, R.D., Gloyd, S., Nyangezi, J.M., Machobo, F. and Muiser, J. (1998), "Satisfaction with outpatient health services in Manica Province", Mozambique, Health Policy Planning, Vol. 13, pp. 174-80.
35. Palmer, R.H. (1991), "Considerations in defining quality of care", in Palmer, R.H. (Ed.), Striving for Quality in Health Care: An Inquiry into Policy and Practice, Health Administration Press, Ann Arbor, MI, pp. 1-59.
36. Parasuraman, A., Berry, L.L. and Zeithaml, V.A. (1991), "Refinement and reassessment of the SERVQUAL scale", Journal of Retailing, Vol. 67, pp. 420-50.
37. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985), "A conceptual model of service quality and its implications for future research", Journal of Marketing, Vol. 49, pp. 41-50.
38. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1994), "Reassessment of expectations as a comparison standard in ensuring service quality: implications for further research", Journal of Marketing, Vol. 58, pp. 111-24.
39. Peterson, M.B.H. (1988), "Measuring patient satisfaction: collecting useful data", Journal of Nursing Quality Assurance, Vol. 2, pp. 25-35.
40. Reerink, I.J. and Sauerborn, R. (1996), "Quality of primary health care in developing countries: recent experiences and future directions", International Journal of Quality in Health Care, Vol. 8, pp. 131-9.
41. Reidenbach, R.E. and Sandifer-Smallwood, B. (1990), "Explaining perceptions of hospital operations by a modified SERQUAL approach", Journal of Health Care Marketing, Vol. 10, pp. 47-55.
42. Satpathy, S.K. and Venkatesh, S. (2006), "Human resources for health in India's national rural health mission: dimension and challenges", Regional Health Forum, Vol. 10, pp. 29-37.
43. Smits, H.L., Leatherman, S. and Berwick, D.M. (2002), "Quality improvement in the developing world", International Journal of Quality Health Care, Vol. 14, pp. 439-40.
44. Storbacka, J., Strandvik, T. and Gro¨nroos, C. (1994), "Managing customer relationships for profit: the dynamics of relationship quality", International Journal of Service Industry Management, Vol. 5, pp. 21-8.
45. Trochim, W.H. (2002), "Non-probability sampling", The research methods knowledge base, available at: www.socialresearchmethods.net/kb/sampnon.htm (accessed 11 August, 2008).
46. Uzochukwu, B.S.C., Onwujekwe, O.E. and Akpala, C.O. (2004), "Community satisfaction with the quality of maternal and child health services in Southeast Nigeria", East African Medical Journal, Vol. 81, pp. 293-9.
47. Van Dyke, T.P., Kappelman, L.A. and Prybutok, V.R. (1997), "Measuring information systems service quality: concerns on the use of the SERVQUAL questionnaire", MIS Quarterly, Vol. 21, pp. 195-208.
48. WHO (2000), Health Systems: Improving Performance. World Health Report 2000, WHO, Geneva.

APPENDIX

TABLE 1: HEALTH CARE DELIVERY

S.NO	ITEM	AGE				EDUCATION					INCOME				
		<30yrs (n=110) Mean SD	>30yrs (n=136) Mean SD	"t"	"p"	Illiterate (n=96) Mean SD	(n=150) Mean SD	"F"	"p"	<Rs1000 (n=31) Mean SD	1000-3000 (n=82) Mean SD	>3000 (n=113) Mean SD	"F"	"p"
HEALTH CARE DELIVERY															
1	Adequate availability of doctor	0.26 1.02	0.12 0.98	1.59	0.116	0.41 0.88	-0.47 1.04	30.51	0	0.08 1.08	0.08 0.92	0.21 1.00	1.023	0.292
2	Good diagnosis	0.36 0.96	0.27 1.03	0.96	0.323	0.61 0.86	-0.5 0.94	53.18	0	0.39 1.26	0.48 0.93	0.19 0.97	1.97	0.063
3	Satisfaction over prescriptions	0.39 0.99	0.53 1.012	-1.59	0.112	0.65 0.92	0.00 1.07	5.13	0	0.42 1.08	0.62 0.88	0.39 1.03	1.97	0.141
4	Quality of drugs	0.23 1.09	0.28 1.19	-0.23	0.651	0.63 1.00	-0.59 1.03	49.75	0	0.32 1.18	0.37 1.09	0.19 1.21	1.35	0.189
5	Recovery/cure	0.32 0.93	0.52 1.10	-1.91	0.057	0.72 0.92	-0.16 1.07	29.80	0	0.29 1.22	0.65 1.02	0.37 0.96	3.59	0.029
6	Sufficienttime to patients	0.49 1.01	0.79 1.05	-2.36	0.006	0.85 0.98	0.28 1.04	13.6	0	0.54 1.05	0.81 1.07	0.58 1.02	2.21	0.111
7	Payment arrangements	0.83 1.01	1.04 1.03	-2.04	0.042	1.19 1.01	0.47 0.87	19.82	0	0.67 1.03	1.03 1.06	1.00 1.00	3.35	0.036

TABLE 2: FACILITY

S.NO	ITEM	AGE				EDUCATION UP TO MIDDLE				INCOME				
		<30yrs (n=110) Mean SD	>30yrs (n=136) Mean SD	"t"	"p"	Illiterate (n=96) Mean SD	Above middle (n=138) Mean SD	"F"	"P"	<Rs1000 (n=71) Mean SD	1000-3000 (n=111) Mean SD	>3000 (n=214) Mean SD	"F"	"P"
FACILITY														
1	Adequacy of rooms	0.02 1.16	0.19 .02	-1.15	0.133	0.44 0.98	-0.59 0.83	41.657	0	0.46 1.13	0.1 0.56	-0.01 1.02	5.824	0.003
2	Adequate availability of doctors for women	0.13 .08	0.13 1.14	2.23	0.252	0.20 1.03	-0.81 1.14	36.77	0	0.14 1.13	0.01 1.03	-0.05 1.18	0.13	0.693
3	Neat and clean hospital premises	0.32 0.96	0.62 0.93	0.35	0.727	0.46 0.86	-0.16 0.94	17.85	0	0.58 1.16	0.22 0.85	0.29 0.90	3.66	0.027
4	Clean appearance of staff	0.46 0.91	0.29 0.90	1.96	0.089	0.57 0.87	-0.19 0.81	27.11	0	0.59 1.08	0.53 0.93	0.32 0.95	3.63	0.031
5	Proper disposa lof waste	0.24 0.9	0.07 0.93	1.60	0.109	0.35 0.96	-0.34 0.78	19.86	0	0.43 1.08	0.15 0.93	0.03 0.89	5.29	0.013

	Health care delivery system	Facility	Total Score
No. of. item	7	5	12
Possible mean Range	-2to+2	-2to+2	-4to+4
Mean	0.41	0.16	1.78
Median	0.57	0.30	2.77
Cronbach alpha	0.92	0.85	0.96

INDIA: AGRICULTURE'S CONTRIBUTION TOWARDS CLIMATE CHANGE

SATRAJIT DUTTA
ASST. PROFESSOR OF ECONOMICS
GORUBATHAN GOVERNMENT COLLEGE
GORUBATHAN, DT. DARJEELING, WEST BENGAL

ABSTRACT
Climate change is mainly caused by anthropogenic Green House Gases sourced from several factors including agriculture practices. This article is to find out the main agricultural sources of emissions responsible for climate change in India and the effects on agriculture and compatible solutions. The article is based on available evidences and avoids use of statistics/econometrics methods. Methane through enteric fermentation is the mostly released gas in Indian agriculture sector. High consumption of nitrogeneous fertilisers causes Nitrous Oxide emissions. Burning of biomass after harvesting of crops is another source of Green House Gases. Though emission of Carbon Dioxide has some positive effects on agricultural production but this will be outweighed by the negative effects of anthropogenic climate change. Adaptation and Mitigation solution in agriculture are in some cases found to be contradictory with other policies to contain the overall negative effects of climate change. Agro-forestry, organic agriculture, soil carbon sequestration are some of the measures which avoid these trade-offs.

KEYWORDS
climate change, agriculture, environment, greenhouse gases.

JEL CLASSIFICATION
Q54, Q15, Q56, O13

1. INTRODUCTION

Climate change is defined by United Nations Framework Convention on Climate Change (UNFCCC) as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time period.

Increased concentration of greenhouse gases (GHGs) - Carbon dioxide (CO_2), Methane (CH_4) and Nitrous oxide (N_2O) in the atmosphere, trap the outgoing infrared radiation from the earth's surface. According to Inter-Governmental Panel on Climate Change (IPCC 2007), the temperature is projected to increase between 1.1 and 6.4°C by the end of the 21st century.

CO_2, CH_4, N_2O are important GHGs contributing 60 per cent, 15 per cent and 5 per cent, respectively. Agriculture sector contributes 14 per cent of global GHGs emissions.

2. REVIEW OF LITERATURE

Before going into the details of the main research article, I would like to present reviews done on some existing literatures on the relationship between agriculture and climate change.

Francesco Tubiello, et.al. in 'Climate Change Response Strategies for Agriculture: Challenges and Opportunities for the 21st Century', pointed out the climate change challenges like elevated CO_2 concentration, precipitation changes, increased weeds and pests, the agriculture sector is going to face. The paper gives mention about the synergies between mitigation and adaptation measures.

Louis Bockel and Barry Smit in 'Climate Change and Agriculture Policies' pointed out that need for integrating climate change adaptation into agricultural development due to resilience and/or performance of the agriculture sector, and thus these are to be included in the national agricultural policies. Some policies with adaptation potentiality are – encouraging adapted crop development and farming practises, policies to promote soil conservation and land management, irrigation and water resource management policies and disaster risk management policies. The paper also mentions about the mitigation-oriented policy options like policies to promote conservation agriculture, options to reduce Methane emissions from rice fields, watershed management policies, livestock management policies.

'Potentials for greenhouse gas mitigation in agriculture' published by GIZ, points out the vulnerabilities of the developing countries and mentions about three GHGs – CO_2, CH_4, N_2O, relevant for agriculture, and land use change. It mentioned about the sources like nitrogen fertilisation, irrigated rice production, livestock husbandry, processing, cooling, storage, transporting and cooking of agriculture produce. It also mentioned three major mitigation measures like increase in CO_2 storage in soils and biomass, emissions reduction in agricultural production, reduction in required volume of agriculture production.

In 'Integrating mitigation and adaptation into climate and development policy: three research questions', Richard J.T. Klein, et.al., have stated that the international climate policy has become an amalgamation of policies directed at various sectors – energy, water, agriculture, forestry and nature conservation. Developing countries in particular, have more immediate challenges than climate change like food and water security, sanitation, education, health care, environmental degradation and natural hazards. In view of growing realisation of close links between climate policy and development policy, it becomes more necessary to establish links between adaptation and development policy and between mitigation and development policy, as well as to identify some desirable level and mix of climate policies and development policies.

In 'Climate Change in Context of Indian Agricultural Sector', Anupam Khajuria, et. al., mentioned about the major ecological and economical challenges Indian agriculture is facing –geographical limits to agriculture, changes in crop yields and impacts on agricultural system. The article gives the projected scenario of a 2.5°C to 4.9°C temperature rise, rice yields will drop by 32 - 40 per cent and wheat yields by 41 - 52 per cent, which would cause GDP to fall by 1.8 per cent-3.4 per cent. The basic mechanisms for GHGs mitigation in agriculture are reduction in Methane and Nitrous Oxide emissions from agricultural production, production of different forms of biomass for energy use in substitution of fossil energy sources, etc.

In his article, 'Agriculture and Farmers Well Being: Present Scenario', J. P. Mishra has mentioned that agriculture sector has remained important in terms of its contribution towards GDP and employment. This sector is increasingly confronting climate change-induced weather aberrations which require attention for the farmers' well being and necessity of adequate and growing food grains. He mentioned Pradhan Mantri Krishi SY, among different programmes of the Govt. for agricultural improvement, for efficient water use in this sector.

Prabha Shastri Ranade in his article, 'Impact of climate change on agriculture', focused on the Indian scenario, i.e. on climate change impacts on Indian agriculture. Approximately 20 to 30 per cent of plant and animal species assessed so far are likely to be at increased risk of extinction if increases in global average temperature exceed 1.5 to 2.5°C. In view of this global phenomena, the author has forwarded measures for adaptation and mitigation in agriculture sector in India as agricultural research to develop new crop varieties, improved training and general education of populations dependent on agriculture, food programmes and other social security programs to provide insurance against supply changes. Removal of subsidies is important because they overshadow the climate change signal in the market place.

K Lenin Babu and K V Raju have mentioned in the article 'Green house gases emissions and potential carbon sequestration: A case study of semi-arid area in south India' the possible impacts of climate change as water stress, food security, natural ecosystem, coastal agriculture and settlements. The authors chose Kolar district of Karnataka state of India which is in semi-arid regions. It has been found that GHGs emission from agriculture sector is the highest after the energy sector in that district and the rate of carbon sequestration is low. High rates of emission are primarily due to inefficient use of biomass used for energy purposes. The article

mentioned about the other sources of GHGs emission – industry, waste management, sinks, etc. The main sources for the GHGs in the agriculture sector are enteric fermentation, manure management, rice irrigation which all cause CH_4 emissions. N_2O from the agriculture sector originates from manure management and agriculture sector.

All the above reviews of research articles and reports indicate the importance of agriculture in climate change process and the need of integration of both adaptation and mitigation strategies for agriculture with the strategies in other sectors of the economy.

3. IMPORTANCE OF THE STUDY

Economic liberalisation strategy without explicit mandate for liberalisation and global integration of Indian agriculture sector caused deceleration of Agri-GDP growth rate in the Post-Economic Reform (1992–93 to 2012–13) period to 2.92 per cent from 3.09 per cent (1980-81 to 1991-92). 32.7 per cent of Indian population is below the international poverty line of US$1.25 per day (PPP) and incidence of poverty is mostly in the agricultural labourers. Agriculture still contributes nearly 14 per cent of national GDP and retains the major share of employment of 47.1 per cent (as in 2011-12). Substantial year-to-year variability in the agricultural productivity trend is noted, mainly due to variability of weather and climate. Climate change is caused by several factors including agriculture and this change has profound negative effects on agriculture productivity. Thus studying this sector as a source of climate change process assumes importance in view of its above-mentioned economic importance in our country.

4. STATEMENT OF THE PROBLEM

Negative effects of climate change on agriculture, and associated food security implications are well-recognised. But there is another aspect which has not attracted much attention. Agriculture is also one of the significant contributors to the GHGs and which, in turn, cause negative impact on the climate. This negative climate change effect again accelerates the unsustainable change in environment and cast a negative effect on the agriculture itself, in the process.

5. OBJECTIVES

The purpose of the present research paper is to find out the causes of India's agriculture sector's contribution to climate change, and its effects and possible solutions. Though land and land use change and forestry are all important in analysing the research topic, I tried to focus basically on the agriculture practice only.

6. RESEARCH QUESTIONS

i)   How Indian agriculture sector generates GHGs and its potential effects?
ii)   How adaptation and mitigation measures can be incorporated in the Indian agriculture sector to reduce its potentiality of GHGs emission?

7. RESEARCH METHODOLOGY

In order to find out the satisfactory answers to the proposed research questions, secondary data, policies, facts and figures from various Government publications, independent research articles have been consulted and examined and used, although without any statistical or econometric method.

8. RESULTS AND DISCUSSION

8.1 CLIMATE CHANGE POTENTIALITY OF AGRICULTURE SECTOR

The direct contribution of agriculture to climate change causing total global GHGs emissions is about 10–15 per cent (Table -1) and with indirect emissions from land use change (viz., deforestation and cultivation of peat lands) and input production as well, this share rises to more than 30 per cent. Agriculture is also the largest producer of both Methane and Nitrous Oxide, together making up about 22 per cent of global emissions.

TABLE-1: GLOBAL GREENHOUSE GAS EMISSIONS BY SECTORS

Power	Waste and wastewater	Land use change and forestry	Agriculture	Industry	Residential & commercial buildings	Transportation
26per cent	3per cent	17per cent	14per cent	19per cent	8per cent	26per cent

Source: 'Potentials for Greenhouse gas mitigation in agriculture', GIZ

Below (Table-2) is the share of different sub-sectors of direct contribution towards GHGs emissions in agriculture sector –

TABLE- 2: DIRECT GHGs EMISSION FROM AGRICULTURE (15 PER CENT OF TOTAL GHGs EMISSIONS)

A: Sub-Sectors	Contribution (in per cent)	B: Share of Gas (per cent)
Soils (N_2O)	40	N_2O – 46 per cent
Enteric Fermentation (CH_4)	27	CH_4 – 45 per cent
Rice (CH_4)	10	CO_2 – 9 per cent
Energy-related CO_2	9	
Manure Management(CH_4)	7	
Other (N_2O)	6	

Source: 'Potentials for Greenhouse gas mitigation in agriculture', GIZ

TABLE 3: ATMOSPHERIC CONCENTRATION, LIFETIME AND GLOBAL WARMING POTENTIAL (GWP) OF MAJOR GREENHOUSE GASES

Greenhouse gas	Atmospheric concentration	Lifetime (Years)	GWP (100 Years)
Carbon dioxide	387 ppm	Variable	1
Methane	1780 ppb	12	25
Nitrous oxide	319 ppb	114	298
CFC 11	250 ppt	45	4600
CFC 12	533 ppt	100	10600
HCFC 22	132 ppt	11.9	1700
HFC 23	12 ppt	260	12000

Source: 'Greenhouse Gas Emissions from Agriculture', H. Pathak, et. al., 'Climate Change Impact, Adaptation and Mitigation in Agriculture: Methodology for Assessment and Application', IARI, 2012

The atmospheric concentration of both Methane (1780 ppb) and Nitrous Oxide (319 ppb) (Table-3) has increased markedly world over predominantly due to agriculture and use of fossil fuel. Globally, 60 per cent of N_2O and 50 per cent of CH_4 emissions come from agriculture. Moreover, during 1990 to 2005, agricultural Methane and Nitrous Oxide emissions increased by 17 per cent. Soil (38 per cent of CH_4 & N_2O), rice production (11 per cent of CH_4) and biomass burning (12 per cent of CH_4 & N_2O) are the three major sources of global Methane and Nitrous Oxide emissions from the agriculture sector.

In India, among other sources, agriculture sector contributes 28 per cent of the country's GHGs emissions as per the sources of Ministry of Environment and Forest (2008), thus it will be a big loser as a consequence of climate change.

8.2 SOURCES IN INDIA

As a GHG, **Nitrous Oxide (N_2O)** is 298 times more effective than CO_2, (Table-3):

– N_2O from agricultural soils is released due to the microbial processes of nitrification and denitrification in the soil resulting in direct or indirect emissions. Direct soil N_2O emissions is caused due to nitrogen input such as synthetic fertilisers, animal waste, through biological nitrogen fixation, from reutilised nitrogen from crop residues, and from sewage sludge application, and from organic soil due to enhanced mineralization; while, indirect N_2O emissions take place after nitrogen is lost from the field as NOx, NH_3 or after leaching or run-off.

Methane (CH_4) is about 25 times more effective as a GHG than CO_2 (Table-3):

– CH_4 is mainly produced as a by-product of the digestion of feed (like fibrous plants) in the rumen of the ruminant animals, under anaerobic condition and its emission is related to the composition of animal diet (grass, legume, grain and concentrates) and the proportion of different feeds (e.g., soluble residue, hemi-cellulose and cellulose content). Since, the digestion (enteric fermentation) is only 50-60 per cent efficient, some of the feed energy (i.e., 4-15 per cent) is lost in the form of Methane.

– Methane is also formed in soil through the metabolic activities of specific bacterial group - 'Methanogens' whose microbial activity increases in the sub-merged, anaerobic conditions in the wetland rice fields, which limit the transport of oxygen into the soil, and render the water-saturated soil devoid of oxygen. Decomposition of organic material in flooded rice fields produces CH_4, which escapes into the atmosphere primarily by vascular transport through the rice plants. India has vast areas of paddy fields.

Animal agriculture – In India, approximately, 50 per cent of all corn consumed used as animal feed mostly for poultry. Per capita egg consumption in India has more than doubled between 1980 and 2005, while meat consumption grew 38 per cent and milk consumption grew 69 per cent during the same period which puts pressure on agri-resources to feed these animals and contributes to deforestation. Moreover, compared to traditional farming system, the factory farms generate high amount of manures more than the absorbing capacity of the surrounding land and crops, causing pollution and contamination of the environment and generation of Methane.

Biomass fires – In India, large amount of crop residues of rice, wheat, cotton, maize, millet, sugarcane, jute, pulses, rapeseed-mustard and groundnut generated remain left in the fields during the use of mechanised combines and it is burnt to clear the remaining straw and stubble after the harvest to prepare the land for the next growing season. Gases produced by the biomass burning are CO_2, N_2O, CH_4, carbon monoxide, non-Methane hydrocarbons, nitric oxide, and atmospheric particulates.

Fertiliser industry – Especially, after the Green Revolution, fertiliser consumption has been increased in India, causing accumulation of heavy metals (Hg, Cd, As, Pb, Cu, Ni, and Cu; natural radionuclide like 238U, 232Th, and 210Po) in soil. Plants absorb the fertilisers which in turn enter the food chain, causing water, soil and air pollution. In India, per hectare consumption of nitrogeneous fertilisers is the highest – 166.58 lakh tones per hectare (2010-11) in comparison to Phosphatic and Potassic nutrients, causing N_2O emissions. Moreover, the energy-intensive production of nitrogen fertiliser releases high amounts of CO_2 in the atmosphere (estimated at 1.2 per cent of total world GHGs emission).

Soil – Tilled soil in India emits more CO_2 than undisturbed soil (no till). Similarly, soil temperature has effect on CO_2 emission from soil by influencing the root and soil respiration. Soil temperature also affects CH_4 by affecting anaerobic carbon mineralisation and methanogenic activity.

After discussing direct GHGs emissions, now I come to Indirect GHGs emissions. It accounts for 16 per cent of the global agricultural GHGs emissions –

– Downstream GHGs emissions cases – considerable amount of fuels are used in transport and processing of the agricultural produce and also refrigeration of perishable foodstuffs (e.g., dairy sector), post-harvest losses due to pests and diseases.

– Upstream GHGs emissions cases – irrigation, transport of inputs to the farms, etc.

Table-4 shows GHGs originating from different sources within agriculture in India. Methane (CH_4) from enteric fermentation accounts for the major share. GHGs emissions from agriculture sector have reduced from 344.48 million tones CO_2-eq in 1994 to 334.41 million tones CO_2-eq in 2007.

TABLE 4: GHGs EMISSIONS IN AGRICULTURE FROM DIFFERENT SOURCES FOR THE YEAR 2007 IN INDIA (in thousand tonnes)

Agriculture	CH_4	N_2O	CO_2 Equivalent
Enteric fermentation	10099.80		212095.80
Manure management	115.00	0.07	2436.70
Rice cultivation	3,327.00		69,867.00
Agricultural soils		140	43440.00
Field burning of agricultural residues	226.00	6.00	6606.00
Sub-total	13767.80	146.07	334405.50

Source: Compiled from 'India Green house Gas Emissions 2007', MoEF, GoI, 2010

8.3   EFFECTS AND SOLUTIONS

8.3.1   EFFECTS

Due to climate change process atmospheric CO_2 level rises having a fertilisation effect on crops with C3 photosynthetic pathway promoting agricultural growth and productivity.

On the other hand, increased temperature due to GHGs accumulation is likely to exacerbate drought conditions during sub-normal rainfall years, especially in large areas in Rajasthan, Andhra Pradesh, Gujarat, and Maharashtra and some areas of Karnataka, Orissa, Madhya Pradesh, Tamil Nadu, Bihar, West Bengal, and Uttar Pradesh. It will reduce crop duration, increase crop respiration rates, affect the survival and distribution of pest populations, hasten nutrient mineralisation in soils, decrease fertiliser-use efficiencies, and increase evapo-transpiration rate as direct effects. For each 10°C rise in mean temperature, wheat yield losses in India are likely to be around 7 million tonnes per year.

The negative effects would outweigh the positive effects and agriculture being a major source of GHGs, will intensify the negative effects, thereby, affecting food production which is required to keep increasing up to 300 mt by 2020 in order to feed its rising population likely to reach 1.30 billion by 2020.

8.3.2   SOLUTIONS

Of the two types of solution measures – Mitigation and Adaptation, the former addresses the causes of climate change (accumulation of GHGs in the atmosphere), while the latter addresses the climate change impacts. Both approaches are needed because even with strong mitigation measures, the climate would continue changing in the next decades and adaptation will not be able to eliminate all negative impacts and mitigation efforts are critical to limit changes in the climate system.

8.3.2.1   ADAPTATION

Adaptation is defined as adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

SOME IMPORTANT ADAPTATION MEASURES

Expansion of rainwater harvesting, Water storage and Conservation techniques, Water-use and Irrigation efficiency, Water reuse, Desalination, Adjustment of plantation time and Crop variety, Crop relocation, Improved land management, e.g., erosion control and soil protection through tree planting. Changes in land use to maximise yield under new conditions, application of new technologies, new land management techniques, and water-use efficiency techniques, Seasonal changes and changing sowing dates and different varieties or species, Forest fire management and/or other Natural disasters, etc. The adaptability of Indian farmers is severally restricted due to high reliance on natural factors and also lack of complementary inputs and institutional support systems.

8.3.2.2   MITIGATION

With respect to climate change, mitigation is defined as implementation of policies to reduce GHGs emissions and enhance sinks.

SOME IMPORTANT MITIGATION MEASURES

Improved crop and grazing land management to increase Soil Carbon Storage, Restoration of degraded lands, improved Rice cultivation, Improved water management practices, Efficient use of inorganic fertilisers, Livestock and Manure management by increasing feed use efficiency to reduce CH_4 emissions, improved nitrogen fertiliser application techniques to reduce N_2O emissions, dedicated energy crops to replace fossil fuel use, improved energy efficiency, improvements of crop yields, etc.

8.3.3   MEASURES ACT BOTH AS MITIGATION AND ADAPTATION FOR AGRICULTURE

Agro-forestry in coffee plantations creates a multi-level canopy with coffee plants in the lower portion – it stores more carbon in comparison to conventional plantations and thus mitigates GHGs emissions. At the same time, shading of coffee in the lower canopy produces a microclimate that can reduce maximum leaf temperature by as much as 5^0C and buffer the coffee plants against extreme expected temperature increases.

8.3.4   MEASURES CONTRADICTORY TO EACH OTHER

Use of bio-fuels as alternative to fossil fuels reduce GHGs emissions in the transport sector, will be countered by an increase of GHGs due to increase in energy requirement for water supply for production of bio-fuel crops and also its production causes pressure on marginal land and forested land and thereby, challenges food security.

8.3.5   POLICY OPTIONS IN AGRICULTURE WITH MULTIPLE BENEFITS

i)   Reducing Methane (CH_4) emissions via integrated rice and livestock systems traditionally found in West Africa, India, Indonesia and Vietnam, is a mitigation strategy that also results in better irrigation water efficiency, improved performance of cultivated agro-ecosystems, and enhanced human well-being.

ii)   Reduced nitrogen fertiliser applications improves water quality and also reduces N_2O emissions.

9.   CONCLUSIONS AND RECOMMENDATIONS

9.1   CONCLUSIONS

1.   India's rice cultivation methods cause emissions of CH_4, a highly potent GHG.
2.   Need to shift from very high to medium nitrogen fertilisation level for reduced N_2O emissions.
3.   Practice of agricultural residues burning can be done more scientifically to avoid GHGs emissions.
4.   With changing food habits due to increasing income level, India faces pressure on agriculture production which needs to be addressed by appropriate animal feeds as changing the food habits is difficult.
5.   The negative effects of climate change will outweigh the positive effects hence, agriculture's potential for generation of climate changing GHGs emissions should be reduced.
6.   Adaptation and Mitigation measures are to be chosen keeping in view of synergies and trade-offs with other policies.

The first research question is answered in the 'SOURCES IN INDIA' subsection. After discussing the various intricacies of the Adaptation and Mitigation measures I am presenting the answer to the second research question in the RECOMMENDATIONS section.

9.2   RECOMMENDATIONS

1.   Practicing agro-forestry can promote soil carbon sequestration which improves agro-eco-system function and resilience to climate extremes by enriching soil fertility and soil water retention, recharging of ground water reservoirs for declining water tables.
2.   Organic agriculture depends upon crop rotation, crop residues, animal manures, farm organic waste, mineral grade rock additives and biological system of nutrient management and pest and diseases control, low use of chemical fertilisers, pesticides, hormones, and has the potential to mitigate climate change. Under this, soil carbon sequestration rates on arable lands range from 200 kg to 2000 kg of carbon per hectare per year above conventional agriculture. It also reduces direct and indirect use of energy due to minimum/zero use of industrial fertilisers and pesticides; and lower N_2O due to lower overall nitrogen input per hectare than in conventional agriculture. Though organic farms' average yield is lower than that of conventional farms by 10-15 per cent but the lower yields are balanced by lower input costs and higher margins.
3.   Soil carbon stock in cropping systems can be increased to protect existing carbon in the system by slowing decomposition of organic matter and reducing erosion by reducing the frequency with which the soils are tilled (reduced tillage, or no tillage), by using perennials (which have larger root systems than annuals), applying biochar - often referred to as 'conservation agriculture'.
4.   Altering water management practices, particularly mid-season aeration by short-term drainage as well as alternate wetting and drying can greatly reduce Methane emission from rice cultivation. Improving organic matter management by promoting aerobic degradation through composting or incorporating into soil during off-season drain-period is another promising technique.
5.   Reducing emissions from enteric fermentation can be done by improvement in quality of feeds to improve digestibility – only 3 - 6 per cent of energy would be converted into Methane.
6.   Food wastage reduction is a huge opportunity for reductions in costs and also in emissions along the entire supply chain.
7.   Recycling of farm residues (e.g., straw, manure or food processing residues) instead of bio-fuel crops for production of bio-energy.
8.   Avoiding of biomass and crop residues burning for maintaining maximum biomass in the field for mulching and incorporation.
9.   Improved manure management as manure storage under cover, compost preparation.
10. For effective implementation of adaptation and mitigation measures in agriculture stakeholder engagement is necessary.

10.   SCOPE FOR FURTHER RESEARCH

I wish to make a case study of a particular crop in a particular field area where the effects of agricultural practices on climate change can be assessed and based on it, a statistical model can be developed with predictions on agricultural productivity under different climate parameters.

REFERENCES

1.   Agricultural Greenhouse gases, California Environmental Associates, March, 2014
2.   Babu, K. Lenin & Raju, K. V., (2009), 'Green house gases emissions and potential carbon sequestration: A case study of semi-arid area in south India', Working Paper - 211, Institute for Social and Economic Change
3.   Bockel, Louis & Smit, Barry, (2009), 'Climate Change and Agriculture Policies - How to mainstream climate change adaptation and mitigation into agriculture policies? -Advanced Draft of Policy Guidelines', EASYPol
4.   Bockel, Louis (2009), 'How to mainstream climate change adaptation and mitigation into agriculture policies?', EASYPol
5.   Chand, Ramesh, et.al. (2015), 'Fertiliser use and Imbalance in India: Analysis of States', Economic and Political Weekly, Vol-L, No.-44, Oct. 31
6.   Chaturvedi, Vaibhav, (2015), 'The Costs of Climate Change Impacts for India', CEEW Working paper 2015/11, March
7.   Climate Change 2014: Synthesis Report – Summary for Policymakers, IPCC
8.   Climate Change Adaptation and Mitigation – Challenges and Opportunities in the food sector, Food and Agriculture Organisation, 2012
9.   Climate change adaptation and mitigation in the food and agriculture sector, Food and Agriculture Organisation, March 5-7, 2008
10. Climate Change and Food Security: A Framework Document, Food and Agriculture Organisation of the United Nations, Rome, 2008
11. Climate Change: Impacts, Vulnerabilities and Adaptation in Developing Countries, United Nations Framework Convention on Climate Change (UNFCCC), 2007
12. Dutta, Satrajit (2015), 'Climate Change and Indian Agriculture', Vol.-XXXVI, No.-10, World Focus, ISSN- 2230-8458, October, pp.131-137
13. Dutta, Satrajit (2015), "Indian Economy in the Light of 'Green Economy' Concept", Proceedings of the Fourth International Conference on Global Business, Economics, Finance and Social Sciences (GB15Kolkata Conference) ISBN: 978-1-63415-898-5, Kolkata-India. December 18-20, Paper ID - K558

14. Economic Surveys, 2014-15, 2013-14, 2012-13, 2011-12, Min. of Finance, Govt. of India
15. Estimating Greenhouse Gas, Emissions in Agriculture: A Manual to Address Data Requirements for Developing Countries, Food and Agriculture Organisation, UN, 2015
16. Garg, Amit, Shukla, P.R., Bhattacharya, Sumana & Dadhwal, V.K., 'Regional and Sectoral Assessment of Greenhouse Gas Emissions in India', Paper Published in Atmospheric Environment, Vol. 35/15, e2 Analytics, pp. 2679-2695
17. Gupta, Shreekant, Sen, Partha & Srinivasan, Suchita (2012), 'Impact of climate change on the Indian economy: Evidence from foodgrain yields', Working Paper No. 218, Centre for Development Economics, Delhi School of Economics, September
18. India: Greenhouse Gas Emissions 2007, MoEF, Govt. of India, May 2010
19. Kahjuria, Anupam, & Ravindranath, N.H., (2012), 'Climate Change in context of Indian Agricultural Sector', Earth science and Climatic Change, Vol.3, Issue1, pp.1-4
20. Keane, Jodie, Page, Sheila, Kergna, Alpha & Kennan, Jane (2009), 'Climate Change and Developing Country Agriculture: An Overview of Expected Impacts, Adaptation and Mitigation Challenges, and Funding Requirements, Issue Brief No.2, International Centre for Trade and Sustainable Development (ICTSD), December
21. Klein, Richard J.T., Schipper, E. Lisa F. & Dessai, Suraje, (2005), 'Integrating mitigation and adaptation into climate and development policy: three research questions', Environmental Science & Policy 8, pp. 579-588
22. Kumari, K. Anitha, Kumar, K.N.Raja & Rao, CH. Narasimha, (2014), 'Adverse effects of chemical fertilisers and pesticides on human health and environment', Journal of Chemical and Pharmaceutical Sciences, Oct., pp.150-151
23. Locatelli, Bruno (2011), 'Synergies between adaptation and mitigation in a nutshell', Center for International Forestry Research, August
24. Mishra, J. P. (2016), 'Agriculture and Farmers Well Being: Present Scenario', Yojana, Vol. 60, June, pp.11-14
25. Mitigating Greenhouse Gases in Agriculture - A challenge and opportunity for agricultural policies, Diakonisches Werk der EKD e.V., November 2011
26. Pardis & Devakumar, A S (2014), 'Green House Gas Emission of Major Agriculture Crops of Southern India', 2nd International Conference on Sustainable Environment and Agriculture, IPCBEE Vol. 76
27. Pathak, H, Aggarwal, P.K. & Singh, S.D., eds. (2012), 'Measures of Greenhouse gas emissions from crop, livestock, and aquaculture', NICRA Manual Series 2, IARI
28. Potentials for Greenhouse gas mitigation in agriculture, GIZ, March, 2014
29. Ranade, Prabha Shastri, Impact of climate change on agriculture, ISPRS Archives XXXVIII-8/W3 Workshop Proceedings, pp.183-185
30. Rodriguez, Elizabeth, Sultan, Ryan & Hilliker, Amy (2004): Negative Effects of Agriculture on Our Environment, The Traprock, Vol. 3, May, pp.28-32
31. Sathaye, Jayant & Najam, Adil, (2007), 'Sustainable Development and Mitigation', Chap.-12, Sustainable Development and Mitigation, In Climate Change 2007: Mitigation, Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, pp.691-744
32. Savci, Serpil (2012), 'An Agricultural Pollutant: Chemical Fertilizer', International Journal of Environmental Science and Development, Vol. 3, No. 1, February
33. Sharma, A.R. & Behera, U.K. (2008), 'Modern concepts of Agriculture – Conservation Tillage'
34. Sharma, Subodh K., et.al. (2011): Greenhouse gas inventory estimates for India, Current Science, Vol. 101, No. 3, August 10, pp.405-415
35. Shetty, P. K., Ayyappan, S. & Swaminathan, M. S., eds., (2013), 'Climate Change and Sustainable Food Security', NIAS & ICAR
36. Singh, R.B. (2000), 'Environmental consequences of agricultural development: A case study from the Green Revolution state of Haryana, India', Agriculture, Ecosystems and Environment, 82, pp.97-103
37. Singh, S.D., Pathak, H. & Aggarwal, P.K. (2012), 'Climate Change Impact, Adaptation and Mitigation in Agriculture: Methodology for Assessment and Application', IARI, March
38. Smith, Pete, Martino, Daniel, et.al. (2007), Agriculture, Chapter-8, Agriculture, In Climate Change: Mitigation, Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, pp. 497-540
39. Sridevi H., et. al., (2014), 'Comparative analysis of greenhouse gas emissions from major cities of India', International Journal of Renewable Energy and Environmental Engineering, ISSN 2348-0157, Vol. 02, No. 01, January
40. State of Indian Agriculture, 2012-13, Min. of Agriculture, Govt. of India
41. Strategies for mitigating climate change in agriculture, California Environmental Associates, April, 2014
42. The impact of animal agriculture on the environment and climate change in India: A focus on methane, HSI Fact sheet, Humane Society International, May, 2011
43. Tubiello, Francesco N., et. al. (2015), 'Estimating Greenhouse Gas Emissions In Agriculture - A Manual to Address Data Requirements for Developing Countries', Food and Agriculture Organisation
44. Tubiello, Francesco N., Schmidhuber, Josef, Howden, Mark, Neofotis, Peter G., Park, Sarah, Fernandes, Erick & Thapa, Dipti, (2008), 'Climate Change Response Strategies for Agriculture: Challenges and Opportunities for the 21st Century', Agriculture and Rural Development Discussion Paper 42, The International Bank for Reconstruction and Development/The World Bank
45. Twelfth Five Year Plan (2012-17) Vol-I, II & III, Govt. of India
46. Verchot, Louis V., Noordwijk, Meine Van, Kandji, Serigne, Tomich, Tom, Ong, Chin, Albrecht, Alain, Mackensen, Jens, Bantilan, Cynthia, Anupama, K. V. & Palm, Cheryl, (2007), 'Climate change: linking adaptation and mitigation through agroforestry', Mitig Adapt Strat Glob Change
47. Yedla, Sudhakar & Peddi, Sowjanya (2003): Roles of Agriculture (ROA) India Environment National Assessment, October.

AN EVALUATION, COMPARISON AND MANAGEMENT OF NON PERFORMING ASSETS (NPA) IN STATE BANK OF INDIA & ITS ASSOCIATES

DR. K. JAGADEESAN
ASST. PROFESSOR
GOVERNMENT ARTS COLLEGE (A)
KUMBAKONAM

ABSTRACT
Banks should establish appropriate internal systems to eliminate the tendency to delay or postpone the identification of NPAs, especially in respect of high value accounts. The banks may fix a minimum cut off point to decide what would constitute a high value account depending upon their respective business levels. The cutoff point should be valid for the entire accounting year. Responsibility and validation levels for ensuring proper asset classification may be fixed by the banks. The system should ensure that doubts in asset classification due to any reason are settled through specified internal channels within one month from the date on which the account would have been classified as NPA as per extant guidelines. The classification of an asset as NPA should be based on the record of recovery. Bank should not classify an advance account as NPA merely due to the existence of some deficiencies which are temporary in nature such as non-availability of adequate drawing power based on the latest available stock statement, balance outstanding exceeding the limit temporarily, non-submission of stock statements and non-renewal of the limits on the due date, etc.

KEYWORDS
non performing assets (NPA), State Bank of India & its Associates.

INTRODUCTION
The financial health of Commercial Banks and to make their functioning efficient and profitable, the Government of India appointed a committee called "The Committee on Financial System " under chairmanship of Shri M. Narasimham Committee, Ex. Governor of Reserve Bank of India which made recommendations in November 1991. The committee laid down a blueprint of financial sector reforms, recognized that a vibrant and competitive financial system was central to the wide ranging structural reforms. In order to ensure that the financial system operates on the basis of operational flexibility and functional autonomy, with a view to enhance efficiency, productivity and profitability, the committee recommended a series of measures aimed at changes according to greater flexibility to Bank operations, especially in phasing out statutory stipulations, directed credit programs, improving assets quality, institution of prudential norms, greater disclosures, better housekeeping, in terms of accounting practices.

In the words of Bimal Jalan, Ex. Governor of RBI, "the Central Bank considered accounting standards for market discipline and gave road map for financial institutions to improve their assets quality. Also such norms were set for financial institutions to modernise understanding about not only capital adequacy & provisioning but also introduce risk management and exposure disclosure for financial reporting" The recommendations are a landmark in the evolution of Banking system. The reform introduced since 1992-93 breathed a fresh air in the Banking sector. Deregulation and liberalization encouraged Banks to go in for innovative measures, develop business and earn profits. These reforms, the Narasimham Committee one felt, will improve the solvency, health and efficiency of institutions. The measures were aimed at (a) Ensuring degree of operational flexibility (b) Internal autonomy for Public Sector Banks in their decision making process and (c) Greater degree of professionalism in Banking operations.

Recommendation of M. Narasimham Committee, RBI provides the necessary impetus by issuing host of the guideline instructions to Banks since April 1992. Very clear emphasis was laid by RBI on adopting uniform accounting practices in line with the International Standard so that efficient assets management and adequate provisioning for classified non- performing assets is made thus more transparent balance sheet of the Indian Banking System can be showcased in the International market to take on global competition. Now it is not possible for anybody to manipulate and present a rosy picture even if the Bank is actually not in good financial status.

OPERATIONAL DEFINITION
Gross NPA: Gross NPAs are the sum total of all loan assets that are classified as NPAs as per RBI guidelines as on Balance Sheet date. Gross NPA reflects the quality of the loans made by banks. It consists of all the nonstandard assets like as sub-standard, doubtful, and loss assets.

Net NPA: Net NPAs are those type of NPAs in which the bank has deducted the provision regarding NPAs. Net NPA shows the actual burden of banks**.** Since in India, bank balance sheets contain a huge amount of NPAs and the process of recovery and write off of loans is very time consuming, the provisions the banks have to make against the NPAs according to the central bank guidelines, are quite significant. That is why the difference between gross and net NPA is quite high. It can be calculated by following:

Net NPAs = Gross NPAs – Provisions

IMPACT OF NON PERFORMING ASSETS (NPA'S)
To protect the interest of shareholders: Members of the bank are true owners of bank. They contribute or invest their amount in banks to earn dividend. Being amount of NPA with their amount in banks to earn dividend because high amount of NPAs means earning assets are on deterioration consequently, means lower income of banks that will make unable to satisfy the members by paying high rate of dividend.

To protect the interest of depositors: Depositors are the key person of the banks because of their deposits the banks are able to lend to borrowers. Depositors want consistence interest income on their deposits. When their deposits, advanced to borrowers, which would, later on, if become a NPA, banks would be unable to pay timely interest to depositors will switch of their deposits from one bank to another bank which is not commendable for particular bank. Thus it is very important for banks to manage efficiently their advances, which are likely to turn into NPAs.

For profitability: Non – performing Assets means an asset, which cease to generate any income. Thus more and more NPA will reduce the income of banks as interest which is main component of banks income thus it will jeopardize the profitability or return on assets consequently it will be constraint for banks growth.

High provision: Higher NPA leads banks to compel higher provision for „Bad Debts Reserve as per the norms of RBI. Provision will be done by realized profit and NPA will block the actual profit of banks for current year thus NPA has a dual effect i.e. not realization of interest income and separate provision for NPA from Profit & Loss account.

Creditworthiness of the Banks: NPA works as a tool for worthiness of particular bank. If banks are having high NPA level then it will be very difficult to raise additional funds from market. It will make bad impression of banks on people.

OBJECTIVES OF THE STUDY
1.   To compare the Gross NPA, Net NPA and provisions of SBI & its associates.
2.   To study the impact of NPA on banks.
3.   To access the evaluation, comparison and management of NPA's of Bank.

4.   To study the general reasons for assets to become Non-performing assets.
5.   To offer suggestions based on findings of the study.

RESEARCH METHODOLOGY

This study used historical data to study the impact of the independent variable advances, on the dependent variables which were the gross & net NPA% of a midsized Indian bank. The study was conducted with secondary data over the past ten year period i.e. from the financial year 2005-06 to 2014-15. Historical data on the gross & net NPA were obtained from figures published by the Reserve Bank of India (www.rbidocs.rbi.org.in/rdocs/Publications).

The researcher has considered the following important variables in the Non Performing Assets (NPA) *such as Gross Advances, Net Advances, Gross NPA, Net NPA, and Provisions.* The following statistical techniques have been used for the present study. Statistical tools namely

1.   Percentage (%) of Annual Growth Rate
2.   Summary Statistics, *(min, max, mean, SD, CV% and CAGR) and*
3.   Analysis of Variance (ANOVA)

In this analysis based on NPA, detailed analyses of the collected data have been attempted as per the objectives stated earlier. Hypotheses have also been tested based on the findings of the study and interpretations and conclusions have been drawn. In this chapter detail analysis of the "AN **EVALUATION, COMPARISON AND MANAGEMENT OF NON PERFORMING ASSETS (NPA) IN STATE BANK OF INDIA & ITS ASSOCIATES"**.

1.State Bank of Bikaner & Jaipur (SBBJ), 2. State Bank of Hyderabad (SBH), 3.State Bank of India (SBI),
4.State Bank of Mysore (SBM), 5.State Bank of Patiala (SBP) and, 6.State Bank OF Travancore (SBT).

TABLE – 1: STATE BANK OF BIKANER & JAIPUR FROM 2006 to 2015 (Amt. in Rs. Crore)

March 31 Year	Gross NPA	#AGR	Net NPA	AGR	Provision	AGR
2006	3887	-	1872	-	2015	-
2007	4630	19.11	2228	19.02	2402	19.21
2008	4373	-5.55	2091	-6.15	2282	-5.00
2009	4903	12.12	2529	20.95	2374	4.03
2010	6119	24.80	2702	6.84	3417	43.93
2011	8354	36.53	3413	26.31	4941	44.60
2012	16515	97.69	9454	177.00	7061	42.91
2013	21195	28.34	13041	37.94	8154	15.48
2014	27332	28.95	17709	35.79	9623	18.02
2015	29451	7.75	17692	-0.10	11759	22.20

Source: RBI Bulletin complied by researcher

AGR=%of Annual Growth Rates

The above table 1 shows that State Bank of Bikaner & Jaipur Gross NPA had highest growth in percentage terms at 97.69% in 2012 whereas lowest growth rate was marked at -5.55% in the year 2008, followed by Net NPA the highest % growth was recorded during the year 2012 at 177% and lowest recorded at -6.15% in the year 2008, and the Provisions of the bank the highest growth rate was obtained at 97.69% in 2012 and lowest growth rate was obtained -5.55 in the year 2008. However, State Bank of Bikaner & Jaipur had negative growth in Gross NPA, Net NPA and Provisions during the study period.

TABLE – 2: STATE BANK OF HYDERABAD FROM 2006 TO 2015 (Amt. in Rs. Crore)

March 31 Year	Gross NPA	#AGR	Net NPA	AGR	Provision	AGR
2006	4531	-	754	-	3777	-
2007	3508	-22.58	613	-18.70	2895	-23.35
2008	3119	-11.09	570	-7.01	2549	-11.95
2009	4534	45.37	1658	190.88	2876	12.83
2010	6490	43.14	2889	74.25	3601	25.21
2011	11505	77.27	5627	94.77	5878	63.23
2012	20074	74.48	10020	78.07	10054	71.04
2013	31860	58.71	14487	44.58	17373	72.80
2014	58242	82.81	29849	106.04	28393	63.43
2015	49848	-14.41	23485	-21.32	26363	-7.15

Source: RBI Bulletin complied by researcher

AGR=%of Annual Growth Rates

The above table 2 narrates that State Bank of Hyderabad Gross NPA had uppermost growth in percentage terms at 82.81% in 2014 whereas lowly growth rate was striking at -22.58% in the year 2007, followed by Net NPA the top % growth was witnessed during the year 2009 at 190.88% and deprived recorded at -21.32% in the year 2015, and the Provisions of the bank the highest growth rate was acquired at 72.8% in 2013 and lowest growth rate was obtained -23.55 in the year 2007. However, State Bank of Hyderabad had negative growth in Gross NPA, Net NPA and Provisions during the study period.

TABLE – 3: STATE BANK OF INDIA FROM 2006 to 2015 (Amt. in Rs. Crore)

March 31 Year	Gross NPA	#AGR	Net NPA	AGR	Provision	AGR
2006	96281	-	49114	-	47167	-
2007	99982	3.84	52577	7.05	47405	0.50
2008	128373	28.40	74243	41.21	54130	14.19
2009	157140	22.41	96774	30.35	60366	11.52
2010	195349	24.32	108702	12.33	86647	43.54
2011	253263	29.65	123469	13.58	129794	49.80
2012	396765	56.66	158189	28.12	238576	83.81
2013	511894	29.02	219565	38.80	292329	22.53
2014	616054	20.35	310961	41.63	305093	4.37
2015	567253	-7.92	275906	-11.27	291347	-4.51

Source: RBI Bulletin complied by researcher

AGR=%of Annual Growth Rates

The above table 3 views that State Bank of India Gross NPA had topmost growth in percentage terms at 56.66% in 2012 whereas humble growth rate was prominent at -7.92% in the year 2015, followed by Net NPA the top % growth was viewed during the year 2014 at 41.63% and disadvantaged recorded at -11.27% in the year 2015, and the Provisions of the bank the premier growth rate was acquired at 83.81% in 2012 and lowest growth rate was recorded -4.51 in the year 2015. However, State Bank of India had negative growth in Gross NPA, Net NPA and Provisions during the study period.

TABLE – 4: STATE BANK OF MYSORE FROM 2006 TO 2015 (Amt. in Rs. Crore)

March 31 Year	Gross NPA	#AGR	Net NPA	AGR	Provision	AGR
2006	3981	-	865	-	3116	-
2007	3838	-3.59	749	-13.41	3089	-0.87
2008	5209	35.72	2170	**189.72**	3039	-1.62
2009	3676	**-29.43**	1291	**-40.51**	2385	**-21.52**
2010	5953	61.94	2998	132.22	2955	23.90
2011	8637	45.09	4679	56.07	3958	33.94
2012	15026	**73.97**	7684	64.22	7342	**85.50**
2013	20806	38.47	12088	57.31	8718	18.74
2014	28189	35.48	16303	34.87	11886	36.34
2015	21364	-24.21	11216	-31.20	10148	-14.62

Source: RBI Bulletin complied by researcher

AGR=%of Annual Growth Rates

The above table 4 shows that State Bank of Mysore Gross NPA had peak growth in percentage terms at 73.97% in 2012 whereas poor growth rate was prominent at -29.43% in the year 2009, followed by Net NPA the crown % enlargement was viewed during the year 2008 at 189.72% and deprived recorded at -40.51% in the year 2009, and the Provisions of the bank the leading growth rate was gained at 85.5% in 2012 and lowest growth rate was recorded -21.52 in the year 2009. However, State Bank of Mysore had negative growth in Gross NPA, Net NPA and Provisions during the study period.

TABLE – 5: STATE BANK OF PATIALA FROM 2006 to 2015 (Amt. in Rs. Crore)

March 31 Year	Gross NPA	#AGR	Net NPA	AGR	Provision	AGR
2006	5430	-	2204	-	3226	-
2007	5244	-3.43	2384	8.17	2860	-11.35
2008	1753	**-66.57**	1109	**-53.48**	644	**-77.48**
2009	5739	**227.38**	2636	**137.69**	3103	**381.83**
2010	10066	75.40	4827	83.12	5239	68.84
2011	13817	37.26	6208	28.61	7609	45.24
2012	18878	36.63	8484	36.66	10394	36.60
2013	24530	29.94	11942	40.76	12588	21.11
2014	37584	53.22	24045	101.35	13539	7.55
2015	43597	16.00	30492	26.81	13105	-3.21

Source: RBI Bulletin complied by researcher

AGR=%of Annual Growth Rates

The above table 5 illustrates that State Bank of Patiala Gross NPA had highest growth in percentage terms at 227.38% in 2009 whereas lowest growth rate was marked at -66.57% in the year 2008, followed by Net NPA the highest % growth was recorded during the year 2009 at 137.69% and lowest recorded at -53.48% in the year 2008, and the Provisions of the bank the highest growth rate was obtained at 381.83% in 2009 and lowest growth rate was obtained -77.48 in the year 2008. However, State Bank of Patiala had negative growth in Gross NPA, Net NPA and Provisions during the study period.

TABLE – 6: STATE BANK OF TRAVANCORE FROM 2006 TO 2015 (Amt. in Rs. Crore)

March 31 Year	Gross NPA	#AGR	Net NPA	AGR	Provision	AGR
2006	6100	-	2765	-	3335	-
2007	5401	-11.46	2676	-3.22	2725	**-18.29**
2008	5708	5.68	2677	0.04	3031	11.23
2009	5260	-7.85	1875	**-29.96**	3385	11.68
2010	6420	22.05	3504	86.88	2916	-13.86
2011	8352	30.09	4510	28.71	3842	31.76
2012	14888	**78.26**	8536	89.27	6352	**65.33**
2013	17499	17.54	9886	15.82	7613	19.85
2014	30769	75.83	19285	**95.07**	11484	50.85
2015	23571	**-23.39**	13987	-27.47	9584	-16.54

Source: RBI Bulletin complied by researcher

AGR=%of Annual Growth Rates

The above table 6 demonstrates that State Bank of Travancore Gross NPA had highest growth in percentage terms at 78.26% in 2012 whereas lowest growth rate was marked at -23.39% in the year 2015, followed by Net NPA the highest % growth was recorded during the year 2014 at 95.07% and lowest recorded at -29.96% in the year 2009, and the Provisions of the bank the highest growth rate was obtained at 65.33% in 2012 and lowest growth rate was obtained -18.29 in the year 2007. However, State Bank of Patiala had negative growth in Gross NPA, Net NPA and Provisions during the study period.

TABLE – 7: GROSS NPA -SUMMARY OF STATISTICS

SL.NO	SBI & its Associates	MIN	MAX	MEAN	SD	CV%	CAGR
1	SBBJ	3887	29451	12675.9	10091.4	79.61	25%
2	SBH	3119	58242	19371.1	20494.4	**105.80**	**31%**
3	SBI	96281	616054	**302235**	202769	67.09	22%
4	SBM	3676	28189	**11667.9**	9003.54	77.17	21%
5	SBP	1753	43597	16663.8	14452.1	86.73	26%
6	SBT	5260	30769	12396.8	9012.25	**72.70**	16%

Source: RBI bulletin complied by researcher

The above table 7 observes that the mean of amount of Gross NPA ranges from Rs. 11667.9 to Rs. 302235 during the study period among the SBI & its associates. The SBI Banks had higher mean amount Gross NPA and SBM had least mean amount of Gross NPA during the period of study. The SBT banks showed least coefficient of variation indicating the consistent performance in the Gross NPA and SBH highest coefficient of variation indicating the inconsistent performance in the Gross NPA. Among the SBI & its associates, SBH had least compound annual growth rate during the study period. *The researcher concludes that Gross Non Performing Assets steady growth in* SBI & its associates *because of decision making, rules and regulation, role of employees, loan policy and recovery of loans is good where as other public sector, foreign banks and private sector banks.*

ANALYSIS OF VARIANCE –ANOVA: Analysis of Variance, abbreviated as ANOVA, was developed by R.A.Fisher; in fact the F-test was named in his honour. R.A.Fisher emphasized the important of randomness, that is, identical sample size is not required for single-factor ANOVA, but the sample sizes should be nearly equal as possible. The single factor ANOVA is said to represent a **completely randomized experimental design.**

$$f_c = \frac{between\ samples\ variance}{within\ samples\ variance}$$

H_o: all population means are the same (or effects of all treatments are the same)

H_1: all population means are not the same (or effects of all treatments are not the same)

Between samples variance is large when the effects of all the treatments are different. In such a case the computed *F* is large and likely to reject the null hypothesis. Therefore, this test is a right tailed test.

ONE WAY ANOVA: Under the one-way ANOVA, consider only one factor and then observe the reason for said factor to be important is that several possible types of can occur within that factor.

F-Ratio: This F-ratio works as the test statistic and follows snedico's f-distribution with (k-1), (n-k) degree of freedom. A distributed the test is a right tailed test. Therefore, reject the null hypothesis that all the population means (0r the effects of all the treatments) are the same at given level of significance when the computed value of F-ratio is greater than the critical value.

ANOVA– GROSS NON PERFORMING ASSETS

H_0: **Null Hypothesis:** There is no significant difference in the mean Gross NPA among different SBI & its associates during the study period.

H_1: **Alternative hypothesis:** There is significant difference in the Gross NPA among different SBI & its associates during the study period.

TABLE – 8: GROSS NPA-SUMMARY OF THE SBI & ITS ASSOCIATES

Groups	Count	Sum	Average	Variance	#RANK
SBBJ	10	126759	12675.9	101836461	3
SBH	10	193711	19371.1	420021118	5
SBI	10	3022354	302235.4	41115164026	**6**
SBM	10	116679	11667.9	81063652	**1**
SBP	10	166638	16663.8	208862262	4
SBT	10	123968	12396.8	81220713	2

Source: RBI Bulletin   **[# rank least variance basis]**

The above table explains that gross NPA of summary of the SBI & its associates. It reveals that highest rank is *'SBI' and lowest rank is 'SBM'.* Hence, the researcher concludes that "*A high degree of variation would mean little uniformity or consistency whereas a low degree of variation would mean great uniformity or con-sistency" in this study area".*

TABLE – 9: GROSS NPA-ANOVA RESULT

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	6.9011E+11	5	1.3802E+11	19.71	0.00*	2.39
Within Groups	3.7807E+11	54	7001361372			
Total	1.0682E+12	59				

Source: RBI Bulletin

*5% level of significance [(*P<0.05*) i.e., Rejected]

The results of ANOVA are given in different Gross NPA of SBI & its associates in India. The significance of variance, i.e., *P*-value, given under the head Sig. is 0.000. Since, the significance value 0.000 is less than 0.05 (*p*< 0.05), the variance between different experimental conditions is significant. There is significant difference in the Gross NPA among different SBI & its associates during the study period.

TABLE – 10: GROSS NPA -SUMMARY OF STATISTICS

SL.NO	SBI & its Associates	MIN	MAX	MEAN	SD	CV%	CAGR
1	SBBJ	1872	17709	7273.1	6627.11	91.12	28%
2	SBH	570	29849	8995.2	10475.8	**116.46**	47%
3	SBI	49114	310961	**146950**	92631.2	**63.04**	21%
4	SBM	749	16303	**6004.3**	5525.69	92.03	33%
5	SBP	1109	30492	9433.1	10073.3	106.79	34%
6	SBT	1875	19285	6970.1	5872.98	84.26	20%

Source: RBI bulletin complied by researcher

The above table 10 refers that the mean of amount of Net NPA ranges from Rs. 6004.3 to Rs. 146950 during the study period among the SBI & its associates. The SBH had higher mean amount Net NPA and SBM had least mean amount of Net NPA during the period of study. The SBI showed least coefficient of variation indicating the consistent performance in the Net NPA and the SBH highest coefficient of variation indicating the inconsistent performance in the Net NPA. Among the SBI & its associates, SBH had highest compound annual growth rate during the study period. *The researcher concludes that Net Non Performing Assets steady growth in* SBI & its associates *is good where as other public sector Banks, Private sector Banks and foreign banks in India.*

ANOVA– NET NON PERFORMING ASSETS

H_0: **Null Hypothesis:** There is no significant difference in the mean NET NPA among different SBI & its associates during the study period.

H_1: **Alternative hypothesis:** There is significant difference in the NET NPA among different SBI & its associates during the study period.

TABLE – 11: NET NPA-SUMMARY OF THE SBI & ITS ASSOCIATES

Groups	Count	Sum	Average	Variance	#RANK
SBBJ	10	72731	7273.1	43918597	3
SBH	10	89952	8995.2	109741440	5
SBI	10	1469500	146950	8580540346	6
SBM	10	60043	6004.3	30533304	1
SBP	10	94331	9433.1	101470955	4
SBT	10	69701	6970.1	34491891	2

Source: RBI Bulletin

rank least variance basis

The above table explains that NET NPA of summary of the SBI & its associates. It reveals that highest rank is *'SBI' and lowest rank is 'SBM'*. Hence, the researcher concludes that "*A high degree of variation would mean little uniformity or consistency whereas a low degree of variation would mean great uniformity or con-sistency" in this study area".*

TABLE – 12: GROSS NPA-ANOVA RESULT

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.6159E+11	5	3.232E+10	21.79	0.00*	2.39
Within Groups	8.0106E+10	54	1.483E+09			
Total	2.417E+11	59				

Source: RBI Bulletin

*5% level of significance [(*P<0.05*) i.e., Rejected]

The results of ANOVA are given in different NET NPA of SBI & its associates in India. The significance of variance, i.e., *P*-value, given under the head Sig. is 0.000. Since, the significance value 0.000 is less than 0.05 (*p< 0.05*), the variance between different experimental conditions is significant. There is significant difference in the NET NPA among different SBI & its associates during the study period.

TABLE – 13: PROVISIONS -SUMMARY OF STATISTICS

SL.NO	SBI & its Associates	MIN	MAX	MEAN	SD	CV%	CAGR
1	SBBJ	2015	11759	**5402.8**	3528.96	65.32	22%
2	SBH	2549	28393	10375.9	10068.7	**97.04**	**24%**
3	SBI	47167	305093	**155285**	112844	72.67	22%
4	SBM	2385	11886	5663.6	3527.3	62.28	14%
5	SBP	644	13539	7230.7	4861.21	67.23	17%
6	SBT	2725	11484	5426.7	3162.41	**58.27**	12%

Source: RBI bulletin complied by researcher

The above table 13 observes that the mean of amount of provisions ranges from Rs. 5402.8 to Rs. 155285 during the study period among the SBI & its associates. The SBI had higher mean amount provisions and SBBJ had least mean amount of provisions during the period of study. The SBT showed least coefficient of variation indicating the consistent performance in the provisions and SBH highest coefficient of variation indicating the inconsistent performance in the provisions. Among the SBI & its associates, SBH had least compound annual growth rate during the study period. *The researcher concludes that provisions balanced growth in* SBI & its associates *is excellent where as other public sector banks, private sector banks, and foreign banks in India.*

ANOVA– PROVISIONS

H₀: Null Hypothesis: There is no significant difference in the mean provisions among different SBI & its associates during the study period.

H₁: Alternative hypothesis: There is significant difference in the provisions among different SBI & its associates during the study period.

TABLE – 14: NET NPA-SUMMARY OF THE SBI & ITS ASSOCIATES

Groups	Count	Sum	Average	Variance	#RANK
SBBJ	10	54028	5402.8	12453530	3
SBH	10	103759	10375.9	101379430	5
SBI	10	1552854	155285.4	12733807373	6
SBM	10	56636	5663.6	12441850	2
SBP	10	72307	7230.7	23631369	4
SBT	10	54267	5426.7	10000812	1

Source: RBI Bulletin

rank least variance basis

The above table views that provision of summary of the SBI & its associates. It reveals that highest rank is 'SBI' *and lowest rank is* 'SBT'. Hence, the researcher concludes that "*A high degree of variation would mean little uniformity or consistency whereas a low degree of variation would mean great uniformity or consistency*" in this study area".

TABLE – 15: GROSS NPA-ANOVA RESULT

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.8386E+11	5	3.677E+10	17.11	0.00*	2.39
Within Groups	1.1604E+11	54	2.149E+09			
Total	2.9991E+11	59				

Source: RBI Bulletin

*5% level of significance [(*P<0.05*) i.e., Rejected]

The results of ANOVA are given in different provisions of SBI & its associates in India. The significance of variance, i.e., *P*-value, given under the head Sig. is 0.000. Since, the significance value 0.000 is less than 0.05 (*p< 0.05*), the variance between different experimental conditions is significant. There is significant difference in the provisions among different SBI & its associates during the study period.

SUGGESTIONS OF THE STUDY

1. A prudent banker is cautious in investing his funds so as to bring maximum benefits to the shareholders without affecting the depositors. Therefore, the banker should not be lenient the guiding principles of investment policy are safety, liquidity and profitability.
2. The social control and nationalization of banks have transformed the concept of bank lending. Therefore, bankers should attention towards increase growth of banks and also increase share value for the further period.
3. The term 'safety' is inter-related with security. Since a banker deals with other people's money, the banker should ensure the safety of such funds and security of such depositors. Therefore, the banker is not reckless in investment policy because of to meet banker's commitment and consequently loses the confidence of the depositors.
4. The banker can exercise some degree of control over his customer's behavior.
5. Failure to collect loan may lead to sufficient funds at the hands of the banks, leading to serious consequences like bank failure. Hence, the banker should be failure to avoid collecting loan and increasing efficiency to collect bank loans.
6. All the customers demand withdrawal of their deposits at the same time no bank can survive as they will not have adequate cash to pay back the depositors although the bank may be solvent at the point of time. Therefore, a bank should be careful in the use of its funds without giving any opportunity at any time to lose faith in the banking system.
7. The bank invests all its resources; it may not be able to meet the demands of the depositors. Therefore, it should maintain a portion of the deposits and avoid NPA.
8. The banker should have confidence in the ability of the borrower to make use of the funds in an advantages manner. Therefore, banker may consult the technician about the feasibilities of the project.
9. A good proposal would facilitate continuous recycling of funds in preference to locking up of funds.
10. The bank may look for refinancing funds like that other nationalized banks in India/Outside India.

LIMITATIONS OF THE STUDY

1. The study covers NPA' in SBI & its associates only.
2. The study analyzed Gross NPA, Net NPA and Provisions only.
3. The study referred that secondary sources only and data obtained from RBI bulletin.
4. The study observed only a decade period.

CONCLUSION

A strong banking sector is important for a flourishing economy. The failure of the banking sector may have an adverse impact on other sectors too. The Indian banking system, which was operating in a closed economy, now faces the challenges of an open economy. On one hand, a protected environment ensured that banks never needed to develop sophisticated treasury operations and asset liability management skills. On the other hand, a combination of directed lending and social banking pushed profitability and competitiveness to the background. The net result was unsustainable NPAs and consequently a higher effective cost of banking services. Some of the reasons for an account becoming NPA include, lack of proper enquiry by the bank before sanctioning loans/advances to the customer, non performance of the business for the purpose of which the customer has taken the loans/advances, willful defaulters, loans sanctioned for agricultural purposes that were not paid back by farmers etc leads to NPA's.

REFERENCES

1. Abhinav, National Monthly Refereed Journal of Research In Commerce & Management, www.abhinavjournal.com, *Volume No.1, Issue No.7 Issn 2277-1166*
2. Avadhani V.A. (1978), Studies in Indian Financial System, Jaico Publications, Mumbai, PP-34.
3. Das Debendra Kumar, "Financial Sector Reforms, Tax System and Development, UBSPD, New Delhi, PP- 134.
4. Dr. Mrs Murthy.S, "Financial Sector Reforms and Economic Growth in India", UBSPD, New Delhi.
5. Dr.K.Nirmala Prasan & J.Chandradass (1997), Banking and Financial System, Himalaya Publishing House (Third Edition), New Delhi PP-296-301.
6. Dutt Rudra and Sundaram, K.P.M.(2004),"Indian Economy", S.Chand and Company, New Delhi, PP-843.
7. Fofack, H (2005), "Non-performing loans in sub-Saharan Africa: Causal Analysis and Macroeconomic Implications." World Bank Policy Research Working Paper No. 3769, November.
8. Hu, J.-L., Li, Y., & Chiu, Y.-H. (2007), "Ownership and Nonperforming Loans: Evidence from Taiwan's Banks". The Developing Economies, 42(3), 405-420.
9. Jalan Bimal (2003), "Strengthening Indian Banking and Finance: Progress and Prospects", IBA Bulletin, Special Issue, Vol. XXV, No-03, March 2003, PP-06.
10. Liang, C.-J., Yao, M.-L., Hwang, D.-Y., & Wu, W.-H. (2008), "The Impact of Non-Performing Loans on Bank's Operating Efficiency for Taiwan Banking Industry". Review of Pacific Basin Financial Markets and Policies, 11(02), 287-304.
11. Prof. D. Suryachandra Rao, "Banking Reforms in India: An Evaluative Study of the Performance of Commercial Banks", 2008, Regal Publication. Pp 58.
12. Rajveer Rawlin, *Modeling the NPA of a Midsized Indian Nationalized Bank as a Function of Advances*, European Journal of Business and Management, www.iiste.org Vol 4, No. 5, 2012.
13. Reserve Bank of India (RBI): Report on Trend and Progress of Banking in India: 2006- 2015

ECONOMIC EMPOWERMENT OF WOMEN IN INDIA

JASBIR SINGH
ASST. PROFESSOR
LNT COLLEGE OF EDUCATION
PANIPAT

SONIA KUMARI
LECTURER
AAROHI MODEL SR. SEC. SCHOOL
GEONG

ABSTRACT

The UN theme for International Women's Day 2014 is "Equality for Women is Progress for all." It focuses on the equality of women in all fields of life whether social or economic. And it is worthy to note that women cost half the population of any country. And when a nation with large population like India is concerned then the contribution of women in economy becomes countable. The objective of 'Faster, Sustainable and More Inclusive Growth' can be achieved only when both men and women work jointly for the growth of economy. So investing in women's economic empowerment sets a direct path towards gender-equality, poverty eradication and inclusive economic growth. Hence this paper deals with problems associated with the economic empowerment of women and also gives some suggestions to improve the status.

KEYWORDS
women empowerment, economic status, gender-bias, culture, old myths.

INTRODUCTION
While women have no less contribution in social and national development as compared with men, their contribution hitherto remains inadequately measured. Women work longer hours than men, and carry the major share of household and community work that unpaid and invisible. Although the Ministry of Rural Development and Indian government run various programs to bring about women in mainstream and to encourage their participation in the national development. But there are some leakages like illiteracy of women, unaware women, low credit facilities, man dominated society etc. pave the way to low economic empowerment of women in India.

OBJECTIVES
This paper mainly deals with the economic empowerment of women in India. The sound objective of this paper is to present the hurdles in the economic empowerment of women in India and also given some suggestions to tackle the problems.

METHODOLOGY
This paper is based on secondary data. The secondary data is collected from organizations as well as publications such as journals, newspapers, magazines, books, internet and other studies taken by government or other independent organizations such SIDA, WEF, and HDI GDI etc.

REVIEW OF LITERATURE
Desai and Jain exerted that majority of women in India enter the labour force due to economic compulsions and the benefits of their economic contributions are likely to be mediated by the socio-cultural context of women's work and their work burden. Sen (1990) stated that the characteristics of work regularity and visibility of work (location outside home) and regularity of income earned will increase the empowerment potential of women. In addition, women who perceive that their earnings constitute a substantial portion of total family earnings are more likely to be empowered than other employed and unemployed women. Roy and Niranjan (2004) cited that empowerment is associated with indirect indicators like education and work participation of women and direct indicators of female autonomy (empowerment) such as decision-making, mobility and access to economic resources that can be viewed both as an outcome and a process. Sida gender equality team (2009) defines women's economic empowerment as the process which increases women's real power over economic decisions that influence their lives and priorities in societies. Women's economic empowerment can be achieved through equal access to and control over critical economic resources and opportunities and the elimination of structural gender inequalities in the labor market, including a better sharing of unpaid care work. The International Center for Research on Women puts forward a concise definition of women's economic empowerment as-A women is economically empowered when she has the ability to succeed and advance economically and the power to make and act on economic decisions. Dhurba Hazarika (2011) stated that empowerment of women means equipping women to be economically independent, self-reliant, have positive esteem to enable them to face any difficult situation and they should be able to participate in development activities. Rekha Mehra and Annie Marie Golla (2011) stated that economic empowerment is one of the most powerful routes for women to achieve their potential and their rights. Women who are economically empowered contribute more to their families, societies and national economies. It has been found that their extra income in their children-providing a route to sustainable development. The OECD DAC Network on Gender Equality (2012) propounded that women's economic empowerment is a prerequisite for sustainable development, pro-poor growth and achievement of all the MDGs.At the same time it is about rights and equitable societies. Women experience barriers in all aspects of work. Employment opportunities need to be improved. At the same time women perform the bulk of unpaid work. This is an area of greater attention by devilment actors through increased recognition and valuing of the ways in which care work supports thriving economies. Diana Wu (2013) proposes four domains to represent economic empowerment-power of decision making, systems of values, norms, institutions and policies that shape economic and social environment, income, assets, resilience and return on labor. Dr. Soochi Loomba found that despite in substantial contribution of household and national economy, their work is considered just an extension of household domain and remains non-monetized.

Hence women's economic empowerment is considered when women are economically advance, when they make their decisions themselves, when they step out for innovative purposes and most importantly when they contribute in economy and gain their economic as well as social status in the society. In the western societies women have got equal rights and status with men in all walks of life. But in India women are in very dark condition. They are humiliated and discriminated anytime-anywhere. To gain its power and status women must be economically empowered. But again the path is not so easy; they have to face a number of problems in between. Some of the major problems women faces are here as-

WOMEN ENCIRCLED IN CUSTOMARY CULTURE OF INDIA
It is severe truth that government in India takes major steps for the upliftment of women in India. Inauguration of new women bank in Mumbai is one such major step. But the implementation of these kinds of schemes here in this nation of old traditions is rather a tight task. Since women are considered a house administrator

only. They are considered only for indoor duties like child care, cooking, dusting the house, washing clothes and utensils. In the man dominated society of India working of women is not welcomed. It is assumed that their families will not be moved by women. Men feel ashamed to be fed by working women in house. Many a times disputes are caused highly by man if his wife earns more. The condition is much pitiable in rural areas where women are bound only to the four walls of house. They are kept under purdah (veil) in the house. They are mainly engaged in agricultural activities and household duties.

STATISTICS DOES NOT REFLECT MUCH OF HOUSEHOLD ACTIVITIES

Women constitute almost 50% population of the world, performs 66% of world's work, produce 50% of the food but they earn only 10% of the income. They are found engaged in every task like producing in the fields, serving the animals, milk the cows and buffaloes, rearing the children in the house, managing all the mess in the house, dusting the house and even after that she looks after every family member in the house. In spite of all these tasks done, many a times she is found engaged in other activities like weaving, sewing, making handy toys etc. But it is severe truth that although a woman works hard from morning to late night daily to make her family survive better way. But truth is bitter. In fact, a woman always depends on others. Her household work or household duties are not counted in statistics. Rather it is considered that women are made only for household tasks and caring children.

FEMALE EMPLOYMENT DOES NOT ENSURE ECONOMIC INDEPENDENCE AND STRESS FREE TIME

The number of working women in India is increasing. They are contributing to the economy. But these working women are also not economic sound as well. Their income is controlled by the head of the family or their husbands. They cannot spend or save their incomes accordingly. They do not make their economic decisions. All the decisions are made by the head of the family. We can ignore all this fuss for a moment. Now we move to the life of a working woman. A working woman in India means double burden on her shoulders. She works at the working place and manages the home also. A working woman Vidya Subramanian writes in The Hindu-it looks like the house revolves around me. Everyone whether my child or husband or maid calls for me. I shudder to think how a day at home would be in my absence. Working outside the home and bringing up children and running the home full-time is no mean task. I work like an oiled machine for the whole day. So I quit the job after the birth of my second child. It is not the case only of Vidya but a number of working women face this stress and lastly they resign the job.

WOMEN EDUCATION

Literacy level and education attainment are vital indicator of development for any nation. Higher level of literacy and educational development lead to greater awareness on one hand and help people in acquiring new skills on the other. But education in India seems one fold. In traditional set up of India women education is very low. There is wide gap in the literacy levels of men and women in India. This gap further creates a gap in the economic status of men and women in India. The under given table shows the difference.

TABLE 1

Census year	Persons (%)	Male (%)	Female (%)	Male-Female gap in literacy rate
1951	18.33	27.16	8.86	18.30
1961	28.3	40.4	15.35	25.05
1971	34.45	45.96	21.97	23.98
1981	42.57	56.38	29.76	26.62
1991	52.21	64.13	39.29	24.84
2001	64.83	75.26	53.67	21.59
2011	74.04	82.14	66.46	16.65

Source: census of India.

URBANIZATION PROCESS IN INDIA

In the present age of innovations and modernization, people of India are living a very simple life in villages where people are engaged in agriculture based activities. Women there are engaged in agriculture and household activities. They are not aware of urban life of cities. They lack the basic facilities like education, means of communication, jobs etc. and more than half the nation lives in rural areas and beware of these facilities. The urbanization process in India is very low that leads to the low economic growth of the nation and low economic empowerment of women as well.

URBANIZATION PROCESS IN INDIA

TABLE 2

1	2	3	4
Year	Total population (mn.)	Urban (%)	Rural (%)
1901	238.4	10.84	89.16
1911	252.09	10.29	89.17
1921	251.32	11.18	88.82
1931	278.98	11.99	88.01
1941	318.66	13.86	86.14
1951	361.09	17.29	82.71
1961	439.23	17.97	82.03
1971	548.16	18.24	81.76
1981	683.33	23.34	76.66
1991	846.42	25.72	74.28
2001	1028.61	27.78	72.22
2011	1210.19	31.16	68.84

Source: cso data.

WOMEN'S LITERACY RATE IN RURAL-URBAN AREAS

TABLE 3

Census year	Rural (%)	Urban (%)
1961	26.49	43.75
1971	26.12	52.54
1981	26.91	58.07
1991	30.17	64.05
2001	46.13	72.82
2011	58.75	79.92s

Source: census of India.

WOMEN LACKS ACCESS TO FINANCE

It is noteworthy that women perform 66% of the total work and produces 50% of the food but earns only 10% of income. Women lack access to finance partly because of illiteracy, remote locations and lack of documentation but also because of patriarchal attitudes which mean men will control family budget. Many Indian women typically give their earnings to their husbands. Access to a bank account is essential for women's economic empowerment as it provides a safe place to save money and opens up a channel to credit which can be used for investing in education, property or in a business. But the sad reality is that just 26% of women in India have an access with a formal institution compared with 46% of men. Many factors like lack of financial institutions in remote areas, lack of transport

facilities, unawareness among women, lack of savings because of low income and high prices of basic goods, expensive nature of people in India work behind the low level of finance among women.

SUGGESTIONS AND CONCLUSIONS

Opening of Bhartiya Mahila Bank in Mumbai and creation of ₹1000 crore non-lapsable Nirbhya fund focuses on the dignity and safety of women both socially and economically. There are many other schemes like Kishori Shakti yojana, Sabla yojana etc. that steer the empowerment of women somehow. But still there is more to do to make women economically empowered. Some suggestions are given here to improve the situation

- There is need for the timely revision and effective implementation of government oriented programs.
- Investment should be made in the women's general education including literacy.
- Make schools more affordable by reducing cost and close to girls' home
- Microfinance is also an important source of economic empowerment of women which provides credit for impoverished women who are usually excluded from formal credit institutions.
- Guidance to women on maintaining a balance between family and work responsibilities.
- Business training and skill development programs can be fruitful to women for their economic empowerment.
- Male members of society must recognize her contribution in every aspect of life and should look into her abilities and provide her chance to drive.
- Women must utilize their leisure time in economic activities.
- Woman herself must be aware enough and develop herself crossing the outdated barriers imposed on her and step out in the market to grab new opportunities.
- Woman must know her property rights.
- We must make quality education that can provide quality jobs to all.
- We must provide incentives to self-help groups and small scale industries.

Thus implementing these incentives, we can build a platform for the upliftment of women as well as a nation. There is strong need for awareness among women for their rights and government should also renew its policies, share of budget for education must be increased. Lastly one key point we must say is that a woman can be economically empowered only when she steps outside the home breaking all the old myths and barriers, works hard to the depth of her caliber and knows her right of equal opportunity.

REFERENCES

1. John E. Dunlop and Velkoff A. Victoria (1999),"Women and the Economy in India", International Programs Center.
2. Mishra Jugal Kishore (2006)," Empowerment of Women in India", The Indian Journal of Political Science vol. LXVII, no, 4.
3. Schmitz Catharina, Annika Tornavist, Sida Gender Equality Team (2009)," Women's Economic Empowerment: Scope for Sida's Engagement".
4. Anne Marie Golla, Anju Malhotra, Priya Nand and Rekha Mehra (2011),"Understanding and Measuring Economic Empowerment: Definition, Framework and Indicators".
5. Central and State Statistical Organization, Gangtok, Sikkim, 10-11 january,2011, Agenda item-4, Urban Statistics.
6. Census of India (2011).
7. Loomba Suchi, "Role of Microfinance in Women Empowerment in India".
8. Hazarika Dhurba (2011), "Women Empowerment in India", International Journal of Educational
9. Planning & Administration, volume-1, number 3, pp-199-202.
10. The OECD DAC Network on Gender Equality (GENDERNET) (2012)," Women's Economic Empowerment",www.oecd.org/dac/gender/effectiveness.
11. Wu Diana (2013),"Measuring Change in Women Entrepreneur's Economic Empowerment: A Literature Review".
12. The Hindu, February 18, 2014.
13. The Hindu, March 2, 2014.

WEBSITES
14. www.bbc.com./news/
15. www.cso.ie/en/statistics/
16. www.data-archive.ac.in
17. www.jstor.org
18. www.mospi.in
19. www.thehindu.in
20. www.timesofidia.com
21. www.urbanisation.nic.in.
22. www.weforum.org
23. www.wikipidea.org
24. www.worldbank.org

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT   48

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

THE IMPACT OF THE INFORMAL SECTOR ON NATIONAL DEVELOPMENT: STUDY OF THE HUMAN RESOURCE DEVELOPMENT (HRD) ISSUES AND THE CONTRIBUTIONS OF THE ROAD SIDE MECHANICS, ARTISANS/TECHNICIANS ETC. TO THE ECONOMY IN OSUN STATE, NIGERIA

DR. S. O. ONIMOLE
SR. LECTURER
DEPARTMENT OF ENTREPRENEURSHIP
COLLEGE OF MANAGEMENT SCIENCES
JOSEPH AYO BABALOLA UNIVERSITY
IKEJI

ABSTRACT

The informal sector which, to a large extent, is an important arm of the economy of most developing countries is considered as a major key to self-employment and sustainable economic development. What has come to be known as the informal sector is not new in both socio- economic literature and practice. The study observes the presence of two sectors which are interdependent, interrelated and functional as extension of one another, but distinct, in organization, orientation, capacity and technological base. The informal sector consists of petty traders hawkers, tailors, carpenters, taxi-drivers, small-scale workers machine repairers, mechanics, bricklayers, shoe-makers, carpentry, smithing and watch-repairers, etc. The study sees the informal sector as an important sphere of production not only of its contribution to employment but also because it aids in skills formation and ultimately the formation of human capital, which needs to be constantly trained and re-trained. The study examines the extent of the sectors contributions to National development and Human Resource Training Development issues. The research design adopted is survey and documentary analysis. The survey involves the collection of data from existing records and findings of the opinion on the subjects through the use of structured questionnaire. Stratified sampling technique was used to select the respondents for the study. The instrument was validated and pilot-tested to ascertain the internal consistency using Cronbach Alpha. Data obtained were analyzed, using mean one-way analysis of variance, percentages and frequency count. Majority of the respondents are of the view that the informal sector plays enormous role in national and family socio-economic growth and development. The study is of the view that if Human Resource Development is to be perceived as an essential foundation for economic and industrial development, deliberate and conscious efforts and planning need to be done to be able to match the pace of economic and industrial progress with quantitative and qualitative human capital development in the informal sector. Based on the findings some recommendations are made which we believe will improve the current level of training efforts.

1.0 INTRODUCTION
1.1 BACKGROUND TO THE STUDY

The concept "the Informal Sector" came into focus in Nigeria only in the last fifty years while the sector has existed in many countries in one form or the other. Prior to this, the identification and subsequent recognition of its roles were forced upon researchers and policy makers, as a result of the unprece- dented growth of population and labour force in urban areas, the ability of this sector to absorb such rapidly growing labour force, and the parallel pro- duction of goods from a different combination of capital and labour which this sector has openly demonstrated (Odetola, 1993)

The ILO for example in a mission to Kenya in 1972 drew emphatic attention to the activities of this sector. It became recognized that the work and products of large numbers of people, are not acknowledged and have gone unrecorded in government statistics and accounts. Researchers however discovered that the workers in this sector were not acquiring their skills in the formal educational system. Therefore, the concepts "non-formal" and "informal" were introduced by researchers and educational planners.

There has been some increasing recognition being given to this sector due to several factors which according to Odetola (1993) include the following

- The decline of government and private sector activities in employment due to structural adjustment problems;
- The deliberate targeting of this sector by the international development community who now believe that far more needs to be done to channel development aids to the groups for which they were directly intended;
- The continued expansion and dynamism of this sector in spite of policy neglect and the wish and hope that it would disappear.

Due to these development researchers, development practitioners and policy makers have been seeking to know more about the structures, roles, functions, employment generating capacities, conditions of work, training and developing entry requirements, wages, incomes as well as intervention possibilities for the informal sector further development and growth.

It also became increasingly clear to government, as well as to industry and commerce, that the growth and economic advancement of the country required in addition, the services of trained workers and professionals who possessed technological skills and executive capacity to provide specialized services of all sorts, both for the formal sector and the informal sector of the economy. Up till now, two major systems of manpower development, provide the bulk of trained manpower for the nation's economy. These are the formal institution-based training system and the industry-based training system. It is the recognition of the important role of industry-based training that had led to the establishment of the Industrial Training Fund (ITF) by Decree 47 of October 1971. The importance of skills training and re-training was aptly recognized by Harbison (1982. The late professor Harbision epitomized this very clearly in his book when he wrote.

"Human resources not capital, not income, not material/ resources constitutes the ultimate basis for the wealth of nation- capital and natural resources are passive factors of production, human being are the active agents who accumulate wealth, exploit material resources, build social economic and political organizations and carry forward national development. Clearly a country which is unable to develop skills and knowledge of its people, and to utilize them effectively in the national economy will be unable to develop anything else…"

From the above, one can assert that on the agenda for economic development of any nation, human resources training, development, and utilization must always be taken as important critical items. Furthermore, it can be stated that the economic development of nations is ultimately the result of the human effort. It takes an appreciable number of talented and skilled people to search for, discover and tap a nation's natural resources, mobilize capital and develop requisite and relevant technology for industrial production. Where a country lacks high quality technical and engineering manpower, it cannot build anything else, whether it be a modern political system, sense of national unity or a prosperous economy. The informal sector of the Nigeria economy has shown great resilience and continued dynamism. This is inspite of neglect by decision makers and a constraining policy environment. It has been estimated that this sector in Sub-Saharan African accounted for over sixty percent of the urban labour force (ILO 1988, 1986). The same study estimates that the sector contributes about 20 percent of the Gross Domestic Product (GDP). Similarly, about 40 percent of businesses which exist in this sector in 10 Sub-Saharan African Countries pay fiscal registration or other fees.

According to Fapohunda (1999) the informal sector contributes an estimated 20 percent to total GDP in Africa. The proportion of the contribution is 35 percent within the sector. Trade contributes 50 percent, which is the highest to the GDP. This is followed by industry at 32 percent and the services coming third at 14 percent.

This sector has been absorbing the rapidly growing urban labour force. Indeed, employment in the informal sector has been growing at the rate of about 6.7 per annum in the first half of the 1990's. between 1995 and 2000, employment in this sector reached about 22 million which is about 60 percent of the urban labour force (Fluitman, 2000). It has been argued that in theory there is no limit to the number of people who can be absorbed by the informal sector. Because of the ease of entry and exit, the informal sector continuously attracts new entrants, since it offers a large scope for entrepreneurship development, and the building of technology capacity through production.

Most of the labour is provided by the proprietors, unpaid family members and apprentices. The family networks and grassroots institutions, which are easily accessible, provide most training.

It is realized, therefore that training (HRD) for self-employment is a viable key to sustained economic development. To promote self-employment is to encourage initiative and innovation, to promote savings and investments as well as guarantee more equitable distribution of income. In this regard the promotion of small enterprises development is the key to self employment. Small enterprise promotion adds flexibility to economic activity by responding more readily to economic changes than larger ones (Castro, 1990)

In general, the informal sector far outstrips the modern sector in employment generation in the developing countries. Since, as it is now recognized, this trend is virtually irreversible, training efforts, geared towards the development of this sector must not be considered makeshift interim or transitory. The approach to and the organization of training and development must be well thought out. This is what has motivated this study.

The study takes a preliminary look at some possible approaches. It is important that the initial step to be taken for human resources development in the informal sector is to undertake a needs assessment survey for training in this sector.

SCOPE OF THE STUDY

The study is designed to examine the impact of informal sector of the economy on National Development, the contribution of the roadside mechanics, artisans, crafts-men, technicians, traders etc the study of Human Resource issues in Osun State of Nigeria.

The choice of Osun State was informed by the large concentration of Road Side Mechanics, Craft Men. Artisans, Crafts Men, Technicians, Traders etc, in Oshogbo, Ilesa and Ile-Ife, areas of Osun State.

SUMMARY OF LITERATURE REVIEW

The literature reviewed for this work indicates that the studies on the informal sector had initially concentrated on collecting data at the micro-level focusing on small production units and enterprises. This initial intention was to gather basic information on the structure of the informal sector as well as on the characteristics and behavior of entrepreneurs in the sector and hence, were mainly exploratory in nature. Most of these were carried out as surveys by the International Labour Organization (ILO) between 1973 and 1978 (Sethuraman (1981) these initial studies had assisted in laying the foundation for an understanding of the sector. From available evidences only a few (perhaps less than a handful) studies were conducted on Nigeria (Mabogunje and Filani 1981; Fapohunda, 1981; Mabawonku, 1975; Oyeneye, 1979, 1980; Sinclairl 1977; Nafziger. 1977). While some of those quoted above have addressed the informal sector, a few have focused on the subject only peripherally thereby emphasizing the paucity of literature on this subject.

However, a few studies that have predated the advent of the concept are particularly useful. These studies have also examined African educational systems from the perspectives of employment generation (Callaway 1964, 1971 and 1973).

According to Odetola (1993) there has never been a systematic study of this sector even in an exploratory manner, until after 1990.

According to him the first policy mention of the informal sector in Nigeria appeared in the rolling plan which was published in 1991; and this was in two or three paragraphs. However, international organizations such as the United Nations Development Programme (UNDP) and ILO which have long realized the critical importance of this sector to the Nigerian economy have sponsored baseline studies, programme support document and project for this sector.

Most of these projects have been channeled through the Nigerian Directorate of Employment (NDE). A deeper involvement and greater participation of other Nigerian development agencies is therefore needed.

The review also indicates that for the past two decades or more, researchers and planners have been grappling with the problems of properly delineating and defining the informal sector. Even now, no universally acceptable definition has been reached. This is not surprising because of the fact that the sector embraces a wide variety of activities which are not reckoned with in statistics "including all sorts of manufacturing activities, construction, trade and commerce, repairs and other services. For example, informal sector workers make beds and pots and pans, they repair watches, cars and radios; they write letters, lend money run restaurants and barbers' shops on the road side; they transport goods and people on their motorbike; they sell fruits and cooling oil and cigarettes by the piece" (Fluitman, 1989).

The informal sector workers are also found in agriculture in training and financial services. A worker in this sector can be a small scale farmer, an off season non-farm worker migrant, retired civil servants and school leavers, and school dropouts. The handicapped, refugees etc. the unending list may be supplemented by the activities of smugglers and others who may, in one way or the other, affect the economy.

The activities of the informal sector, though important, go largely unrecorded in the total national accounting. Most of the workers in this sector are not regulated. The informal sector workers do not have access to modern formal institutions of credit, formal training institutions nor to organized markets. The enterprises usually operate outside the national legal framework although in Nigeria, they are often harassed by public environmental agents, custom and tax officials, local government officials, etc. They are not subject to labour laws. They are often small in scale of operation and number employed. Apart from the production and distribution of goods and services, the operators are often self-employed. The self-employment characteristics is a distinguishing feature of the informal sector because it emphasizes self-independence. Most training activities have been confined to the formal sector while training for people in the informal sector were considered to be mainly preparatory for work in the formal sector.

Bowland (1989) had earlier suggested that appropriate training approaches in the informal sector are scarce and not often well adjusted to this target group. The informal sector because of the growing demands for employment, has special human resources development problems which must be addressed.

The review has been of tremendous importance in the construction of the instruments used for the study.

However, the review showed a dearth of literature on clear areas where training could pay off or make impacts which are worthwhile for the informal sector of the economy. The situation presents a wider gap when one cannot hold on to any current and specific study attempting to examine the extent and impact of decisive human resource development effort of the informal sector.

Bearing in mind however the fact that the findings from the various studies relate to other areas of informal sector contributions cannot serve the unique purpose of this study. It therefore becomes pertinent that an investigation into our unique situation he carried out.

In realization of the aforementioned, and bearing in mind the onerous task of improving HRD issues of the sector, there is urgent need to investigate the impact of the sector to the economy and examine the human resource development issue.

RESEARCH METHODOLOGY

The study is designed to examine the impact of the informal sector of the economy on National Development, the study of Human Resource development issue and the contributions of the roadisde mechanies artisans, crafts-men, technicians. etc. in Osun State, of Nigeria.

The research design adopted for this study is survey and documentary analysis. The survey research involves collection of data from existing records and findings of the opinion on the subjects through the use of structured questionnaire. Stratified sampling technique was used to select the respondents for the study. The

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT   50

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

instrument was validated and pilot-tested to ascertain the internal consistency using Cronbach Alpha. Data obtained were analyzed using mean one-way analysis of variance, percentages and frequency count. The reliability coefficient of the questionnaire was 0.71.

The instrument used was personally developed and administered by the researcher. The instrument was validated by three experts from the field of Human Resource Development, Management, Training and Education.

Two sets of questionnaire were designed: to be completed as follows:(1) the interview question, i.e. the self-completion questionnaire and the main the question-naire. All were personally administered by the researcher, together with some tutors and students of the Department of Entrepreneurship Studies of the University.

SUMMARY AND ANALYSIS OF FINDINGS
ANALYSIS OF THE IMPACT OF THE INFORMAL SECTOR ON NATIONAL DEVELOPMENT

TABLE 1: RESPONDENTS MEAN SCORES ON THE IMPACT OF INFORMAL SECTOR ON THE NATIONAL ECONOMIC/DEVELOPMENT

a. Contributes substantially, to economic development, through	Tech N=138		Art N=133		SU N=135			
	Mean Tech	SD	Mean art	SD	Mean SU	SD	Combined Mean	Re-marks
(i) Low cost supply of Goods	4.10	1.26	4.10	1.27	4.10	1.27	4.10	A
(ii) Reliance on indigenous resources & skills	4.43	0.97	4.45	0.93	1.47	083	4.45	A
(iii) Source of gainful employment	4.26	1.21	4.46	1.22	4.225	1.26	4.26	A
(iv) Positive income contribution	4.24	1.25	4.25	1.25	4.24	1.25	4.24	A
(v) Quality and services produced compare favourably with what obtains in the formal sector	4.24	1.25	4.39	1.09	4.40	1.07	4.34	A
(vi) Cheaper quality products, services and labour and comparable low over-heads.	4.67	0.88	4.65	0.95	4.66	0.94	4.67	SA
b. Enhances the quality and standard of living	4.69	0.88	4.69	0.87	4.20	1.61	4.52	SA
c. Serves as a price control device on the formal sector	4.69	0.88	4.65	0.95	4.67	0.93	4.67	SA
d. provides out let for the disadvantaged, the poor women and the minorities.	4.45	1.20	4.59	1.35	4.61	0.80	4.55	SA
e. Offers a large scope of entrepreneurship development.	4.70	0.86	4.66	0.93	4.67	0.93	4.67	SA
f. Building of technological capacity through production.	4.59	0.85	4.59	0.86	4.61	0.80	4.60	SA
g. Serves as a training ground for those who later move to formal sector.	4.38	1.11	4.39	1.09	4.39	1.08	4.39	A
h. Represents the market which integrates a vast training system through which critical development and economic needs are met.	4.40	0.83	4.59	0.86	4.40	1.07	4.46	A
i. Makes use of domestic labour and raw material more efficiently and more intensively than most of the formal sector.	4.20	1.10	4.39	1.09	4.41	1.05	4.33	A
J. Contributes high percentage of gross domestic product (GDP)	4.59	0.85	4.39	1.09	4.91	0.80	4.53	SA
k. Serves as source of employment generation and expansion in the country	4.69	0.88	4.59	0.83	4.56	0.94	4.65	SA

Tech = Technicians Art = Artisans SU = Supervisors SD Standard Deviation, SA = Strongly Agreed, A= Agree

Data in table 1 indicate the combined mean scores of the Technicians, Artisans and Supervisors on the impact of the informal sector of the economy on National / development. Data show that the participants considered and agreed that the informal sector contributes substantially to economic development through low cost supply of goods =4.10, reliance on indigenous resources X = 4.45, sources of gainful employment X = 4.26 positive income contribution X = 4.24, quality of services produced compare farourably with what obtains in the formal sector X = 4.34 and strongly agreed that cheaper quality products, services and labour and comparable low over heads. X = 4.67. participants also strongly agreed that informal sector activities enhance the quality and standard of living X = 4.69

TABLE 2: SUMMARY OF THE ANALYSIS OF VARIANCES OF THE RESPONDENTS ON THE IMPACT OF THE INFORMAL SECTOR ON NATIONAL DEVELOPMENT

Sources of variance	SS	df	ms	F	Level of Significance	Remarks
Between groups	0.003	2	0.0015	0.052	0.05	NS
Within groups	2.991	105	0.0284			
Total	2.994	107				

Data in table 2 show the result of the analysis of variance ANOVA summary on data regarding the impact of the informal sector on the National Economic Development. The data showed that there is no significant difference between the test score on the contributions of the sector to the National economy with an f. ratio of 0.05. Since the calculated F- ratio is less than the table value of 3.09 the null hypothesis is retained.

FINDINGS IN RESPECT OF IMPACT OF THE INFORMAL SECTOR ON THE NATIONAL ECONOMIC DEVELOPMENT

A large proportion about 82% of the respondent are of the opinion that the informal sector of the economy is contributing substantially to the nation's economy in terms of low cost supply of goods, reliance on indigenous resources and skills and as a source of gainful employment. This is referred to as the "Positive income contribution theory" of the informal sector. The quality and services produced by the informal enterprises in many cases, compare favourably with what obtains in the formal sector according to this school of thought (respondents). To these groups, the goods and services are often cheaper in the informal sector largely because of cheap labour and comparably low overheads. Therefore, the informal sector enhances the quality and standard of living, and in many ways serve as a price control device on the formal sector.

On the other hand, about 18% of the respondents see the operators of the informal sector as a horde of hawkers, petty traders and unskilled workers in obsolete occupations, whose employment is casual and intermittent, with a fair leavening of illegal activities who make little and negligible, insignificant contribution to the national economy.

DISCUSSIONS AND INTERPRETATIONS OF RESULTS

The issue of national or economic development is widely and richly discussed by many scholars in literature as well as in public lectures and conferences. It has been argued that in theory, there is no limit to the number of people who can be absorbed by the informal sector. Because of the ease of entry and exit, the informal sector is perhaps the only outlet for the disadvantaged, the poor, women and the minorities. The informal sector continuously attracts new entrants, since it offers a large scope for entrepreneurship development, and the building of technological capacity through production.

The informal sector attracts a wide variety of entrants from the labour force because of low start-up costs. Many entrepreneurs obtain much of the initial capital from relatives, friends and personal savings. Most of the labour is provided by the proprietors, unpaid family members and apprentices. The family networks and grassroots institutions which are easily accessible provide most training. With the opportunities offered by the entry conditions, the informal sector sometimes offers greater income than the formal sector. It also often serves as a training ground for those who later move into the formal sector wage earning system. According to Odetola (1999) the informal sector represents the market which integrates a vast training system through which critical development and economic needs are met. The informal sector makes use of domestic labour and raw materials more efficiently and more intensively than most of the formal sector. Entre-preneurs often produce on a made-to-order basis thereby responding to shifts in demand.

According to ILO study of (1986) this sector in sub-Sharan African, accounted for about sixty percent of the urban labour force.

Odetola (1993) estimated that the sector contributes about 20 percent of the Gross Domestic product (GDP)In African. The proportion of this contributes is 35 percent within the sector. Trade contributes 50% percent, which is the highest to the GDP; this is followed by industry at 32 percent while services are coming third at 14% percent.

By inference there seems to be a settled consensus that it is related to the process of growth in total and of course per capital incomes of development nations, accompanied by fundamental changes in the structure of their economies. In this study, we construe national development to mean the totality of all those activities within an economy whose main objective is to raise the living standard and general wellbeing of the people in the economy. This study reveals two major school of thought which were earlier identified by Fapohunda (1993) the "illegal Activities theory" which sees the operators of the informal sector as a horde of hawkers, petty traders and unskilled workers etc. The other school of thought vie the 'Positive Income Contribution Theory" holds a converse opinion that inspite of the petty casual and parasitic nature of the activities of the informal sector, it still contributes substantially to a developing nation's economy in so many ways. i.e. in terms of low cost supply of goods, reliance on indigenous resources and skills, and as a source of gainful employment.

According to Diyo and Iliya (1999) a government that subscribes to the former sees the informal sector as a nuisance and would want it eliminated. A government that subscribed to the latter theory would offer every possible assistance and would incorporate the informal sector in the national development equation. Considering all the above, it is the view of this study that the informal sector enterprises, if properly managed organized and assisted will in the future be the main source of employment generation and expansion in the country.

FINDING IN RESPECT OF THE CURRENT LEVEL OF HRD PRACTICES IN THE INFORMAL SECTOR

The study reveals that a large proportion of respondents have in existence, although not written, HRD practice polices. It is also evident as well that large number of the respondents are aware of the importance of human Resource Development, training and retraining as instruments of operational efficiency, organization development and improvement of manpower performance, only very few within those surveyed were offering training based on the needs of the workers. Other on-the-job training and apprenticeship training are haphazard and remains very much the antiquated method of "Siting next to Nellie" or a brand of apprenticeship method in traditional occupation. There are however some (fairly organized) brands among those practicing some sort of training whose on-the-job-training are not even documented. In this category of the apprenticeship scheme which is very common in the sector, makes the sector a training ground for many workers and a source of gainful employment opportunities. In a few workshops of some of those surveyed, practical skills (which we observed in most cases are indigenous in nature) and entrepreneurial latent are developed at low cost.

On the other hand, the group that are not training do not have any defined training responsibilities and the function is one of a number of general responsibilities carried out by other workers/ staff since they do not have any training policy, they do not make adequate provision for training.

DISCUSSIONS AND INTERPRETATIONS OF RESULT

Fapohunda's earlier findings (1999) on the nature and character of informal sector enterprises observe that the level of education of the owners and workers in the informal sector is very low, even though a substantial proportion of them can read and write, they hardly do business with the governments or their agencies (only about 9.5% of the sample did). It could be argued that the above represents the reason for lack of training plan, absence of training or insufficient training in many informal sector enterprises. The informal sector relies almost entirely on indigenous human and material resources and skills. The apprenticeship system of training which is very much in use in the sector makes the sector a training ground for many workers. According to Oparango (1999) there has not been any purposefully directed training and development input by national planners into the teaching-learning process in the informal sector. This has created the inadequate learning processes and poor environment in the workshops and particularly the mechanics workshops. Odetola (1993) had earlier described training in the informal sector as ineffective, inefficient or even impossible. Most training activities have been confined to the formal sector and training of people in the informal sector were considered to be mainly preparatory for work in the formal sector. To this effect appropriate training approaches in the informal sector are scarce and not often well adjusted to the target group. Since the traditional apprenticeship system is the recognized approach to human resource development and training in this sector, it is preferable to seek to improve this system within the constraints under which small firms operate.

FINDING WITH REGARDS TO THE PROBLEMS /CHALLENGES OF THE INFORMAL SECTOR

Virtually all the respondents indicated the following as problems/ challenges facing the sector:

- Lack of articulate policy for the sector in which national development goals and objectives could be clearly specified and the role expected of the informal sector stated.
- Target setting as well as machinery for achieving monitoring and controlling operations of the sector.
- Need for enduring strategies and institutionalized procedure/ policy to address the numerous recurrent problems confronting the sector.
- Limitations in operating capital and lack of access to credit.
- Shortage of skilled managerial and technical manpower.
- Inadequate interaction between the informal and formal sectors.
- Lack of strategies for updating skills and broadening knowledge
- Limited technology and lack of access to credit facilities and others.

DISCUSSIONS

The earlier study by Diyo & Iliya (1993) indicated that despite the importance and potential of the informal sector, the sector did not benefit much from the government huge sums of money that was invested in the economic development of the country. Our study viewed that this was due to the fact that the informal sector "Operates under various disadvantages, limitation in operating capital, limited technology, lack of access to credit facilities etc.

CONSTRAINTS MILITATING AGAINST THE APPLICATION OF HRD PRACTICE

Analyses of the research question on the constraints militating against the application of structured HRD practice for the training of workers in the informal sector in respondents mean scores.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT   52

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

TABLE 3

Constraints Militating against application of structured practice training	Tech N=138		Art N=133		SU N=135			
	Mean Tech	SD	Mean art	SD	Mean SU	SD	Combined Mean	Re-marks
1. Lack of resources	4.075	1.09	3.99	1.22	4.05	1.00	4.02	H
2. Lack of facilities /equipment	4.29	1.00	4.19	1.11	4.28	1.00	4.25	H
3. Lack of Time for HRD	4.31	1.04	4.35	0.91	4.09	2.29	4.24	H
4. lack of trained trainers	4.35	0.94	4.11	1.12	4.2	1.02	4.22	H
5. Negative attitude of collaborators	4.31	0.89	4.25	0.96	4.28	0.97	4.28	H
6. No articulate HRD policy	4.39	0.93	4.50	0.62	4.42	0.77	4.43	H
7. Lack of fund/ capital (no budgetary provision)	4.36	0.94	4.49	0.62	4.47	0.69	4.44	H
8. Lack of qualified trainers	4.07	1.05	3.81	1.33	1.92	1.19	3.27	M
9. Lack of coordinating bodies	2.88	1.51	4.31	0.90	4.33	0.94	3.84	H
10. Absence of knowledge of HRD function	4.35	0.94	4.25	0.96	4.30	0.93	4.29	H
11. Changes in social situation	2.75	1.86	2.48	1.42	2.44	1.45	2.55	M
12. Lack of encouragement from government.	2.17	1.34	1.99	1.17	2.21	1.33	2.12	LC
13. Lack of opportunist is bureaveratisation	2.24	1.33	2.21	1.20	2.25	1.31	2.22	LC
14. changes in economic situation	2.54	1.30	3.42	1.49	3.50	1.43	3.15	M
15. lack of sensitivity	1.95	1.18	2.98	1.17	1.99	1.56	1.97	L
16. Bureaucatisation.	3.76	1.39	2.51	1.54	2.50	1.84	2.92	M
17. expected financial benefit of training not known	2.03	1.24	2.67	1.43	2.30	1.51	2.33	LC
18. Technical difficulty of the proposed training	4.15	1.12	4.21	1.01	4.19	1.12	4.18	H

Tech = Technicians Art = Artisans (133) SU = Supervisors (135) SD Standard Deviation, H = High constraint, M = Moderate, LC = Low constraints, C = combined. HRD = Human Resources Development

TABLE 4: SUMMARY OF THE ANALYSIS OF VARIANCE OF THE RESPONSES OF TECHNICIANS ARTISANS AND SUPERVISORS ON CONSTRAINS

Sources of variance	SS	df	ms	F	Level of Significance	Remarks
Between groups	0.12	2	0.06	0.06	0.05	NS
Within groups	48.36	51	0.95			
Total	48.48	53				

SS = Sum of squares, df = degree of freedom, ms = means square, f = f- ratio, NS No Significance.

FINDING IN RESPECT OF THE CONSTRAINTS MILITATING AGAINST THE APPLICATION OF STRUCTURED HRD PRACTICE IN THE INFORMAL SECTOR

A large proportion of respondents indicated that lack of resources, facilities, equipment and time, lack of trained trainers/ institutions, lack of sensitivity to training and the negative attitudes of collaborators are the major obstacles or constraints militating against the application of structured HRD practice in the informal sector. Others are, lack of capital, exigency of service lack of co-coordinating bodies bureaucratization; lack of encouragement from Government, lack of recognition (ignored) by the Government, lack of training opportunities, lack of articulate training policy; are other constraints militating against the practice of purposeful and structured training approach in the informal sector.

DISCUSSIONS

The research observed that the family network and grass roots institutions which are easily accessible, provide most of the current training practices.

It was also observed that human resources development in the informal sector was done mainly by private individuals and a few organizations. The contribution of government training agencies was indirect, coming from the formal education system.

Since most of the workers had little or no formal education, they usually acquire their skills learning by attaching themselves in form of apprenticeship to a master crafts-man for a given period of time which varied depending on the type of skill being learned, the level of entry education of the apprentice, before starting the apprenticeship, the age and the attitude of the apprentice. The apprentice learns by watching the master craftsmen or senior apprentices and by repeating what he has seen the master done. There was no written programme of study in all the workshops visited. What-ever could be learned depended on how skilled the master craftsmen were. This is the same for all the Artisans/ Technicians in the motor mechanic, welding, electrical, building construction, bricklaying, carpentry and joinery workshops.

The study also observed that most of the workers (respondents) were immigrants from rural areas. In terms of Human Resources Development, the workers/ respondents in the study area, had very few years of formal education hence whatever skills they had were acquired through the apprentice system on-the-job.

CONCLUSION

The study considers that the informal sector is a living phenomenon in Nigeria. its sheer size alone should kindle government's attention and its numerous contributions to developments must be gracefully acknowledge

In addition to the multifarious conceptions is the ambiguous nature of the sector. In view of these, delineating and defining the sector boundary is a vigorous task. A complex analysis of interplaying variables is required not only to understand the dynamics of the sector, but more importantly to draw a line between the sector and other sectors of the economy. Hence no universally acceptable definition has been reached. Earlier studies of Culger J. et al 1978, Yunusa 1993) suggest the existence of two sectors which are interrelated and function as extension of one another but remain distinct in organization, orientation capacity and technological base. The informal sector has been described as an intermediate between the traditional farming sector and the formal sector or modern sector consisting of petty traders, and hawkers, tailors, carpenters, bricklayer, small scale workers motor car repairers, mechanics, machine repairers, and small scale industries. Others prefer to call it a substantial "indigenous economy" rather than an informal sector.

It is apparent that all concepts that have been used to describe the sector connote the sector as covering all economic activities that either lack formal transactions, not measured in official statistics of national gross product (NGP)or escape from taxation although today in Nigeria, some form of taxation is being imposed. Activities often included in this group are hawking, barbing shops, the "mama put" eating houses, dyeing, leatherworks, knitting and even some capital intensive activities like carpentry, automechanic, photography, tailoring and photocopying shops among others.

CONTRIBUTIONS OF THE SECTOR

The study suggests that the sector plays enormous role in national and family socio-economic growth and development. It has remained an avenue for the urban women and youth to realize themselves, accumulate capital, and pursue personal and societal economic interest. Congent contribution of the sector can be noted in the area of employment and income generation, training and capital accumulation and provision of other social services that the state has somehow neglected.

OTHERS INCLUDE

(i)   Employment Generation
(ii)   Income generation
(iii)   Capital formation and training
(iv)   Social services contribution

HUMAN RESOURCE DEVELOPMENT ISSUES

The study suggests that human resource Development activities in the informal sector has been generally considered to be haphazard, unstructured ineffective and inefficient.

Most training activities have been confined to the formal sector and training for people in the informal sector were considered to be mainly preparatory for work in the formal sector. The study also observes that appropriate training approaches in the informal sector are scarce and not often well adjust to this target group.

The informal sector, because of the growing demands for employment, has special human resource development problems which must be addressed. It is the informal sector which absorbs retrenched labour due as a result of economic restructuring; it is the sector which also supports the national economy to assimilate new technologies and to cope with mounting demographic pressures.

The study believes that training for self-employment is the key to sustained economic development. To promote self-employment is to encourage initiative and innovation, to promote savings and investments as well as guarantee more equitable distribution of income. In this regard, the promotion of small enterprises development is the key to self-employment. According to Castro, (1990) Small enterprises promotion adds flexibility to economic activity by responding more readily to economic changes than large ones.

In other developing countries the informal sector far outstrips the modern sector in employment generation, since, as it is now recognized, this trend is virtually irreversible, training efforts, geared towards the development of this sector must not be considered makeshift interim or transitory. The approach to and the organization of training must be well thought out.

SUGGESTED POSSIBLE APPROACHES

It is important that the initial steps to be taken for human resources development in the informal sector is to undertake a needs assessment survey for training in this sector. It is believed that Entrepreneurship Universities like Joseph Ayo Babalola University or and the Industrial Training Fund (ITF) can itself initiate such a programme. It must be noted that not all the participants in this sector can most meaningfully, gain from training although substantial success has been recorded in training informal sector workers, through the National Directorate of Employment. (NDE)

Since the traditional apprenticeship system is the recognized approach to training in this sector, it is preferable to seek to improve this system within the constraints under which small firms operate. Some suggestions are offered below:

(i)   A mechanism must be devised to protect the apprentice but without discouraging crafts men from accepting apprentices, through various legislative means. This can be achieved through the setup of sectorial societies and professional unions and associations.

(ii)   Master craftsmen must be induced to become more dedicated trainers. Indeed, it might be a profitable idea to organize special training programmes for craftsmen. It is believed that this is being carried out by the Industrial Training Fund (ITF) presently. If not, it is a programme which needs urgent attention and which will yield highly profitable results.

(iii)   A profitable approach is to combine training with production (in-plant training) since it has concrete advantages. Training cum production is difficult to operate; a first danger is that training focuses essentially on conventional academic matters and leaves production alone. A second danger is that production for the market becomes the sole objective while training is down-graded.

Any effort at venturing into training in the informal sector must also take cognizance of the special needs of the entrepreneurs. These people have very little time, little money, and low level education. Some researchers have devised a primer for informal sector training and from which we can all gain (Castro,1989). This includes that:

(a)   Training has to be very simple

(b)   We should use analogies and example that is familiar to them.

(c)   Compensate their loss of income, otherwise they cannot afford the training

(d)   Repeat many times what was learned

(e)   Move at their pace and capacity if even it looks as if they are five years' old

(f)   They need personalized attention

(g)   Do not try to teach what is not directly relevant to their daily survival

(h)   Inculcate solidarity among members of the group

(i)   Group training is best and must always be geared to increasing solidarity and prepare participants for collective action.

(j)   Training must therefore go beyond skills transmission and include organizing skills (organizing demonstrations and meetings); it must include awareness building and workers education.

REFERENCES

1.   Ahmed H. (1999) the Role of Management Development Institution in capacity Building – CMD forum Feb.
2.   Bamidele, T. A. (1999) – Human Resources Development in a depressed Economy. A paper presented al the 16th edition of the Industrial Training fund. Human Resources Seminar held at TTF Centre for Excellence, Jos, October 7,
3.   Belcourt M, Sherman A. (1999) Managing Human Resource – I.T.P. Nelson USA.
4.   Diyo A. S. and Iliya M. (1993) The Informal Sector as a pivot for National Development. ITF Conference Paper
5.   Enemali J. D. (2010) Education and Training for Industrialization sterling Horden Publishers Ltd. Ibadan.
6.   Faphohunda O. J. (1999) Role of Human Resource Development in the Informal Sector Conference proceedings ITF
7.   Harbision F. H. (1972) Human Resources as the Wealth of Nations New York OUP
8.   Jaspa (1984) The Informal Sector in African ILO-
9.   Odetola Prof. T. (1993) The Informal Sector and National Development ITF conference paper.
10. Oparaogo (1999) ITF conference paper on Informal sector activities Jos.
11. Phesey D. C. (1997) Management Skills Training Structure – Public personnel Management- Nov/Dec.
12. Warren, M. W. (1979)- Training for results. A system approach to the Development of Human resources in Industry. Addison- Wesley Pub. Co.
13. Yunsa (1993) Understanding the informal sector. ITF National Conference Paper.

GROWTH OF VAT REVENUE

T. ADILAKSHMI
LECTURER
GOVERNMENT DEGREE COLLEGE
TUNI, EAST GODAVARI DIST

ABSTRACT

VAT has been implemented by most countries by replacing previous sales tax system to benefit from this new fiscal instrument. And it was implemented in India by large number of states including Andhra Pradesh since 1ˢᵗ April, 2005, after having number of negotiations with Empowered Committee of State Finance Ministers to compensate loss of revenue on account of implementation of VAT in three consecutive years. Hence this study deals with growth of VAT revenue in AP and in Visakhapatnam division to examine whether the VAT has resulted in revenue growth or not. And the data shows that the revenue from APGST/VAT +CST was Rs. 2954.51crores in 1995-96 and it was increased to Rs. 50542.15crores in 2013-14. During the same period the State Own Tax Revenue was increased from Rs. 4120.4crores to Rs. 64123.53crores, and it may be observed from data, that the percentage of revenue from APGST/VAT+CST has been decreased during pre-VAT period i.e., from 18.74% in 1996-97 to 10.30% in 2003-04 but in post-VAT period it has been increased from 14.06% in 2005-06 to 18.91% in 2013-14 except VAT in 2008-09, 2009-10. That means there was no revenue loss on account VAT implementation in the state.

KEYWORDS

value added tax, commercial tax, state own tax revenue, fiscal reforms, sales tax, growth, revenue.

1.1 INTRODUCTION

Value Added Tax (VAT) has been implemented all over the world along with India. Though it was first implemented by France in 1954 latter on it was extended and adopted by many other countries in the world due to its merits over previous sales tax system. The main Moto behind this fiscal reform is to get more revenue to the government exchequer and of course there are other socio-economic and administrative reasons like increasing tax compliance, efficiency, reducing tax evasion and inequalities in income and wealth. VAT has been implemented by large number of states in India since 1ˢᵗ April, 2005, after having number of negotiations with Empowered Committee of State Finance Ministers to compensate loss on revenue on account of implementation of VAT in three consecutive years that is 100% in 1ˢᵗ year, 75% in 2ⁿᵈ year and 50% in 3ʳᵈ of VAT implementation.

Andhra Pradesh has been implementing VAT system with effect from 1ˢᵗ, April 2005, with APVAT, Act, 2005, by replacing its previous sales tax system by making amendments to Andhra Pradesh General Sales Tax (APGST) Act, 1957. And this Act contains six Schedules. Schedule-I contains goods generally exempted from tax and which include Agricultural implements manually operated or animal driven, hand operated sprayers, Aids and implements used by handicapped persons, Aquatic feed, poultry feed and cattle feed including grass, hay and straw and feed supplements and nutrients, e.t.c. Schedule –II deals with zero rated transactions like exports. Schedule-III contains goods taxable at 1%, namely jewellery made from Bullion, Specie, Platinum and other precious metals. Goods taxable at 5% are listed under Schedule-IV (4% rate was changed to 5% on vide Act No. 11 of 2012 dated 20-04-2012 w.e.f. 14.9.2011). The majority of food grains and goods of national importance, like iron and steel, listed under this head. And finally Schedule-V deals with standard rate goods, taxable at 14.5%. All goods that are not listed elsewhere in the Act fall under this head. The VI Schedule contains goods taxed at special rates, such as some liquor and petroleum products.

In view of above changes, the present study aims to deal with the growth of VAT revenue in Andhra Pradesh. Accordingly, this chapter divided into two sections. The first section presents about growth VAT revenue in Andhra Pradesh and second section presents about growth of VAT revenue (a case study of Visakhapatnam Division.)

1.2 STATEMENT OF THE PROBLEM AND NEED FOR THE PRESENT STUDY

In fact, Andhra Pradesh is one of the trailblazing states to implement VAT though there was a lot of uncertainty about its success and no Southern state had any kind of experience in the implementation of VAT. There is no denying the fact that Maharashtra started implementing VAT on certain items from October, 1997 itself but withdrew it later due to non-economic considerations. In the Northern India, Haryana was the first to implement VAT and tasted its success by substantial increase in revenues but there were doubts if the success of Haryana was just particular to itself only.

VAT is primarily aimed at bringing in compliance discipline; there is a popular opinion that if tax is set higher than 10.0%, the traders engage themselves in the tax evasion. In pre-VAT system, there were many kinds of taxes: turnover tax, sales tax, Purchase tax, Entry tax, Octroi tax, and Service tax and so on, which only jacked up the final tax. Besides, the tax- collection, traders used to find it easier to either evade collection or collect more than once or finally avoid paying back the collected amount to the tax authorities. It is common wisdom that if taxes are fair and reasonable enough, the traders have no reason either for avoidance of collection or evasion of collected taxes. Because of this reason the VAT tax rate-setting system for its successful implementation is guided by the principle of 'five rates' - 0% for essentials, 1% for gold, silver and precious stones, 4% for input materials, a revenue-neutral rate of 12.5% for other goods and 20% for liquor and some petroleum products. Yet in Andhra Pradesh 4% of tax has been increased to 5% in respect of some items and 12.5% to 14.5% along with special rates of 22.5% on Diesel and 33% on Petrol, leaving other slabs unchanged.

For this reason, there is a need to conduct a study project to analyze whether the newly implemented tax (VAT) is bringing more revenue to government or not when compared to pre- VAT system and as well as to identify problems in its implementation. That's why I have chosen Visakhapatnam (division) to conduct a case study which is one of the major cities in Andhra Pradesh who has been implementing VAT effectively since its inception in the state. Hence this project aimed at to achieve following Objectives by employing the Methodology given below.

1.3 OBJECTIVES OF THE STUDY

The present study aimed to achieve the following general objectives.
1. To examine the growth of VAT revenue in Andhra pradesh during the period 2005 to 2014.
2. To examine the growth of VAT revenue in Visakhapatnam Division during the period 2005 to 2014.
3. To compare growth of Vat Revenue with Growth State Own Tax Revenue; and
4. To examine the share and composition of APGST /VAT+CST in total state own tax revenue.

1.4 METHODOLOGY AND DATA SOURCES

The methodology was used in this study includes tables, figures, percentages e.t.c. techniques. Whereas the sources of data used in this analysis was only secondary data. And that is collected from the Commercial Tax Department (CTD), Hyderabad, AP, Commercial Tax Department (CTD) Visakhapatnam Division, reports of Ministry of Finance and Govt. of India and different statistical bulletins like Economic Survey Various Issues, Socio–Economic Survey of Andhra Pradesh and White Paper on AP finance, RBI hand book on state finances Various Issues and different journals, and websites have been referred.

1.5 GROWTH OF VAT REVENUE IN ANDHRA PRADESH

Andhra Pradesh state has very good fiscal discipline starting from its formation on 1st Nov, 1956 and it has been carried out all over the years. Hence it has taken implementation of VAT as a challenging task in the state, though there was a fear of revenue loss on account of VAT implementation. Accordingly, the VAT system has been implementing effectively in the state since 1st, April 2005. The growth of VAT total revenue is being shown in the following table and it has been showing significant growth in its VAT revenue since its inception in the state. Table 5.1 exhibits about composition of VAT and other tax Revenue in State Own Tax Revenue (SOTR) of Andhra Pradesh.

It is very clear from the following Table-1 that the revenue from VAT other taxes has been increasing year after year. The revenue obtained from VAT was Rs. 2954.51crores in 1995-96 and was increased to Rs.11020.87crores in 2004-05. And it was again increased to Rs. 12569.91crores in 2005-06 to Rs. 50542.15crores in 2013-14. That means there was no revenue loss on account VAT implementation in the state. During the same period the State Own Tax Revenue was increased from Rs. 4120.4crores to Rs. 64123.53crores, inspite of its decline in 2003-04 to Rs.13805.91crores it was again increased. The revenue from State Excise duty was increased from Rs. 77.7crores (though it was declined to Rs.63.9crores in 1996-97) to Rs.6250.26crores and revenue from Stamps & Registrations was also increased from Rs. 325.6crores to Rs.4393.18, of course it was also recorded a significant decline in 2008-09 and 2009-10. The revenue from Motor Vehicle Tax was also increased from Rs. 461.4crores to Rs.3335.18crores during the same period. Finally, the revenue from Other Taxes was also increased from Rs.301.19crores in 1995-96 to 1882.98in 2002-03, and declined to Rs.514.65crores in 2003-04 and again increased to Rs.1407.5crores in 2013-14.

TABLE 1: COMPOSITION OF VAT AND OTHER TAX REVENUES IN STATE OWN TAX REVENUE OF ANDHRA PRADESH (in Rs. crores)

Year	APGST / VAT+ CST total	State Excise	Stamps& Registrations	Motor Vehicles Tax	Others (including, land revenue, entertainment tax, electricity duty etc)	State Own Tax Revenue
1995-96	2954.51	77.7	325.6	461.4	301.19	4120.4
1996-97	3508.25	63.9	435.2	553.8	320.65	4881.8
1997-98	4391.90	887.5	449.6	636.6	748.00	7113.6
1998-99	5138.96	924.0	493.5	694.5	710.44	7961.4
1999-00	6042.05	1038.4	591.8	733.6	602.75	9008.6
2000-01	7117.05	1242.96	670.9	833.97	687.02	10551.9
2001-02	7622.60	1651.9	804.9	939.2	1545.1	12563.7
2002-03	8337.75	1856.46	999.65	929.47	1882.98	14006.31
2003-04	9196.77	1914.98	1111.75	1067.76	514.65	13805.91
2004-05	11020.87	2092.67	1387.91	1168.64	584.41	16254.50
2005-06	12569.91	2684.57	2013.45	1355.74	583.73	19207.40
2006-07	15587.25	3436.63	2865.39	1364.74	672.2	23926.21
2007-08	19224.92	4040.69	3086.06	1603.80	838.97	28794.44
2008-09	22151.92	5752.61	2930.99	1800.62	721.71	33357.85
2009-10	23902.23	5848.59	2638.63	1995.30	790.96	35175.71
2010-11	29434.16	8264.67	3833.57	2626.75	980.4	45139.55
2011-12	35250.59	9612.36	4385.25	2986.41	1048.8	53283.41
2012-13	41317.17	9129.41	5115.24	3356.60	956.63	59875.05
2013-14	50542.15	6250.26*	4393.18*	3335.18*	1407.5*	65928.27*

Source: Commercial Tax Department, AP, HYD, RBI Bulletins, various issues AP socio economic survey, 2013-14 and White Paper on AP Finance. (Note:1. VAT revenue includes CST, 2. Figures which have * are pre-actual).

Figure-1 illustrates about the growth of revenue from VAT and State Own Tax Revenue of Andhra Pradesh during 1995-96 to 2013-14 as it was shown in Table -1. It is very much clear from figure 5.1 that the revenue from VAT has been increasing at a stable rate when compared to State Own Tax Revenue. And also it has exhibited that the proportion of VAT revenue has been occupied more than 70% during pre-VAT and post-VAT in Total State Own Tax Revenue of Andhra Pradesh.

FIGURE 1: GROWTH OF VAT REVENUE AND STATE OWN TAX REVENUE OF ANDHRA PRADESH DURING 1995-96 TO 2013-14
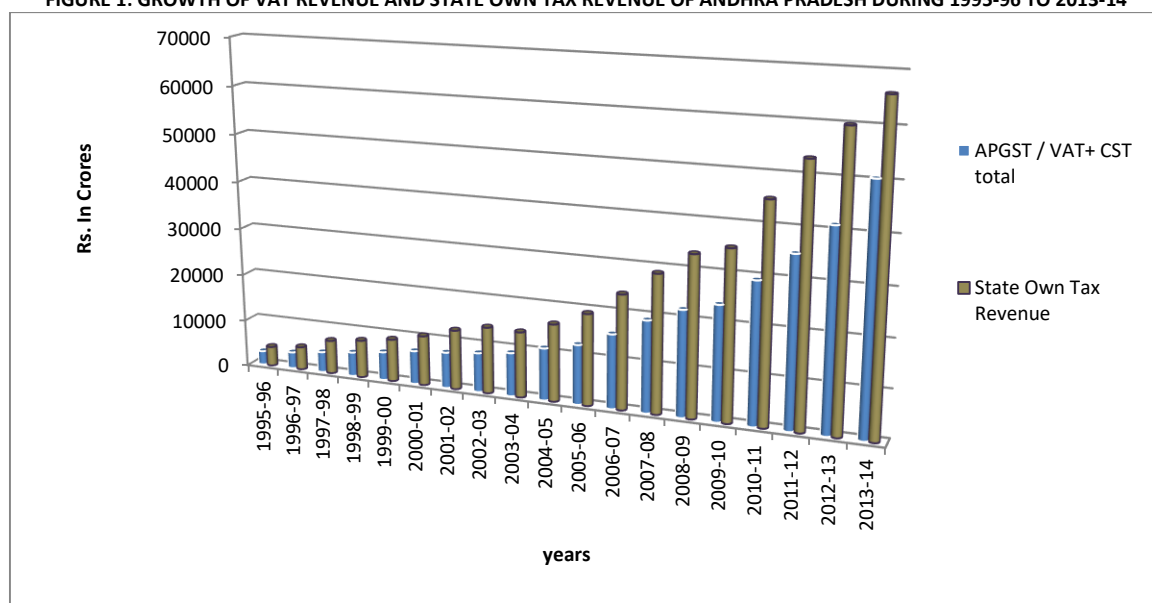
TABLE 2: TRENDS IN GROWTH OF VAT AND STATE OWN TAX REVENUE OF ANDHRA PRADESH (In Percentages)

Year	Gr. Rate of VAT revenue in % over Previous Year	Gr. Rate of State Own Tax Revenue in % over Previous Year
1995-96	++	++
1996-97	18.74	18.47
1997-98	25.19	45.71
1998-99	17.01	11.91
1999-00	17.57	13.15
2000-01	17.79	17.13
2001-02	7.10	19.06
2002-03	9.38	11.48
2003-04	10.30	-1.43
2004-05	19.83	17.74
2005-06	14.06	18.16
2006-07	24.00	24.57
2007-08	23.34	20.35
2008-09	15.23	15.85
2009-10	7.90	5.45
2010-11	23.14	28.33
2011-12	19.76	18.04
2012-13	17.21	12.37
2013-14	18.25	10.10

Source: Commercial Tax Department (CTD), AP, HYD, RBI Bulletins, various issues and White Paper on AP Finance. (Note: VAT revenue includes CST)

Table. 2 gives about the trends in growth of VAT revenue and State Own Tax revenue. It may be observed from the data, that the percentage growth of revenue from VAT has been showing a decreasing trend during pre-VAT period i.e., from 18.74 per cent in 1996-97 to 10.30 per cent in 2003-04 but in post-VAT period it has been showing an increasing trend i.e., from 14.06 per cent in 2005-06 to 18.91 per cent in 2013-14 except VAT in 2008-09,2009-10 (i.e. in crisis period due to slow down of economic activity that results fall in per cent growth of VAT revenue) and that of State Own Tax Revenue (SOTR) during the same period is also showing an increasing trend over all the years but it has more fluctuations due to instability in other tax revenue of the state. The annual average growth of APGST is 15.835per cent and that of annual average growth of VAT is 17.17 per cent.

But in pre-VAT era the Compound Annual Growth Rate (CAGR) for SOTR and VAT revenue was estimated at 9.74 per cent and 30.12% where as in the post-VAT era it was estimated at 14.68 and 16.72 per cent respectively. Though CAGR may decline in respect VAT due to economic crisis in 2008-09 and 2009-10, the overall growth is remain significant. That means VAT implementation hasn't resulted any loss in government revenue and moreover it has augmented government revenue as it was supported by economists all over the world as a rational and efficient method of taxation. And this has been depicted in the following figure 5.2

FIGURE 2: TRENDS IN GROWTH OF VAT REVENUE AND STATE OWN TAX REVENUE OF ANDHRA PRADESH
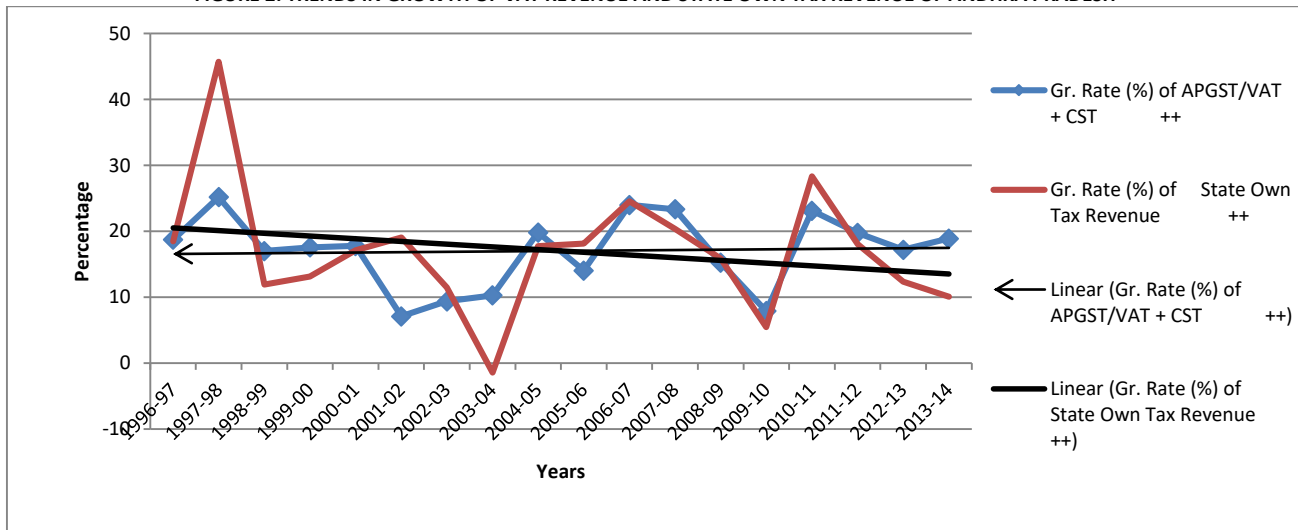
The figure-.2 illustrates about the percentage growth of VAT revenue and State Own Tax Revenue as it was shown in Table 5.2. The overall trend of VAT and State Own Tax Revenue has been exhibited by linear trend lines in figure 5.2 and that shows the annual average growth of revenue from VAT is more stable at 17 per cent when compared to annual average growth of State Own Tax Revenue at 17 per cent during all these years.

TABLE 3: SHARE/CONTRIBUTION OF VAT TO INDIRECT TAX REVENUE, STATE OWN TAX REVENUE AND TO GSDP OF AP FROM 2004-05 TO 2013-14

year	VAT revenue	Contribution of VAT to Indirect tax revenue (in %)	Contribution of VAT to SOTR (in %)	Contribution of VAT to GSDP of AP at constant prices (in %)
2004-05	11020.87	75.23	67.8	8.18
2005-06	12569.91	74.39	65.44	8.85
2006-07	15587.25	75.54	65.14	9.90
2007-08	19224.92	76.27	66.77	10.79
2008-09	2151.92	74.03	66.41	12.18
2009-10	23902.23	74.96	67.95	12.26
2010-11	29434.16	72.42	65.21	14.13
2011-12	35250.59	66.24	66.16	15.77
2012-13	41317.17	76.35	69.01	17.51
2013-14	50542.15	82.94	76.66	20.19

Source: Commercial Tax Department (CTD), AP, HYD, RBI Bulletins, various issues and White Paper on AP Finance. (Note: VAT revenue includes CST)

Table 3 exhibits about the contribution and share of VAT revenue in indirect tax revenue, State Own Tax revenue and in GSDP of Andhra Pradesh during 2004-05 to 2013-14. It may be observed from the Table.5.3, that the contribution of VAT to indirect tax revenue and state own tax revenue was 75.23% and 67.8% respectively in 20014-05. Whereas the share VAT revenue in GSDP of AP was nearly 8.2% in the same year. And in 2011-12 the contribution of VAT to indirect tax revenue was reduced to 66.24% but it was again increased to 82.94% in 2013-14 and it is the highest contribution VAT to indirect tax revenue during all these years.

The contribution of VAT to SOTR is also decreased to 65.21% in 2010-11 from 67.8% in 2004-05 and again it was too increased to 76.66% in 2013-14. And the share of VAT revenue in GSDP was also increased to 20.19% in 2013-14 from 8.2% in 2004-05. The data clearly show, that the contribution of VAT to indirect tax revenue and state own tax revenue is very high and the share of VAT in GSDP is also very significant compared to other state own taxes. That means it is again proved, VAT as a single largest revenue source for any government as it was justified and supported by economists and policy makers as an efficient fiscal instrument.

1.6 GROWTH OF VAT REVENUE (A CASE STUDY OF VISAKHAPATNAM DIVISION)

Visakhapatnam division is one of the fast growing industrial and commercial hubs in the state. Hence it was selected for this project to analyze the performance of revenue growth of VAT along with the Andhra Pradesh. The growth of VAT Revenue in Andhra Pradesh over all the years has been analyzed in the previous section. Hence this section deals with the growth of VAT Revenue in Visakhapatnam division which, was selected for the present study. In this section, first attempt has been made to understand the growth trend of VAT revenue in Visakhapatnam Division and latter a comparative study of growth of VAT Revenue between Visakhapatnam division and AP has been also made.

TABLE 4: GROWTH OF VAT REVENUE IN VISAKHAPATNAM DIVISION AND IN ANDHRA PRADESH DURING 2001-02 TO 2013-14 (In Rs. Crores)

Year (Column.1)	VAT Revenue (Column.2)	% Growth rate of VAT Revenue Over Previous Year (Column.3)	VAT Revenue in Visakhapatnam Division (Column.4)	% Growth rate of VAT Revenue Over Previous Year in VSP Division (Column.5)
2001-02	7622.60	++	277.55	++
2002-03	8337.75	9.38	312.21	12.49
2003-04	9196.77	10.30	408.07	30.70
2004-05	11020.87	19.83	261.96	-35.80
2005-06	12569.91	14.06	302.87	15.61
2006-07	15587.25	24.00	396.39	30.88
2007-08	19224.92	23.34	529.27	33.52
2008-09	22151.92	15.23	634.86	19.95
2009-10	23902.23	7.90	713.65	12.41
2010-11	29434.16	23.14	892.13	25.00
2011-12	35250.59	19.76	1159.38	29.95
2012-13	41317.17	17.21	1254.15	8.17
2013-14	**50542.15**	**18.25**	**1665.12**	**32.7**

Source: CTD Visakhapatnam division and CTD, Hyderabad, AP. (Note: VAT Revenue including CST)

The main objective of this project is to find out whether the revenue from VAT has been increasing or not in the selected division, starting from its inception in the state. Hence an attempt was made here to analyze trends in growth rate of VAT Revenue in Visakhapatnam Division and in Andhra Pradesh during 2001-02 to 2013-14. It may be observed from the data provided in the Table-.4, that the revenue from VAT in both Visakhapatnam division and as well as in Andhra Pradesh has been growing significantly. The revenue from VAT in Visakhapatnam division was Rs. 277.55 corers and that of AP was Rs. 7622.60 crores in 2001-02. And it was increased to Rs. 1665.12 crores in Visakhapatnam division and to Rs. 50542.15 crores in AP during 2001-02 to 2013-14. That means VAT implementation hasn't resulted revenue loss in Visakhapatnam Division too.

If we analyse the growth performance of VAT revenue in both the cases, it is very clear from the data, that the growth rate was positive and significant in all the years except 2004-05 where the growth rate of VAT revenue was negative (-35.80) in Visakhapatnam division. Therefore, an attempt was made here to examine the Comparative Annual Average Growth performance and Compound Annual Growth Performance of VAT revenue in the selected division as well as in the state during pre-VAT and post-VAT period.

The annual average growth of Sales Tax/VAT was 13.17 per cent in pre-VAT and it was 18.17 per cent in post-VAT period for the AP state, whereas the same was 2.46 per cent in pre-VAT and 23.13 per cent in post-VAT period in the Visakhapatnam Division. But the Compound Average Growth Rate (CAGR) in respect of AP state was estimated at 9.74% during pre-VAT period and 16.72% in the post-VAT period and the same was estimated for the Visakhapatnam division at -1.435% in pre-VAT period and 20.84per cent in post-VAT period. That means in pre-VAT period sales tax revenue annual average growth and CAGR were more in AP compared to Visakhapatnam division. But post-VAT period has recorded a significant increase in annual average growth and CAGR in both the cases and not only that, Visakhapatnam division, as it is growing industrial hub has shown a more revenue growth in VAT compared to Andhra Pradesh State.

FIGURE 3: TRENDS IN GROWTH RATE OF VAT REVENUE IN VISAKHAPATNAM DIVISION AND IN ANDHRA PRADESH DURING 2001-02 TO 2013-14.
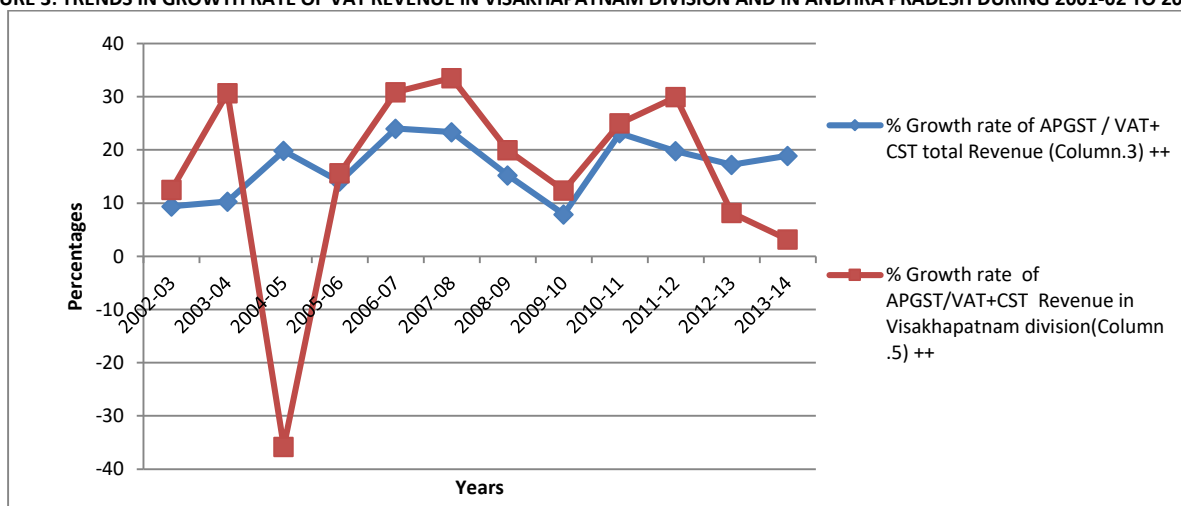
Figure. 3 exhibits about the trends in growth rate of VAT Revenue in Visakhapatnam Division and in Andhra Pradesh during 2001-02 to 2013-14. The revenue growth of VAT during 2012-13 and 2013-14 was very low in case of Visakhapatnam division and this might be happened due to enhancement of VAT threshold limit from Rs. 5 lakhs to Rs. 7.5 lakhs and tax rates in the state. Enhancement of VAT threshold limit reduced the number of potential tax payers and enhancement of tax rates might cause tax evasion due under reporting of sales. And that lead to low growth of VAT revenue in the Division.

1.7 DIVISION-WISE VAT YIELD (VAT +CST)

Division-wise contribution of VAT revenue in Andhra Pradesh for the year 2013-14 is presented in Table-5. And it is evident from Table 5.5 that among the 25 divisions, ABIDS is contributing 32 per cent of the total VAT revenue and occupied first place. Secunderabad and Panjagutta divisions occupied 2nd and 3rd place while contributing 28 and 5 per cent. Visakhapatnam occupied 6th place and it has contributing nearly 3.5 per cent. And Vizianagam, Kadapa divisions occupied 24th 25th places due to very less contribution that is 0.44 and 0.33 per cent to the total VAT revenue of the state respectively. A close observation of this Table reveals that there is high correlation between urbanization and revenue from VAT.

TABLE 5: DIVISION-WISE VAT REVENUE FOR THE 2013-14

Name of the Division	Revenue Realized (Rs. Crores)	Percentage to total	Rank
ABIDS	15699.77	32	1
ADILABAD	216.63	0.45	23
ANANTAPUR	263.08	0.55	21
BEGUMPET	2067.65	4.3	4
CHARMINAR	721.91	1.5	10
CHITTOOR	348.20	0.729	16
ELURU	344.25	0.721	17
GUNTUR	293.55	0.61	20
HYDERABAD RURAL	1553.38	3.25	8
KADAPA	160.18	0.336	25
KAKINADA	1073.54	2.25	9
KARIMNAGAR	228.75	0.47	22
KURNOOL	293.62	0.615	19
NALGONDA	567.50	1.189	12
NARASARAOPET	375.75	0.78	15
NELLORE	417.13	0.87	14
NIZAMABAD	595.83	1.24	11
PUNJAGUTTA	2543.58	5.33	3
SAROOR NAGAR	1608.02	3.37	7
SECUNDERABAD	13503.22	28.30	2
VIJAYAWADA I	342.13	0.717	18
VIJAYAWADA II	898.62	1.88	13
VISAKHAPATNAM	1665.12	3.49	6
VIZIANAGARAM	212.67	0.445	24
WORANGAL	1714.34	3.59	5
Total 47708.55		**100%**	

Source: https/vatis./ pct.gov.in/vatis/-Commercial Tax Department, Government of Andhra Pradesh. (Note: VAT revenue including CST)

TABLE 6: DIVISION-WISE YIELD FOR THE YEAR 2014-15 IN DIVIDED A.P.

Name of the Division	Revenue Realized (April-2014 to May-2014) (Rs. Crores)	Revenue Realized (June-2014 to March) (Rs. Crores)	Total Revenue realized in all divisions (Rs.Crores)	%to total VAT revenue	Rank
ANANTAPUR	50.75	197.57	248.32	0.89	11
CHITTOOR	67.94	371.79	439.73	1.57	8
ELURU	63.05	6307.33	6370.38	22.77	2
GUNTUR	62.60	840.11	902.71	3.23	5
KADAPA	27.65	186.06	213.71	0.76	12
KAKINADA	187.79	760.05	947.84	3.39	4
KURNOOL	54.84	257.81	312.65	1.12	10
NARASARAOPET	67.54	362.00	429.54	1.55	9
NELLURE	90.95	450.48	631.43	2.25	7
VIJAYAWADA-I	65.57	761.61	827.18	2.95	6
VIJAYAWADA-II	160.65	2306.62	2467.27	8.82	3
VISAKHAPATNAM	262.21	6223.09	6485.30	23.18	1
VIZIANAGARAM	40.83	166.07	206.90	0.74	13
TOTAL	**8779.49**	**19190.65**	**27970.14**	**100%**	

Source: https/vatis./ pct.gov.in/vatis/-Commercial Tax Department, Government of Andhra Pradesh.(Note: VAT revenue including revenue from Oil Companies and CST)
The above Table -6 provides information regarding division-wise VAT yield for the year 2014-15 before and after bifurcation of the state Andhra Pradesh. And it is very clear from the Table-5 that after bifurcation the state, it has realized total revenue of Rs. 27970.14 crores under VAT and that is more than half of the VAT revenue realized in the united state during 2013-14.

A comparison of VAT yield shows that, among all the 13 divisions in the State. Visakhapatnam and Eluru divisions have occupied 1st and 2nd place, while contributing 23.18 per cent and 22.77 per cent respectively to the total VAT revenue realized in the state. But in united Andhra Pradesh they both were occupied 6th and 17th place respectively. Vijayawada-II, Kakinada and Guntur divisions occupied 3rd, 4th and 5th places while contributing 8.82 %, 3.39% and 2.23per cent respectively to the total VAT revenue realized in the state. And finally Vizianagaram division occupied last place i.e 13th place and contributing only 0.74 per cent to the total revenue realized in the state for the year 2014-15.Ofcourse it was given last rank in united Andhra Pradesh too because of its low contribution to total state VAT revenue. The contribution of different divisions indicates that there is high correlation between urbanization and VAT yield. And which is being shown in the following Figure 4.

FIGURE 4: DIVISION-WISE CONTRIBUTION OF VAT REVENUE FOR THE YEAR 2014-15
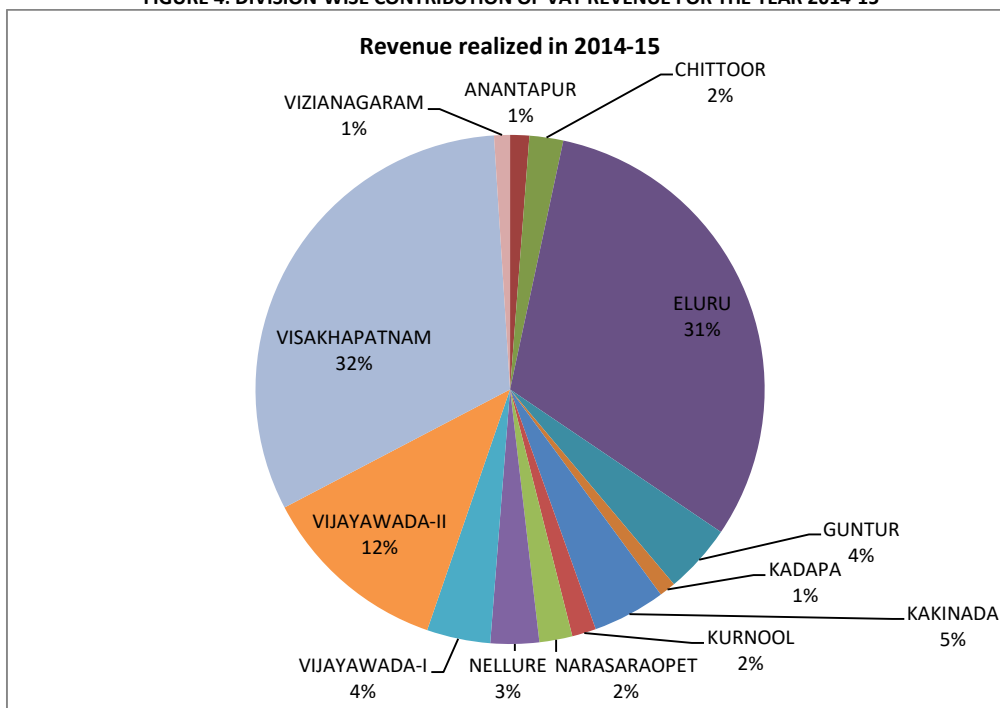
1.8 CIRCLE-WISE VAT YIELD (VAT+CST)

It may be observed from the Table. 6 that out of total nine circles in the Visakhapatnam division L.T.U. Visakhapatnam occupied 1st place while contributing nearly 88 per cent to the total vat revenue of the division and Chinawaltair, Dabagardens and Gajuwaka circles occupied 2nd, 3rd and 4th place, while contributing 2.25 per cent, 1.95 per cent and 1.83 per cent respectively and finally Kurupam market and Anakapalli circles stood in 8th and 9th places respectively while contributing less than one per cent to the total vat revenue of the division. L.T.U Visakhapatnam circle has large revenue because, most of the large industries (Large Tax Payer Units) are located in all remaining eight circles are listed in this circle, hence it has more revenue compared to other circles.
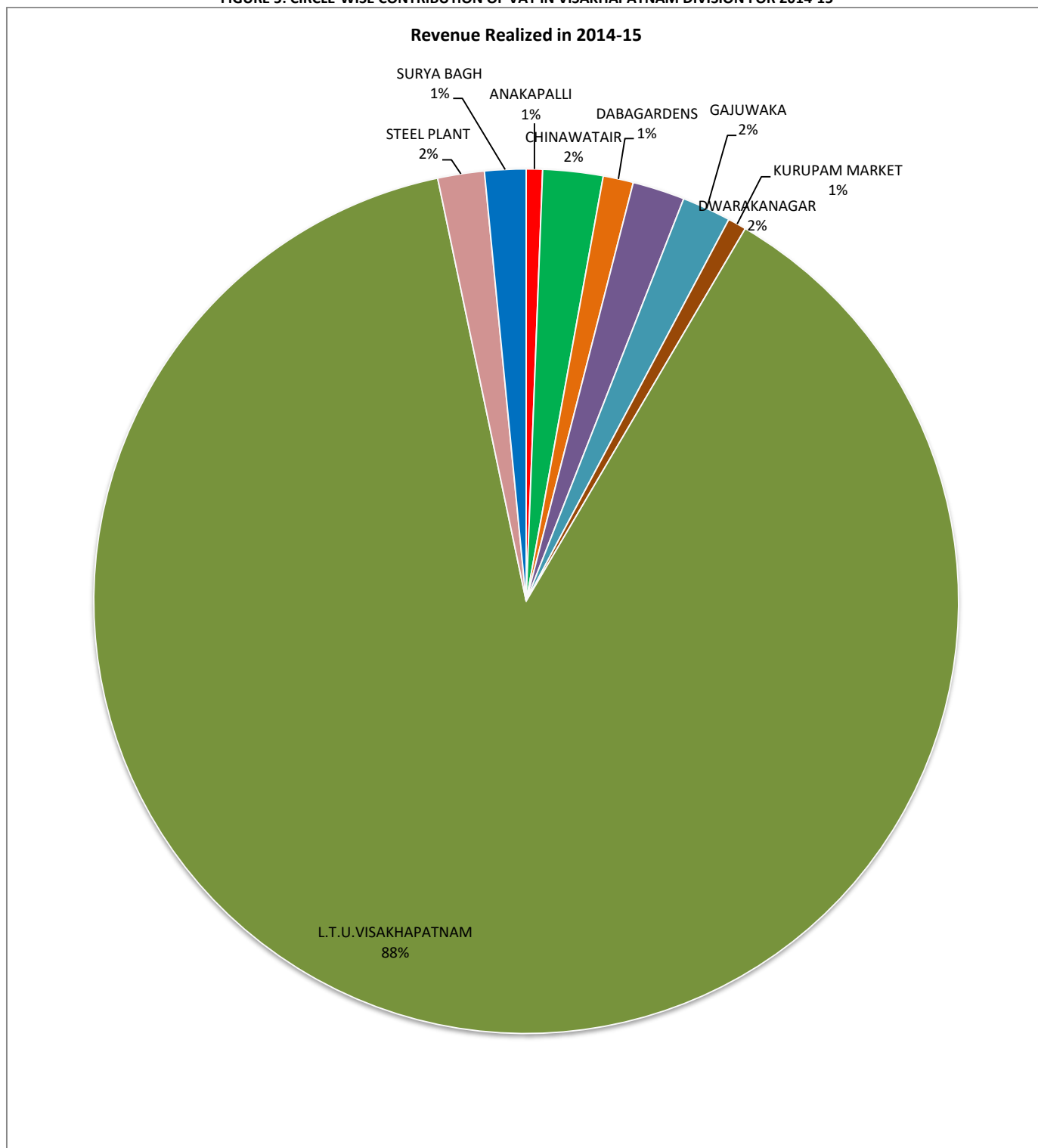
TABLE 7: CIRCLE-WISE CONTRIBUTION OF VAT IN VISAKHAPATNAM DIVISION FOR 2014-15

Name Of The Circle	Revenue Realized	Percentage to Total	Rank
ANAKAPALLI	38.14	0.61	9
CHINAWATAIR	141.05	2.25	2
DABAGARDENS	70.82	1.13	7
DWARAKANAGAR	122.43	1.95	3
GAJUWAKA	114.73	1.83	4
KURUPAM MARKET	43.41	0.69	8
L.T.U.VISAKHAPATNAM	5536.16	88.25	1
STEEL PLANT	109.22	1.74	5
SURYA BAGH	96.77	1.54	6
Total	**6273.19**	**100%**	

Source: https/vatis./pct.gov.in/vatis/-Commercial Tax Department, Government of Andhra Pradesh

Note: VAT revenue including revenue from Oil Companies and CST

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

60

FIGURE 5: CIRCLE-WISE CONTRIBUTION OF VAT IN VISAKHAPATNAM DIVISION FOR 2014-15

Revenue Realized in 2014-15

1.9 CONCLUSION

 The revenue from VAT has been increasing starting from its inception in the state. The revenue obtained from VAT was Rs. 2954.51crores in 1995-96 and was increased to Rs.11020.87crores in 2004-05. And it was again increased to Rs. 50542.15crores in 2013-14. That means there was no revenue loss on account VAT implementation in the state. And it has been increasing at a stable rate when compared to State Own Tax Revenue. And not only that, it has been contributing nearly 83 per cent to indirect tax revenue, 77 per cent to SOTR and 20 per cent share in GSDP of the state during 2013-14.

 The revenue from VAT in Visakhapatnam division was Rs. 277.55 crores and that of AP was Rs.7622.60 crores in 2001-02. And it was increased to Rs.1665.12 crores in Visakhapatnam division and to Rs. 50542.15 crores in AP during 2013-14. And it is very clear that the growth rate of VAT was positive and significant in all the years except 2004-05 where the growth rate of VAT revenue was negative (-35.80) in Visakhapatnam division. The revenue growth of VAT during 2012-13 was very low at 8.17 per cent in case of Visakhapatnam division and this might have happened due to enhancement of VAT threshold limit and tax rates in the state. Enhancement of VAT threshold limit reduced the number of potential tax payers and enhancement of tax rates might cause tax evasion. And that lead to low growth of VAT revenue in the Division as well as in the State. But it was again increased remarkably high to 32 per cent during 2013-14 and this rate of growth is nearly double the growth rate of state VAT revenue during the same period.

It is also observed from the data that Visakhapatnam division occupied 6th place among all 25 divisions in the united Andhra Pradesh, where as it stood in first place among all the thirteen division in the state after bifurcation. That means Visakhapatnam as an industrial hub and commercially growing city is able to generate more revenue through VAT compared other division in the state. So that, the implementation of VAT in the state is more beneficial to Visakhapatnam as growing

industrial and commercial city and not only that it has been contributing more revenue to the state exchequer. The successful implementation of VAT in all the division in the state paves the way for smooth and successful implementation of proposed GST in the state.

REFERENCES

1. AP Value Added Tax Act-2005, PP. 61-72
2. Commercial Tax Department, AP, HYD,
3. Commercial Tax Department, Visakhapatnam, A.P
4. Empowered Committee (2005), A White Paper on State-Level Value Added Tax, Committee Constituted by the Ministry of Finance, Government of India, New Delhi, January 17, pp. 1-18.
5. Mahesh C. Purohit (1993) "Principle and Practices of Value Added Tax" lessons for developing countries, Gayatri Publications, New Delhi. pp.13-15& 38-48.
6. RBI Bulletin, Various Issues
7. White Paper On AP Finances, Government of Andhra Pradesh, 09, July, 2014.
8. www.apct.gov.in/apportal/tax collections.

EMPOWERMENT OF PEOPLE WITH LEARNING DISABILITIES (DYSLEXIA) TOWARDS SUSTAINABLE DEVELOPMENT: AN INDIAN PERSPECTIVE

K. JAYASREE
RESEARCH SCHOLAR
DEPARTMENT OF ECONOMICS
LOYOLA COLLEGE
CHENNAI

ABSTRACT
This article seeks to make a point that we need to create more awareness on Learning Disabilities at all levels to empower people with learning disabilities towards sustainable development. The inclusion of special procedures in schools and colleges is a 'Must' if the educational establishment is to meet the needs of the whole population.

KEYWORDS
learning disability, inclusion, mainstreaming, dyslexia, staff education, built-in procedures.

INTRODUCTION
The need for providing services to college students with learning disabilities was first felt in the United States of America in the 1970's. College programs for students with Learning Disability began to emerge when it was found, that having learning disability need not imply that one could not aspire to advanced learning and achieving 'white collar' goals in life. The fact is that here are people with learning disabilities, who want to learn, grow, develop, and work towards professional careers. Education, especially higher education plays an important role in the ability to compete in the job market. College Degrees are thus a matter of great value to the individual but also to society and the nation. While there is an increase in the literacy rate in India, considering the growing importance of higher education due to increased global competition and awareness among the people about education; one might wonder why some students are not properly trained and even opt to drop out of schools and colleges. There have been a lot of studies on why there is a discrepancy between the government's policies and programs to uplift the education system and lead them to self-sustainment in programs for people with learning disabilities, lower social economic status etc. In general, the students with learning disabilities drop out of school more frequently than students without learning disabilities. (Miller 1988) Also the transition from high school to college can be traumatic for even the most competent student with learning disability.

PROBLEMS FACED BY COLLEGE STUDENTS WITH DYSLEXIA
We know that LD college students are more vulnerable to academic stress and failure than their non-LD counterparts. Studies also indicate that, compared to non-LD students, LD college students experience lower levels of self-esteem; display higher rates of examination failure and lower college graduation rates. In India children with learning disability, are considered a burden to the education system. With the standard of competitive exams and wholesale job recruitment of highly talented and professionally qualified people, the stress on children with learning disability is increasing (Sadaket 2009). The stress comes from their parents, teachers, peers and the society at large. The Right to Education Act, 2009 does not address most of the issues faced by children with learning disability.
So comes the question of 'How to ensure that they get educated'?
This requires answers to a number of questions.
- How have they managed their disability?
- What is their experience in the college setting and what are the challenges in their lives?
- How have the successful people with dyslexia survived in the college environment?
- Further answers to these questions would also be helpful:
- What are individualities of 'helpful' teachers?
- What are the learning strategies that have worked for them?
- What are the accommodations needed to complete their degrees successfully?

These questions need to be explored to implement ways to reach out to these students and help them cope better in school and college and help them to find suitable jobs. Further these procedures should become part of the basic protocols of the institutions; to be automatically invoked when the need is perceived. This is true sustainability.

STATUS OF LEARNING DISABILITIES IN INDIA
An epidemiological study (1995-2000) of child and adolescent psychiatric disorders in urban and rural areas of Bangalore, was done by the Department of Psychiatry, Epidemiology and Biostatistics, National Institute of Mental Health and Neuro- Sciences, Bangalore to determine prevalence rates of child and adolescent psychiatric disorders for the Indian Council of Medical Research. The total prevalence rate in 4-16-year-old children in urban middle class, slum and rural areas was 12%. However, the children with SLD were eventually excluded from this study as most of them lacked adequate schooling as per the ICD-10-DCR criteria for SLD. In addition, many of the assessments were incomplete due to lack of cooperation for the lengthy testing for Specific Learning Disabilities (Srinath S, et al., 2005).
The prevailing study on Learning Disability conducted at the L.T.M.G. Hospital, Sion, Mumbai reveals that of the total number of 2,225 children visiting the hospital for certification of any kind of disability, 640 were diagnosed as having a Specific Learning Disability. These children came from the lower, middle and upper middle socio- economic strata of society. Referral was due to their poor school performance (LTMG, 2006).
The Institute for Communicative and Cognitive Neurosciences (ICCONS), Kerala, has been conducting research programs in child language disorders and developing research and rehabilitation programs for learning disabilities. Screening for LDs for Classes I to VII in schools with follow up assessments by experts in 10 panchayats in Kerala revealed that 16% of these school children have a learning disability (Suresh, 1998). Other studies have been done at child- guidance clinics in India (Khurana, 1980; John & Kapur, 1986) where 20% children attending the clinic were diagnosed to be scholastically backward. However, variables such as the socio-economic class, exposure to language act as confounding variables in such clinic-based studies (GEON, 2005).
However, investigation of educational institutions shows that many schoolteachers, parents and caretakers have limited knowledge of Learning Disabilities. This lack of awareness leads to a negative and unsympathetic attitude towards these children.
The sad fact is that these children are sometimes denied admission in schools. Some of them are promoted and asked to leave. The reason behind these issues are mostly due to the lack of awareness of LD and untrained staff not capable of giving the individual attention such students need. There is still a general lack of awareness about SLD in a large majority of Indian schools (Karande, 2008). Learning Disability is still not considered as a disability by many state governments in India (Karande, 2008; Karande, Sawant, Kulkarni, Galvankar, & Sholapurwala, 2005).
This may be due to the teacher education curriculum where special education is included as an optional subject in the general education curriculum.

The government policy for an inclusive set up has led to many of the LD students being found in the mainstream schools. Research shows that inadequate knowledge about disabilities leads to negative attitudes toward persons with disabilities (Saravanabhavan & Saravanabhavan, 2001). Therefore, the prime necessity is to train the teachers in remedial education so as to enable them to teach these students in an inclusive school setup. Identification of these students must come first and remediation follow, with teaching strategies to learn the core academic skills, namely reading, writing, spelling, math and comprehension.

The 'Mainstreaming' policy makes it essential that the teachers must be sensitized to identify Learning Disability and trained to handle students with diverse needs in an inclusive set up. Where large class size makes this impossible, 'pull out' and transfer to alternate schools may be the only answer.

THE POSITIVE ASPECT…

The past decade has witnessed a sudden spurt in the recognition of learning difficulties in India. This sensitivity has benefited many children with learning disability. Among all form of disabilities, learning disability became the recent entrant only after the information of H'oble High Court of Delhi, took note of the fact that Central Board of Secondary Education (C.B.S.E.) has accepted dyslexia as impairment. This makes transfer to alternate schools easier.

The awareness of alternative schooling among the parents is gradually increasing as, the teaching methodology of most of alternative schools give importance to development of psychosocial skills, to deal with the demands and challenges of everyday life. Children with learning disability have low levels of self-esteem and have adjustment problems, thus affecting interpersonal relationship (Patil, G. Sarswathi and Padakannaya (2009).

The hard fact is that Learning Disability is real and a stumbling block for a nation's development process. The LD movement in India is of a recent origin and is today comparable with that of its western counterpart. The positive impact is that the Nalanda Institute's report has highlighted that in India during the last two-decade or so, there has been an increasing awareness and identification of children with dyslexia.

AIDS THAT CAN HELP STUDENTS WITH LEARNING DISABILITY AT COLLEGE LEVEL

Some of the services that can aid students with learning disability at college level are:

i.   Tape recorders, taped text –books, calculators and computers. In many colleges in the United States, note takers are provided who sit in during lectures and "take notes".

ii.   Alternative testing arrangements during examinations.

iii.   Extended time limit to write exams (which are provided by colleges)

iv.   For students who have difficulty reading, the teacher can read questions.

v.   In many countries, colleges or universities have well-staffed office for students with learning disabilities which handles all requests for special services. The office has a liaison between the staff and the student.

CONCLUSION

Thus there is a great need to provide college level services to learning disabled adults in India. Legislation and social awareness are helping them to address their issues but more awareness is required so as to empower them towards sustainable development. We must not forget the fact that great personalities like Albert Einstein, Thomas Alva Edison were scholastically backward, but that did not hinder them from achieving great things. One must understand that adults with learning disabilities are capable of professional development and deserve the same opportunities like others.

REFERENCES

1.   Cronin, M.E. and Gerber, P.J. *Preparing the Learning Disabled Adolescent for Adulthood*. Topics in Leaning and Learning Disabilities, 1982, 2, pp. 55-68
2.   Onita Nakra. *Children and Learning Difficulties*, 2002. Allied Publishers Private Ltd. New Delhi pp. 190-197.
3.   Singal, N. (2008b). Working towards inclusion: Reflections from the classroom. *Teaching and Teacher Education,* 24, 1516-1529.

NON-PERFORMING ASSETS: A STUDY OF SCHEDULED COMMERCIAL BANKS OF INDIA WITH REFERENCE TO GROSS NPAs AND AMOUNT RECOVERED

VIBHUTI SHIVAM DUBE
RESEARCH SCHOLAR
INSTITUTE OF MANAGEMENT, COMMERCE & ECONOMICS
SHRI RAMSWAROOP MEMORIAL UNIVERSITY
LUCKNOW DEVA ROAD, UTTAR PRADESH

ABSTRACT

Banks are playing a vital role for the development of modern dynamic economy they not only mobilising savings but making them available to the needed sectors of the economy whenever they are in need of it. If we summarize the functions of scheduled commercial banks they are mainly classified into- receiving deposits, providing agency and general services and lending money. With the widespread growth in the present banking structure of the Indian economy it is also witnessing a serious problem of bad loan or Non-Performing Assets (NPAs) as it may be clearly seen in some recent cases of Kingfisher Airlines Ltd., Zoom Developers Pvt. Ltd., Beta Naphthol etc. In this paper I shall study the impact of NPAs on the financial health of Scheduled Commercial Banks with reference to Gross Non-Performing Assets (GNPAs) in different categories of All Scheduled Commercial Banks and the amount recovered with the help of different Legal Mechanism in recent years.

KEYWORDS
amount recovered, gross non-performing assets (GNPAs), scheduled commercial banks.

INTRODUCTION
In simple words a Non-Performing Asset is an asset when it stops to generate income for banks. According to Securitisation Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002: "Non-Performing Assets (NPAs) is an asset or account of a borrower, which has been classified by a bank or a financial institution as sub-standard, doubtful or loss asset, in accordance with the directions or guidelines relating to asset classification issued by Reserve Bank Of India (RBI)." With effect from 31st March 2004 NPA is a loan or advance where:
1- Interest or instalment of principal remains overdue for a period of more than 90 days in respect of term loans.
2- The account remains "out of order" in respect of an Overdraft/Cash Credit (OD/CC).
3- The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted.
4- The instalment of principal or interest thereon remains overdue for two crop seasons for short duration crops.
5- The instalment of principal or interest thereon remains overdue for one crop season for long duration crops.
6- Any amount to be received remains over due for a period of more than 90 days in respect of other.

TYPES OF NPAs
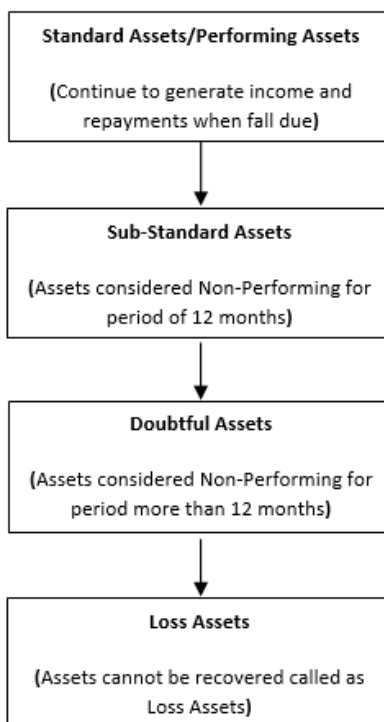
LITERATURE REVIEW
Non-Performing Assets has become a serious concern for the Scheduled Commercial banks in India in the recent years. In the context of Non-Performing Assets in the Indian banking sector a brief review of literature has been made on the basis of available sources such as journals, reports and books etc. It is required that the banking system is to be equipped with prudential norms to reduce if not completely to keep away from the problem of NPAs. Yadav (2014). The management of Indian bank must pay special attention towards the NPA management and take appropriate steps to arrest the creation of new NPAs, besides making recoveries in the existing NPAs. Sevarajan & Vadivalagan (2013). Mishra (2016) concluded that the bad loans create many problems for the banks over the years. These studies indicate that there is a serious threat to the scheduled commercial banks through the different categories of banks.

OBJECTIVES

1. The main objective of this paper is to know the Gross Non-Performing Assets in different categories of scheduled commercial banks.
2. To know the Gross Non-Performing Assets of All Scheduled Commercial banks against the Gross Advances.
3. To study different variables like- SBI & Its Associates, Nationalised Banks, Private sectors banks, foreign banks, Gross NPAs and Gross Advances.
4. To make an analysis of amount recovered against cases filed for recovery of dues by bank in recent years.

METHODOLOGY

To present the research impact of Gross Non-Performing Assets in different categories of scheduled commercial banks and to make a comparison of Gross NPAs and Gross Advances in All Scheduled Commercial Banks I collected this data from Department of Banking Supervision, Reserve Bank of India and for making the analysis of amount recovered against cases filed for recovery of dues by bank I have collected data from Twenty -Seventh Report on Non-Performing Assets of Financial Institutions, Standing Committee on Finance (2015-16), Sixteenth Lok Sabha, Ministry Of Finance (Department of Financial Services).

RESULT AND DISCUSSION

CATEGORY-WISE GNPAS IN SCHEDULED COMMERCIAL BANKS YEAR-WISE

TABLE 1: GROSS NON-PERFORMING ASSETS AS ON MARCH 31 (Amount in Rs. Millions)

Years	SBI & Its Associates	Nationalised Banks	Private Sector Banks	Foreign Banks
2013	627785	1016831	203817	79256
2014	798165	1474474	241835	115678
2015	735084	2049595	336904	107578

Source: Department of Banking Supervision, RBI

The Scheduled Commercial Banks are classified into four main parts: State Bank of India & Its Associates, Nationalised Banks, Private Sector Banks and Foreign Bank. The TABLE 1 shows the categorical classification of Gross Non-Performing Assets (GNPAs) in scheduled commercial banks in the financial year 2013, 2014 and 2015 which shows the trend of Gross Non-Performing Assets (GNPAs) in the different categories of Schedule Commercial Banks.

State Bank & Its Associates: The SBI & Its Associates contains the Gross Non-Performing Assets (GNPAs) position of State Bank of India and its five subsidiaries: State Bank of Bikaner & Jaipur, State Bank of Hyderabad, State Bank of Mysore, State Bank of Patiala, State Bank of Travancore in 2013, 2014 & 2015.

Nationalised Banks: The Nationalised Banks contains a list of total 21 nationalised banks in India in 2015 and their total Gross Non-Performing Assets (GNPAs) position. In the nationalised bank list in 2013 total 20 banks are there. In 2014 with the entry of Bharatiya Mahila Bank Ltd. it contains a list of total 21 nationalised banks and their present GNPAs position.

Private Sector Banks: The Private Sector Banks contains a list of total 20 private sector banks in India in 2015 and their total Gross Non-Performing Assets (GNPAs) position. In the Private Sector Bank list in 2013 total 19 banks are there. In 2014 with the entry of Dhanlaxmi Bank Ltd. it contains a list of total 20 Private Sector Banks and their present GNPAs position.

Foreign Banks: The Foreign Banks contains a list of total 44 Foreign Banks in India in 2015 and their total Gross Non-Performing Assets (GNPAs) position. In the Foreign Bank list in 2013 total 41 banks are there. In 2014 with the entry of American Express Banking Corporation, Bank of Tokyo-Mitsubishi UFJ Ltd. it contains a list of 43 Foreign Banks and in 2015 with the entry of Doha Bank Qsc a total list of 44 Foreign Banks and their present GNPAs position.

GROSS NPAS TO GROSS ADVANCES POSITION IN ALL SCHEDULED COMMERCIAL BANKS

TABLE 2: TOTAL ALL SCHEDULED COMMERCIAL BANKS AS ON MARCH 31 (Amount in Rs. Millions)

Years	Gross NPAs	Gross Advances
2013	1927688	59718199
2014	2630152	68757479
2015	3229161	75606658

Source: Department of Banking Supervision, RBI

The TABLE 2 shows the Gross NPAs to Gross Advances position in All Scheduled Commercial Bank position in the year 2013, 2014 and 2015. The Total of All Scheduled Commercial Bank consists of SBI & Its Associate, Nationalised Banks, Private Sector Banks and Foreign Banks. The Gross NPAs to Gross Advances can be calculated with the following ratio:

GROSS NPAS/GROSS ADVANCES X 100

The Gross NPAs to Gross Advances Ratio in the year 2013 is 4.27%, in the year 2014 the ratio is 3.83% and in the year 2015 the ratio is 3.23%. The Gross NPAs to Gross Advances Ratio shows a decrease of 0.44% from 2013 to 2014 and a decrease of 0.6% from 2014 to 2015 and a total downward trend of 1.04% from the year 2013 to 2015. The Gross NPAs to Gross Advances trend definitely shows a decline in the trend of Gross NPAs in the recent years.

RECOVERY OF DUES BY BANK UNDER DIFFERENT ACTS AND PROVISION

In the TABLE 3 for making the analysis of recovery of dues by banks under different Acts is done under SARFAESI Act, DRT Act and Lok Adalats from the year 2010-11 to 2013-14. A brief analysis of different Acts and Provisions of Recovery Tribunals has been made here:

1- **SARFAESI Act, 2002:** The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 provides enforcement of security interest for realisation of dues without the intervention of courts.
2- **Recovery of Debts Due to Banks and Financial Institutions (DRT) Act:** The Act provides setting up Debt Recovery Tribunals (DRTs) for quick and efficient recovery of suit filed by banks in NPAs with unpaid amount of Rs. 10 lacs and above.
3- **Lok Adalats:** Section 89 of Civil Procedure Court provides solving dispute through arbitration, conciliation and mediation. The mechanism offers efficient, inexpensive way of settlement of disputes.

TABLE 3: DUES BY BANKS (Amount in Rs. Millions)

Years	Cases Filed For The Amount	Amount Recovered	Percentage
2010-11	33561	10391	30.96
2011-12	58616	14593	24.90
2012-13	86306	19963	23.13
2013-14	149149	28052	18.18

Source: Twenty -Seventh Report on Non-Performing Assets of Financial Institutions, Standing Committee on Finance (2015-16), Sixteenth Lok Sabha, Ministry of Finance (Department of Financial Services).

The TABLE 3 shows the total number of cases filed under SARFAESI Act, DRT Act and Lok Adalats for recovery of amount by the Banks. The amount recovered percentage can be calculated with the following formula:

AMOUNT RECOVERED %= AMOUNT RECOVERED/CASES FILED X 100

In the year 2010-11 the percentage of amount recovered is 30.96%, in the year 2011-12 the percentage of amount recovered is 24.90%, in the year 2012-13 the percentage of amount recovered is 23.13% and in the year 2013-14 the percentage of amount recovered is 18.18%. If we compare it year after year wise it shows

a declining trend of total 12.78% from 2010-11 to 2013-14 which needs a serious attention to check the loopholes if any to improve the present existing system for a quick and early recovery of dues and to build a more speedy system.

CONCLUSION

Banks are playing an essential and very important role of life blood for the proper functioning of the economy. If the banking sector of the country is working with full creditability it will strengthen the prospect of development for the country. To conclude it can be said that the position of NPAs in the recent years is creating a severe problem for the overall prospect of the banking sector. While making the analysis of Gross NPAs to Gross Advances from the years 2013 to 2015 it shows a declining trend but not as much as it will strengthen the performance of all scheduled commercial banks. It is also evident that the Indian all scheduled commercial banks are in constraint in managing the Gross NPAs and in their timely recovery. When we are making an analysis of recovery of dues by banks in different sectors it shows a trend reversal a decline in the recovery of dues. At last it can be said that there must be an appropriate and authentic credit appraisal system, the re-loaning process must be checked from time to time and deviations are to be rectified in time bound process, there must be a effective policy measure for regular industrial visit which ultimately help in rectifying the wilful default habits.

REFERENCES

1. Akshay Kumar Mishra, An Analysis of NPAs in Priority and Non Priority Sectors with respect to Public Sector Banks in India. IOSR Journal of Business and Management (IOSR-JBM) Special Issue-ATEM'16, e-ISSN: 2278-487X, pp. 91
2. B. Selvarajan & Dr. G. Vadivalagan, A Study on Management of Non-Performing Assets in Priority Sector reference to Indian Bank and Public Sector Banks. Global Journal of Management and Business Research Volume 13 Issue 1 Version 1.0 Year (2013), Online ISSN:2249-4588, Global Journals Inc. (USA), pp. 112
3. Bank wise and group-wise gross Non-performing Assets, Gross Advances and Gross NPA Ratio of Scheduled Commercial Bank, Department Of Banking Supervision, Reserve Bank of India http://rbi.org.in, 22nd August 2016
4. Dr. Sushama Yadav, NPAs: Rising Trends and Preventive Measures in Indian Banking Sectors. International Journal of Advance Research in Computer Science and Management Studies Volume 2 Issue 1, January 2014, ISSN: 2321-7782(Online), http://www.ijarcsms.com, pp. 140
5. Twenty -Seventh Report on Non-Performing Assets Sixteenth Lok Sabha, Ministry Of Finance http://164.100.47.134/lsscommittee/Finance/16_Finance_27.pdf, 29th August 2016

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT   67

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

AGRICULTURAL FINANCING SCENARIO IN THE INDIAN STATE OF TRIPURA, A COMPARATIVE STUDY FOR THE PERIOD 2008-09 TO 2012-13

PURANJAN CHAKRABORTY
RESEARCH SCHOLAR
MAHATMA GANDHI SCHOOL OF ECONOMICS & COMMERCE
DEPARTMENT OF COMMERCE
ASSAM UNIVERSITY
SILCHAR

ABSTRACT

The present study tries to do a comparative study of performance of various bank groups financing agricultural credit in Tripura through agricultural schemes and kisan Credit Card (KCC) scheme. To judge the performance of the bank in financing agricultural credit the parameters like volume of advance, target and achievement of the advance, volume of the Non-Performing Asset(NPA), Credit to Deposit(C/D) ratio are used. Secondary data is used in the analysis. Secondary data is collected from State Level Bankers Committee (SLBC) of Tripura and Reserve bank of India statistical hand book. Tabular analysis and simple descriptive statistics like average, mean, compound annual growth rate, percentage are used in data analysis and interpretation. District level analysis is done on financial parameters to reach the conclusion, The study revealed that, there is increase in volume of agricultural credit and the NPA generated out of it. Private bank groups are coming forward in financing agricultural credit in a state like Tripura. The various agencies functioning as financial intermediaries in Tripura is appreciable for their function in Tripura.

KEYWORDS
performance, non performing asset, credit to deposit ratio, state level bankers committee, kisan credit card, financial intermediary.

INTRODUCTION
The present study is devoted to the assessment of agricultural financing in the state of Tripura. It begins with a brief discussion of the profile of the state in terms of its historical, geographical and socio-economic characteristics. The study is intended to elevate the knowledge about the status of agricultural financing in the state. It presents the overall picture about the different institutions in the formal sector involved in financing agriculture along the volume, direction and pattern the study also gauges the financial intermediation scenario in the state.

REVIEW OF LITERATURE
Antony, M.P. (2003) did a study on institutional financing of agriculture in Kerala. the objective of this study was to examine the trends and pattern of agricultural financing in Kerala. It has to estimate demand and supply of agricultural credit in inter and intra region. It has to examine the impact of agricultural credit on production, employment and income and it has also to identify the problems of the free flow of agricultural credit. Sample size was 35(borrowers). Both primary and secondary data was used, secondary data was collected from various institutions, magazines, reports etc and the primary data was collected through schedule. Multistage sampling technique and random sampling technique was used. 2 district was selected on the basis of high agricultural production. Collected data was analyzed statistically using multivariate tabular analysis, mean deviation; Bartlett's T test was used. The significance of credit gap was used using mean deviation. In this study both lenders and borrowers are taken into consideration to understand the performance of the financial Institute financing agricultural credit in Kerala. Now performance in this respect means the following parameters. The parameters are coverage of more borrowers, more cultivating land, more number of village, more volume of easy disbursement of agricultural credit in which borrowers are comfortable to receive the credit and repay the same in due time. What is the repayment collection status and the status of volume of NPA generated is also the measure of performance of lending. The study revealed that, there is a good impact of the agricultural credit provided by the banks on income, status of the borrowers, agricultural production and development of the area but there is problem of loan adequacy, timely payment etc.

Bista et al. (2012) have endeavored a study on Progress and Performance of Kisan Credit Card Scheme in Bihar. The progress in terms of number of card issued and amount of loan disbursed per KCC and number of holdings covered is compared with regional data and the data of other state. It is also tested about the margin and returns for the beneficiaries and non-beneficiaries. The study was conducted with the help of both primary and secondary data. Primary data were collected through pre structured schedule from 60 Beneficiaries and 60 non beneficiaries for comparison. SIMILARLY, samples were collected from other 2 districts. So in 3 districts total sample size was 360 out of which 180 were beneficiaries and 180 were non beneficiaries. The Cobb Douglas production function was fitted to assess the resource-use efficiency among the KCC. The secondary data on the number of KCC issued, amount of loan sanctioned by institutions and by regions were collected from various publications of NABARD, RBI, GoB(2008-09), and GoI(2010-11). affecting adoption of KCC scheme were identified by using logit model and constraints faced by the farmers were ranked using Garrett's ranking technique. The main objective of this study was to compare the level of progress of KCC scheme in Bihar in terms of number of issuance of KCC, volume of loan amount per KCC and coverage of holdings. The study results show that the return and net margin is more for KCC beneficiaries then the non-beneficiaries. The study has identified the factors influencing the adoption of the KCC scheme and the constraints perceived by the farmers.

Chakraborty, P. (2015) in a study on," Determinants of agricultural credit default: A study on the borrowers of United Bank of India in the West District of Tripura"(A master's dissertation submitted in the Assam university, Silchar) conducted in the West Tripura district of Tripura to find the factors influencing the agricultural credit default. A multistage sampling technique was applied to select 3 blocks out of 9 blocks in the West Tripura District of Tripura. From each block 1 bank is selected conveniently. As the Mohanpur block is covering bigger area 2 bank branches are selected purposively from this block to make total bank sample 4. From each bank branch 13 agricultural borrowers are randomly selected from list of defaulters and non-defaulter agricultural borrowers. to make a total borrowers sample 52 of which 26 are defaulters and 26 non defaulters. Secondary data were collected from the SLBC of Tripura and the concerned bank branches. The primary data were collected by interviewing the borrowers and the bank officials. Bartlet's formulae were used to find the sample size and binary logistic regression was used to find the determinants of the agricultural credit defaults. The study reviled that, the factor like proper training prior to disbursement of credit is the determinants of agricultural credit default and if 0training is provided to the borrowers prior to the disbursement of credit; it will bring a positive impact on agricultural credit default. During the survey of this study and as per the statement given by the bank officials it was observed that, bank officials were facing some problems in extending agricultural credit. As per the statement of the bank officials there is problem of credit worthiness of the agricultural borrowers, there is question mark on the economic viability of the intending agriculture work, there is problem of scale of finance, problem of the security of the loan and there is problem with past loan repayment record, financial behavior, lifestyle and expenditure of fund etc It is evident from the collected tabular data from the bank that bank are not in a position to achieve their target of annual agricultural credit plan due to above mentioned problems. It is also evident from the collected secondary data that, there is problem with collection of repayments and increased volume of NPA which is a problem to the bank in financing agricultural credit. During the interview

Dhanabhakyam & Malarvhizi (2012) have conducted a study on the awareness, utilization and problems of Using Kisan Credit Card of Canara Bank with Special Reference to Coimbatore District of Tamilnadu. The main objective of this study was to check the awareness and attitude of the KCC borrowers and to review the

utilization of the KCC scheme in the Coimbatore District of Tamilnadu. In this study both primary and secondary data were used. Primary data were collected through interview schedule. the secondary data were collected through pamphlet, broacher, various reports of Canara bank and newspapers. The 66 KCC borrowers were randomly selected for the sampling. The study reveals that, amongst the agricultural credit borrowers in Coimbatore District KCC scheme is well familiar to them and it is one of the popular instruments of agricultural credit borrowing in Coimbatore District.

Goankar, R.R(1993) did a study on financing agriculture by Commercial banks in Goa. The main objectives of this study is to know the need and role of commercial banks in extending agricultural credit in the study area. To assess the performance of the commercial banks in the study area especially extending the agricultural credit in semi-urban and rural area. The study has to examine the problems of commercial banks in extending the agricultural credit and the problems of the borrowers to get the agriclutral credit from the commercial banks the study has to assess the impact of the agricultural credit on the cropping pattern and capital formation and for the problem identified a suggestion for remedial measure. A multi stage sampling technique is applied to select 4 villages and 45 farmers were randomly selected to get a borrower's sample of 180 and one bank from each village was selected. Secondary data was collected from journals, magazines and government agricultural reports. The collected primary and secondary data was analyzed using tabulation of multi variables and simple statistical tools and techniques. The study revealed many problems in financing agricultural credit both lenders and borrowers perspective. The commercial banks are facing problems of mis utilization of fund by the borrowers, defaulters both willful and non-willful. Willful defaulters are influenced by the local politicians, social workers and earlier wave of loan by government and the non-willful defaulters are the victims of natural calamities, low production, in appropriate price of production, accident, diseases and medical emergencies at home etc. The study also revealed that there problems for the borrowers to get the records from the block office, ill behavior from bank officials, delay in payments etc. The study also revealed that there is a good impact of the agricultural credit improving the income of the borrowers, changing of the cropping pattern to lucrative crops, change of life style, capital formation and asset generation etc.

Godara et al. (2014) have conducted another analytical study on Agricultural Credit in India. The main objectives of this study are to find the difference between the availability and requirement of the agricultural credit and it's utilization among the small marginal and large farmers. The study was conducted using both primary and secondary data. Primary data were collected through structured questionnaire and direct interview and filling of form. The study area is chosen as Haryana. A convenient sampling with a sample size of 90 was used. Out of 90 beneficiaries, 30 are from each district and 15 are taken from different banks. Secondary data were collected from internet various reports of NABARD, RBI, Magazines, Journals. The collected data were analyzed using various statistical tools and Technique and through trend analysis. The result of this study reveals that the present banking system with institutional structure could not address the rural agricultural credit need and the declining rural public capital formation is establishing the fact.

If bank is having some problems, it will be reflected into its performance. Hence it is also very much essential to check the performance of the Nationalized Public sector commercial, banks of West Tripura district of Tripura in terms of agricultural credit disbursement and coverage of number of farmers, cultivating lands, number of villages, the repayment collection status, status of volume of (NPA) Non-Performing Assets out of agricultural loan disbursed, C/D Ratios, borrower's awareness about financial literacy, various agricultural schemes and it's benefits It is necessary to understand the problems in agricultural credit disbursement. It is also essential to understand the problems of the agricultural borrowers in getting the agricultural credit.

Kalaichelvi, G., (2009) did a study on agricultural finance with special reference to lending and recovery by commercial banks in Tiruchirappalli district, Tamil Nadu, south India. The main objective of the study is to analyze the performance of the commercial banks on agricultural credit. It is also to analyze the credit disbursement by commercial banks and farm credit over dues. It has to analyze the opinion of the agricultural credit borrowers. Multistage sampling technique is used for selection of both banks and borrowers. 14 blocks are selected and 1 bank from each block is selected. From each bank 20 borrowers are randomly selected to constitute a borrowers sample of 280 and banks sample 14. Interview schedule are used to collect the primary data. Secondary data were collected from banks, reports, magazines and reports. Collected primary and secondary data were analyzed by percentage growth and percentage variation and chi squire test to test the level of significance. Here in this study performance of commercial banks from the study area is judged by using the primary and secondary data related to agricultural credit lending and borrowing. The study revealed that there is a good impact of the agricultural credit on agricultural production and the development of the area. But the rules of regulation of the bank do not suit all the borrowers. Some of them feel that, there is cumbersome paper works and lengthy processing and the payment is not timely. Bank also cannot fulfill their annual credit target.

Mehmood et al. (2012) did a study to know the factors affecting delay in repayments of agricultural credit. His paper attempts to analyze different factors affecting the repayments of agricultural credit in Kasur district of Punjab province. Purposive sampling was adopted and 60 respondents were selected after booting a list of defaulters from respective branches of United Bank Limited (UBL) through well-structured questionnaires. All the necessary information was collected from the respondents as well as from the bank employees regarding actual delay in repayments of these selected clients. Finally, data were summarized using descriptive statistics and found that sloppy supervision by the bank, employee's miss-utilization of loans, high interest rate and change in business/residential place of the borrowers etc. caused delay in repayments of agricultural credit.

Mishra, (2012) made a case study on overdue in agricultural credit in the Bargarh district of Orissa. This study strives to reveal the requirement utilization aftermath the institutional agricultural credit is disbursed to the farmers to understand the factors influencing the credit overdue. In this study purposively Bargarh district in the western Orissa is selected as it is the most rice producing zone. So far field study and data collection is concerned, 3 villages were randomly selected for data collection. On collected field data two way ANOVA analysis was done to find any significant difference with the overdue loan with the farmers in the villages. The variables used in this study are credit parameters like loan amount expenditure caused interest rate etc. The result showed that the credit overdue is due to unwarranted crop failure and improper utilization of the credit. This study has rightly identified one of the borrowers perspective factor influencing the credit default. But this problem of crop failure could be averted if the crop was insured properly and hence the repayment default. **Akram, et al (2012)** from Punjab did a study on borrowing behavior towards institutional credit in Punjab. It was a case study of Faisalabad district. An econometric model is followed using Hecman's approach. In the 2nd stage inverse Mill's ratio is calculated and added as the explanatory variable in the regression of MAXINT on the explanatory variables. The variable used are credit parameters like borrowed amount, purpose of credit, age, education level, farming experience, area of land holding, area of operation, last year income, family size, satisfaction from repayment, etc. The results revealed that, the land was with expected sign and statistically significant. This evidenced that, the land is main collateral for lending institutes. Inverse Mill's ratio was introduced to control the selection biasness. The coefficient had a negative sign and significant of the agricultural farmers from the West Tripura District, it was observed that, all the farmers are not having easy access to agricultural credit. Many land less agricultural labours are kept outside of the purview of the agricultural credit since they are not able to produce any land document in the bank and their land owner are also not ready to give any written statement to the bank stating that such farmer is cultivating in their land. So some of the agricultural borrowers from the West Tripura district are facing some problems in getting the agricultural credit from nationalized public sector commercial banks. Some of the problem narrated by the farmers are complex paper works, number of days visit in bank before disbursement, non conducive and non cooperative behavior of bank official, high interest rate and untimely payment etc. To identify the problems of financing agricultural credit both agricultural lenders and borrowers perspective is essential.

Rajeswari, G.(2013) did a study on the performance of priority sector lending for the commercial banks of Srikakulam district of Andhra Pradesh. The objective of this study was to assess the operational performance of the commercial banks, to evaluate and assess the priority sector lending in the study area, to review the priority sector lending in the context of financial inclusion in the study area and to assess the impact of priority sector lending for the development of the study area. It was also to assess the priority sector lending in context to financial inclusion and to identify the gap and to suggest the remedial measure. On collected secondary data simple growth rate and compound growth rate was calculated and Wilcoxon signed rank test Mann Whitney U test was conducted. Apart from these a set of hypothesis was tested for the significance level. Agriculture sector is also coming under priority sector lending. From the secondary data of bank some of the parameter of performance can be derived. some of them are volume of credit disbursed and deposit generated, volume of NPA, C/D ratio etc. But bank performance in assessing priority sector lending is also influenced by the problems it faces during its operation.

Ramprasad, R. (1993) did a study on financing of agriculture by institutional financing agencies with special reference to Cuddapah district of Andhra Pradesh. The main objectives of this study is to identify the loop whole of the farm credit system in the study area. Two approaches the top down approach and bottom up approach was used to achieve the analysis. The primary data were collected through field survey and the secondary data were collected from various institutions

and government offices. The study revealed some problems faced by the Agriculture borrowers due to the government policy on agriculture are not so favorable to the farmers. The agricultural financing has boosted the development of the area and paved the way to the agro based industries in the study area.

Roy, S. (2015) did a study on the performance of the Kisan Creddit Card (KCC) Scheme in Tripura. This study did a comparison of KCC scheme related financial data with other north eastern states. A tabular analysis with descriptive statistics is done. This study revealed that the KCC scheme is almost successful in Tripura and it is the only means of obtaining hassle free agricultural credit in Tripura.

Siddiqui, R.H. (1987) did a study on financing small and medium sized farms in Uttar Pradesh by nationalized banks since 1970.In his study he has collected primary data from the farmers from 6 districts to record the problems of the farmer. The objective of this study was to examine the pattern of finance provided by nationalized banks in the sampled 6 districts, to identify the problems of the small and medium farmers and to suggest a remedial measure to overcome the problems. In this study tabular analysis for small medium and large farmers is done. As far as sampling is concerned a total sample size of the farmers as 600 comprising small: medium: Large as 3:2:1 was taken. The Number of small farmers was 300. Secondary data about the banks and yields he has collected from journals, magazines and Reports.An analysis on pattern of agricultural finance from nationalized bank was done. Strata of 6 different nationalized banks for 6 different districts. An analysis on the impact of financing on the yield was done This study also analyze the distribution of benefit effect on the farm income. Some of the factors like pattern of finance, quantum of credit to the borrowers and hence loan adequacy to the borrowers and selection and no selection of loan applicant are well governed by the bank with their rules and regulation. If any agricultural borrowers are facing problem in getting loan from bank due to existing rules and regulation and policy of credit.

Thakur & Barman, (2013) have conducted a study on reasons for poor performance of disbursement of Kisan Credit Card and recovery of loan under the scheme in Assam, in the North East region of India. The prime objective of this study is to identify the reasons of the poor performance of kisan Credit card Scheme of financing agricultural credit specially in disbursement and in recovery in Assam. In this study 3 districts of Assam namely Sibsagar, Golaghat and Jorhat were purposively selected. In this study opinions of farmers and bank Officials on low disbursement of KCC and its loan recovery were evaluated through a semi structured open ended interview schedule. Since it is a qualitative study, no statistical tools were used. For the sampling 25 KCC beneficiaries and 25 non beneficiaries from each District were randomly selected. So for the respondent the sample size was 150. So far Bank official is concerned 15 bank officials are selected randomly for interview. The result of this study shows that, there are 11 major reasons for poor disbursement and 12 major reasons for poor recovery of loan. Some of the reasons for poor disbursements are lengthy paper works, problem of land holdings, poor repayment status, role of money lender, lack of awareness, difficulties in opening bank accounts, problem of location, adequate loan not available on requirement, worst experience from peer group, fear of being a defaulter, lack of motivation from bank officials, insufficient credit limit etc. Some of the reasons for poor loan recovery are double financing, no judicious use of ATM card, low repayment capacity etc. makes the agricultural credit borrowing not so easy for the farmers.

IMPORTANCE OF THE STUDY
Based on real life data the study gives a clear picture of the scenario of agricultural financing in the state of Tripura by financial institution. It will help the policy maker, state planner, budget maker to take necessary steps in their objectives. It will help in resource planning and resource utilization. It paves the path for further research in this field.

STATEMENT OF THE PROBLEM
India is a country where multi agency credit system is working to supplement the agricultural credit. Still there is identified problem of financing agricultural credit by the lenders and there are also problems of getting the credit easily by the agricultural borrowers. There is problem of achieving the annual target by the banks through various schemes like KCC scheme in Tripura.

OBJECTIVE
The main objective of the study to do a comparative analysis of the agricultural credit financed by various financial institutions in the study period through various agricultural schemes and KCC schemes in Tripura state of India. The study has to assess the performance financing agriculture by various financial institutions in Tripura.

RESEARCH METHODOLOGY
To conduct the study only secondary data for 5 years (2008-09 to 2012-13) is used. Data is collected from the State Level Bankers Committee (SLBC) of Tripura State and the Reserve Bank of India (RBI) statistical hand book economic data. Data also collected from the corresponding banks in the study area. Tabular method is used for data analysis and interpretation. Simple descriptive statistics like average, mean, Compound Annual Growth Rate CAGR) is used for analysis.

1.1 BRIEF PROFILE OF TRIPURA
1.1.1 Historical
Historically, Tripura was an independent state which was ruled by the royal kings of Tripura for a period of about 300 years. So far, there are traces of about 166 royal kings. On 15th of October 1949 it joined the Union of India. After the Indian constitution was all set, in the Year 1956 Tripura got the status of C class state. It remained as an Union Territory of India till 21st January 1972 after which it got the status of a full state where a 60 member assembly was formed to rule the state by a democratically elected government.

1.1.2 Geographical
It is located in 22 degree 56 minutes to 22 degree 32 minute of the north horizontal line and 91 degree 10 minutes to 92 degree 21 minutes of east vertical line. It has 53 Km border with the state of Assam, 109 Km border with state of Mizoram and 839 Km international border with Bangladesh covering 3 sides of the state. The Area of this state is 10491 Sq km. East and West wide it is 113 Km and North and South wide it is 184 Km. It has 5 ranges of mountain varying 48 km to 106 km with heights from 269 meter to 939 meter. There are 10 rivers flowing in the state amongst which Gomati and Manu are major. Sixty percent of the land is covered by forest with 4 national reserved forests consisting of various birds and animal. The climate of Tripura is hot with more humidity. Agartala is the State capital of Tripura and is connected by rail and road to Assam.

1.1.3 Political and Administrative
At present there are eight districts namely North, South, West, Dhalai, Sipahijala, Unakoti, Gomati, Khowai and it has 23 subdivisions and 58 blocks and one Autonomous District Council for tribal people which are administered by the tribal people only. After its inclusion to Indian Union it was ruled by a designated higher post called chief commissioner which was followed by Lieutenant Governor. Mr. Sachindralal Singha who was the first democratically elected chief minister from congress party. At present the state is ruled by the left front under the leadership of Mr. Manik Sarkar.

1.1.4 Socio- Economical
The major resources in Tripura are the forest and underground oil and gas reserve. The main livelihood of the people is agriculture and animal husbandry, fishery and minor forestry and cottage industry like bamboo and wood crafting, handloom and sericulture. Non availability of raw materials, skilled labour and weak transportation system are the major obstacles to industrial development in the State. At present cultivation of rubber and medicinal herbs and animal husbandry is increasingly playing an important role in the economy of Tripura. According to 2011 census, the total population of Tripura is 36, 73,917 out of which 18, 74,376 persons are male and 17,99,541 persons are female. The rural population of Tripura is 27, 12,464 and that of urban population is 9,61,453. The gender ratio of the state is 961 females to 1000 male. The population density of the State is 350 per sq Km. The decadal growth of the population(2001-2011) of the State is 14.75 percent and the corresponding figures of male and female population are 13.98 percent and 15.55 percent respectively. The decadal population growth of the west district of Tripura is 12.50 percent. The economy of Tripura is basically agrarian. More than 60 percent of the net state domestic product originates from

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT 70

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

agriculture and allied sectors. There has been negligible expansion in secondary and tertiary sector. With this economic structure, the development of rural areas can only ensure better way of living for the people. The planned developmental activities taken up since 1951 could not produce any marked improvement in the general backwardness of the State. The per capita income in Tripura was Rs. 861/- as against the all India figure of Rs. 1249/- at current prices during 1970 to 1979. About one-third of the State population is tribal who mostly inhabit in the isolated inaccessible hilly areas. The benefits of development programme do not percolate to these areas to the extent required. Most of the people in these areas are below the poverty line. The scheduled castes constitute about 12.4 percent [Reports (2013-14) of Directorate of economics and statistics, Government of Tripura, www.deshtripura.nic.in] of the population which is more than the national average. Tripura Tribal Area Autonomous District Council (TTAADC) has been set up for the tribal compact areas. This Council covers 68 percent of the total area of the State. Under this Council growth centers are established at key places which are providing various services and in order to make development in the far flung areas.

1.1.5 Forest and Jhumias
Total forest area of the State is about 5920 Sq. K.M. which represents 55.5 percent of the total land area. Out of this area reserve forest account for over 3571.30 Sq. K.M. 291.40 Sq K.M. is P.R.F(Proposed Reserve Forest) and 2057.52 Sq. K.M. is P.F(Planned Forest). The percentage of distribution of Reserved Forest, P.R.F and P.F are 64.09 percent, 2.70 percent and 19.64 percent respectively. 60 percent of the area of the state is hilly. The hills are inhabited mainly by different group of tribes who live in the forests by practicing shifting cultivation. It is reminded that Tripura was once very rich in forest wealth and the major portion of the land area of the state was covered by dense valuable forest of Sal, Garjan, Kanak,Jarul, Gamar, Karai and other important miscellaneous species. But the entire forest area is now subject to shifting cultivation and almost all the forest areas have been repeatedly and extensively jhumed in the past.

1.1.5.1 Shifting Cultivation
Shifting cultivation is locally known as Jhuming and is a primitive form of agriculture, in the process of which the forest growth in the hills irrespective of the degree of slope is cut and burnt to raise agricultural crops. In Tripura, the Jhum crop is raised only for one year and the new forest area is selected in the next year abandoning the previous site. The process is repeated year after year. The cultivation is shifted from one place to other for Jhuming. The cultivators do not own or have claim of their ownership on such lands as these are Government Forests. Generally areas having good forest growth or densed bamboo forests are selected for Jhuming as this gives good burn, consequently giving better yield of crop.

1.1.5.2 Rubber Plantation
There are eight divisions of Rubber plantation in Tripura. In every division larger areas are covered by rubber plantation. These plantations are popular in Tripura Tribal Welfare Department, TRPC (Tripura Rubber Plantation Corporation) and TFDPC (Tripura Forest Development and Plantation Corporation). Some of the plantations are fully maintained by the TFDPC itself.

1.1.5.3 Tea Estate
There are 56 Tea Estates in Tripura. Most of them are under the ownership of private companies and few of them are under the ownership of the Tea Board.

1.3. BANKING SYSTEM IN TRIPURA
So far as financial institutions in Tripura are concerned almost all nationalized banks, public sector banks, RRBs, SBI and private sector banks and cooperative banks along with microfinance institutions are operating.

1.4 FINANCIAL INTERMEDIATION SCENARIO IN TRIPURA
With time many new financial institutions have penetrated the State. There exist a growing number of financial institutions both in public and private sector rendering wide array of financial services in the State. They play a greater role in rural financing, mainly to the agriculture and allied sector. The cultivation in Tripura is done through financial assistance from both organized and unorganized financial institutions. The unorganized financial institutions are not traceable as they undertake operations in an informal manner. The organized sector comprises of various financial institutions and banks that operate through a wide network of branches and units of operation. Besides, there is cooperative societies which play an active role in providing financial assistance to the entrepreneurs. There are LAMPS (Large Agricultural Multipurpose Cooperative Society), PACS (Primary agricultural Cooperative society) throughout the State. These societies assist farmers by offering financial assistance against a nominal charge. Amongst the bank groups, the RRBs have the biggest network of branches which is followed by State Bank of India (SBI) and United Bank of India (UBI).

DATA ANALYSIS INTERPRETATION, RESULT AND DISCUSSION

1.4.1 Bank Branch Expansion
Table 1.4.1.1 presents the status of overall commercial bank branch expansion covering the rural, semi urban and urban areas of the state classified under nationalized banks, SBI, private banks and RRBs. There is a consistent growth of the nationalized bank branches in State comprising of Rural, Semi Urban and Urban branches of the bank. It is observed that the RRBs account for highest number of bank branches in the State followed by the nationalized banks. State Bank of India Group exhibits a constant trend in its growth of bank branches. There exists scanty of branches of private banks in the State which was almost negligible till the year 2012 after which a steady rise is witnessed. It is also worthy to note that all the banks have mostly opened up branches in rural areas and the least expansion has taken place in urban areas excepting the private banks where maximum branch expansion has taken place in the urban and semi-urban areas. As per the latest statistics of 2014, the Regional Rural Bank in Tripura exhibits strong presence in State with total of 138 branches out of which 97 are rural branches.

TABLE 1.4.1.1: COMMERCIAL BANK BRANCH EXPANSION (2010-2014)

Year	Number of Nationalized Banks				State Bank Of India				Private Bank				Regional Rural Bank (TGB)			
Year	Rural	Semi urban	Urban	Total	Rural	Semi urban	Urban	Total	Rural	Semi urban	Urban	Total	Rural	Semi urban	Urban	Total
2010	32	15	35	82	14	14	9	37	0	2	4	6	82	20	9	111
2011	36	16	39	91	16	14	9	39	0	3	4	7	84	20	9	113
2012	45	19	43	107	19	14	9	42	0	5	7	12	93	21	9	123
2013	57	32	47	136	29	14	9	52	0	10	10	20	101	22	10	133
2014	70	33	42	145	26	17	13	56	1	13	11	25	97	31	10	138
CAGR	22.44	84.73	5.11	16.67	20.11	3.95	7.63	11.81	0	64.01	34.17	47.75	5.34	10.20	3.21	6.16

Source: SLBC of Tripura (2010-2014) Note: TGB-Tripura Gramin Bank(Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate.

Table 1.4.1.2 presents the status of branch expansion of Co-operative Bank in the State. There are three types of cooperative banks in Tripura. They are Tripura State Co-operative Bank (TSCB), Tripura Cooperative Agricultural Rural Development Bank (TCARDB), and Agartala Urban Cooperative Bank (ACUB). So far TSCB is concerned; there is no growth in bank branch expansion in the semi urban and urban area of Tripura. However a small growth in the branches in the rural area is noticed with a CAGR value of 5.34. A small growth in the bank branch expansion in the case of ACUB is also noticed but in case of TCARDB no growth of bank branch expansion is noticed.

TABLE 1.4.1.2: COOPERATIVE BANK BRANCH EXPANSION IN TRIPURA

Year	Tripura State Cooperative Bank (TSCB)				Agartala Cooperative Urban Bank (ACUB)				Tripura Cooperative Rural Development Bank (TCARDB)				Grand Total
	Rural	Semi Urban	Urban	Total	Rural	Semi Urban	Urban	Total	Rural	Semi Urban	Urban	Total	
2010	26	11	11	48	0	0	1	1	3	0	2	5	54
2011	27	11	11	49	0	0	2	2	3	0	2	5	56
2012	27	11	11	49	0	0	2	2	3	0	2	5	58
2013	30	11	11	52	0	0	2	2	3	0	2	5	61
2014	32	11	11	54	0	0	3	3	0	0	5	5	62
CAGR	5.34	0	0	2.99	0	0	24.57	24.57	0	0	20.11	0	3.68

Source: SLBC of Tripura(2010-2014) Note: CAGR-Compound Annual Growth Rate

The Table 1.4.1.3 further indicates the rural, semi-urban and urban branches as a percentage of Total branches. This proportion is highest for rural branches to total branches for all the banks excepting the Private Banks where this proportion is highest for urban to total branches.

TABLE 1.4.1.3: RURAL, SEMI URBAN AND URBAN BANK BRANCHES AS A PERCENTAGE OF TOTAL BRANCHES (2010-2014)

Year	Nationalized Banks			SBI			Private Banks			RRB (TGB)			Cooperative Banks		
Year	Percent-age-Rural	Percent-age-Semi Urban	Percent-age-Ur-ban	Percent-age-Rural	Percent-age-Semi Urban	Percent-age-Urban	Percent-age-Rural	Percent-age-Semi Urban	Percent-age-Urban	Percent-age-Rural	Percent-age-Semi Urban	Percent-age-Ur-ban	Percent-age-Rural	Percent-age-Semi Urban	Percent-age-Ur-ban
2010	33	18.29	42.68	37.83	37.83	24.32	0	33.33	66.66	73.87	18.01	8.10	48.14	27.77	24.07
2011	39.56	17.58	42.85	41	35.89	23.07	0	40	60	74.33	17.69	7.96	48.21	25	26.78
2012	34.69	19.38	45.91	45.23	33.33	21.42	0	40	60	75.60	17.07	7.31	53.57	23.21	23.21
2013	20.43	23.35	34.30	55	27.45	17.64	0	52.63	47.36	75.93	16.54	7.51	50.84	27.11	22.03
2014	48.27	22.75	28.96	46.42	30.35	23.21	4	52	44	70.28	22.46	7.24	57.35	21.31	21.31
Mean	35.19	20.27	38.94	45.096	32.97	21.932	0.8	43.592	55.604	74.002	18.354	7.624	51.622	24.88	23.48
CAGR	1.00	7.46	-9.49	7.28	-6.84	-3.55	0	12.34	-10.12	-0.78	3.81	-2.78	4.11	-4.38	-4.29

Source: SLBC of Tripura(2010-2014) Note: TGB-Tripura Gramin Bank(Regional Rural Bank in Tripura).

CAGR-Compound Annual Growth Rat

1.4.2 Deposits and Advances

Table1.4.2.1 depicts the Deposits and Advances for 5 years from 2010-2014. It is observed that there is no clear trend in both the volume of advances and the volume of deposits. For the 5 years duration the trend is found to be irregular. The mean deposit of RRB is the highest followed by SBI and the nationalized banks. However the Nationalized Banks exhibit a negative growth rate and private sector banks account for maximum growth rate. Based on the mean volume of deposit mobilization, nationalized banks account for the maximum and Co-operative Banks account for minimum. Likewise, the volume of Advances also exhibit a mixed trend where, the private sector banks exhibit maximum growth and RRBs account for the least growth. In terms of the Mean Advances, the nationalized bank account for the maximum advances and private banks account for the least volume of Advances. Thus, the nationalized banks are recognized to be the leading banks in the State in terms of its Business (Deposits + Advances). In terms of CD ratio, Private Sector Banks exhibit the maximum (41 per cent) and RRBs account for the minimum (29 per cent).

TABLE 1.4.2.1: DEPOSIT AND ADVANCES (2010-2014)

Bank	Year wise DEPOSITS (Rs in Lacks)					Mean	CAGR	Year wise ADVANCES (Rs in Lacks)					Mean	CAGR	Mean C/D Ratio
	2010	2011	2012	2013	2014			2010	2011	2012	2013	2014			
Nation-al-ized Banks	679817.85	269181.66	410186.65	391142.13	504363.45	450938.3	-2.20	68832.43	74934.74	232111.87	86400.39	157890.63	124034	19.7556 2	0.30
SBI	236203	217538	330571	274140.00	427592.00	85518.4	15.23	69707	59300	97959	67747.00	162485.00	91439.6	20.0303 1	0.30
Private Sec-tor Banks	21026.59	19825.22	39982.03	52316.08	63451.96	39320.38	37.42	8900.07	6287.04	14646.68	25733.4 4	29883.70	17090.19	46.6943 4	0.41
RRBs	204864.66	136957	277473	146749.00	365881.66	226385.	13.07	79708.36	51491	1176.33	36726.00	149053.94	63631.13	9.57012	0.29
Co-op-era-tive Banks	59307.55	50443.56	112802.22	26938.84	160274.18	32054.84	14.57	21954.66	15427.25	39818.77	21823.86	77829.64	35370.84	33.3484 5	0.46

Source: SLBC of Tripura (2010-2014) Note: TGB-Tripura Gramin Bank(Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate,C/D- Credit to Deposit Ratio.

Table 1.4.2.2 presents the year wise and bank group wise C/D ratios. It is observed that, in case of nationalized banks there is an increasing trend in the C/D ratio with a CAGR value of 22.46. There is no clear trend for SBI group over the years with a CAGR value of 4.16. There is a negative trend in the growth of the C/D ratio of the RRBs. There is a positive trend of the C/D ratio of the cooperative banks with a CAGR value of 16.38. The nationalized banks account for the highest CAGR value.

TABLE 1.4.2.2: YEAR WISE AND BANK GROUP WISE C/D RATIOS (2010-2014)

Year	Nationalized Bank	SBI	Private Banks	RRB	Cooperative banks
2010	0.10	0.30	0.42	0.39	0.37
2011	0.28	0.27	0.32	0.38	0.31
2012	0.57	0.30	0.37	0.00	0.35
2013	0.22	0.25	0.49	0.25	0.81
2014	0.31	0.38	0.47	0.41	0.49
Mean	0.30	0.30	0.41	0.29	0.47
CAGR	22.46	4.16	6.74	-3.10	16.38

Source: SLBC of Tripura(2010-2014) Note: TGB-Tripura Gramin Bank(Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate,C/D- Credit to Deposit Ratio.

Fig- 1.4.2.reveals that the mean C/D ratio of Cooperative banks is highest followed by Private Banks. RRBs account for the lowest C/D ratio.

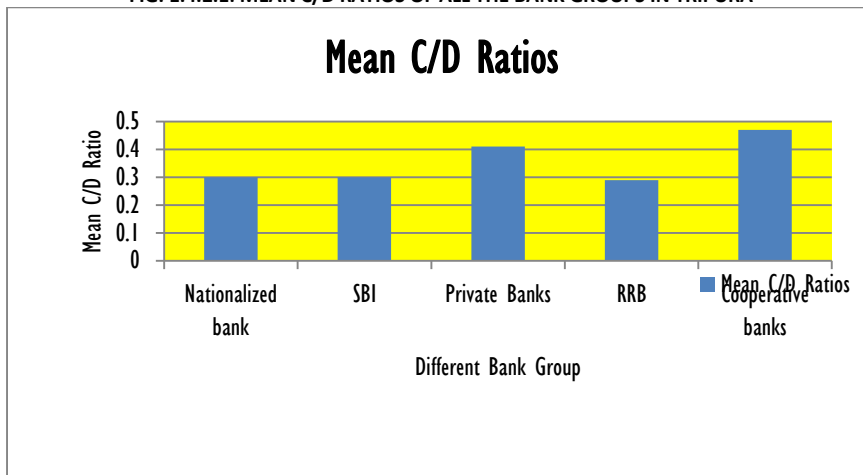**FIG. 1.4.2.1: MEAN C/D RATIOS OF ALL THE BANK GROUPS IN TRIPURA**

Fig-1.4.2.2 depicts the District wise C/D ratios of all banks. It is observed that 4 New districts namely Gomati, Sipahijala, Khowai, Unakoti came into existence in Tripura since 2013. Gomati district in the year 2014 has the highest C/D ratios. Khowai, Dhalai, Unakoti district in the year 2013 and 2014 has the second highest C/D ratios. North and South district maintains almost constant ratios for all the years. Whereas, West district maintains the lowest level of C/D ratio.

FIG-1.4.2.2: DISTRICT WISE AND YEAR WISE VARIATION OF C/D RATIOS OF ALL BANKS
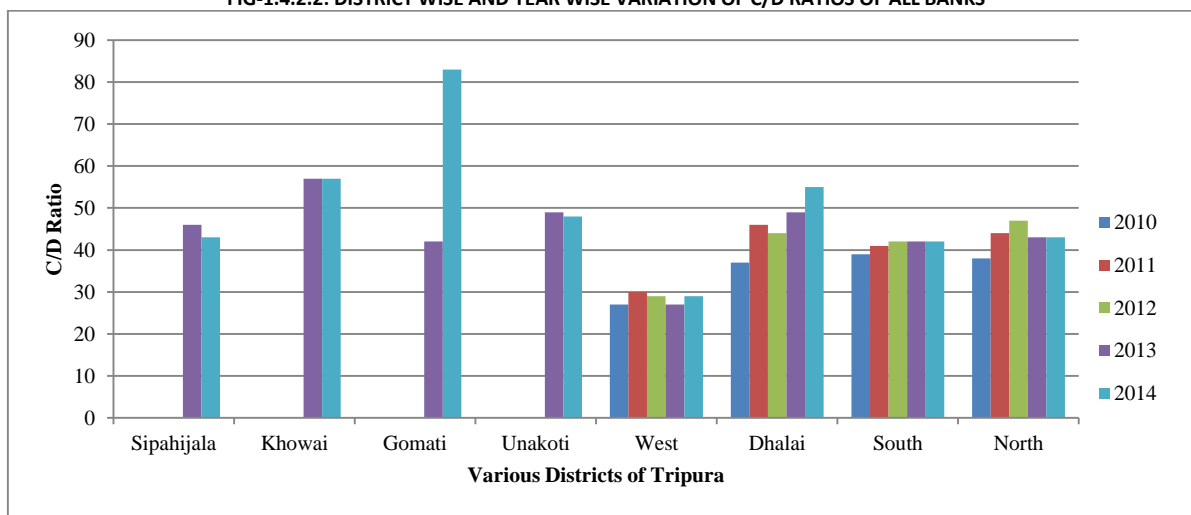
1.5 Flow of Agricultural Credit in Tripura

1.5.1 Targets and Achievements of Agriculture Credit:

From the Table 3.5.1.1 relating to the flow of agricultural credit in Tripura, it is evident that there is an increasing trend in both target and achievement of agricultural credit in the State. The highest achievement of agricultural credit disbursement in Tripura took place in the year 2014 of Rs.865.23Crores. However, the annual growth rate of achievement is less than the annual growth rate of target hence there is a negative annual growth rate in the percentage of achievement to target. The highest percentage of Achievement to Target was noticed in the year 2011 computed to be 103 percent.

TABLE: 1.5.1.1: FLOW OF AGRICULTURAL CREDIT IN TRIPURA (2010-2014)

Year	Target (Rs in Crore)	Achievement (Rs in Crore)	Achievement as a Percentage of Target
2010	200.00	195.74	98
2011	271.00	280.40	103
2012	380.01	357.48	94
2013	777.82	563.94	73
2014	852.39	865.23	102
Mean	496.244	452.558	94
CAGR	48.49528	44.35635	-2.60798

Source: SLBC of Tripura(2010-2014) Note: TGB-Tripura Gramin Bank (Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate, C/D- Credit to Deposit Ratio.

1.5.2 Bank-Group wise Target and Achievement of Agricultural Credit

Table 3.5.2.1 depicts the target and achievement of credit disbursement of various bank groups operating in Tripura. It is observed that, Cooperative bank has the highest growth in both Target and Achievements. This is followed by the RRBs. So far as the disbursement of credit is concerned; private banks reflect highest CAGR value of 76.39 percent followed by 66.86 percent of cooperative banks which is followed by 41.94 percent (CAGR of RRB. Nationalized bank group have a CAGR value of 23.20for achievement of credit disbursement which is followed by SBI with least 17.40 as CAGR value. So far as the mean value is concerned RRB has the highest target and achievement of agricultural credit disbursement for the period 2010 to 2014. The mean value of credit disbursement of nationalized bank is in the 2nd position. Whereas the target and achievement of agricultural credit disbursement for the private bank group is the lowest.

TABLE 1.5.2.1: BANK GROUP WISE TARGET AND ACHIEVEMENT OF CREDIT DISBURSEMENT TO AGRICULTURE AND ALLIED SECTOR OF TRIPURA (2010-2014)

Amount in Lakh

Year	Nationalized Bank Banks		SBI		Private Banks		Regional Rural Bank (TGB)		Cooperative Banks	
Year	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
2010	7054.85	5871.36	5117.05	5513	40.00	282.03	6361.33	6703.01	1426.77	1204.30
2011	7506.3	8269.17	5317.62	5929.78	118	972.11	10831.31	10292.09	3326.16	2576.63
2012	8773.36	8305.88	6600.19	7293.12	0.00	2016.07	17742.79	13176	4884.18	4956.92
2013	19707.88	13193.50	12195.51	9641	1192.46	2855.06	31184.44	24853	11502.20	8551.61
2014	19707.84	13193.5	12195.51	9641.00	1192.46	2855.06	31184.44	24853.00	13502.20	8551.61
Mean Value	12550.05	9766.682	8285.176	7603.58	508.584	1796.066	19460.86	15975.42	6928.302	5168.214
CAGR	35.25	23.20	29.27	17.40	*	76.95	52.76	41.94	77.46	66.86

Source: SLBC of Tripura State (2010-2014)

*Cannot Be Computed Due To Negative Values Present In the Series.

1.5.3 Agricultural Credit as a Percentage of Total Credit in Tripura

Table 315.3.1 reveals that nationalized bank group account for maximum volume of agricultural credit followed by SBI which is further followed by RRBs. The trend in agricultural credit disbursed is increasing for all the categories of banks. On an average, the percentage of agricultural credit to Total Credit is highest in case of RRBs and lowest in case of private banks. For all categories of banks, this proportion is found to be declining till 2013. The year 2014 witnessed a remarkable increase in the percentage of agricultural credit to total credit for all categories of banks. Further, the CAGR of the percentage of agricultural credit to Total Credit is found to be the maximum in case of Private Banks.

TABLE-1.5.3.1: BANK GROUP-WISE VOLUME OF AGRICULTURAL CREDIT DISBURSEMENT AND PERCENTAGE OF TOTAL CREDIT THEREOF (2010-2014)

	Nationalized bank			SBI			Private Banks			RRBs(TGB)			Cooperative Banks		
Year	Total Agricultural Credit	Total Credit	Percentage of Agricultural credit	Total Agricultural Credit	Total Credit	Percentage of Agricultural credit	Total Agricultural Credit	Total Credit	Percentage of Agricultural credit	Total Agricultural Credit	Total Credit	Percentage of Agricultural credit	Total Agricultural Credit	Total Credit	Percentage of Agricultural credit
2010	5871.36	23409.76	0.25	5513	22114	0.25	282.03	7991.49	0.04	6703.01	27141.60	0.25	1204.39	11239.20	0.11
2011	8269.17	34390.33	0.24	5929.78	29214.54	0.20	972.11	5410.51	0.17	10292.09	35740.22	0.28	2576.63	16204.20	0.15
2012	8300.88	59326.36	0.13	7293.12	38952.04	0.18	2016.07	14590.42	0.13	13176	52377	0.25	4956.92	20308.08	0.24
2013	13173.5	75663.24	0.17	9641	14465	0.66	2855.06	21927.91	0.13	24851	62816	0.39	8551.61	27275.95	0.31
2014	13193.5	55863.24	23.61	9641.00	34465.00	27.97	2855.06	21927.93	13.02	24853.00	62816.00	39.56	8551.61	27126.55	31.52
Mean	9761.682	49730.59	4.88	7603.58	27842.12	5.852	1796.066	14369.65	2.698	15975.02	48178.16	8.146	5168.232	20430.8	6.466
CAGR	23.18	28.76	139.91	17.40	1.86	189.47	76.95	40.75	209.64	41.94	25.13	184.61	66.86	25.65	184.61

Source: SLBC of Tripura (2010-2014) Note: TGB-Tripura Gramin Bank (Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate, C/D- Credit to Deposit Ratio.

1.5.4 Percentage of Crop Loan to Agricultural Loan Disbursed in Tripura

Table 1.5.4.1 depicts that, in case of Nationalized Bank the volume of crop loan has increased until the year 2011 after which a declining trend is realized. On an average in case of Nationalized Banks, crop loan account for 59 percentage of the total agricultural loan. On an average in the year 2012 crop loan represented 100 per cent of agricultural loan. Like the Nationalized banks, SBI also reflected a similar trend in the volume of crop loan. The crop loan represents 60 per cent of agricultural loan. On an average the trend in crop loan of private sector banks reflects a mixed trend throughout the study period and the growth in crop loan (CAGR) is highest for this category of bank. Crop loan represents 59 per cent of the agricultural loans for private banks. The RRBs exhibit drastic decline in the volume of crop loan during 2010-2012 followed by an increase thereafter. For RRBs, the CAGR of crop loan is negative and the same represents 52 per cent of the agricultural loans. The co-operative banks exhibited an increasing trend in the volume of crop loan till the year 2012 after which decline is observed. Crop loan represents only 47 percent of total agricultural loans. In the year 2012 crop loan represented 100 percent of total agricultural loans.

TABLE 1.5.4.1: CROP LOAN AS A PERCENTAGE OF TOTAL AGRICULTURAL LOANS (2010-2014) Amount in lakh

Year	Nationalized Bank			SBI			Private Bank			Regional Rural Bank (TGB)			Cooperative Bank		
	Total Crop Loan	Total Agricultural Loan	Percentage Crop Loan	Total Crop Loan	Total Agricultural Loan	Percentage Crop Loan	Total Crop Loan	Total Agricultural Loan	Percentage Crop Loan	Total Crop Loan	Total Agricultural Loan	Percentage Crop Loan	Total Crop Loan	Total Agricultural Loan	Percentage Crop Loan
2010	5871	13810.21	42.51	5513.05	12137	45.42	282.03	650.31	43.37	6703.01	12848.27	52.17	1204.39	3829.59	31.45
2011	8836.17	19297	45.79	5929.78	15963	37.15	205.11	269.73	76.04	10292	17708.27	58.12	2576.63	4134.35	62.32
2012	8305.88.00	8305.88	100.00	7293.12	7293.12	100.00	1504.07	2016.07	74.60	13176	13176	100.00	4956.92	4956.92	100.00
2013	5846.29	13193.50	44.31	5477.59	9641	56.82	1044.23	2855.06	36.57	6923	24853	27.86	2883.77	8551.61	33.72
2014	14143.49	23448.36	60.32	6678	10459	63.85	2672.36	4045.21	66.06	7215.57	30193.60	23.90	1688.95	19096.26	8.84
Mean	8674.238	15610.99	58.586	6178.308	11098.62	60.648	1141.56	1967.276	59.328	8861.916	19755.83	52.41	2662.132	8113.746	47.266
CAGR	14.40	7.02	6.90	3.09	-7.71	11.69	84.50	82.49	1.10	-2.46	22.73	-20.52	8.21	48.29	-27.03

Source: SLBC of Tripura(2010-2014) Note: TGB-Tripura Gramin Bank (Regional Rural Bank in Tripura) CAGR-Compound Annual Growth Rate, C/D- Credit to Deposit Ratio.

1.6 PROGRESS OF KCC SCHEME IN THE STATE

This sub-section describes performance of KCC scheme in the State in terms of the trend in the volume of KCC loans disbursed and defaulted against each bank type.

Table 1.5.5.1 depicts the bank group wise KCC loans sanctioned and disbursed by various bank groups in Tripura. It is observed that, SBI group accounts for the highest volume of KCC loans the mean value of such KCC loans sanctioned is Rs 33945.08 Lakh. Private Banks accounted for the least amount of KCC loans, the mean value of which is Rs 83.28 Lakh.But so far the growth rate of KCC loan sanctioned is concerned, the private banks are ranked first with a CAGR value of 492.81.With regards to disbursement of the KCC loans, the SBI group is ranked first with the mean value of Rs37556.6Lakh followed by RRB with 15543.37 Lakh

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT 74

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

and nationalized bank with 12985.64 Lakh. So far the growth rate of KCC loan disbursement is concerned, the private banks are ranked first with a CAGR value of 492.81.

TABLE-1.5.5.1: BANK GROUP WISE VOLUME OF KCC LOAN SANCTIONED AND DISBURSED IN TRIPURA (2010-2014) Amount in Lakh

Banks	KCC Loan Sanctioned							KCC Loan Disbursed						
	2010	2011	2012	2013	2014	Mean	CAGR	2010	2011	2012	2013	2014	Mean	CAGR
Nationalized Bank	3196.45	3090.7	3084.48	2315.01	3746.21	12435.882	0.28464526	3090.7	3084.48	2315.01	3746.21	3746.21	12985.642	5.961493114
SBI	3098.58	3098.58	3146.23	23259.67	6710.1	33945.08	42.77669983	3098.58	3146.23	23259.67	6710.1	6710.1	37556.6	25.89460173
Private Bank	0	0	10	3	351.43	83.286	492.8153169	0	0	10	3	351.43	83.286	492.8153169
RRB	3151.57	3151.57	991	792.8	8840	9854.94	7.065297925	3151.57	991	792.8	8840	8840	15543.37	52.97586673
Cooperative Bank	74.1	74.1	756.55	605.24	1706.06	1851.202	131.018181	74.1	756.55	605.24	1706.06	1706.06	3483.162	103.1191568
Total	30456	9520.7	7988.26	6080.22	20815.61	58208.302	-11.39294608	9520.7	7988.26	6080.22	20815.61	20815.61	48567.912	28.68790994

Source: SLBC of Tripura (2010-2014) Note: TGB-Tripura Gramin Bank (Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate, C/D- Credit to Deposit Ratio.

Fig-1.5.5.1exhibits the variations in the KCC loans sanctioned by the various banks in Tripura. It is observed that, for SBI group there is no variation in the loan sanctioned from the year 2010 to 2012, but from the year 2012 there is a sudden boost till2013 with a huge volume of loans being sanctioned during this period. However, there is a sudden fall of loan sanctioned thereafter up to 2014. For other groups of Bank there is a decline in sanctioned amount from the year 2010 to 2013 thereafter there is small rise in KCC loan being sanctioned, but the rise in RRB is noticeable.

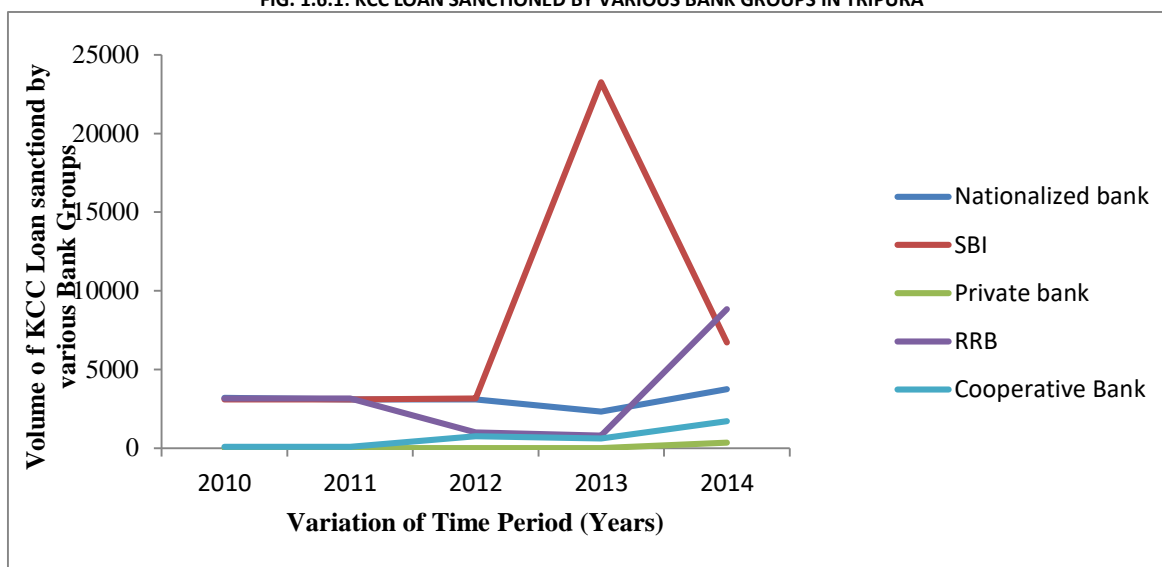**FIG. 1.6.1: KCC LOAN SANCTIONED BY VARIOUS BANK GROUPS IN TRIPURA**

Fig-1.5.5.2 depicts the variations in the KCC loans being disbursed by the various bank groups in Tripura. It is observed that the SBI group was in the leading position in KCC loan disbursement in Tripura. From the year 2010 to 2011 it maintained a constant trend but from the year 2011 to 2012 there was a sharp increase, again from the year 2012 to 2013 there is a sharp decline of KCC loan disbursement. From the year 2013 to 2014 it maintained a constant level up to 2014.For the RRB group from 2010 to 2012 there is no variation but from the year 2012 to 2013 there is a sharp increase of KCC loan being disbursed. From the year 2013 to 2014 all the banks maintains a constant level of KCC loan disbursement. No KCC loan was disbursed by the private group of banks till 2013; however from 2013 to 2014 a very small amount of KCC loan was disbursed by the private banks.

FIG. 1.6.2: GRAPHICAL REPRESENTATION OF THE KCC LOAN DISBURSED BY VARIOUS BANK GROUPS IN TRIPURA
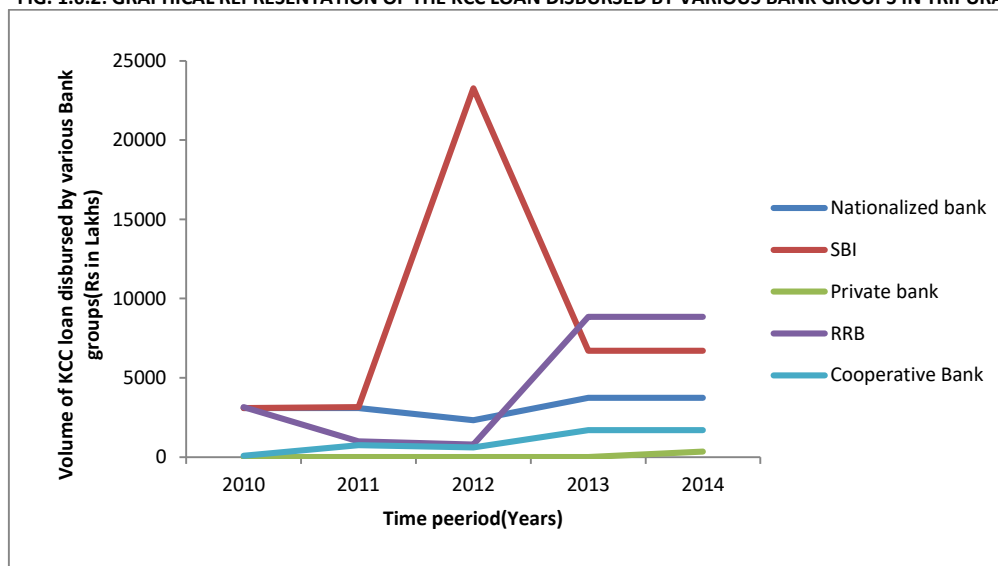
1.7 NON-PERFORMING ASSETS

This sub sections discusses the year-wise variations of the agricultural NPAs, Gross NPAs and the percentage of the agricultural NPAs to gross NPAs for the various banks in Tripura.

1.7.1.1 NPA from Agricultural Advances

It is observed from the table 1.5.6.1 that, the overall volume of NPA of all the banks have consistently increased from the year 2010 to the year 2013 and thereafter a small decline in the volume of NPA is noticed. It is also observed that the overall percentage of agricultural NPA to total NPA has consistently increased from the year 2010 to 2013 and thereafter a small decline up to 2014 is noticed and from that point it has increased again. Similarly, for all bank type, the agricultural NPA as well as the percentage of agricultural NPA to total NPA has increased consistently over years. So far as the agricultural NPA on an average is concerned, the highest volume of NPA is observed in the case of nationalized bank. The lowest volume of NPA is observed in the case of SBI. Excepting the RRB and SBI all the other banks showed these NPA as indicated by the CAGR value.

TABLE-1.7.1.1: BANK GROUP WISE NPA FROM AGRICULTURAL CREDIT AND –PERCENTAGE OF AGRICULTURAL NPA TO GROSS NPA

Year	Nationalized Bank			SBI			Private Banks			RRB (TGB)			Cooperative bank			Grand Total		
	NPA from Agriculture	Total NPA	Agri NPA as percentage of Total NPA	NPA from Agriculture	Total NPA	Agri NPA as percentage of Total NPA	NPA from Agriculture	Total NPA	Agri NPA as percentage of Total NPA	NPA from Agriculture	Total NPA	Agri NPA as percentage of Total NPA	NPA from Agriculture	Total NPA	Agri NPA as percentage of Total NPA	Grand Total agricultural NPA	Grand Total all Sector NPA	Percentage-Agricultural NPA to ALL Sector total NPA
2010	218.80	3228	0.06	1148	5742	0.19	0	0	0	1366.80	2521.05	0.54	722.60	3909.09	0.18	2534.85	15400.99	0.16
2011	445.83	3424.82	0.13	2897	8205	0.35	0	0	0	424.99	3044.04	0.13	546.28	2929.18	0.18	4314.10	17603.04	0.24
*2012	710.72	5765.21	0.12	2232	8807	0.25	1.05	11.21	0.09	3386.72	3882.62	0.87	281.47	2886.39	0.09	6612	21352	0.30
2013	902.91	6803.53	0.13	4630	12081	0.38	1.38	19.64	0.07	514.36	2723.14	0.18	1254.19	3564.99	0.35	7302.84	25192.02	0.28
2014	3383.64	23654.16	143	783	7906	10	3.48	38.47	9.04	1102.51	5296	20.81	942.99	3657.63	25.78	6215.62	36812.90	16.88
Mean	4502.316667	7146.003333	28.688	2338	8548.2	2.234	1.182	13.864	1.84	1359.076	3493.37	4.506	749.506	3389.456	5.316	5395.882	23752.24	4.39
CAGR	85.57	59.52	373.63	-2.92	10.81	122.75	82.05	85.25	902.22	-2.36	14.72	114.44	14.61	0.64	188.46	26.11	23.38	157.84

Source: SLBC of Tripura (2010-2014) Note: TGB-Tripura Gramin Bank(Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate, C/D- Credit to Deposit Ratio.

Table 1.5.6.2 depicts the year wise and bank-wise demand and recovery of agricultural credit as well as the percentage of the recovery for various bank groups in Tripura. Bank wise CAGR values of the demand and recovery is also calculated. It is observed that, the demand of the agricultural credit in case of private banks is highest for which the CAGR value is 71.22. The CAGR value of the demand of the agricultural credit of the SBI group is 2.65 which is the least amongst the bank groups. The CAGR value of the recovery of the private bank group is 75.68 which is the highest among the bank groups. The lowest CAGR value of the recovery was found in the in the cooperative bank group which is 15.44. So far as the percentage of recovery is concerned; the SBI group has the highest recovery percentage of 34.94 and the lowest CAGR value of 8.45 was found in case of Cooperative bank groups. It is observed from Table 3.5.6.2 that, there is a consistent increase of recovery of loan in case of nationalized bank. For SBI there was a consistent increase of recovery of loan from the year 2010 to 2013 but in the year 2014 there was a decline in loan recovery. In case of private bank a declining trend of loan recovery is observed over the years. For RRB there was an increasing trend of recovery from the year 2010 to 2012 and thereafter a decline up to 2013 and from that point an increasing trend of loan recovery is noticed. For the cooperative banks a fluctuating trend is observed. The highest of the mean recovery of loan is observed in the case of SBI whereas the lowest of the loan recovery was found in the private bank. As far as the percentage of the recovery to the total demand is concerned, cooperative banks ranked first whereas the nationalized banks accounted least. So far as the mean value of the demand is concerned The RRB group of banks accounted highest demand for agricultural credit for the period (2010-2014). Whereas the private bank group accounted least demand for agricultural credit. So far as the recovery of the disbursed agricultural credit is concerned the highest recovery of credit took place in co-operative bank group followed by SBI group and the nationalized bank group recovered the least.

TABLE 1.7.1.2: BANK GROUP WISE YEAR WISE DEMAND, RECOVERY AND PERCENTAGE OF RECOVERY OF THE AGRICULTURAL CREDIT IN TRIPURA (2010-2014)
(Amount in Lakh)

	Nationalized Banks			SBI			Private Banks			RRB			Cooperative banks		
Year	Demand	Recovery	Recovery Percentage to the Demand	Demand	Recovery	Recovery Percentage to the Demand	Demand	Recovery	Recovery Percentage to the Demand	Demand	Recovery	Recovery Percentage to the Demand	Demand	Recovery	Recovery Percentage to the Demand
2010	4752.87	1452.84	30.56	5321	1653	31.06	0	0	0	2755.68	1232.64	44.73	4280.09	1886.67	44.08
2011	6781.86	2912.36	42.94	5984	2612	43.64	0	0	0	3279.52	1543.69	47.07	1119.44	1029.65	91.97
2012	8477.43	3797.82	44.78	6122.00	2739	44.71	339.43	388.2	143.36	20056.43	9374.82	46.74	1692.33	1049.24	62
2013	7272.1	3236.59	44.5	5498	7872	143.17	100.03	94.10	94.07	4598.63	2436.02	52.97	3533.59	3228.61	91.36
2014	8274.36	4044.45	48.87	6235	4785	76.74	28.11	22.96	81.67	5981.55	3349.92	56	3291.36	2184.48	66.37
Mean	7111.724	3088.812	42.33	5832	3932.2	67.864	93.514	101.052	63.82	7334.362	3587.418	49.502	2783.362	1875.73	71.156
CAGR	12.5	24.02	10.23	2.65	38.11	34.94	71.22	75.68	24.52	20.78	27.83	5.83	6.44	15.44	8.45

Source: SLBC of Tripura(2010-2014) Note: TGB-Tripura Gramin Bank (Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate, C/D- Credit to Deposit Ratio.

Table 1.5.6.3 depicts the year- wise and bank group wise variations in the volume of gross advances, gross NPA and the percentage of gross NPA to gross Advances. It also exhibits the CAGR values of the above mentioned variables. So far as the gross advances are concerned the highest growth is observed in case of cooperative banks with a CAGR value of 32.94 percentage and RRB account for the lowest with CAGR value of 16.79 percent. However, in terms of mean advances, RRBs account for the highest and private banks account for the lowest. SBI account for maximum gross average NPA whereas private banks account for the least volume of gross NPA. Further, if NPAs are computed as a percentage of total advances, maximum is accounted by Co-operative banks and the least percentage is reported in case of private banks. Thus it can be concluded that private banks appear to be the better managed banks in terms of Loan Management.

TABLE 1.7.1.3: POSITION OF NPA (NON PERFORMING ASSET) OF VARIOUS BANK GROUPS IN TRIPURA (2010-2014) (Amount in Lakh)

Year	Nationalized Bank			SBI			Private Bank			Regional Rural Bank			Cooperative Bank		
Year	Gross Advance	Gross NPA	Percent-age Gross NPA	Gross Advanced	Gross NPA	Percent-age Gross NPA	Gross Advanced	Gross NPA	Percent-age Gross NPA	Gross Advanced	Gross NPA	Percent-age Gross NPA	Gross Advanced	Gross NPA	Percent-age Gross NPA
2010	68831.44	3228.85	4.69	69707	5742	8.24	8883.07	0	0.00	79708.36	2521.05	3.16	25173.27	3909.09	15.53
2011	95188.99	3401.8	3.57	83193	8205	9.86	7447.22	23.02	0.31	99095	3044.04	3.07	28758.05	2929.18	10.19
2012	106155.22	10111.38	9.53	97959	10017	10.23	9646.68	81.03	0.84	117633	5053.38	4.30	30188.77	3023	10.01
2013	146419.03	6803.53	4.65	112557	12081	10.73	14233.41	19.64	0.14	133821	2723.14	2.03	51886.33	3564.99	6.87
2014	150897.95	19914.8	13.20	162485	7906	4.87	16216.19	38.47	0.24	149053.9	5296	3.55	77828.99	3657.63	4.70
Mean	113498.5	8692.072	7.128	105180.2	8790.2	8.786	11285.31	32.432	0.306	115862.3	3727.522	3.222	42767.08	3416.778	9.46
CAGR	22.15	54.22	26.25	22.08	10.81	-9.23	20.34	1.24	-22.90	16.79	14.72	-1.78	32.94	0.64	-24.30

Source: SLBC of Tripura (2010-2014) Note: TGB-Tripura Gramin Bank (Regional Rural Bank in Tripura)

CAGR-Compound Annual Growth Rate, C/D- Credit to Deposit Ratio.

1.8 KEY OBSERVATIONS

From the above analysis the following observations are made.

- In Tripura agricultural financing is done by both organized and unorganized financial institutions in which the organized sector consists of various bank groups and the unorganized sector consists of businessman money lenders, chit fund companies, micro finance companies etc
- There was a consistent increase in the bank branch expansion in rural, semi urban and urban areas of Tripura.
- (TGB)Tripura Gramin Bank is having strong bank branch network with 138 branches out of them there are 97 rural branches in Tripura.
- It is observed that there is no clear trend in both the advances and deposit mobilization by all agencies (banking) in the State. For the 5 years duration the trend is found to be an irregular one.
- Based on the mean volume of Deposit mobilization, nationalized banks account for the maximum and Co-operative Banks account for minimum.
- The volume of Advances also exhibits a mixed trend where, the private sector banks exhibit maximum growth and RRBs account for the least growth. In terms of the Mean Advances, the nationalized bank account for the maximum advances and private banks account for the least volume of Advances.
- In terms of CD ratio, Private Sector Banks exhibit the maximum (41 per cent) and RRBs account for the minimum (29 per cent).
- The Nationalized banks are recognized to be the leading banks in the State in terms of its Business (Deposits + Advances).
- Except RRBs, all other bank group show the positive growth of C/D ratios and nationalized group of bank shows the highest growth rate of C/D ratio and RRB group shows the lowest over years.
- The mean C/D ratio of the co-operative bank is the highest and the private bank ranks second.
- Amongst all the 8 districts Gomati district in the year 2014 has the highest C/D ratios followed by Khowai, Dhalai, and Unakoti district in the year 2013 and 2014. North and South districts maintained an average level of C/D ratio in the year 2011, 2012 and 2013. Where as in Dhalai district an increase in C/D ratio is noticed in the period 2010 to 2014. The West district maintained a least level of C/D ratios with a fluctuation in every year.
- It is observed that, Cooperative bank has the highest growth in both Target and Achievements of agricultural loans. This is followed by the RRBs. So far as the disbursement of credit is concerned; private banks reflected highest CAGR value of 76.39 percent followed by 66.86 percent of cooperative banks which is followed by 41.94 percent CAGR of RRB.
- The nationalized bank accounts for maximum volume of agricultural credit disbursement which is followed by SBI and which is further followed by RRBs. The trend in agricultural credit disbursed is increasing for all the categories of banks. On an average, the percentage of agricultural credit to Total Credit is highest in case of RRBs and lowest in case of private banks. The year 2014 witnessed a remarkable increase in the percentage of agricultural credit to total credit for all categories of banks.
- In the case of nationalized bank, the volume of Crop loan has increased throughout till the year 2012 after which a declining trend is realized. On an
- Average in case of Nationalized Banks, crop loan account for 59 percentage of the total agricultural loan. SBI also reflected a similar trend in the volume of Crop loan. The crop loan represents 60 per cent of agricultural loan.
- It is observed that, SBI accounts for the highest volume of KCC loans disbursement whereas the mean value of KCC loans so sanctioned is Rs 33945.08 Lakh. Private Banks accounted for the least amount of KCC loans where the mean value is Rs 83.28 Lakh But so far as the growth rate of KCC loan sanctioned is concerned the private banks are in the first position with a CAGR value of 492.81.with regards to disbursement of the KCC loans, the SBI group is ranked first with the mean value of Rs 37556.6 Lakh followed by RRB with 15543.37 Lakh, Nationalized bank with Rs 12985.64 Lakh. So far the growth rate of KCC loan disbursement is concerned the Private banks are ranked first with a CAGR value of 492.81.
- The overall volume of NPA of all the banks have consistently increased from the year 2010 to the year 2013 and thereafter a small decline of volume of NPA is noticed. It is also observed that the overall percentage of agricultural NPA to total NPA has consistently increased from the year 2010 to 2013. In a similar way, for all the banks separately the agricultural NPA as well as the percentage of agricultural NPA to total NPA has increased consistently over the years.
- It is observed that, the demand of the agricultural credit for which the CAGR value of the private bank is 71.22 which is the highest amongst the bank groups. The CAGR value of the demand of the agricultural credit of the SBI group is 2.65 which is the least amongst the bank groups.
- The highest advances were made by the Cooperative group of banks with a CAGR value of 32.94 and RRB group is the lowest with the CAGR value of 16.79. As far as the Gross NPA is concern the nationalized bank group is the highest with a CAGR value of annual gross NPA of 54.22 and private bank group is the lowest with a CAGR value of 1.24.

1.9 FINDINGS

There is significant improvement of investment in the agriculture sector in Tripura with increasing trend of agricultural advance. Investment by Private Banks is also found increasing. The NPA generated out of Agricultural financing is also increased in the state of Tripura.

1.10 RECOMMENDATION

It is Recommended that Bankers should correct their assessment process before sanctioning the agricultural credit to identify the worthy real borrowers. Lenders should improve their monitoring activities to supervise the after disbursement activities of the borrowers to check the proper fund utilization of **the intended works. At the same time the rules and regulation and paper work should be borrowers friendly.**

1.11 CONCLUSION

The study highlights the banking intermediation scenario in the state of Tripura. The trend analysis reflects growing volume of both agricultural as well as KCC Advances. It also reflects the active role of different agencies in disbursing agricultural credit in the State. The private bank reflects growing potentialities in terms of the growth in agricultural credit as well as managing the non-performing assets. For economic development to transpire, it is required that all the financial agencies come forward and meet the much needed agricultural need especially in a State like Tripura which is endowed with enormous agricultural potentialities.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT   77

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

1.12 LIMITATION

Due to limitation of time and resources the study is done on only for 5 years period using secondary data only. But for better result at least 10 years data and use of primary data is also necessary. These primary data are supposed to be collected from the borrowers using an interview schedule. The data is taken in good faith from the printed material but the real picture may be something else. To suppress many disagreeable fact and figure related to financial matter of a financial institution is suppressed. Hence there is limitation of this study.

1.13 FURTHER SCOPE OF THIS STUDY

There are many aspects of this study which is not addressed due to shortage of time. There are many threads of this study each thread will separately make one study. There are many schemes. Study should be conducted on each scheme. There are 8 district and this type of study should be done in district level separately using both primary and secondary data. Since there are various type of agricultural borrowers depending on types of farming and types of crops and verities they are producing, types of land (Hilly or plane) they are using. The problem of everybody is not same and a common study cannot cover everybody and infarct separate study is required to address these various issues.

REFERENCES

1. Akram, Husain, Z., Sabir, H.M., & Husain. (2008), Impact of Agricultural Credit on Growth and Poverty in Pakistan, European Journal of Scientific Research, 23 (2), Retrieved from http://www.garph.co.uk/IJARMSS on 22.03.2015.
2. Antony, M.P., (2003), "Institutiotional financing in agriculture in Kerala", (doctoral thesis), Mahatma Gandhi University), Kottyam, retrieved from: sodhganga, 12/08/2016 2pm.
3. Bista, DR, Kumar, P. and Mathur, V.C (2012), "Progress and performance of Kisan Credit Scheme with a Case study Bihar", Agricultural Economics Research Review, Vol.25 (No 1), pp 125-135.
4. Chakraborty, P (2015) "Determinants of Agricultural Credit default: A Study on the borrowers of the United Bank of India in the West District of Tripura" (A Master's thesis submitted to Assam University)
5. Dhanabhakyam, M.Dr., & Malarvizhi, J (2012), A study on the awareness, utilization and problems of using Kisan Credit Card of Canara bank with special reference to Coimbatore district, Retrieved from http://www.indianresearchjournals.com/pdf/IJMFSMR/2012/October/9.pdf on 29.03.2015
6. Dodara, R.L., Singh,P., Singla,S.(2014), "Agricultural credit in India: An analytical study", International Journal of latest Trends in Engineering and Technology, Vol.3,issue. 3, January 2014.
7. Gaonkar,R.R.,(1993)," Financing of agriculture by Commercial banks in Goa",(doctoral thesis),Karnatak university, Dharwad, retrieved from sodhganga on 12/05/2016, 2 pm.
8. Gaonkar,R.R.,(1993)," Financing of agriculture by Commercial banks in Goa",(doctoral thesis),Karnatak university, Dharwad, retrieved from sodhganga on 12/05/2016, 2 pm
9. Kalaichelvi,G.,(2009)," A study on agricultural finance with special reference to lending and recovery by commercial banks in Tiruchirappalli district, Tamil nadu, south India", (dotoral thesis), Bharatidasan university, Tiruchirappalli, retrieved from sodhganga on 12/08/2016, 2pm.
10. Mehmood, Y., Ahmad. M., & Anjum, M. B., (2012), Factors affecting delay in repym, ents of agricultural credit: A case study of Kasur district of Punjab province, World Applied Sciences Journal 17 (4), Websource: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.389.7357&rep=rep1&type=pdf. Retrieved on 19.03.2015.
11. Mishra, R. K. (2012), Overdue in agricultural credit: a case study, Journal of Business Economics issues, 3(2. Retrieved from http://www.inderscience.com/info/inarticle. On 19.03.2015.
12. Personal interaction with Various UBI Bank Branches in the West District of Tripura.
13. Rajeswari,G., (2013), "performance of commercial banks with special reference to priority sector lending (a case study of srikakulam district)", (doctoral thesis), Andhra university, Vishakapatnam, retrieved from: sodhganga,12/08/2016 2pm.
14. Ramprasad,R., (1993)," Financing of agriculture by institutional financing agencies with special reference to Cuddapah district",(doctoral thesis), Krishnadevaraya university, Anantapur, retrieved from sodhganga on 12/08/2016, 2pm.
15. Roy, S(2015) "performance of Kisan Credit Card Scheme in Tripura" Prajnan,Vol. XLV, No(2) 2015-16.
16. Siddiqui, R.H., (1987)," financing of small and medium sized farms in uttar pradesh by nationalized banks since 1970", (doctoral thesis), aligarh muslim university, aligarh,1987, retrieved from sodhganga,12/08/2016, 2pm.
17. SLBC of Tripura (2009 -2014)
18. Thakur, A., and Barman, U. (2013)," Reasons for poor performance of disbursement of kisan credit card and recovery of loan under the scheme in Assam -A qualitative study", 2(16). Retrieved from http://jairjp.com/JUNE%202013/03%20THAKUR.pdf on 27.03.2015
19. Various Reports from NABARD (2010-2013).
20. Various Reports from the office of Superintendent of Agriculture, Government of Tripura (2013-14).
21. Various Reports from TRPC, TFDPC, Forest Department, Government of Tripura, Rubber Board-Tripura, Tea Board of Tripura. (2013-14)
22. http://www.rbi.org

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT 78

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

MAJOR POVERTY ALLEVIATION PROGRAMMES IN HIMACHAL PRADESH: AN INTRODUCTION

KHEM RAJ
RESEARCH SCHOLAR
DEPARTMENT OF POLITICAL SCIENCE
HIMACHAL PRADESH UNIVERSITY
SHIMLA

ABSTRACT

Poverty is basically a matter of having insufficient food, clothing and shelter what is the sufficient level of needs satisfaction and how is that established is a baffling question. Poverty nowadays is viewed both in absolute and relative sense. In the absolute sense, it is referred as a condition of acute physical wants-starvation, malnutrition, disease, want of clothing want of shelter and almost total lack of medical care. Relative poverty, unlike the absolute poverty is more a matter of subjective definition than of objective conditions. In such a situation a person may have everything that a normal human being requires-nourishment, clothing, shelter, entertainment, yet he may have the uncomfortable feeling that he is poor in comparison to the person next door.

KEYWORDS

poverty, wage employment, rural households, planning.

INTRODUCTION

Poverty and unemployment have been the bane of India since long. Their reduction has been one of the major goals of India's development planning since the beginning of the planning era in 1951-52 and the planning process has been sensitive to the needs of rural poor. Accordingly, the government of India has launched various programmes from time to time aimed at alleviation of poverty and unemployment, and creating adequate livelihood opportunities for the poor through provision of employment and public services. Poverty and employment are interrelated problems and have a two-way relation, that is, one is both the cause and effect of the other. Poverty in India is not merely an economic phenomenon but a social one as well. While poverty is outcome of multiple deprivations, its measurement has largely dealt with economic deprivation (income consumption expenditure). The poverty alleviation programmes were aimed at tackling the problems of poverty and backwardness directly by helping the weaker sections to increase their incomes through self-employment and wage paid employment. The major premise of the group-specific programmes was specific programmes was that their benefits would flow to the weaker sections because of the specificity of the target groups and target areas. We discuss here the major programmes taken up by the government with the main objective of alleviation of poverty and unemployment.[1]

INTEGRATED RURAL DEVELOPMENT PROGRAMME (IRDP)

The IRDP is the most important programme that falls in the category of self-employment programmes. It is the single largest anti poverty programmes currently underway in all the community development blocks in the country. It was launched in 1978-79 in 2,300 selected blocks in the country and was extended to all the blocks in the country with effect from 2nd October 1980. It aims at providing income generating assets and self-employment opportunities to the rural poor to enable them to rise above the poverty line once and forever. The IRDP in effect seeks to redistribute assets and employment opportunities in favour of the rural poor and thereby reduce income inequality. It is a centrally sponsored scheme and is funded on 50:50 basis by the centre and the states. The IRDP beneficiaries are assisted through viable bankable projects which are financed partly by subsidy and partly by bank loans. The subsidies are provided at differential rates ranging from 25 percent to 50 percent of the capital cost of the scheme, subject to a maximum of Rs. 5,000 in Drought Prone Area Programme (DPAP) areas and Rs. 4,000 in non DPAP areas; for a Scheduled Caste/Scheduled Tribe (SC/ST) or disabled beneficiary the limit is Rs. 6000.The IRDP is implemented by an autonomous agency called the District Rural Development Agency (DRDA). As the national level, the ministry of Rural Development is responsible for the release of the central share of the funds, policy formulation, overall guidance, direction, coordination, monitoring and evaluation of the IRDP.

The ministry of rural development has provided for concurrent evaluation and impact studies of the IRDP as an aid to administer the programme effectively. The State Governments have been advised to undertaken evaluation studies from time to time to ascertain the impact of the programme and to measure the extent to which the beneficiaries have directly derived additional income and employment from the investments made under the programme. The state governments may make use of their own evaluation machinery. Wherever practicable, to undertaken concurrent evaluation and impact studies or they may entrust this work to selected academic/research institutions of standing and repute in this field.

Several all India evaluation studies of the IRDP have been carried out by the National Bank for Agriculture and Rural Development (NABARD) the Reserve Bank of India (RBI), the Programme Evaluation Organization (PEO) of the planning commission and academic institutions. The Public Accounts Committee (PAC) of the Indian parliament made some recommendations in its report about reshaping the IRDP. Some of the major inadequacies of the IRDP pointed out of the PAC report are as follows:

1) The per capita investment (loans plus subsidy) too low to generate enough income to bring the beneficiary family above the poverty line.
2) Inadequate infrastructural support for various income generating activities.
3) Inadequate representation of the concerned agencies on the governing body of the DRDA.
4) Absence of people's participation in the programmes.

The subsidies provided under the IRDP have attracted the interest of politicians wishing to divert the subsidies to their current or potential supporters. This has contributed to the low repayment rates on the loan component, since defaulters (and bank staff) are aware of the political support enjoyed by this category of beneficiaries. It has also meant that a high proportion of the beneficiaries are not below the poverty line.[2]

TRAINING OF RURAL YOUTH FOR SELF EMPLOYMENT (TRYSEM)

A special scheme called TRYSEN was initiated in 1979 with the principal objective of removing unemployment among the rural youth. The TRYSEM is an integral part of the IRDP and is concerned with the equipping rural youth in the age group of 18-35 years with the necessary skills that would enable them to be self-employed. Any rural youth below the poverty line is eligible for selection but preference in selection is given to scheduled caste (SC) Scheduled Tribe (ST) and women candidates. The TRYSEM training is sharply focused on traders whose products have high potential demand and can lead to sustainable IRDP projects. Initially, it was proposed to train about two lakh rural youths every year in various skills, both in the IRDP and non- IRDP areas in the country, at the rate of 40 young persons in each mandal, in every year.[3]

DEVELOPMENT OF WOMEN AND CHILDREN IN RURAL AREAS (DWCRA)

This programme was launched in 1982 as part of IRDP. Its aim was to empower rural women living below the poverty line by way of organizing them to create sustainable income generating activities through self-employment. It was the first programme of its kind that specifically focused on improving the quality of life of rural women.

A unique feature of the DWCRA, unlike the other IRDP components, was that along with the improvement in income, it also focused on access to health, education, safe drinking water, sanitation, nutrition, and so on. Thus it not only aimed at promoting economic development, but also facilitated social development. Other unique feature of the programme was that it emphasized group activity. It was thought that in the long run, women's empowerment depends on creation of a movement that promotes awareness and self-reliance. The DWCRA Scheme envisages the formation of groups, each consisting of 10-15 women for taking up economic activities suited to their skill, aptitude and local conditions.[4]

NATIONAL RURAL EMPLOYMENT PROGRAMME (NREP)

A large number of people in the rural areas are without assets with grossly inadequate assets and need to be provided with wage employment. The segment of rural poor which largely depends on wage employment virtually has no source of income during the lean agricultural period. The National Rural Employment Programme is conceived to take care of this segment.

Under this programme, rural works resulting in creation of durable community assets are taken up under this programme works benefiting individuals are permitted only in the case of SCs/STs bounded labourers, assignees of ceiling surplus lands, bhoodan land and the like, as an exception. The types of work that are normally taken up include social forestry works on government and community lands, work directly benefiting SCs/STs like construction of house, land development, creation of water bearing structures and minor irrigation tanks, soil and water conservation of rural roads, building, panchayat ghars, community centers and rural godowns.

Till the end of March 1981, NREP was entirely to funded by the Central Government but from April 1st 19891, the progaramme became a regular part of the sixth Five Year Plan and bow it is being implemented as a centrally- sponsored scheme on 50:50 basis, the centre aiding the state to the extent of 50 percent only. This programme has replaced in the Food For Work Programme which was being implemented for the last many years. It aims at generating 300 to 400 million man days of employment in the rural area in every year. The main objective of NREP is to provide gainful employment and strengthening of rural infrastructure and improve of nutritional standards of those who are living below the poverty line.[5]

JAWAHAR ROZGAR YOJANA (JRY)

The JRY was the single largest wage employment programme implemented in all the villages of the country through the PRIs. The JRY was launched in April 1989, after merging the then ongoing two wage employment programmes i.e. National Rural Employment Programme (NREP) and Rural Landless Employment Guarantee Programme (RLEGP). The main objective of JRY was to provide additional gainful wage employment to unemployment persons in the rural areas during the lean agricultural seasons. The JRY was targeted at people living below the poverty line. The expenditure under the programme was shared between the centre and states in the ration of 80:20. The main features of the JGSY were:

➢ Creation of rural infrastructure;
➢ Implementation of JGSY entirely by village panchayats;
➢ Direct channelstion of funds to the village panchayats through the DRDAs/Zila Panchayats;
➢ Vesting in the village panchayats the sole authority for preparation of Annual Action Plan (AAP) and its implementation with the approval of Gram Sabha;
➢ Employment of the Gram Sabha to approve the schemes;
➢ Wage employment restricted to Below Poverty Line (BPL) Families;
➢ 30 percent of the employment opportunities reserved for women;
➢ Delegation of administrative power to panchayats to suitably adjust the 60:40 wages material ratio for buildings demand driven rural infrastructure;
➢ Authorization of the gram sabhas to undertaken social audit;
➢ Assignment of responsibility to DRDA/Zila Parishads for overall guidance, supervision and monitoring and periodical reporting.[6]

EMPLOYMENT ASSURANCE SCHEME (EAS)

The Employment Assurance Scheme was launched on 2nd October 1993 in 1775 identified backward blocks situated in drought prove, desert, tribal and hill areas, in which the revamped public distribution system was in operation. Subsequently, the scheme was extended to additional blocks which include the newly identified Drought Prone Area Programme (DPAP) Desert Development Programme (DDP) blocks, Modified Area Development Approach (MADA) blocks having a larger concentration of tribals, and blocks in flood prone areas of Uttar Pradesh, Bihar, Assam and Jammu & Kashmir. In addition, 722 non EAS blocks previously covered under second stream of Jawahar Rozgar Yojana (JRY) were also brought under the EAS. The EAS has universalized to cover all the rural blocks in the country w.e.f. lst April 1997.

The main objective of EAS is to provide about 100 days of assured casual manual employment during the lean agricultural season, at statutory minimum wages, to all the persons above the age of 18 years and below 60 years who need and seek employment on economically productive and labour intensive social and community works. The works are to be selected, by the District Collector and implemented through the line departments in such a manner that the ration of wage to the non-wage component would stand at 60:40. Sectoral norms for execution of various works are watershed development (50 percent) and agro-horticulture, minor irrigation works (10 percent) in DPAP and DDP blocks or water and soil conservation including afforestation, agro horticulture and silvipasture (40 percent) and minor irrigation works(20 per cent)in non-DPAP/non DDP blocks.[7]

MILLION WELLS SCHEME (MWS)

The million wells scheme (MWS) was launched at a sub scheme of the National Rural Employment Programme (NREP) and the Rural Landless Employment Guarantee Programme (RLEGP) during the year 1988-89. After the merger of two programmes in April 1989 into the Jawahar Rozgar Yojana (JRY), the MWS continued as a sub-scheme of JRY till December 1995. The MWS was delinked from JRY and made in to an independent scheme w.e.f. 1st January 1996.

The scheme was primarily intended to provide open irrigation wells, free of cost, to individual, poor, small and marginal farmers belonging to Scheduled Castes/Scheduled Tribes and freed bounded labourers with a 20 percent earmarking of JRY funds. Tube wells and bore wells are not permitted under the scheme. Wells are not feasible due to geological factors, other minor irrigation works can be undertaken such as irrigation tanks, water harvesting structures as also development of land belonging to small and marginal farmers.

From the year 1993-94 the scope of the MWS has been enlarged to cover non-scheduled castes/non-scheduled tribes, small and marginal farmer's tribes, small below the poverty line and are listed in the IRDP register of the village. The sectoral earmarking which was 20 percent upto 1992-93 had also been raised to 30 percent from 1993-94 with the stipulation that the benefits to non-scheduled castes/scheduled tribes would not exceed one third of the total funds utilized during the year.[8]

NATIONAL SOCIAL ASSISTANCE PROGRAMME (NSAP)

The National Social Assistance Programme (NSAP) came into effect from, 15th August 1995. The programme represent a significant step towards the fulfillment of the Directive Principles in Articles 41 and 42 of the constitution through the enunciation of a National Policy for social assistance/benefit to poor-households, in the case of old age death of the primary bread winner and maternity. It is centrally sponsored scheme with 100 percent central assistance provided to States/ UTs. The programme has three components: namely (i) National Old Age Pension Scheme (NOAPS), (ii) National Family Benefit Scheme (NFBS); and (iii) National Maternity Benefit Scheme (NMBS), which are targeted at people living below the poverty line.

Under the National Old Age Pension Scheme (NOAPS), old age pension of Rs. 75 per month is provided to persons of 65 years and above who are destitute. The National Family Benefit Scheme (NFBS) provided lump sum family benefits to the bereaved household in case of the death of the primary bread winner an amount

of Rs. 5000 is provided in case of death due to natural causes and Rs. 10,000 in case of accidental death. The scheme is applicable to all the eligible persons in the age group of 18 to 64.

Under the National Maternity Benefit Scheme (NMBS) there is a provision for payment of Rs. 300 per pregnancy to women belonging to poor households for prenatal and post-natal maternity case up to the first two live births. This benefit is provided to eligible women of 19 years and above.[9]

PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY)

The Pradhan Mantri Gram Sadak Yojana, was launched in December 2000, to provide road connectivity to 1.6 lakh unconnected habitations with population of 500 persons or more (250 in case of hilly desert and tribal areas) in the rural areas by the end of the Tenth Five Year Plan period. It is being executed in all the states and UTs. Although the initial estimates indicated a requirement of Rs. 60,000 crore for the programme, the present indications are that about Rs. 1,30,000 crore will be needed for achieving the intended connectivity. As per the budget announcements of 2003-04 the diesel cess, which is the source for funding the programme, was increased from Rs. 1 per litre to Rs. 1.50 litre, in order to provide additional funds for the programme. Since the inception of the programme project proposals for Rs. 14, 417 crore have been cleared and 88,685 kms. of rural roads have been taken up under this programme 20,740 road works had been completed till March 2004, and an expenditure of Rs. 6,547 crore has been incurred by the states/UTs. The National Rural Roads Development Agency (NRRDA) registered under the societies Registration Act provides operational and management support for the programme. [10]

ANNAPURNA SCHEME

A new scheme 'Annapurna' 100 per cent centrally sponsored scheme was launched by the Government of India, Finance Minister, Mr. Yashwant Sinha during April 1999-2000. The Scheme would provide food security in indigent senior (above 65 years) who have no income of their own and none to take care of them. The salient features of the scheme are:

➢ The Scheme would provide 10 kg of foodgrains per month free of cost from fair price shop to all indigent senior citizens who are eligible for 'Old Age Pension' under National Old Age Pension Scheme (NOAPS) but are presently not receiving it.
➢ The total number of beneficiaries would not exceed 20% of the Old Age Pensions within a state.
➢ Department of Rural Development under the ministry of rural Development will have the nodal responsibility of implementing/monitoring the scheme and will determine the amount of central Assistance to be released State wise to the State Food and Supplies Department, who will then coordinate with FCI and other agencies concerned.
➢ The State Department of Public Distribution (DPD) will be the nodal agency concerned.
➢ Gram Panchayat will be required to identify, prepare and display a list of such persons after giving wide publicity.
➢ The Food Corporation of India (FCI) will be required to maintain a separate account and intimate the actual living of food grains every month to the Rural Development Department.
➢ A provision of Rs 100 crore has initially made in plan Budget (2000-2001)
➢ This measure to provide food Security will not only tide one the present problem of rising stocks but will be the stepping stones for a long term grain policy. [11]

INDIRA AWAS YOJNA (IAY)

Housing is one of the basic requirements for human survival. For a normal citizen owning a house provides significant economic and social security and status in society. For a shelter less person a house brings about a profound social change in his existence. Certain incentives were undertaken by the Government of India (GOI) to provide the financial assistance for the construction of houses by the rural poor people. Accordingly, Indira Awas Yojna (IAY) was launched by the Government of India during 1985. The objective of IAY is primarily to help construction of dwelling units by members of SCs/STs, non SC/ST rural poor below the poverty line by providing them with grant in aid.

IAY operates as a 100 percent subsidized centrally sponsored programme with the sources being shared on 75.25 basis between centre and the states. Funds under the scheme allocated to the States/UTs are further distributed to the districts in proportion the SC/ST population in the year 1999-2000, the provision for giving financial assistance for up gradation of existing kachha houses of the eligible beneficiaries have been included. Allocation for the purpose is made separately out of total allocation under this programme. Amount of assistance for up gradation is limited in Rs. 10,000 in each case.

AIMS AND OBJECTIVES OF INDIRA AWAAS YOJANA (IAY)

Aim of Indira Awaas Yojana (IAY) is to provide financial assistance to the rural poor living below the poverty line (BPL) for construction of a house.

ELIGIBLE FAMILIES TO GET ASSISTANCE UNDER IAY

BPL rural households of Scheduled Castes, Scheduled Tribes, Non-Scheduled Castes and Non-Scheduled Tribes, Physically and mentally challenged persons, minorities who have shortage of house are eligible to get assistance under the scheme.

➢ The beneficiaries should be involved to construct their house.
➢ They may make their own arrangements for procumbent of construction material, engage skilled workman and also contribute family labour.
➢ Beneficiary is free to construct IAY house of his own choice. [12]

RAJIV AWAS YOJANA (RAY)

AIMS AND OBJECTIVES OF THE SCHEME

➢ Like Indira Awaas Yojana, the main objective of the Rajiv Awaas Yojana is to provide the financial assistance to the rural poor living Below the Poverty Line (BPL) for construction of a house.
➢ This scheme is being implemented on the analogy of IAY.

FUNDING

➢ Under Rajiv Awaas Yojana (RAY), 100% funds are sanctioned by the State Government.

FINANCIAL ASSISTANCE

➢ The financial assistance of Rs. 75000/- is being provided under the scheme w. e. f. 01.04.2013.
➢ Loan up to Rs. 20,000/- can be availed by the beneficiary under Differential Rate of Interest (DRI) Scheme (4%)
➢ The funds of the beneficiaries are released in three installments on the pattern of IAY.
➢ The beneficiaries of RAY can also avail the benefits under NBA and MGNREGA in addition to amount of Rs. 75,000/-.

TARGETS

➢ The targets under the scheme are fixed as per budget allocation conveyed by the state.
➢ SC/ST targets are fixed as per budget allocation under SCSP and TSP.

SELECTION PROCEDURE

➢ Under Rajiv Awaas Yojana, the selection of the beneficiaries is done by the Gram Sabha on year to year basis as per targets.
➢ The benefits of the scheme are admissible to rural eligible BPL families having shortage of houses.

DESIGN/SPECIFICATION OF HOUSE

➢ The construction of house is on the choice of the beneficiaries hence, there is no specified design for the construction of house under Rajiv Awaas Yojana (RAY).
➢ As per guidelines, the house should be environment friendly/innovative disaster resistant.[13]

NATIONAL FOOD FOR WORK PROGRAMME (NFFWP)

Duly taking cognizance of the need for alleviating the chronic problems of rural poverty and unemployment, and reducing the inter-regional disparities in economic growth and development in India, the planning commission designed and launched in 2004-2005 a new programme, called the Food For Work Programme(NFFWP). It identified 150 most backward districts in India on the basis of incidence of poverty as indicated by the proportion of Sc/St population, agricultural productivity per workers and agricultural wage rate. Most of the districts identified are tribal dominated districts. The main objective of the NFFWP is to generate supplementary wage employment and provide food security through the creation of need-based economic, social and community assets. This is to be done through the provision of additional resources, over and above the resources available and the SGRY, to the identified districts of the country. The NFFWP is a 100 percent centrally sponsored scheme. A five year perspective plan was prepared for each of the 150 districts.[14]

DROUGHT PROVE AREAS PROGRAMMES (DPAP)

It was started as an Integrated Area Development Programme in 1973. The three core components of DPAP were: soil and water conservation and land shaping; afforestation and pasture development, and water resources development. The major drawbacks of the programme were lack of planning and linkage with the on-going schemes of the state plan, the non-availability of infrastructural facilities and unorganized local level participation of the poor.

COMMAND AREA DEVELOPMENT PROGRAMME (CADP)

CADP was launched in 1975 as a centrally sponsored scheme in 50 selected irrigated projects of 13 states identified in consultation with the state government. Its main objective was to ensure a faster and better utilization of irrigation water in selected major and medium irrigation projects in the country.
CADP covered broadly on farm development works which include construction of field channels and drains, land leveling and shaping wherever necessary, farm roads, introduction of Warabandi and development of groundwater for conjunctive use. The programme brought about increase in production and a significant increase in productivity of some crops. But slow pace of implementation, lack of adequate financial and organization support for maintenance of the works, unwillingness of farmers to provide land for CAD activities, problems of floods affecting CAD works were the main shortcomings of this programme.

DESERT DEVELOPMENT PROGRAMME (DDP)

On the recommendations of the National Commission on agriculture, the DDP was launched in 1977-78. The following activities were undertaken; afforestation; grassland development and sand dune stabilization; optimum exploitation and conservation of ground water; construction of water harvesting structures; rural electrification or energizing tube wells and pump-sets and; development of agriculture, horticulture and animal husbandry suited to the agro-climate conditions of the area. The programme was implemented with 100 percent central assistance. The performances of the programme indicated that targets were not fulfilled in several states.

WHOLE VILLAGE DEVELOPMENT PROGRAMME (WVDP)

The National Commission on Agriculture recommended the adoption of a whole village approach to development to increase the growth potential of the villages. The core idea was to deal with the village problems in their totality with a package of practices so that all the segments of development activities might be woven into an integrated whole. The programme consisted of the following components consolidation of holdings; overall and development plan for maximizing water control and moisture preservation in dry areas; maximizing irrigation support subject to per acre maximum limit of investment based on the need to repay investment credit by extra production; and cropping programme for the village for the best use of irrigation and for ensuring the best control of irrigation and drainage.[15]

ANTYODAYA ANNA YOJANA (AAY)

The AAY commenced in the year to provide food security to the poorest of the poor. The selected families under this programme, in each village are given a special Antyodaya Card, with which they can claim grain from the Fair Price Shops (FPS) or ration shops, the local outlet of the Public Distribution System. [16]

ATAL AWAAS YOJANA (AAY)

This is a State Plan housing scheme which is being implemented on the pattern of Indira Awaas Yojana.

MATRI SHAKTI BIMA YOJANA

Matri Shakti Bima Yojana scheme covers all the women living below the poverty line within the age group of 10-75 years. The scheme provides relief to family members/insured women in case of their death or disability arising due to any kind of accident, surgical operations like sterilization, mishap at the time of child birth/delivery drowning washing away in floods, landslide, insect bite and snakebite etc. The scheme also gives benefit to a married woman in case of accidental death of her husband. Under this scheme, women are given assistance @ Rs. 50,000/- in cases of incidents of 100% disability and partial disability.[17]

NATIONAL RURAL HEALTH MISSION (NRHM)

The National Rural Health Mission was launched on April 12, 2005 to provide accessible, affordable and accountable quality health services to the poorest household in the remotest rural regions.
The thrust of the mission was on establishing a fully functional community owned, decentralized health delivery system with inter-sectoral convergence at all levels, to ensure simultaneous action on a wide range of determinants of health like water, sanitation, education, nutrition, social and gender equality. Under the NRHM, the focus was on a functional health system at all levels, from the village to the district.
NRHM has successfully provided a platform for community health action at all levels. Besides merger of departments of health and family welfare in all states, NRHM has successfully moved towards a single state and district level health society for effective integration and convergence. Through a concerted effort at decentralized planning through preparation of District Health Action Plans, NRHM has managed to bring about intra-health sector and inter-sectoral convergence for effectiveness and efficiency. In all the states, specific health needs of people have been articulated for local action.

JANANI SURAKSHA YOJANA (JSY)

To change the behaviour of the community towards institutional delivery, the Government of India, under NRHM in 2005, modified the National Maternity Benefit Scheme (NMBS), from that of a nutrition-improving initiative to the JSY. The scheme has the dual objectives of reducing maternal and infant mortality by promoting institutional deliveries.
Though the JSY is implemented in all states and UTs, its focus is on states having low institutional delivery rate. The scheme is 100 percent centrally sponsored and integrates cash assistance with maternal care. It is funded through the flexi-pool mechanism.
While the JSY scheme is meant to promote institutional delivery, it has to take two critical factors into account, one being that India does not have the institutional capacity to receive the 26 million women giving birth each year, and the other being that around half of all maternal deaths occur outside of delivery, during pregnancy, abortions and postpartum complications. If institutions are preoccupied with handling the huge numbers of normal child births, there will be inevitable neglect of life threating complications faced by women. They will be compelled to vacate beds in the shortest time. Consequently, complications during pregnancy and after child birth will not be given attention. Second, JSY money sometimes does not reach hospitals on time, and as a result, poor women and their families do not receive the promised money.[18]

SWARNJAYANTI GRAM SWAROZGAR YOJANA (SGSY)

Persistent efforts made by the government to fine-tune the self-employment programmes during various plan periods yielded some new concepts that emerged at various times and got consolidated. The need to integrate the cluster approach, capacity building, skill up-gradation, infrastructure including marketing development and technology penetration were felt more acutely with every passing year. Emphasis also was necessary to be laid on micro enterprise development with effective forwards and backwards linkages, so as to ensure best returns on the investment.

OBJECTIVES OF SGSY

SGSY is a major ongoing programme for the self-employment of rural poor. The programme was started from 1st April 1999 after restricting the erstwhile Integrated Rural Development Programme (IRDP), Training of Rural Youth for Self Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), Supply of Toolkits in Rural Areas (SITRA) and Ganga Kalyan Yojana (GKY), besides million wells scheme (MWS).

The basic objective of the SGSY is to bring the assisted poor families (Swarozgaris) above the poverty line by providing them income generating assets through a mix of bank credit and governmental subsidy. The programme aims at establishing a large number of micro enterprises in rural areas based on the ability of the poor and potential of each area.

SGSY was launched to bring the assisted poor families above the poverty line by ensuring appreciable sustained level of income over a period of time. This objective was to be achieved by organizing the rural poor into self-help groups (SHGs) through the process of social mobilization, their training and capacity building and provision of income generating assets. The SHG approach helps the poor to build their self-confidence through community action. Group processes and collective decision were to enable them in the identification and prioritization of their needs and resources. This process would ultimately lead to the strengthening and socio-economic empowerment of the rural poor as well as improve their collection bargaining power.

FUNDING PATTERN

SGSY is financed on 75:25 cost sharing basis between the Centre and the States.

SOCIAL MOBILIZATION OF THE POOR

A major shifts of the SGSY from the erstwhile programmes is in terms of its emphasis of social mobilization of the poor. The programme focuses on organization of the poor at grass roots level through a process of social mobilization for poverty eradication. Social mobilization enables the poor to build their own organizations into self-help-groups (SHGs), in which they participate fully and directly and take decisions on all issues that will enable them to cross the poverty line.

A SHG may consist of 10-20 persons belonging to families below the poverty line. A person should not be a member of more than one group.

INTEGRATED WATERSHED MANAGEMENT PROGRAMME (IWMP)

The Government of India has launched new guidelines namely "Common guidelines for Watershed Development Project", which have been made applicable to all watershed development projects implemented by various ministries and departments in government of India w.e.f. 01-04-2008. Under this programme total 110 new watershed projects have been sanctioned by the Government of India with a total cost of Rs. 885.08 crore for the development of 590056 hectare rainfed area in all the districts of the state during 2009-10, 2010-11 and 2011-12. These projects are being funded on 90:10 basis between centre and the state governments respectively.[19]

SUPPLY OF IMPROVED TOOLKITS OF RURAL ARTISANS (SITRA)

Launched in July 1992, as a sub-scheme of IRDP in selected districts, this scheme has since been extended to all the districts of the country. Under this scheme, a variety of crafts persons, except weavers, trailors, needle workers and beedi workers, and supplied with a kit of improved hand tools within a financial ceiling of Rs. 2000, of which the artisans have to pay 10 percent and the remaining 90 percent is a subsidy from the Government of India. The supply of power driven tools, subject to a ceiling of Rs. 4500, is also permitted under this scheme. Beyond this, any additional finance required by the artisans can be provided through loans under IRDP. The rural artisans are trained under TRYSEM for which an age relaxation has been provided to them.[20]

RASHTRIYA SWASTHYA BIMA YOJANA RSBY

The RSBY was formally launched on 1st October 2007. All workers in the unorganized sector who come in the category of BPL and their families will be covered under the scheme. The scheme also has a provision of smart cards to be issued to the beneficiaries to enable cashless transaction for health care. The total sum insured is Rs. 30,000 per family per annum, with the government of India contributing 75 percent of the annual estimated premium amount of Rs. 750, subject to a maximum of Rs. 565 per family per annum, while the State Governments are expected to contribute 25 percent of the annual premium as well as any additional premium. The cost of the smart card would also be borne by Central Government.

The effectiveness of the poverty alleviation programmes in targeting the poor and alleviating poverty has been a mixed bag of success in some the states and failure in other states. Variations in effectiveness are largely due to efficiency or otherwise of the implementing machinery, that is, the delivery system, strengths of the PRIs, existence of non-existence of community based organizations of people and initiative and innovativeness of the states in evolving approaches and institutional arrangements in harmony with the ground conditions. In the block of northern states where the concentration of poverty is high, and which have also generally not done well in terms of economic growth, the implantation of poverty alleviation programmes has been weak. Andhra Pradesh and Kerala, on the other hand, have evolved very effective institutional models for poverty alleviation efforts.[21]

CENTRALLY SPONSORED RURAL SANITATION PROGRAMME (CRSP)

Rural sanitation is another area is which initiative has been taken thoroughly. CRSP which was launched in 1986 was reconstructed in 1999. It encompasses personal hygiene, home sanitation, safe water and garbage and waste water disposal. The main components of this programme are: construction of individuals sanitary latrines for household below poverty line with subsidy where demand exists; assistance in setting up of sanitary marts, establishing sanitary complexes exclusively for women; encouraging locally suitable and acceptable models of latrines; promoting total sanitation of village through construction of drains and soakage pits for liquid and solid waste disposal. The reconstructed CRSP moves away from the principle of state-wise allocation. It is primarily based on poverty criteria to a demand driven approach in a phased manner.[22]

MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT ACT

The Mahatma Gandhi National Rural Employment Guarantee Act was notified by the government of India on Sept., 2005 and was made effective w.e.f. 2nd Feb, 2006. The salient feature of the scheme is to provide for the enhancement of the livelihood security of the households in rural area by providing 100 days of the guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work. The Act further aims at creating durable assets and strengthening the livelihood resource base of the rural household. The choice of works suggested in the Act address causes of chronic poverty like drought, deforestation, soil erosion, so that the process of employment generation is on a sustainable basis. The significance of MGNREGA lies in the fact that it creates a right-based frame work for usage employment programmes and makes the government legally bound to provide employment to those who seek it. In this way the legislation goes beyond providing a social safety net, and towards guaranteeing the right to employment. By prioritizing natural resources management and emphasizing the creation of durable assets, it holds the potential of becoming a growth engine for sustainable development of agriculture based economy.[23]

CONCLUSION

Many programmes have been implemented by the Center as well as State Government for the eradication of rural poverty. Here, it is important to distinguish between policy, programme and project. Policy is a comprehensive term. It has to be translated into a number of programmes before it can be implemented. A project is highly specific. A programme may consist of several projects. Government has initiated, sustained and refined many rural development programmes under different five years plans. In the beginning, the programmes were started for the benefit of rural society as a whole, i.e. Community Development Programme. But with the passage of time, these programmes took political tones and became a slogan, i.e. *Garibi Hatao*. A separate ministry for rural reconstruction was created in the year 1979 and it was renamed as Rural Development Ministry in 1982.

If one looks at the objectives of the programmes, one notices that these could broadly fall into: income generation, growth, target development, area development, educational development and welfare.

The practical evidence suggests that planners do view implementation as the process of translating written policies into action, but the context in which this translation is both centrally constrained takes place and locally variable. Central constraints are exercised through control of finance, administrative structure, and legislative power. Within these bounds, however there is a sufficient discretion for action to differ according to the political prescriptions of individual county authorities. Although there is a kind of consensus among these prescriptions- basically restricting policy and action to land-use activities centering around key settlement policies. Some countries have pursued wider objectives, involving some dispersal of investment.

The evidence presented here of planner's experience of implementation problems focuses on inter-agency conflicts. It might be expected that intra organization tensions will also contribute to tensions ovary policy and action but such factors are unlikely to emerge in a survey of this type. Giving the inter agency theme it is to be expected that prescriptions for overcoming implementations problems look to a five-tuning of localized co-ordinate management, although more radical suggestions for restructuring the nature of the interventionist planning by removing central-government constraints of finance and power were also part of the currency of planners perceptions.

To ensure that the development is in consonance with the people's wishes and aspirations, now emphasis is towards participatory model and people oriented development by involving them in the process. What is needed is a long-term comprehensive integrated national policy and planning.

REFERENCES

1. Singh Katar, Rural Development, Principles, Policies and Managements, Sage Publications Pvt. Ltd. 2009, P-99
2. Ibid., p. 210.
3. G. Venkata Naidu, "Role of Banking in Rural Development, Discovery Publishing House, New Delhi, pp. 53-54.
4. B.S. Khanna, "Rural Development in South Asia (1) India: Policies, Programme and Organization, Deep and Deep Publications, New Delhi, 1991, p. 150.
5. M. Taha and Om Prakash, "Integrated Rural Development in India", Sterling Publications, Pvt. Ltd., New Delhi, 1989, pp. 63-64.
6. K. K. Singh S. Ali "Environmental Planning for Rural Development, Sarup and Sons Publication, New Delhi, 2001, p. 108.
7. Agarwal Meenu, Economic Reforms, Unemployment and Poverty, New Century Publications, New Delhi, 2008, p. 142.
8. M.K. Dubey, "Rural and Urban Development in India", Commonwealth Publishers, New Delhi, 2000, p. 6.
9. Meenu Agarwal, op. cit., p. 145.
10. Ibid., p. 152.
11. S.B. Verma, R.D. Singh and S.K. Jiloka, op. cit., p. 140.
12. Annual Administrative Report, Rural Development Department, Govt. of Himachal Pradesh, 2010,11, p.51.
13. Ibid., p.53
14. Rohini Nayyar, "Rural Poverty in India: An Analysis of other-State Difference, Oxford University, Press, New Delhi, 1991, p. 252.
15. Meenu Jain, "Rural Development Programmes in India", Deep Publications, Pvt. Ltd., New Delhi, 2011, pp. 21-24.
16. Ibid., p. 29.
17. Annual Administrative Report., Op.cit.,p.68
18. Dr. Chander Sekhar Prasad, Agricultural and Rural Development in India since 1947, New century Publications, New Delhi, 2009, p. 248
19. Ibid., p.294
20. Annual Administration Report, Op.cit., P.74
21. Meenu Agrawal, op. cit., p. 140.
22. Katar Singh, op. cit, p. 217. 1
23. Prasad Chander Sekhar, Op.cit., p. 244

INFRASTRUCTURAL FACILITIES AND AGRICULTURAL DEVELOPMENT IN INDIA: WITH REFERENCE TO AGRICULTURAL CREDIT

R. KESAVAN
RESEARCH SCHOLAR
DEPARTMENT OF ECONOMICS
PACHAIYAPPA'S COLLEGE FOR MEN
KANCHIPURAM

ABSTRACT

Agriculture lies at the heart of rural livelihoods. Despite its declining share in the total GDP, agriculture continues to engage around half the country's total workforce and over two-thirds of the rural workforce. Most of India's poor also depend on agriculture, making the agricultural sector a vital focus area in attempts at alleviating poverty. The strong positive correlation between the level of infrastructure and the economic development has been a well-established fact in the development economics literature. In Keynesian macroeconomic model, the income or the output in the economy derives also from the level of investment made in the economy. Agriculture sector credit flow has been influenced by fallout of implementation of various accounting and statutory norms without taking into account the ground level realities, which led to irreparable damage to the rural financial architecture in the post liberalization era. The analysis shows that small and marginal farmers have been observing bias in agriculture delivery. The reforms period has led declining flow of agriculture credit especially long-term credit. The doubling of credit flow programme did boost the flow of credit but situation changes after 2006-07. The main challenge faced by agricultural credit involves not only ensuring flow of credit to small and marginal farmers, but designing policies and credit delivery systems that have relevance in the present context in terms of production and demand for agricultural products.

KEYWORDS

infrastructure, agriculture, credit, development.

INTRODUCTION

Agriculture lies at the heart of rural livelihoods. Despite its declining share in the total GDP, agriculture continues to engage around half the country's total workforce and over two-thirds of the rural workforce. Most of India's poor also depend on agriculture, making the agricultural sector a vital focus area in attempts at alleviating poverty. Having realised the importance of infrastructure to achieve faster rate of economic growth, the Government of India as well as the State Governments have ventured into making heavy investment in agricultural infrastructure especially from the First Five-Year Plan onwards. The major focus of infrastructural investment has been on irrigation, transportation, electric power, agricultural markets, etc and these not only contributed to the agricultural growth at the macro level but also to wide disparity between different regions in terms of agricultural growth. Since the responsibility of providing infrastructure is with the state which aims at rapid growth of agricultural production for attaining other kinds of developmental goals such as poverty alleviation, there exists a tendency among the decision-makers to invest heavily in those areas where there is a potential for fast agricultural growth. This is also supported by the financial resources available with the concerned governments.

IMPORTANCE OF INFRASTRUCTURE

One of the central questions in the economic growth paradigm is how different factors of production contribute to aggregate output. This contribution is made by income earned by the factors of production, which in a perfectly competitive economy, will equal their marginal value products in the absence of externalities. This has important policy implications in terms of appropriate level of investment in different sectors, since the market will tend to provide capital in response to price signals, which reflect private benefits and ignore externalities. If there are large externalities, there is a need for government intervention to achieve more efficient allocation of resources, though government intervention itself has its own costs. The fact that infrastructure services are often provided by the public sector means they are often not priced at all, or are rationed, and we have difficulty even in estimating the private productivity of infrastructure capital. The strong positive correlation between the level of infrastructure and the economic development has been a well-established fact in the development economics literature. In Keynesian macroeconomic model, the income or the output in the economy derives also from the level of investment made in the economy. It should be noted that out of all the four factors contributing to income of a nation namely, consumption expenditure, investment expenditure, government expenditure and net income from abroad, income from investment comes both from investment expenditure especially by private individuals as well as from government spending. Though the income in the Keynesian model refers to short-term income, usually measured on annual basis, the investment made also includes long-term investment such as investment in basic infrastructural facilities. Since the model is based on the notion that there is a direct positive correlation between income and the investment, investment in infrastructure is economically justified.

AGRICULTURAL CREDIT

Agriculture sector credit flow has been influenced by fallout of implementation of various accounting and statutory norms without taking into account the ground level realities, which led to irreparable damage to the rural financial architecture in the post liberalization era. The agriculture finance is being viewed as a risky proposition now. This has led to piquant situation where the share of small and marginal farmers in total credit flow has declined when share of this group of farmers in operational holdings over the period has increased. Besides, dalit and tribal farmers are largely observing declining share in credit flow. We encounter a situation when these farms have increased their contribution in agricultural production thereby immensely contributing to food security and attaining food self-sufficiency, the share in total credit has declined.

IMPORTANCE OF CREDIT AS AN AGRICULTURAL INPUT

Recent growth of Indian economy has been primarily service-led. The service sector has completely replaced agriculture, which has been traditionally the largest contributor to India's GDP. However, the fact that agriculture has a small share of 14 percent in GDP today comparing to a share of more than 50 percent in total GDP, does not belittle its importance for the Indian economy. This is because first, agriculture remains the largest employer having a share of around 60 percent; second, it holds the key to creation of demand in other sectors and remains by far an important indirect contributor to India's GDP growth. Commercial banks have played an important role in financing the needs of agricultural sector. With the aim of facilitating timely and adequate credit flow to agriculture, the sector has been targeted as a part of the priority sector lending programme introduced after nationalisation of banks in 1969. Since then, banks have become gradually an important source of agricultural credit, although the growth in their share has not been monotonic during 1980s. In the first half of 2000s, there has been a steep rise in the share of commercial banks in total agricultural credit. Starting 1990s, the share of short-term agricultural credit in total agricultural credit has been going up. Newer credit delivery systems in the form of Kisan Credit Card (KCC) were introduced to provide easy access to credit.

Banks like NABARD has grown and evolved over the last three decades from a uni-dimensional apex financing agency into a multi-dimensional institution for shaping and implementing the country's overall rural credit policy. In the first two decades after independence, the conduit for institutional credit to agriculture

was the cooperative sector. Although sound in concept, the cooperative sector failed to live up to expectations. With the nationalisation of commercial banks, the decade of 1970 marked the entry of commercial banks into agricultural credit. Over the last 40 years, there has been a striking increase in the credit intensity of agriculture as measured by the ratio of agricultural credit to agricultural GDP. The credit intensity increased from 12 percent in the early 1970s to 67 percent by 2010-11 (Subbarao, 2012).

Capital formation in agriculture has been another aspect that has attracted the attention of researchers. A study by Karmakar (1998) has examined the growth trends in capital formation in agriculture in both public and private sectors. It finds the declining trend in both the public and private sources of capital formation. In fact, as per this study, the share of gross capital formation had declined from 15 percent in 1980-81 to 8 percent in 1990-91. It finds that the real gross capital formation in agriculture sector showed negative growth rates of 2 percent per annum during the sixth plan and 1.4 percent per annum during the seventh Plan. Correspondingly, the share of agriculture sector as percentage of total investment in economy had also declined from 18.2 percent in fifth plan to 15.1 percent in the sixth plan and further to 11.9 percent during the seventh Plan.

PERFORMANCE OF AGRICULTURAL CREDIT

There have prevailed various inter-state differences in the access to institutional credit as well as the loan amount obtained by farm households even for the same size class of landholding. Owing to which, an analysis of status and performance of agricultural credit has been the major concern of the available literature on agricultural finance. Such literature facilitated policy makers in taking review of progress already made and thereby it helped them in taking the appropriate corrective action. There appeared a large number of studies that have examined this aspect. Sahu (2008), for example, analyses the trends in the supply of agricultural credit by institutional agencies in fourteen major Indian states. It observes that the growth rate of agricultural credit was higher during per-reform period compared to the reform period in most of the states. It also observes that the growth rate of agricultural credit was higher during pre-reform period compared to the reform period in most of the states. It notes the unevenness in the growth rate of agricultural credit during the sub periods as well as across the states (Khan et al, 2007).

Similarly, Mohan (2006) examining the performance of the flow of institutional credit finds that despite the increase in the overall flow of institutional credit over the years, there has taken place several gaps in the system like inadequate provision of credit to small and marginal farmers, paucity of medium and long-term lending and limited deposit mobilisation and heavy dependence on borrowed funds by major agricultural credit purveyors. All these have major implications for agricultural development and the well being of the farming community. It urges for taking serious efforts to address and rectify these issues.

SOURCES OF CREDIT

The credit markets do not operate in isolation; rather they generate various kinds of horizontal and vertical linkages. Chaudhari et al. (2002) work out the dynamics of such linkages by taking the case of backward agriculture with a theoretical analysis. Similarly, the issue of interlocking of land, labour and credit markets has gained the attention of researchers. In fact, the institutional credit has been conceived to play a pivotal role in the agricultural development of India. A large number of institutional agencies are involved in the disbursement of credit to agriculture. However, the persistence of moneylenders in the rural credit market is still a major concern. Kumar et al. (2010) on the basis of secondary data compiled from several sources, conclude that the institutional credit to agriculture in real terms has increased tremendously during the past four decades. The main objective of these initiatives has been to improve farmers' access to institutional credit. These initiatives had a positive impact on the flow of agricultural credit. However, the persistence of money lenders in the rural credit market is still a major concern.

ACCESS TO CREDIT

Farmers' access to credit for investments and operations that raise farm productivity remains a significant constraint. Many farmers still rely on informal sources of credit, including extortionary moneylenders. Following the government's efforts to expand the reach of institutional credit, formal credit grew sharply in the 1970s after banks were nationalised and a mandatory priority sector bank lending target to agriculture was introduced. Regional rural banks were also started in 1975 to promote the rural economy and serve small and marginal farmers, agricultural labourers and rural artisans. In 1982, the National Bank for Agriculture and Rural Development (NABARD) was created, essentially to refinance agricultural and rural development agencies and banks. Institutional credit thus doubled from 32 per cent of total credit to farmers in 1971 to 63 per cent in 1981. In the 1990s, the share of institutional credit declined, mainly because of a contraction in commercial banks' rural branch network due to viability concerns. During this period, the share of long-term credit also fell as investment in agriculture slowed down. Several policy measures were introduced to step up credit to farmers. But there are indications that this may be so, as the early 2000s saw a quantum jump in the intensity of institutional credit to agriculture. Yet, the increasing credit intensity in agriculture does not necessarily mean that farmers have greater credit access. First, because banks could not meet the agricultural credit target of 18 per cent of total lending, the Reserve Bank of India (RBI) allowed indirect credit to agriculture (e.g. for agro-processing, agricultural inputs and storage) to be counted towards the target. This led to a huge increase in indirect lending essentially to agri-related enterprises, not to farmers. Direct credit to farmers fell from 85 per cent of total agricultural credit in the 1970s to 55 per cent in the 2000s. Second, even including indirect credit, by end March 2012, 15 of 26 public-sector banks and 11 of 22 private sector banks failed to meet targets. Rather than taking on the high risk of lending to farmers, they preferred paying shortfall penalties in the form of deposits to the Rural Infrastructure Development Fund (RIDF), which the RIDF administrator then invests in rural development. Access to formal credit correlates directly with farm size. Smaller farmers, who tend to have less investible surplus are most affected and continue to be excluded from formal credit and rely on moneylenders and traders, while large farmers have disproportionate access to formal credit. Only 40 per cent of marginal farmers have institutional credit, whereas over two-thirds of medium and large farmers do. The Expert Group on Agricultural Indebtedness emphasised this inadequacy in meeting the requirements of an increasingly modern and commercial agriculture. In 2003, the last year for which data are available, about 49 per cent of farmer households had access to credit and 58 per cent of them availed formal credit, implying that just 30 per cent of all farm households had access to formal credit for agriculture.

Haque and Verma (1988) finds that there has been a remarkable increase in the percentage share of institutional credit to total rural credit over time in almost all the regions of the country, except Assam. It finds that the agricultural moneylenders has made a significant contribution to the supply of total credit in many regions including Meghalaya (21.2 percent), Bihar (18.8 percent), Andhra Pradesh (14.4 percent) and Rajasthan (9.6 percent). It finds that the co-operative credit (year 1984-85) had a per hectare availability ranging from Rs. 24 in Bihar to Rs 1490 in Kerala. The states of Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, West Bengal and Karnataka had relatively lower amount of cooperative credit per hectare available than national average (Rs. 165). The amount of loan issued per borrower was the highest in Gujarat (Rs. 2,551) and the lowest in Bihar (Rs. 231). Same pattern of loans were observed with regards to commercial banks. Considering the country as a whole, however, per hectare cooperative credit was found to be comparatively high in the small size land holdings of below 2 hectares. The medium and large farms had relatively more credit per borrower. The results of the study have far reaching policy implications as the private agencies including the agricultural and professional moneylenders were found to dominate in the agricultural credit market in many regions where the liberation of farmers from the poverty and debt traps has a very remote possibility (Singh and Kumar, 2003).

TRENDS IN GROSS CAPITAL FORMATION IN AGRICULTURE

Indian agriculture is plagued with shrinking capital formation during recent times. Lack of investment has emerged as a major constraint in increasing GDP from agriculture. Since the mid-1980s, the share of gross capital formation in agriculture's total GCF started declining. In 1980-81, it was 16.1 percent and in 1995-96 it declined to 6.3 percent. However, it rises thereafter for a brief period and stood at 17.6 percent in 2001-02. The share of agriculture and allied sectors in gross capital formation has been declining especially since 2004-05 from 10.2 percent to 6.4 percent in 2012-13 (Table - 1), though the share of public sector has been 7.6 percent or more. The share of private sector fell from 11.9 percent to 6.4 percent during the same period. Private sector, thus, has not been able to compensate adequately for the decline in public sector investment.

The ratio of GCF in agriculture to total GDP has been in the recent times hovering around 2.2 percent, thereby indicating the stagnancy in agriculture sector, though the ratio of GCF in agriculture to agriculture GDP has improved; Rs. 43473 crore in 2004-05 to Rs. 67864 crore in

TABLE 1: GROSS CAPITAL FORMATION IN AGRICULTURE

Year	GCF in Agri Rs. crore	Share of agriculture sector in total GCF			Investment in agriculture as percent of GDP		
		Public	Private	Total	Public	Private	Total
2004-05	43473	6.0	11.9	10.2			
2005-06	39027	5.8	11.3	9.7			
2006-07	48215	6.7	13.7	11.7			
2007-08	46823	6.5	11.5	10.3	0.4	2.1	2.5
2008-09	44833	7.4	9.2	8.8	0.4	1.8	2.2
2009-10	49198	7.8	7.7	7.7	0.5	1.7	2.2
2010-11	56459	7.9	7.2	7.4	0.6	1.8	2.3
2011-12	62663	8.1	6.9	7.2	0.6	1.7	2.3
2012-13	67864	7.6	6.4	6.7	0.6	1.7	2.3

Source: *Agricultural Statistics at a Glance*, various issues.

2012-13; observing an annual growth rate of 6.13 percent. There is no-doubt that term loan component of bank credit has important bearing on capital formation in agriculture. Over the decades, the share of term loan in the total credit flow has averaged 40 percent. In 1980-81, it constituted 40 percent of total credit flow and marginally went up to 41 percent in 1991-92. In 1996-97, it reduced to 36 percent to remain at 37 percent in next two years. It appears that the base of the doubling of agriculture credit programme led to improvement in share of term loan to 40 percent in 2012-13. Doubling period apparently had a positive impact in improving the ratio of GCF in agriculture-to-agriculture GDP. In 2012-13, drastic reduction took place ratio stood at 29 percent.

The agriculture and allied sector GDP during 2003-04 and 2012-13 (at 1999-00 prices) has grown at a rate of 2.91 percent while public sector GCF in agriculture & allied sectors has observed a significant growth rate of 13.96 percent, but private sector GCF in this sector has lagged behind; almost one third growth rate (4.63 percent) (Table - 2). Total GCF in agriculture and allied sectors has grown annually at a rate of 6.6 percent during this period. However, share of private sector in total GCF in agriculture and allied sector has come down from 82.72 percent in 2003-04 to 71.72 percent in 2012-13. It had peaked at 84.31 percent in 2006-07 but continuously declined since then. On the one hand, the share of public sector improved after 2007-08 to touch 28.28 percent in 2012-13. The gap between public and private sector GCF in agriculture & allied sectors reduced from 4.79 in 2003-04 to 2.54 in 2012-13. It is also observed that GCF in agriculture as percentage of agriculture GDP also improved since 2003-04 from

TABLE 2: GROSS CAPITAL FORMATION IN AGRICULTURE & ALLIED SECTORS

Year	Agri. & Allied sector GDP	GCF in Agriculture & Allied Sectors			Share in Total GCF in Agriculture		% of GCF in Agri to Agri GDP
		Public	Private	Total	Public	Private	
2003-04	446515	8668	41483	50151	17.28	82.72	11.23
2004-05	445403	8085	37395	45480	17.78	82.22	10.21
2005-06	473248	9712	47266	56978	17.05	82.95	12.04
2006-07	438966	8734	46934	55668	15.69	84.31	12.68
2007-08	482677	10805	42737	53542	20.18	79.82	11.09
2008-09	482910	13019	44830	57849	22.51	77.49	11.98
2009-10	511114	15947	50118	66065	24.14	75.86	12.93
2010-11	531315	18755	54530	73285	25.59	74.41	13.79
2011-12	557122	22107	57221	79328	27.87	72.13	14.24
2012-13	566045	24197	61367	85564	28.28	71.72	15.12
CGR %	2.91	13.96	4.63	6.60			

Source: GoI, *Mid- Term Appraisal of the Eleventh Plan*, Planning Commission, New Delhi.

11.23 percent to 15.12 percent in 2012-13. These are positive changes observed during the present decade.

CONCLUSION

The analysis shows that small and marginal farmers have been observing bias in agriculture delivery. The reforms period has led declining flow of agriculture credit especially long-term credit. The doubling of credit flow programme did boost the flow of credit but situation changes after 2006-07. The main challenge faced by agricultural credit involves not only ensuring flow of credit to small and marginal farmers, but designing policies and credit delivery systems that have relevance in the present context in terms of production and demand for agricultural products. Such policies have to consider the need for agricultural credit due to crop diversification. The present multi-agency approach is inadequate to tackle the pressing need for finance of agricultural extension services too. We need to tackle the issue of how to channel the resources of commercial banks in sustainable and viable manner in order to fund the development of a wide range of allied activities. It is also felt that tenancy laws also hinder flow of credit to tenant and sharecroppers despite guidelines issued by Reserve Bank of India.

REFERENCES

1. Chaudhari, S.; Gupta, N. and Kumar, D.J. (2002), "Horizontal and Vertical Linkages between Formal and Informal Credit Markets in Backward Agriculture: A Theoretical Analysis", *Indian Journal of Social Development,* Vol. 2, No. 1, pp. 140.
2. Haque, T. and Verma, S. (1988), "Regional and Class Disparities in the Flow of Agricultural Credit in India", *Indian Journal of Agricultural Economics,* Vol. 43, No. 3, pp. 356- 380, July-September.
3. Karmakar, K. G. (1998), "Capital Formation in Agriculture and Role of Institutional Credit", *Journal of Rural Development,* Vol. 17, No. 1, pp. 37-52.
4. Khan, A.R.; Tewari, S.K. and Shukla, A.N. (2007), "Effect of Liberalization on Institutional Agricultural Credit Flow and its Relationship with Average Cost of Cultivation in Indian Agriculture", *Agricultural Economics Research Review,* Vol. 20, July-December, pp. 227-234.
5. Kumar, A.; Singh, K.M. and Sinha, S. (2010), "Institutional Credit to Agricultural Sector in India: Status, Performance and Determinants", *Agricultural Economics Research Review,* Vol. 23, No. 2.
6. Mohan, R. (2006), "Agriculture Credit in India: Status, Issues and Future Agenda", *Economic and Political Weekly,* 41(11): 1013.
7. Sahu, G.B. (2008), "Supply Analysis of Institutional Credit to Agriculture for Major States in India", *Asian Economic Review,* Vol. 50, No. 2, pp. 325-340, August.
8. Singh, D. P. and Kumar, Anil (2003), "Institutional Credit Gap in Agriculture: A Case Study of Bikaner District", *Agricultural Economics Research Review,* Vol. 16, No. 2.
9. Subbarao, D. (2012), "Agricultural Credit: Accomplishment and Challenges", *Reserve Bank of India Limited,* Vol. 66, No. 8, pp. 1413.

STATUS OF DALITS IN INDIA: AN EFFECT OF THE ECONOMIC REFORMS

NAZEEFA BEGUM MAKANDAR
RESEARCH SCHOLAR
DEPARTMENT OF ECONOMICS
KARNATAK UNIVERSITY
DHARWAD

ABSTRACT

India is considered to be the most stratified of all known societies in human history with its peculiar form of caste. The caste system is 'peculiar' in the sense that it is one of the greatest separating forces that have been used.to divide human beings, mainly into two. categories: higher castes and lower castes. This simple division is backed by certain religious sanctions, which yield to what sociologists' term 'purity' and 'pollution' concepts. These religious sanctions make possible a renewal of legitimacy of Indian caste system even after it is challenged throughout the course of history. Thus, the caste system with its myriad variations of super-ordination and subordination still exists in all the regions of India with different degrees of rigidity. It is due to this irrepressible caste system that the untouchables of India, who number more than 220 million and are known today as Dalits, have been systematically neglected and ostracised in Indian society throughout ages. The dalits in our country are known by many other names given to them by others, mostly to despise them or to show contempt. A man is not a mere label but a disclosure of a reality. They are Avarnas, colourless and nondescript; or panchamas, those left over as it were after the four castes have been counted; or aspirations of avast victimised section of the Indian population right down the ages. The 19th and 20th centuries saw great social reformers like Dr. B.R. Ambedkar, Sri Narayan Guru, Jyothiba Phule, Periyar E. V. Ramaswamy Naickar and others. These social reform movements conducted many struggles against the caste system, caste oppression and untouchability in many ways. But, despite the struggles against caste oppression, the social reform movement did not address the crucial issue of radical land reforms. It got delinked from the anti-imperialist struggle. The Congress-led national movement on its part, failed to take up radical social reform measures as part of the freedom movement. Figures from the 2011 census confirm that there are more than 200 million Scheduled Castes (the official term for Hindu, Sikh and Buddhist Dalits) in India. The total number of Dalits is probably much higher as Muslim and Christian Dalits are not included in these figures.

KEYWORDS

status of dalits in India, economic reforms.

INTRODUCTION

Dalit manual scavengers demonstrating for their rights. Many of them are Muslims, and not included in the official SC figures.

The number of Scheduled Castes (SCs) in India increased by 35 million during the decade ranging from 2001 to 2011, recently released census figures have shown. This means that there are now 201.4 million Hindu, Sikh and Buddhist Dalits in the country.

The increase of 20.8 per cent is somewhat higher than the general population increase of 17.7 per cent. This means that the overall SC share of the population has grown from 16.2 to 16.6 per cent. India's demographic imbalance is reflected in the number of SCs of which there are 103.5 million males and 97.9 million females. More than three fourths of India's SCs are still living in rural areas, but since the 2001 census, there has been a 40 per cent increase in the number of SCs living in urban areas. This figure is now approaching 50 million, while more than 150 million still live in rural India.

India's Scheduled Castes are distributed across 31 states and union territories. The states with the highest total numbers of SCs are Uttar Pradesh, with more than 40 million, and West Bengal with approximately 20 million. The less populous Punjab is the state with the highest proportion of SCs to its total population – 31.9 per cent.

While the 200 million SCs constitute a significant proportion of India's population, the total, if unofficial, number of Dalits in the country is almost certainly considerably higher, as Christian and Muslim Dalits are not registered as 'Scheduled Castes'. Hence, they are not entitled to so-called 'reservations' in the education system and government jobs and other constitutional safeguards.

According to some estimates, there are 15-20 million Christian Dalits in India, while the number of Muslim Dalits may be as high as 100 million or more. Were these figures to be confirmed, the number of Dalits in India could exceed 300 million – or a quarter of the country's population of 1.2 billion people.

The Scheduled Castes and Scheduled Tribes(STs) are two groups ofhistorically-disadvantaged people recognized in the Constitution of India. During the period of British rule, they were known as the Depressed Classes. According to the 2001Census, the Scheduled Castes and Scheduled Tribes comprise about 16.2 percent and 8.2 percent, respectively, of India's population. This has increased to 16.6 percent and 8.6 percent respectively in 2011.The population of Scheduled Castes (SC) and Scheduled Tribes (ST) grew by 20.8 per cent and 23.7 per cent respectively during the period 2001-2011

EDUCATION

Education is the most important pre-requisite for achieving the goals of personal, social, political, economic and cultural development. In other words, education is the most effective instrument for meeting the challenges that dalits are facing. Historical evidences in this regard indicate that dalit community has been excluded from the whole process of education since centuries. So, vast inequalities exist within the education system in India. Although Article 21A of the Indian Constitution stipulates that the State shall provide free and compulsory education to all children of the age of six to fourteen years it still remains an elusive However, owing to reservation and affirmative action in the arena of education, substantial progress has been made in the field of education of dalits during the last few decades. The literacy rate of the Scheduled Castes (SCs) has increased from10.27 \percent in1961 to 54.7 per cent in 2001 and for the country as a whole has increased from 28.3 per cent in 1961 to 68.38 per cent in 2001.Available data also reveal that there has been substantial increase in the enrolment of children belonging to the dalits at all stages. So reservation in the educational institutions and the financial assistance in the form of scholarships constitute perhaps the most important factor in the development scheme for dalits (George,2013:14). It is a well known fact that without education other constitutional safeguards, reservation in services would be meaningless. It would also be hard for dalits to send their wards to the temple of learning. But it is to be kept in mind that the enrolment alone does not give any substantial amount of educational achievement when the rate of drop out is also substantially high among the dalits. Despite several kinds of State assistance, the dropout rate is also alarming at the primary, middle and secondary stages of education in respect of dalits Inspite of that the sphere of primary and elementary education could not remain unaffected from globalization. Commercialization of education is continuously increasing.

The system of primary and elementary education in rural and urban settings has been subverted almost totally. Since majority of the rich upper castes send their wards to the private/convent schools, government schools have been reduced into dysfunctional centres of learning for the marginalized sections of the society (Ram:2). Dalit children do not have access or the opportunity to attend high-cost and presumably 'good-quality' private schools. These schools are primarily located in urban areas and are, therefore, not accessible to the larger part of dalit children. In addition to that the tuition fees are so high that they are not affordable to the vast majority of dalits. For dalits, the question is not whether the dalits can afford to send their children to private schools, but whether they can afford to send their children to school at all (Jameela Pedecini:14)

Even today, because of importance of the English language in business circles, the segregation between village and towns is almost completed in the sphere of education. So it is very difficult for a village student, educated in vernacular medium, to compete with his convent educated counterpart in cities and towns

(Teltumbde,1997:22). Moreover, since the majority of the dalit students are generally enrolled in Arts and humanities, it becomes difficult for them to meet the job requirements of the multinational corporations.

Higher education is also severely affected by globalization. Due to reforms, the grants have already been frozen in many institutions and the expenditure on education, if not lowering, became stagnating. The free market ethos has entered in the educational sphere in a big way. So commercialization of education is no more a mere rhetoric; it is now a big reality. In other words, corporatization has also entered into this arena, transforming the education into an enterprise for profits. In the present day private educational institutions are more commonly known as education industry (George,2013:12)

In contemporary India, a number of medical, engineering, management and technological institutions have grown up which are mainly privately owned and the passport for entrance of these institutions is a large amount of money popularly known as capitation fees. In fact prestigious specialized and super specialized courses, especially engineering, management, technology and medicine are highly expensive and inaccessible to the dalits. The emerging areas of software, bio-technology, bio-informatics are almost beyond the reach of the dalits. Many elite institutions like IIMs, IITs, suddenly facing fund crunch, had to increase their fee structure and other prices manifold which are not affordable for the dalits. In a true spirit of globalization many foreign universities are invading the educational spheres through hitherto unfamiliar strategic alliances with the commercial agencies, of course, at hefty dollar equivalent prices (Teltumbde,1997:22). If wealth becomes the main criterion for admission, the wards of disadvantaged groups will not get any chance of entry into these educational institutions. It is precisely due to these reasons that dalits are rarely to be found in the prestigious management, engineering and technological institutions all over the country

IMPACT ON TRADITIONAL OCCUPATIONS

Globalization process has directly hit the traditional occupations of dalits. It is a well known fact that the dalits have historically specialized in the production of all kinds of artistic tools and equipments for household and agricultural production. But Globalization is adversely impacting their traditional occupations now. Their livelihood and specialized occupation is now being replaced by global capitalistic productions. Easy availability of mass production goods from latest technology based industries at cheap prices has proved to be a big challenge for their traditional occupation (Sunar,2012). Dalits neither have the capacity to complete with these productions nor do they have an alternative way so far to earn their livelihood. Our traditional artisan culture and technological knowledge is on the verge of ruin.

Before the introduction of globalization as we know today, dalits would make a numerous essential equipment like pots, plough, clothes, shoes and other leather products etc. and also all kinds of artistic tools for music and dance. In fact, the smooth functioning of any household was simply impossible with the skill and craft of the dalit communities. We have to keep in mind, due to lack of adequate education and employment the livelihood of the majority of dalits are depended on their traditional occupation. So under the changing situation, the government needs to urgently take adequate steps to promote and preserve the unique role of these artisans and for realizing their full potential. Besides financial assistance and proper guidance the government should establish production factories for the traditionally skilled dalit community who can share their experience for producing goods and get employment. Priority should also be given to the local produce and artisans so their traditional occupation can be sustained (Sunar, 2012).

Access to Land The most disastrous effects of globalization policy can be seen in the deep agrarian crisis that had afflicted the rural sector. The vast majority of dalits live in rural areas. Some 89 per cent of them still live in villages. More than 50 percent of them are landless labourers, 26 per cent are marginal farmers. Only a small number of them are cultivators with marginal holdings (Teltumbde, 2011). Large-scale landlessness on the part of the dalitsled to their dependence on the upper caste land owning communities. The social and political influence of the land owning classes has tried to maintain their traditional hold over the agrarian system and structure. This means that an overwhelming majority of the dalit population in agrarian India does not have its own sources of sustenance and depends on landowners' land for their sustenance (Sinha,2010:127). The successive central governments as well as state governments have failed to implement the land reforms for the last 66 years. Except for WestBengal, Kerala and Tripura, the other state governments completely neglected land reforms. Instead of taking land reforms, all the governments are promoting depeasantisation of Indian agriculture (Teltambde :15). The land instead of giving it to the landless labors is being given away to the big industries in the name of mega developmental projects or 'SEZ' (Special Economic Zone). In fact, as an integral part of globalization–liberal-ization policies the marginal people have lost their right over land (George,2004, Kirtiraj:285). Statistics also reveals that the incidence of landlessness has been increasing among dalits during the last two decades of globalization. The acquisition of the land from the people has not only created discontents but to conflict and violence among the farmers which has seen in the different parts of India. Due to such projects rural employment has sharply fallen and this has hit dalits, adivasis (Tribals) and women the most. Moreover, the mechanization of agriculture has further compounded the rural employment situation.

It is a well-known fact that the globalization leads to capital-intensive mode of production and it requires a greater proportion of highly skilled workers to manage automated production process. So a large number of migrations of unskilled labor to the agricultural sector have lead to lower wages for agricultural workers as a whole. During the colonial times when products of western mechanized factories entered and dominated the local market then the lower caste artisans and laborers became unemployed. Similarly, due to modernization and extension of technology in agriculture, the dalits who worked as agricultural laborers were again unemployed. In fact, the number of agricultural labourers is increasing day by day. The percentage of rural dalit labour households with land declined from 44.38 per cent in 1974-75 to 35.05 percent in 1993-94. On the other hand, the percentage of rural dalit labour households without land increased from 55.65 per cent in 1974-75 to 64.95 percent in 1993-94 (George, 2013).

Dispossession from land and commercialization of agriculture are the two main reasons behind this shift. Further the real wages of agricultural labourers of whom a large proportion are dalits, have fallen in many states. No efforts are made to implement minimum wage legislation even where it exists and periodic revision of minimum wage is also conspicuous by its absence. (Resolution of CPIM, 2006). The average number of working days available to a dalit agricultural worker in a year is also decreasing day by day. The growing unemployment and loss of jobs in the wake of deteriorating economic conditions over the past 20 years or more under the reforms regime have also added to the misery of the poor. In other words, ongoing economic reform continues to increase prices and unemployment, and the reduction and elimination of all subsidies and social sectors expenditures has further worsened the economic condition for dalits (Farnando1997) as cited in kumar (ed.,2010:139). In fact, higher costs of agricultural inputs like fertilizers, pesticides and seeds are making it virtually impossible for marginal farmers to survive. Farmers everywhere are being paid a fraction of what they received two decades ago. The results have been decreased net income of rural agrarian households as well as dalits households and thus lower purchasing capacity (Ghosh, 2001). As a result, hunger related deaths resurfaced in a big way in the 90's onwards for the first time since independence.

A large number of farmers are reported to have committed suicides in different states of India. In the case of dalits, there is a clear correlation between land holding and social and economic status. For improving socio-economic condition of vast majority of dalits, implementation of land reforms must be given highest priority as the majority of the dalits live in rural areas. In fact, sincere and strict implementation of laws relating to land reforms, which aims to surplus land to the landless, would have greatly enhanced the socio- economic conditions of dalits who constitute a substantial proportion of the agricultural labour. But except for West Bengal, Kerala and Tripura, the other state governments completely neglected land reforms.

THE IMPACT OF ECONOMIC REFORMS

The impact of India's aggressive shift from a state regulated economy to a market economy with the privatisation of industries and the liquidation of policies and controls in economic planning and regulation has been most acutely felt by Dalits. The now decade-old economic reforms cling faithfully to the flawed 'trickle down' theory – a theory that holds even less relevance for Dalits for whom few benefits can permeate the caste ceiling.

Since 1991, the start of India's New Economic Policy, the country has made astounding progress in the areas of technology, infrastructure, machinery, science, space and even nuclear research. Much of this progress has meant little to Dalits; most continue to live without the very basic amenities of electricity, sanitation, and safe drinking water.

According to the Madras Institute for Development Studies, only thirty-one per cent of Dalit households are equipped with electricity, as compared to sixty-one per cent on non-Dalit households. Only ten per cent of Dalit households have sanitation facilities as compared to twenty-seven per cent of non-Dalit ones. Dispar-ities in distribution are not accidental. 'Untouchability' is reinforced by state allocation of facilities; separate facilities are provided for separate colonies. Dalits

often receive the poorer of the two, if they receive any at all. In many villages, the state administration installs electricity, sanitation facilities, and water pumps in the upper-caste section, but neglects to do the same in the neighbouring, segregated Dalit colony. Basic supplies such as water are also segregated, and medical facilities and the better, thatched-roof houses exist exclusively in the upper-caste colony.

Available statistics reveal that between 1987 and 1993, the percentage of Dalits living below the poverty line actually increased by five percent, reversing a declining trend of the previous fifteen years. Half of the Dalit population lived below the poverty line in 1993 compared to a third of the general population. The poverty gap has continued to widen since 1993, as have the trends toward economic "liberalisation" and the state's failure to equitably allocate and distribute resources. As liberalisation leads to a capital-intensive mode of production requiring a greater proportion of highly skilled workers to manage automated production processes, a large migration of unskilled labour to the agricultural sector has led to lower wages for agricultural workers as a whole.

Eighty-five percent of India's Dalit population lives in rural areas and is directly associated with agriculture and cultivation. In addition to a reduction in agricultural subsidies, Dalits are also affected by the increased acquisition of coastal lands by multinationals (via the central government) for aquaculture projects. Dalits are the main labourers and tenants of coastal land areas and are increasingly being forced to leave these areas – to live as displaced people, for the most part – as foreign investment rises. A reduction in the budget and fiscal deficit, devaluation, privatisation, the elimination or reduction in subsidies, and export promotion have also all contributed to inflation. As is true the world over, inflation hits the poorest the hardest. With most of their earnings spent on food, shelter, and clothing, any rise in prices has had a direct negative effect on Dalits' level of consumption. A lack of purchasing power is compounded by the devaluation of currency. The devaluation, aimed at increasing exports and creating more markets for domestic industries, has also led to a rise in prices for general essential imports.

With the underlying economic philosophy of increased reliance on market forces, a dismantling of controls, and a drastically reduced role of the state, the public sector is shrinking. The reservations model is therefore affecting – and able to assist – fewer people, inasmuch as government-related jobs are being drastically reduced. Reservations in educational institutions and scholarships for Dalit students represent a critical component in Dalit socio-economic development. Economic reforms have also led to a freezing in grants to many institutions. The privatisation of social services is also turning education and health services into commodities only affordable to the rich.

CONCLUSION

The persistence of caste-based prejudices and the denial of access to land, education, and political power have all contributed to an atmosphere of increasing intolerance and growing movements by Dalits to claim their rights. These claims are increasingly met with large-scale violence and attempts to further remove Dalits from economic self sufficiency. Any attempt to reverse entrenched discrimination and dangerous new trends necessitates a closer look at the rights violations hidden under a landscape of poverty.

Poverty is deceptive. It makes one conclude that all suffer from it equally. Poverty also masks a lack of political will to change the status quo by shifting the debate to a lack of resources. But a closer look at India's poverty reveals the discriminate on inherent in the allocation of jobs, land, basic resources and amenities, and even physical security. A closer look at victims of violence, bonded labour, and other atrocities also reveals that they share in common the lowest ranking in the caste order. A perpetual state of economic dependency allows for atrocities to go unpunished, while a corrupt and racist state machinery looks the other way, or worse, becomes complicit in the abuse. Nationally, the government must act to uphold its own constitutional principles and work toward the uplifting of all citizens, regardless of caste. Globally, the international community must acknowledge its own role in sustaining economic and racial discrimination and then play its part to dismantle India's 'hidden apartheid.'

REFERENCES

1. A Study of Impact of Globalization on the Socio-economic Status of Neo-Buddhists Community in Akola Distric Caste Discrimination Deprivation and the Socio-economic Development of Dalits", Voice of Dalit, "Dalits and Reservations in the Private Sector",
2. Dalits and Economic Reforms
3. Dalits in Modern India: Vision and Values, "Globalisation, Dalits and Social Democracy"
4. "Impact of Economic Reforms on Dalits", in Kumar Arun, (ed.)
5. Globalisation and Dalits: Magnitude and Impact
6. Impact of New Economic Reforms on Dalits in India
7. Voice of Dalits "State, Market and the Dalits: Analytics of the New Economic Policy", in Michael, S.M., (ed.)

FINANCIAL INCLUSION: PROGRESS OF PRADHAN MANTRI JAN DHAN YOJANA (PMJDY)

KAPIL RAHANG
RESEARCH SCHOLAR
DEPARTMENT OF ECONOMICS
GAUHATI UNIVERSITY
JALUKBARI

ABSTRACT
Financial Inclusion is one of the key elements to achieve Inclusive Economic Growth. Financial inclusion refers to the availability of financial services and various financial products at affordable cost to the disadvantaged segment of the society. It connects unbanked people with mainstream banking and other social security measures like pension, insurance, microfinance, subsidies and government sponsored welfare schemes thereby accelerates economic growth. Realizing its significance Prime Minister of India, Narendra Modi had unveiled a comprehensive financial inclusion drive Pradhan Mantri Jan Dhan Yojana (PMJDY) on August 28, 2014. It is a scheme for successful implementation of National Mission for Inclusive Growth by enhancing banking habits, financial literature throughout the country. The present research paper endeavors to analyze the implication and performance of PMJDY. In the present study data is based on the sources and reports provided by Government of India, Reserve Bank of India.

KEYWORDS
financial inclusion, financial services, inclusive growth, PMJDY.

JEL CLASSIFICATION
G10, G20, G28.

1. INTRODUCTION OF THE PRADHAN MANTRI JAN DHAN YOJANA
Financial inclusion is a national priority of every government as it is an enabler for Inclusive Growth. Since independence, Reserve Bank of India (RBI) and Government of India (GoI) have been taking initiatives like nationalization of banks, expansion of bank network in unbanked areas, lead bank scheme, Regional Rural Banks (RRBs), opening of no-frill account, relaxation in Know Your Customer (KYC) norm, use of technology etc. Significant improvements have been brought in the financial system of the country, yet a vast segment of the population have been left unbanked, particularly the underprivileged section of society including women, marginal and small farmers, labourers, small vendors. Census 2011 estimated that out of 24.67 crore households in India, only 14.48 crore (58.7%) households had access to banking services. Of the 16.78 crore rural households 9.14 crore (54.46%) were availing banking services. Of the 7.89 crore urban households, 5.34 crore (67.68%) households were availing banking services. To break the prevailing barriers in Indian finance sector and achieve Inclusive Growth or "Sab Ka Sath Sab Ka Vikas" (Slogan of NDA government), Prime Minister of India, Mr. Narendra Modi announced an ambitious scheme *Pradhan Mantri Jan-Dhan Yojana (PMJDY)* in his Independence Day address on 15th August, 2014. This is a National Mission on Financial Inclusion encompassing an integrated approach to bring about comprehensive financial inclusion of all the households in the country. The plan envisages universal access to banking facilities with at least one basic account for all households, financial literacy, access to credit, insurance and pension facility. Formally PMJDY was launched on August 28, 2014 in 600 districts; on the same day more than 1.5 crore accounts were opened. The objective was to bring 7.5 crore unbanked families under the banking network by January 26, 2015 and enable them to come out of the grip of moneylenders, manage to keep away from financial crises caused by emergent needs. As a first step every account holder gets a RuPay debit card and the family gets Rs. 1 lakh accidental insurance cover and pension product.

Technically it can be said that PMJDY is a program to accelerate economic growth, fight poverty effectively and to empower the last person in the last row in Indian Economy. It seeks to create substantial platform for banking habits, provide formal easy access credit services, links targeted beneficiaries directly with subsidies and welfare schemes introduced by governments.

2. REVIEW OF LITERATURE
Access to finance by poor and vulnerable groups is a prerequisite for inclusive growth. In fact, providing access to finance is a form of empowerment of the vulnerable groups. The various financial services include savings, insurance and payment, and remittance facilities. The objective of financial inclusion is to extend the scope of organized financial system to include within its ambit people with low income. Through graduated credit, the attempt must be to lift the poor from one level to another so that they come out of poverty (Chairman of Committee on Financial Inclusion Dr. C. Rangarajan 2008).

The most of the poor people in the world still lack access to sustainable financial services which includes savings, credits or insurance. The great challenge is to address constrains that exclude people from full participation in the financial sector (UN secretary General Kofi Annan 2003).

3. OBJECTIVES OF THE STUDY
1.   To understand the effectiveness of PMJDY.
2.   To have an insight knowledge about the performance of PMJDY.

4. RESEARCH METHODOLOGY
In the present study data is collected from the secondary sources mainly from Govt. of India's Official website pmjdy.gov.in, RBI report etc. Here emphasis has been put to analyze the performance of PMJDY.

5. STATUS OF FINANCIAL INCLUSION BEFORE PMJDY
*   Despite various measures of financial inclusion, poverty and exclusion continue to dominate socio-economic and political discourse in India even after six decades of post economic independence era. Though economy has shown impressive growth during post liberalization era of 1991, impact is yet to percolate to all sections of the society and there for India is still home of 1/3rd of world's poor.
*   Census 2011 estimated that out of 24.67 crore households in India, only 14.48 crore (58.7%) households had access to banking services. Of the 16.78 crore rural households 9.14 crore (54.46%) were availing banking services. Of the 7.89 crore urban households, 5.34 crore (67.68%) households were availing banking services.
*   The present banking network of the country (as on 32.03.2014) comprises of a bank branch network of 1,15,082 and an ATM network of 1,60,055. Of these 43,862 branches (38.2%) and 23,334 ATMs (14.58%) are in rural areas.
*   According to World Bank Findex Survey (2012) only 35% of Indian adult had access to a normal bank account.

FIGURE 1: AVAIBALITY OF BANKING SERVICE
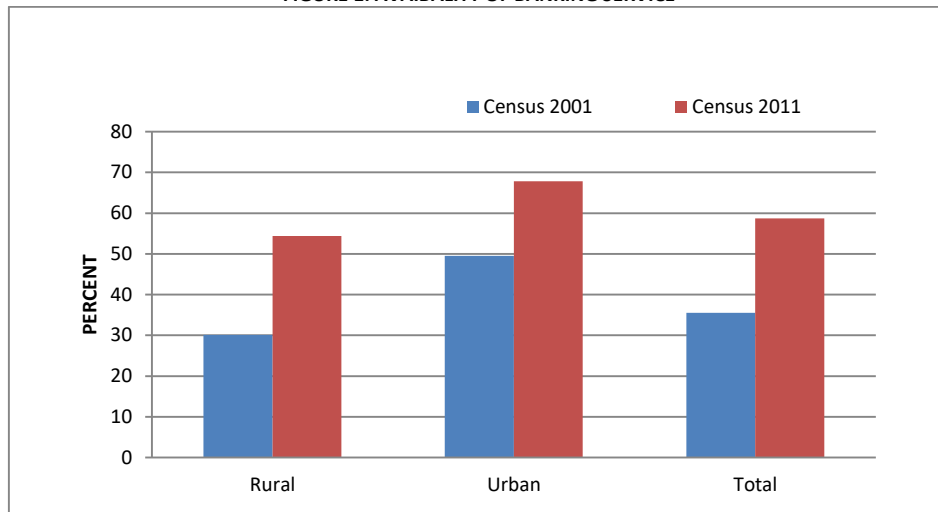
Source: pmjdy.gov.in

6. IMPLEMENTATION OF PMJDY WITH SIX PILLAR MISSION MODE OBJECTIVES

PMJDY to be executed in Mission Mode envisage provision of basic financial services to all the citizens. It comprises six pillars:

- Universal access to banking facilities: Mapping of each district into Sub Service Areas catering to 1000-1500 households in a manner that every habitation has access to banking services with a reasonable distance say 5 km by 14th August, 2015.
- Providing basic banking account: with overdraft facility and Rupay Debit card to all households: It effort would be to cover all unbanked households with basic banking account by August, 2015.
- Financial Literacy Programme: Financial Literacy would be an integral part of the Mission in order to let the beneficiaries make best use of the financial services being made available.
- Creation of Credit Guarantee Fund: This fund would be to cover the defaults in overdraft accounts.
- Micro-Insurance: To provide micro-insurance to all willing and eligible persons by 14 August, 2018 and then on an ongoing basis.
- Unorganized sector Pension Schemes like Swavalamban: By 14th August, 2018 and then it will be continued.

7. TIMELINE FOR IMPLEMENTATION OF PMJDY

PHASE – I: (15th August, 2014 to 14th August, 2015)

- Universal access to banking facilities in all areas with infrastructure a connectivity constraint like parts of North-East, Himachal Pradesh, Uttarakhand, J&K and 82 Left Wing Extremism districts.
- Provide Basic Banking Account and Pupay Debit card which has inbuilt accident insurance cover of Rs. 1 lakh. Aadhaar Number will be seeded to make account ready for DBT payment.
- Financial Literacy Programme

PHASE - II: (15th August, 2015 to 14th August, 2018)

- Overdraft facility upto Rs. 5000/- after six months of satisfactory operation / history.
- Creation of credit guarantee Fund for coverage of defaults in A/Cs with overdraft limits up to Rs. 5,000/-.
- Micro Insurance
- Unorganized sector Pension Scheme like Swavalamban.

8. PROGRESS OF PMJDY

PMJDY estimated to cover 7.5 crore excluded households by 26th January 2015. It showed unprecedented growth as on the inauguration day more than 1.5 crore accounts were opened and 11.50 crore accounts by 17th January 2015. Progress report of PMJDY can be better understood with the help of following tables.

TABLE 1: ACCOUNT OPENED UNDER PMJDY AS ON SEPTEMBER 02, 2015 (all in Crore)

Bank Type	Rural	Urban	Total Account	No of RuPay Debit Card	Balance in Account	% of Account With Zero Balance
Public Sector Bank	7.76	6.35	14.11 (78.22%)	12.82	18207.10	43.55
Regional Rural Bank	2.76	0.47	3.23 (17.90%)	2.37	3939.03	45.51
Private Bank	0.42	0.28	0.70 (3.88%)	0.62	1108.88	43.66
Grand Total	10.94 (60.64%)	7.10 (39.36%)	18.04	15.82	23255.01	43.96

Source: pmjdy.gov.in

TABLE 2: ACCOUNT OPENED UNDER PMJDY AS ON SEPTEMBER 28, 2016 (all in Crore)

Bank Type	Rural	Urban	No of Account	No of Rupay Debit Card	Aadhar Seeded	Balance in Account	% of Account With Zero Balance
Public Sector Bank	11.03	8.63	19.66 (79.45%)	15.45	10.66	34550.69	24.27
Regional Rural Bank	3.63	0.59	4.22 (15.06%)	2.84	1.80	7401.90	20.50
Private Bank	0.53	0.33	0.86 (3.48%)	0.80	0.36	1580.08	36.47
Grand Total	15.19 (61.40%)	9.55 (38.60%)	24.74	19.09	12.82	43532.67	24.05

Source: pmjdy.gov.in

9. FINDINGS

9.1. TOTAL BANK ACCOUNT OPENED (BANK WISE)

Above data shows as on 02.09.2015 under PMJDY 18.04 crore accounts were opened out of which 14.11 crore (78.22%) in PSBs, 3.23 crore (17.90%) in RRBs and 0.70 crore (3.88%) in Private Banks. As on September 28, 2016 number of bank account opened under PMJDY has increased to 24.74 crore from 18.04 crore (02.08.2015) which is a great achievement for the entire banking system. Here PSBs are dominating in term of account opened with 79.45% (28.09.2016) followed by 15.06% in RRBs and 3.48% in PBs.

9.2. NUMBER OF RuPay DEBIT CARD ISSUED (BANK WISE)

As on 02.09.2015 number of total RuPay debit card issued under PMJDY is 15.82 crore of which under PSBs 12.82 crore, under RRBs 2.37 crore and under PBs 0.62 crore respectively. No. of RuPay debit cards increased considerably to 19.09 crore as on September 2016 with PSBs 15.45 crore, RRBs 2.84 crore and Private Banks 0.80 crore. PSBs are showing substantial rise in issuing RuPay Debit Cards.

9.3. ACCOUNT OPENED WITH ZERO BALANCE (BANK WISE)

Table -1 shows out of the total bank account opened as on September 02, 2015, 43.96% had Zero Balance. Percentage of Zero Balance account in PSBs was 43.55%, in RRBs 45.51% and in Private Banks 43.66%. In table-2, we can see that the numbers of account opened under different banks have increased but, percentage of Zero Balance account got reduced to 24.27%, 20.50% and 36.47% in PSBs, RRBs and PBs respectively which means people's concern for banking habit have improved.

9.4. AREA WISE ANALYSIS OF ACCOUNT OPENED UNDER PMJDY

Table -1 reveals a desirable picture as 60.64% (10.94 crore) accounts were opened in rural area and 39.36% (7.10 crore) accounts were opened in urban areas of the country. Percentage of account opened have further improved to 61.40% (15.19 crore) in rural areas and 38.60% (9.55 crore) in urban areas (Table - 2). It shows that most of the rural areas have been brought under the banking network.

9.5. AADHAAR SEEDED ACCOUNT (BANK WISE)

The above data in table -2 shows that out of the total account (24.74 crore) opened till September, 2016, 12.82 crore (51.83 %) accounts were seeded with AADHAAR number for direct delivery of benefits to account holders.

9.6. STATE-WISE ACCOUNT OPENING UNDER PMJDY

**TABLE 3: STATE WISE ACCOUNT OPENING REPORT AS ON SEPTEMBER 28, 2016**

S. No	State/UTs	Rural Account	Urban Account	Total Account	Deposit (in Crore)	Aadhaar Seeded	Zero Balance Account	RuPay Card Issued
1	Andaman & Nicobar	39833	15110	54943 (0.02%)	21.44	39795	17185	46811
2	Andhra Pradesh	4411403	3367041	7778444 (3.14%)	878.04	5748621	1648996	6212340
3	Arunachal Pradesh	111660	62727	174387 (0.70)	37.03	39470	52312	137864
4	Assam	6808101	2231986	9040087 (3.65%)	1696.89	212174	2600343	5691879
5	Bihar	16369384	8089749	24459133 (9.89%)	3376.24	9418938	5567742	17213097
6	Chandigarh	35193	181443	216636 (0.09)	68.32	170675	28303	195783
7	Chhattisgarh	7737802	3736777	11474579 (4.64%)	1382.50	5783616	3916754	7770723
8	Dadra & Nagar Haveli	51119	10840	61959 (0.03%)	17.49	38650	14975	37493
9	Daman & Diu	12570	9977	22547 (0.009)	6.63	14714	4885	15291
10	Goa	101354	38938	140292 (0.06%)	54.74	87850	22418	123744
11	Gujarat	4717890	4061593	8779483 (3.55%)	1595.14	4156696	1988089	7090666
12	Haryana	3099315	2333999	5433314 (2.20%)	1658.66	4041320	903750	4583549
13	Himachal Pradesh	829786	119980	949766 (0.38%)	338.32	744911	126570	795276
14	J & K	1608111	355392	1963503 (0.79)	527.04	300068	722825	1614771
15	Jharkhand	6045527	2164417	8209944 (3.32%)	959.04	6281657	2320524	5651890
16	Karnataka	6033477	3746701	9780178 (0.40)	1421.98	6542703	2175178	8792355
17	Kerala	1578895	1621202	3200097 (1.29%)	741.51	2361084	664390	2518409
18	Lakshadweep	4560	734	5294 (0.002%)	4.60	4430	1310	4251
19	Madhya Pradesh	10669772	10946762	21616534 (8.74)	1943.44	11899436	6087839	16117115
20	Maharashtra	7624292	7573548	15197840 (6.14%)	2381.77	11159370	4341014	12238885
21	Manipur	304050	376048	680098 (0.27%)	105.94	222261	166808	520810
22	Meghalaya	293543	66739	360282 (0.15%)	147.52	6228	66865	200881
23	Mizoram	144411	222217	366628 (0.15%)	27.26	28334	119350	91751
24	Nagaland	100674	80436	181110 (0.07)	31.25	55755	59148	153404
25	Delhi	432138	2920947	3353085 (1.36%)	986.86	2337695	802166	2756090
26	Odisha	7709542	2627577	10337119 (4.18%)	1923.11	4418966	2502943	8019494
27	Puducherry	58468	66266	124734 (0.05)	27.38	97141	22107	10450
28	Punjab	3048953	2043227	5092180 (2.06%)	1675.08	4058756	815774	4583520
29	Rajasthan	12187641	6492389	18680030 (7.55%)	3464.15	11912454	3869934	15562285
30	Sikkim	71327	12019	83346 (0.03)	21.56	64146	17333	65343
31	Tamil Nadu	4514175	4083423	8591868 (3.47%)	1107.79	3891868	1976849	7310958
32	Telangana	4674138	3414786	8088924 (3.27%)	953.62	5625415	2270147	6518049
33	Tripura	581932	224290	806222 (0.33%)	422.23	520371	107590	505975
34	Uttar Pradesh	22224031	14447087	36671118 (14.83%)	7052.01	15129577	8680351	30738619
35	Uttarakhand	1338112	709065	2047177 (0.83%)	574.39	930438	413981	1730363
36	West Bengal	16259974	7069312	23329286 (9.31%)	5901.72	9881070	4400803	15228276
	Gr. Total	**151833153**	**95524744**	**247357897**	**43532.6**	**128226653**	**59497551**	**190942160**

Source: pmjdy.gov.in

In the table -3 state-wise account opening statement under PMJDY has been shown in details including total number of account, Aadhaar Seeded, RuPay Debit Card issued, Zero Balance account (all in crore). The total number of account opened is 24,73,57,897 with deposit of Rs. 43532.6 Crore (as on 28.09.2016). Of this total account, 12,82,26,653 accounts (51.83%) are seeded with Aadhaar Card and RuPay Debit Card is issued to 19,09,42,160 accounts (77.19%). The table also reveals the percentage of account opened in each state/UT for example out of total account opened in India, 14.83% (3667118) accounts are opened in Uttar Pradesh, 0.002% (5,294) in Lakshadweep and so on.

9.7. AVERAGE BALANCE IN ACCOUNT

Average balance in account of each state has been portrayed in the figure 2. Average balance in account in the entire country is Rs. 1,759 (as on September 28, 2016) and among the states Tripura has the highest balance per account (Rs.5237).

FIGURE 2: AVERAGE BALANCE IN ACCOUNT (as on 28-09-2016)
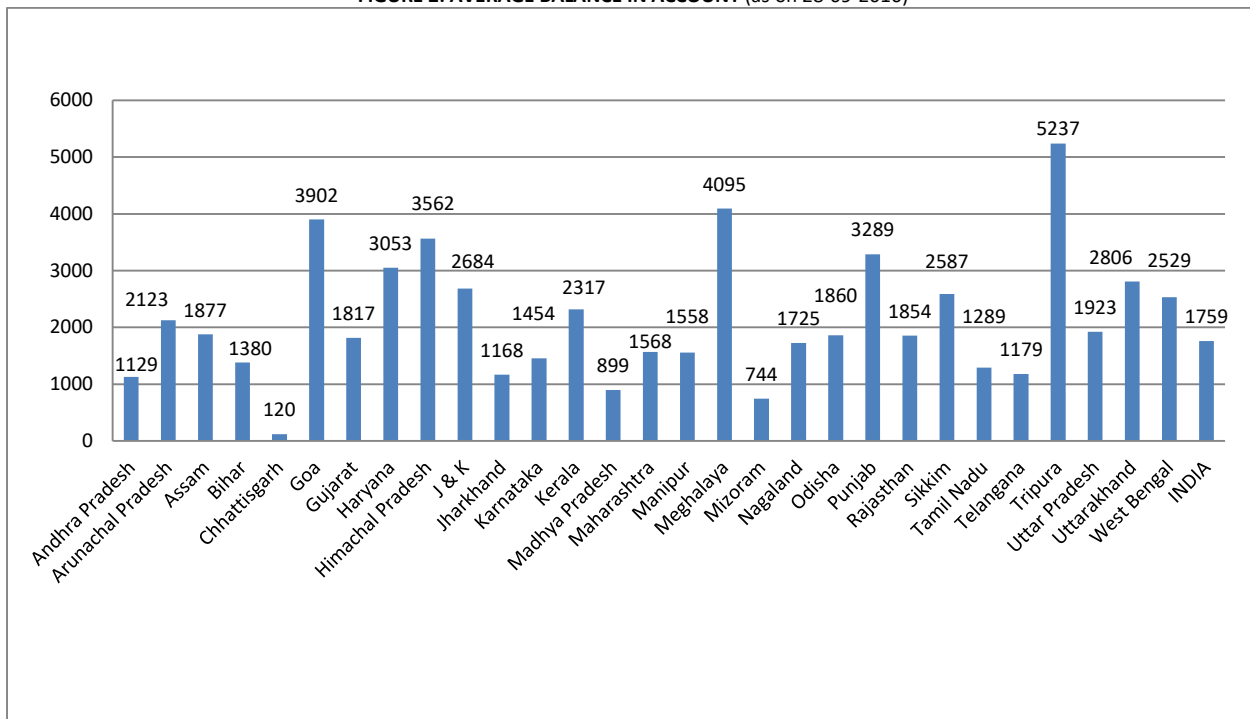
9.8. OVER-DRAFT FACILITY

As on August 2016 under PMJDY, Overdraft facility was offered for 6980434 accounts out of which 3862001 accounts are sanctioned, total No of account Overdraft availed is 2157911 and amount of total Overdraft availed is Rs.28814.59 Lakh.

10. SUGGESTIONS

- The newly opened accounts under PMJDY could be very vulnerable to fraud practices. Third parties can be used to launder the proceeds of fraud scheme (such as phishing and identity theft) by criminals who gain illegal access to deposit accounts by recruiting them as 'money mules'. To fight such problem, Know Your Customer (KYC) norms should be made inevitable. Banks should follow robust system to monitor accounts and follow proactive action against fraud which entails a better customer protection.
- Financial literacy program should be made more effective to bring more people in the banking network.
- Moreover, RRBs and PBs have been showing tepid response, they have to take more initiatives to motivate people for banking habits.

11. CONCLUSION

The above study shows PMJDY is really a mile stone in financial inclusion history of India. It has connected millions of underprivileged households to the mainstream banking network which has been the most coveted goal of financial inclusion. Besides offering basic banking facilities, it has connected account holders with attractive financial features like insurance at affordable cost, provides RuPay Debit card facilities, overdraft facility, other social security features like pensions. It not only will increase banking habit and saving of the vast poor section of the society but also assist to avail credit facilities at affordable cost and get rid of the trap of moneylenders, helps avail direct benefit transfer thereby reducing corruption. Thus, PMJDY is a comprehensive scheme to generate employment, reduce poverty and bring inclusive economic growth. For overtime growth and effective performance of PMJDY, supports of Government of India, Financial Institutions, Technology, expansion of Financial Literacy, Bank Mitr's (business correspondence) etc. are inevitable.

REFERENCES

1.   Chowhan and Pande (2014), "Pradhan Mantri Jan Dhan Yojana: A Giant Leap Towards Financial Inclusion", International Journal of Research in Management & Business Studies (IJRMBS 2014), ISSN: 2348-6503, Vol. 1, No. 4, pp19-20.
2.   Rangarajan Committee (2008), *Report of the Committee on Financial Inclusion, Government of India.*
WEBSITES
3.   https://economitimes.indiatimes.com/topic/Pradhan-Mantri-Jan-Dhan-Yojana
4.   https://india.gov.in/website-pradhan-mantri-jan-dhan-yojana-pmjdy
5.   www.data.gov.in
6.   www.pmjandhanyojana.co.in
7.   www.pmjdy.gov.in
8.   www.rbi.org.in

MAJOR CHANGES IN ADULT EDUCATION OF ANDHRA PRADESH

BILLA RAJA RUBI KISHORE
RESEARCH SCHOLAR
DEPARTMENT OF EDUCATION
ACHARYA NAGARJUNA UNIVERSITY
NAGARJUNA NAGAR

ABSTRACT

Adult education is a practice in which adults engage in systematic and sustained self–educating activities in order to gain new forms of knowledge, skills, attitudes, or values. It can mean any form of learning adults engage in beyond traditional schooling, encompassing basic literacy to personal fulfillment as a lifelong learner. In particular, adult education reflects a specific philosophy about learning and teaching based on the assumption that adults can and want to learn, that they are able and willing to take responsibility for that learning, and that the learning itself should respond to their needs. Driven by what one needs or wants to learn, the available opportunities, and the manner in which one learns, adult learning is affected by demographics, globalization and technology. The learning happens in many ways and in many contexts just as all adults' lives differ. Adult learning can be in any of the three contexts, i.e.

- *Formal – Structured learning that typically takes place in an education or training institution, usually with a set curriculum and carries credentials;*
- *Non-formal – Learning that is organized by educational institutions but non credential. Non-formal learning opportunities may be provided in the workplace and through the activities of civil society organizations and groups;*
- *Informal education – Learning that goes on all the time, resulting from daily life activities related to work, family, community or leisure (e.g. community baking class.*

KEYWORDS
adult education, self-educating activities.

INTRODUCTION

Notwithstanding the implementation of a variety of adult and lifelong learning programmes in India during the last 50 years, not much attention has been paid to the preparation of professional manpower, especially teachers and trainers. It is argued that one of the reasons for slow progress of literacy in the country has been due to the poor quality of trainers and teachers in this field. Their role assumes considerable significance in view of the increasing importance of lifelong learning in the knowledge society. What is their current professional status in India? What kind of training programmes and certifications are available in India? This paper aims at critically reviewing the current training policy and programmes in adult and lifelong learning in India mainly based on the study of primary sources, participant observation of selected training programmes and interviews with stakeholders. It is attempted in four sections. The first section provides an overview of the policy and programme matrix of adult and lifelong learning in India. By examining the institutional contexts of training, the second section presents a taxonomy of teaching and training institutions and a professional profile of teachers and trainers. A critical review of the four methods of training adopted by governmental and non-governmental organisations (NGOs), universities and open distance learning institutions is presented in the third section with a view to studying the content, competencies and lacunae. The paper concludes by identifying the factors that impede the process of professionalising training and discussing the salient features of an innovative professional development programme developed recently: the Participatory Adult Learning, Documentation and Information Networking (PALDIN).

FUNCTIONS

1. Identify appropriate target areas and target groups by developing socio-economic profiles.
2. Identify and procure the list of neo-literates from Zilla Saksharata Samitis and ensure that at least 25% of the clientele of JSS is neo-literates.
3. Organise training programmes for Key Resource Persons, Master Trainers and Trainees in vocational courses and for neoliterates.
4. Identify and ascertain a variety of educational and vocational needs of different categories of clientele groups.
5. Plan and organise polyvalent educational programmes and other activities including literacy, post-literacy, and continuing education to suit the learning requirements of target groups.
6. Explore, innovate, work out alternatives and try new methodologies to meet the needs of different target groups through programmes of education and training.
7. Cooperate with educational, cultural and other social organisations involved in organising programmes and activities to meet educational, vocational, social, cultural and welfare needs of target groups.
8. Act as a coordinator, facilitator and catalytic agent by developing a system of net-working in collaboration with other educational and technical institutions, development departments, welfare agencies, employers and workers" organisations, voluntary agencies and economic enterprises.
9. Undertake training and orientation of Resource Persons/instructors involved in planning and implementation of various programmes.
10. Organise equivalency programmes through Open Learning Systems.
11. Organize library and reading room facilities. The libraries will have literature suitable for neo-literates and sale counters for distribution of literacy material at subsidised rates to the neo-literates and other interested readers.
12. Provide consultancy services to agencies and enterprises planning to organise programmes for training and education of similar target groups.
13. Organise educational and vocational training programmes with special concern for deprived sections, women/girls and unemployed youth to provide new skills, refine/sharpen/upgrade the existing skills leading to employment, self employment and income generation.
14. Promote organisation of forums such as co-operative societies, mandals and associations of women, youth and workers with a view to undertake collective activity for socio-economic development.
15. Provide follow-up services to beneficiaries of the JSS.

CONCEPT

India is the second most populous country in the world with a population of 1,028 million (Census Report 2001). According to the Human Development Report (UNDP 2008), India ranks 128 out of 177 countries. In spite of having the third largest education system in the world with 358 universities, 153 institutions of national importance and research, 2,019 teacher training colleges (Selected Educational Statistics 2009) and an increase in literacy rates from 52.11% to 64.84% during the decade 1991 to 2001, there is a massive backlog of 304.11 million non-literates in the country which comprises nearly 30% of global non-literates (National Literacy Mission 2005; Premchand 2007). Moreover, it is estimated that there are 110 million neoliterates in the country (Planning Commission 2007). The Gross Enrolment Ratio in higher education is only 10%. The demographic data show that 68.9% of the Indian population is below the age of 35 (Census Report 2001). Mainly because of these factors, the focus of India's adult and lifelong learning programme continues to be on adult basic literacy and continuing education

for the younger age group. However, the scope of adult education policy and programmes in India is not limited to imparting basic literacy and post literacy to learners, but includes skills training, inculcation of civic values of national integration, environmental conservation, women's equality, and observance of the small family norm (Government of India 1988). Several policy documents have stressed that education does not end with schooling but is a lifelong process. As observed in the Report of the Indian Education Commission in 1964:

Adults need an understanding of the rapidly changing world and the growing complexities of society. Even those who had the most sophisticated education must continue to learn; the alternative is obsolescence. Thus viewed, the function of Adult education in a democracy is to provide every adult citizen an opportunity for education of the type which he wishes and which he should have for his personal enrichment, professional advancement and effective participation in social and political life.

The discussion during the workshop highlighted a number of key challenges that must be addressed when performance assessments are used for accountability in the federal adult education system: (1) defining the domain of knowledge, skills, and abilities in a field where there is no single definition of the domain; (2) using performance assessments for multiple purposes and different audiences; (3) having the fiscal resources required for assessment development, training, implementation, and maintenance when the federal and state monies under the Workforce Investment Act (WIA) of 1998 are limited for such activities; (4) having sufficient time for assessment and learning opportunities given the structure of adult education programs and students' limited participation; and (5) developing the expertise needed for assessment development, implementation, and maintenance. This chapter discusses these challenges and their implications for alternatives identified by workshop presenters.

Although the importance of lifelong learning was never overlooked in Indian education policy documents, and the policy statement on the National Adult Education Program (1978) considered continuing education as an indispensable aspect of the strategy of human resource development and of the goal of creation of a learning society, there has been practically no shift from the exclusive emphasis on adult literacy. Despite the changing concept of adult education from basic literacy to civic literacy, functional literacy and developmental literacy and various short-term programmes undertaken during the second half of the 20th century, the thrust of the adult education programme in India continues to be on the eradication of illiteracy among adults (see Table 1).

CHANGING CONCEPT OF ADULT EDUCATION IN INDIA

Approaches	Cycles and periods	Key concepts	Main programmes
Traditional and religious	First Cycle (1882–1947)	Basic literacy	Night Schools, Social Reform Movements
Life-oriented	Second Cycle (1948–1966)	Civic literacy	Social Education
Work-oriented	Third Cycle (1967—1977)	Functional literacy	Farmers' Education and Functional Literacy Program, Vocational Training, Workers' Education
Social change	Fourth Cycle (1978 to date)	Developmental literacy	National Adult Education Program, Mass Program of Functional Literacy, Total Literacy Campaigns, Continuing Education, Skills Training, Workers' Education

The present system of education in India, which follows the National Policy on Education 1986 (as modified in 1992), considers lifelong education as the cherished goal of the educational process. This presupposes universal literacy and the provision of opportunities for young people, housewives, agricultural and industrial workers and professionals to continue the education of their choice at the pace suited to them (Government of India 1992). The critical development issue is the continuous improvement of skills so as to produce manpower resources of the kind and the number required by society. It suggests that the future thrust will be in the direction of open and distance learning. These policies were translated into practice and a number of lifelong learning programmes were planned and implemented by governmental and non-governmental organisations and universities (Government of India 2008).Some of the current programmes include Continuing Education, Mahila Samakhya (Women's Empowerment), Integrated Child Development Services, Vocational Training Programmes, Farmers' Education and Training and a number of short courses offered by the university Departments of Adult Continuing Education and open and distance learning institutions (www.nlm.nic.in accessed: 03.06.2009). However, in all these programmes, not much attention has been paid to designing an appropriate professional development programme for teachers and trainers. Unlike the National Council for Teacher Education in India, which prescribes the curricula for primary and secondary school teacher training programmes and lays down job specifications and competencies, there is no such regulatory mechanism for teacher training in adult and lifelong learning in India. There are no exclusive institutions offering teacher training programmes in adult and lifelong learning. While a few of the universities that offer formal teacher training programmes (Bachelor and Masters of Education) include a paper on adult education, there are no separate professional programmes for training adult educators. The Post Masters Diploma Programme in Adult Education offered by ten universities in India cannot be considered to be a professional pre-service teacher training programme as the curriculum lacks practicum and is not tailored to the needs of the field. In the absence of a professional course for teachers and trainers, only short-term training forms a part of the regular activity of several adult education organisations in the country.

CONCLUSION

Our country has, as per 2001 Census, 259.52 millionadults in the age group 15 years and above who are non-literates and therefore living a life of marginalization and utter deprivation. Most of them belong to the Scheduled Caste and Scheduled Tribe communities and are women. They are also the invisible labor force participating only in the informal sector under exploitative conditions and as migrant labour constantly in search of work.

However, most of them can now be reached through the self-help groups or as job card holders under the MNREGA and also members of Gram Panchayats. Certainly all of them could participate better in their networks if only they had the skills to read and write and were empowered with knowledge and information about their own predicament as well as about the world around them. This might even enrich the capacities of the programmes which are meant for them.

All of them recognize that it is only through education that they can join the mainstream but due to compulsions of every day battles of survival they have given up on aspiring for education. Therefore, only a serious programme with a serious message that reaches out to them and enables them to adopt a new and different routine of accessing an education programme of their choice will fulfill their desire for learning.

An Expert Group was constituted to draft a National Curriculum Framework for Adult Education to meet precisely the above challenges. After intensive deliberations across the country, the group recommended that there should be sturdy institutions from the level of the Gram Panchayat to the National level established for provisioning of educational services for adults. It was felt that these institutions must be very much like the formal educational systems with predictability and multiplicity of paths. In fact considering that the learner is an adult it is felt that there is a need for a continuous education programme starting with basic literacy while simultaneously offering programmes of vocational skills; encompass information about the existing schemes and polices with emphasis on entitlements that adults can demand as a matter of right; enabling access to further knowledge, new scientific developments, if the adult learner shows interest in pursuing them;

and foster full citizenship participation of the learner. In a way it would be complex provisioning of services that would stimulate the learner to pursue continuous and lifelong education.

REFERENCES

1. Acharya, B. and Varma, S. (1996): Participatory Training for Promotion of Social Development. In: *Adult Education and Development*, No. 47, pp. 357–371
2. ACORD (n.d.): Course Brochure on 'Gender Sensitization' and 'Jan Swasthya'
3. Aslam, M. (2000): Education and Training for Millions: Pedagogical Challenges for Distance Education. In: *Open Learning*, No. 15(3), pp. 309–315
4. Bharat Gyan Vigyan Samithi (n.d.): *Total Literacy Campaign Training Curriculum*. New Delhi: BGVS
5. Bharat Gyan Vigyan Samithi (n.d.): *Total Literacy Campaign: Training Strategy*. New Delhi: BGVS
6. Census Report, India (2001). URL: www.censusindia.gov.in (accessed: 07.05.09)
7. Collins, M. (1991): A*dult Education as Vocation*. London: Routledge, pp. 86–87
8. Distance Education Council (2001): *Open universities in India 2001: Brief Information*. New Delhi: IGNOU
9. Elsdon, K. T. (1975). Training for adult education. Nottingham: Department of Adult Education, University of Nottingham.
10. Government of India (1980). *Report of the Review Committee on the National Adult Education Programme*, New Delhi: Ministry of Education and Culture.
11. Government of India (1988): *National Literacy Mission*. New Delhi: Ministry of Human Resource Development.
12. Government of India (1992): *National Policy of Education 1986 (as modified in 1992)*. New Delhi: Department of Education.
13. Government of India, (2000). *Prime Minister's Council on Trade and Industry: A Policy Framework for Reforms in Education*. New Delhi (Mimeograph)
14. Government of India, (2008) *Annual Report, Ministry of Human Resource Development*. New Delhi: Department of Education, Government of India. (2009). Ministry of Human Resource Development (2009). Selected Educational Statistics 2006-–7, Abstract. New Delhi: Ministry of Human Resource Development. P.1.
15. IGNOU (2000a): *Certificate Programme: Empowering Women Through Self-Help Groups*. Program Guide. New Delhi: IGNOU
16. IGNOU (2000b): *Certificate Program: Empowering Women through Self-Help Groups*. Course Brochure. New Delhi: IGNOU
17. Jarvis, P. (1983): *Adult Continuing Education: Theory and Practice*. London: Croomhelm, p. 205
18. Jarvis, P. (1985): *Sociology of Adult Continuing Education*. London: Croomhelm, p. 241.
19. Krishna Reddy, B, Subba Reddy, P.V. and Ramakrishna, S. (1996): *An Evaluative Study of Training Programmes for Volunteers of Total Literacy Campaign in Andhra Pradesh*. Hyderabad: State Resource Centre.
20. Liveright, A.A. (1988), "The Nature and Aims of Adult Education as a Field of Graduate Education" in *Training Educators of Adults*, Edited by Stephen Brookfield, London: Routledge pp. 51-53.

VOLATILITY AND FINANCIAL DERIVATIVES IN NATIONAL STOCK EXCHANGE

GAURAV GAUTAM
RESEARCH SCHOLAR
DEPARTMENT OF COMMERCE
KURUKSHETRA UNIVERSITY
KURUKSHETRA

DR. BHUPINDER SINGH
ALUMNUS
KURUKSHETRA UNIVERSITY
KURUKSHETRA

ABSTRACT

The volatility is the natural behavior of any stock market due to uncertainty/unexplained situations in the economy e.g., economic recessions in the country as well in other major world economies, political psychology of present government, government rules & regulations, natural disaster (floods, tsunamis etc.), terrorists' activities in the country as well as in other major economies etc. which has been affecting the Indian stock market. Hence, the Government of India has announced the financial derivatives to control/minimize the stock market volatility due to local as well as global factors. Thus, this paper analyzes the impact of financial derivatives trading on the volatility fixity/stability/minimization of Indian stock market. For this purpose, the behavior of volatility of Nifty has been examined over a simple period Jan 1995 to December 31, 2015. The study is comparative nature i.e. the analysis before derivative introduction period (1995 to 2000) and the analysis after derivative introduction period (2001 to 2015). Ultimately, the result of the study depicts that the volatility has reduced after the introduction of derivatives in the year 2000 in Indian stock market.

KEYWORDS
NSE, Volatility, financial derivatives, index future, stock future, index option and stock option.

INTRODUCTION

An investor would like to know volatility or risk in the stock market. The Stock market is considered to be volatile when there is sharp rise and sharp decline in the markets within a short span of time. The 20th century was witnessed about major micro structure reform in the Indian stock market. Abolition of Badla system and introduction of screen peered trading book building mechanism for publics issues, index funds, exchange traded funds, hedge funds, margin trading, rolling settlement system etc. Such Micro Structure changes brought about revision in transaction cost, which have helped the investors to lock in a deal faster and the change agents have helped in cleaning the system and provided safety to the investing public at large. The link between volatility and risk has been to some extent evasive, but stock market volatility is not a bad thing in fact volatility can form the basis for efficient price discovery. Portfolio managers, risk arbitrageurs and investors closely watch volatility trends, as changes in prices could have a major impact on their investment and risk management decisions. The famous researcher writes "By volatility public seems to mean days when large market movements, particularly down moves occur, there precipitous market wide price drops cannot always be traced to a specific news event. Nor should this lack of smoking gun be seen as in any way anomalous in market for assets like common stock whose value depends on subjective judgment about cash flow and resale prices in highly uncertain future. The public takes a more deterministic view of stock prices; if the market crashes, there must be specific reason." Volatility keeps changing with new information's, shocks, economic recessions, government rules and regulations, and terrorist's attacks and many other reasons, which exert influence on the markets.

Introduction of financial derivatives in the Indian capital market has been an important episode in such a reform process. The main logic behind the derivatives trading is that derivative reduces the risk by providing and additional channel to invest with lowering transaction cost and facilitates the investors to extend these settlements through the future contracts. In provides liability in the stock market. The empirical relationship between return, trading volume and volatility whereas trading volume is useful in improving the forecasts of return and volatility in dynamic context. Volatility and trading volume arises because of private information to markets and trading by informed traders (who believe in market reaction in different ways)

The derivatives in Indian capital market was introduced by the government on L.C. Gupta Committee Report on derivatives in Dec. 1997. The report suggested the introduction of stock index futures in the first place to be followed by other produced. With the amendment in the definition of 'securities' under SC(R) A (to include derivative contracts in the definition of securities), derivatives trading takes place under the provisions of the Securities Contracts (Regulation) Act, 1956 and the Securities and Exchange Board of India Act, 1992. Futures Contract means a legally binding agreement to buy or sell the underlying security on a future date. Future contracts are the organized/standardized contracts in terms of quantity, quality (in case of commodities), delivery time and place for settlement on any date in future. The contract expires on a pre-specified date which is called the expiry date of the contract. On expiry, futures can be settled by delivery of the underlying asset or cash. Cash settlement enables the settlement of obligations arising out of the future/option contract in cash. Options Contract is a type of Derivatives Contract which gives the buyer/holder of the contract the right (but not the obligation) to buy/sell the underlying asset at a predetermined price within or at end of a specified period. The buyer / holder of the option purchase the right from the seller/writer for a consideration which is called the premium. The seller/writer of an option is obligated to settle the option as per the terms of the contract when the buyer/holder exercises his right. The underlying asset could include securities, an index of prices of securities etc. Mishra et al., (2011) and Singh and Kansal (2010) analyzed that Financial Derivatives market in India has shown a remarkable growth in terms of volume and numbers of contracts traded. Presently turnover of the NSE derivatives market exceeded the turnover of the NSE cash market.

The volatility arising due to information based price changes, noise trading and speculative trading i.e. destabilizing volatility. Derivatives' trading has been started in Indian stock market with the theme that it would reduce the volatility.

REVIEW OF LITERATURE

Various studies have been conducted to assess the impact of derivatives trading on the stock market throughout the globe. Some of the important contributions are as follow.

Cox (1976) deciphers that the introduction of derivatives market causes a stabilizing influence on the underlying market because of the speed at which information is incorporated into prices as weak as the amount of information reflected in expected prices. He used variance ratio (F-test) for the period (June 1973 to May 1987) and concluded that the introduction of future trading did not induce a change in spot volatility in the long run. **Shenbagaraman (2003)** studied the impacts of the introduction of the derivatives contracts such as Nifty Futures and options contracts on the underlying spot market volatility have been examined using a model that captures the heterokedasticity in returns that is recognized as the as the Generalized Auto Regressive Conditional heteroskedasticity (GARCH model). She used the daily closing prices for the period Oct 1995 to Dec 2002 for the CNX Nifty, nifty junior and S&P returns. She indicated that derivatives introduction has had no significant impact on spot market volatility but the nature of GARCH Process has changed after the introduction of the Future trading vis-a-vis others

researchers mentioned that after post derivative period reduce the volatility, to supported this **Bandivadekar and Ghosh (2005)** examined the impact of introduction of index futures on the volatility of stock market in India. They found strongly relationship between information of introduction of derivatives and return volatility. They also observed that the introduction of derivatives has reduced the volatility of the stock market.

Further, **Raju and Karande (2003)** studied price discovery and volatility in the context of introduction of Nifty Futures at the National Stock Exchange (NSE) in June 2000. Co-integration and Generalized Autoregressive Conditional Heteroskedasticity (GARCH) techniques are used to study price discovery and volatility respectively. The major findings are that the Futures market (and not the Spot market) responds to deviations from equilibrium; price discovery occurs in both the Futures and the Spot market, especially in the later half of the study period. The results also show that volatility in the Spot market has come down after the introduction of Stock Index Futures.

Meanwhile, **Mallikarjunppa and Afsal (2008)** examined the impact of derivatives on stock market volatility. Their study also discussed the post derivatives period shows that sensitivity of the index returns to market returns of the index returns to market returns and any day of the week effect have disappeared. This study used the S&P CNX Nifty index as a benchmark. In this study Nifty Index futures, the Nifty Junior index and spot S&P 500 index from 1995 to 2006 is used. The result suggests that ARCH value and GARCH value are significant in the post derivatives. Singh and Kansal (2010) focused that introduction of derivatives trading has significant impact on the volatility of the stock market return. NSE S&P CNX Nifty index has been used and period covered from 1995-96 to 2008-09 on the financial basis. The suggests that a derivatives trading has reduced the volatility due to trading volume increases, a greater liquidity reflected the prices of the underlying market and then market will become more stable. They used paired sample t test, which proves that derivatives instruments have impact on stock market volatility. Some researches witnessed that not only financial derivatives but also central banking functions and global reasons also affect the stock market volatility vis-à-vis **Goyal and Arora (2010)** also concluded that GARCH Analysis used of exchange rate volatility and effectiveness of central Bank Actions. Daily data used from 2005 to 2008 with 1157 observations. They found quantitative interventions have perverse effects and reversed effects over a longer period. They also examined Higher charges for liquidity injection decrease monthly volatility while Macro news economic news decrease volatility. Quantitative credit restrictions, higher interest differentials and policy lending rates depreciate the exchange rate. **Gupta and Singh (2009)** in their article examined that after introduction of futurist and option, trading volonic is more than 3 times in cash market. They also concluded that India is more volatile than Japan and USA. They investigated that Indian Market, which witnesses the highest volume in the futures and options segment amongst all Pees markets and they also analyzed that both conditional as well as have investigated that many economic, social, political, national, international, and psychological reasons between 1999-2009, making the market highly volatile. They concluded that both domestic and global reasons was affected the Indian stock market in above stated sample period. Political unrest, Stock market scams, Bomb Blasts in Delhi, India-US nuclear deal and many more others reasons showed many ups and downs affecting volatility of Indian stock exchanges and cumulative effect on the psychology of the investors. In this paper they showed that volatility neither good nor bad but investors' reaction affects the scenario.

OBJECTIVE OF STUDY

The objective of this study is to study the behavior of volatility after introduction of financial derivatives. This is to examine with the help of SD(volatility) and paired sample "t" test whether the FD has reduced the risk.

RESEARCH METHODOLOGY

Volatility has been measured as standard deviation of the rates of return. The Rates of Returns have been computed by taking a logarithmic difference of Prices of two successive periods. **Singh & Kansal (2010)**, **Mallikarjunppa & Afsal (2008) and Bandivadekar and Ghosh (2005)** and many others researchers use this statistical tools.

$R_t = \log_e (P_t/p_{t-1})$

Where loge is natured logarithm, the p_t and p_{t-1} are the closing prices for the two successive periods. The logarithm difference is symmetric between up and down movements and is expressed in Percentage terms for case of comparability with the straight forward idea of a percentage change.

The study will use the statistical techniques of Paired sample t-Test used for comparison of pre introduction of financial derivatives and post introduction of financial derivatives. This Test helps to find out the before derivative period and after derivatives effect on stock market. This study to be segregated into span of time are 23 days (approximately 1 month), 65 days (approx.3 month), 126 days (approx. 6 months), 256 days (approx. 1 year) 756 days (approx. 3years) and whole period of pre FD and post FD.

t $=$ |X_1-X_2| / SE_{X1-X2}

X_1 = Average Return of Nifty 50 Index of Pre derivatives of different span of time

X_2 = Average return of Nifty 50 index Post derivatives of different span of time

HYPOTHESIS

a) Ho_k: Introduction of financial derivatives instruments have no impact on stock market volatility

b) $H1_K$: Introduction of financial derivatives instruments has impact on stock market volatility.

c) Ho_I: Pre event volatility does not exceeds the post event volatility

d) Hi_1: Pre event volatility exceeds the post event volatility

The Period covered under the study varies from 1995 to 2015 following are the date of introduction of derivatives instruments in NSE i.e. 12 June 2000 for index future 4 June 2001 for Index option followed by stock options and stock futures on 2 July 2001 and 9 Nov. 2001 respectively Hence The whole time period is divided into pre derivative i.e. 1995 to 2000) and post derivatives period.

DATA COLLECTION

The study is based on secondary data which have been collected from various websites. The closing prices of Nifty 50 Index were collected from official website of NSE.

DESCRIPTION OF PERIODS WITH RESPECT TO FINANCIAL DERIVATIVES

Before		After
Index Futures (1-1-1995 to 11-06-2000)		**Index Futures** (13-06-2000 to 31-12-2015)
Index Option (1-1-1995 to 03-06-2001)	**Financial Derivatives**	**Index Option** (05-06-2001 to 31-12-2015)
Stock Option (1-1-1995 to 01-07-2001)		**Stock Option** (03-07-2001 to 31-12-2015)
Stock Futures (1-1-1995 to 08-11-2001)		**Stock Futures** (10-11-2001 to 31-12-2015)

MEASUREMENT OF VOLATILITY

-----|------|------|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|

ANALYSIS AND INTERPRETATION

The study examines how the financial derivatives affect on stock market volatility in different of span of time 1 month, 3 months, 6 months 1 year, 3 years and 5 year as comparative analysis i.e. before and after.

TABLE 1: FINANCIAL DERIVATIVES AND VOLATILITY (Monthly: Before verses After)

Derivatives	t value	P value	SD (before)	SD (After)
Index Future	-0.069	0.945	1.99886	1.12182
Index option	-1.245	0.226	0.95886	1.25614
Stock option	0.851	0.404	1.25551	1.00298
Stock Future	-0.085	0.933	1.24326	1.17268

P value > 0.05 then Ho accepted

Table 1 states that volatility of post introduction of financial derivatives period of 1 month of index future, index option, stock option and stock future has gone down as compare to pre introduction of financial derivatives however, t value is significant therefore Ho is accepted that shows not much difference in mean values but risk factor (SD) of post period of index future, index option, stock option and stock future are 1.12182, 1.25614, 1.00298 and 1.17268 respectively has gone down as compare of pre period was 1.99886, 0.95886, 1.25551 and 1.24326 respectively, but in case of pre event volatility exceeds the post event volatility. Raju and Karande (2003) and Cox (1976) also concluded that Risk factor (SD) has gone down after introduction of financial derivatives

TABLE 2: FINANCIAL DERIVATIVES AND VOLATILITY (3-months: Before verses After)

Derivatives	t value	P value	SD (before)	SD (After)
Index Future	0.574	0.568	2.63188	1.38639
Index option	0.310	0.768	2.19788	0.93118
Stock option	-0.724	0.472	1.59788	1.58355
Stock Future	1.401	0.166	1.67369	1.15797

P value > 0.05 then Ho accepted

Table 2 states that volatility of post introduction of financial derivatives period of 3 months of index future, index option, stock option and stock future has gone down as compare to pre introduction of financial derivatives however, t value is significant therefore, Ho is accepted that shows not much difference in mean values but risk factor (SD) of post period of index future, index option, stock option and stock future are 1.38639, 0.93118, 1.58355 and 1.15797 respectively has gone down as compare to pre period was 2.63188, 2.19788, 1.59788 and 1.67369 respectively. Butin case of pre event volatility exceeds the post event volatility. The risk factor (SD) has gone down after introduction of financial derivatives (Raju & Karande, 2003 and Cox, 1976).

TABLE 3: FINANCIAL DERIVATIVES AND VOLATILITY (6-months: Before verses After)

Derivatives	t value	P value	SD (before)	SD (After)
Index Future	-0.318	0.751	2.35749	1.55661
Index option	0.280	0.780	1.81295	1.44830
Stock option	0.427	0.670	1.79740	1.44263
Stock Future	1.119	0.265	1.40961	1.16851

P value > 0.05 then Ho accepted

Table 3 states that volatility of post introduction of financial derivatives period of 6 months of index future, index option, stock option and stock future has gone down as compare to pre introduction of financial derivatives however, t value is significant therefore Ho is accepted that shows not much difference in mean values but risk factor (SD) of post period of index future, index option, stock option and stock future are 1.55661, 1.44830, 1.44263 and 1.16851 respectively has gone down as compare of pre period was 2.35749, 1.81295, 1.79740 and 1.40961 respectively. Butin case of pre event volatility exceeds the post event volatility

TABLE 4: FINANCIAL DERIVATIVES AND VOLATILITY (1-Year: Before verses After)

Derivatives	t value	P value	SD (before)	SD (After)
Index Future	-1.258	0.209	1.98877	1.68428
Index option	0.203	0.839	1.72460	1.33518
Stock option	0.255	0.467	1.68636	1.30865
Stock Future	0578	0.564	1.63928	1.09554

P value > 0.05 then Ho accepted

Table 4 indicates that volatility of post introduction of financial derivatives period of 1 year of index future, index option, stock option and stock future has gone down as compare to pre introduction of financial derivatives however, t value is significant Ho is accepted that shows not much difference in mean values but risk factor (SD) of post period of index future, index option, stock option and stock future are 1.68428, 1.33518, 1.30865 and 1.09554 respectively has gone down as compare of pre period was 1.98877, 1.72460, 1.68636 and 1.63928 respectively. but in case of pre event volatility exceeds the post event volatility, Gupta (2002) and Malikarjunappa and Afsal (2007) also concluded that volatility has gone down after introduction of financial derivatives

TABLE 5: FINANCIAL DERIVATIVES AND VOLATILITY (3-Year: Before verses After)

Derivatives	t value	P value	SD (before)	SD (After)
Index Future	-0.989	0.323	1.88287	1.36213
Index option	0.297	0.766	1.92092	1.45721
Stock option	0.755	0.774	1.86507	1.46078
Stock Future	0.737	0.461	1.83143	0.06661

P value > 0.05 then Ho accepted

The close perusal of Table 5 states that volatility of post introduction of financial derivatives period of 3 years of index future, index option, stock option and stock future has gone down as compare to pre introduction of financial derivatives however, t value is significant Ho is accepted that shows not much difference in mean values but risk factor (SD) of post period of index future, index option, stock option and stock future are 1.36213, 1.45721, 1.46078 and 0.06661 respectively has gone down as compare of pre period was 1.88287, 1.92092, 1.86507 and 1.83143 respectively but in case of pre event volatility exceeds the post event volatility.

TABLE 6: FINANCIAL DERIVATIVES AND VOLATILITY (5 year Before verses After)

Derivatives	t value	P value	SD (before)	SD (After)
Index Future	0.446	0.656	1.73484	1.41770
Index option	1.723	0.085	1.73039	1.40392
Stock option	1.872	0.061	1.72511	1.42996
Stock Future	1.781	0.093	1.71409	1.54729

P value > 0.05 then Ho accepted

Table 6 describes that volatility of post introduction (2001-2005) of financial derivatives of index future, index option, stock option and stock future has gone down as compare to pre introduction period (1995-2000) of financial derivatives. However, t-value is significant therefore Ho is accepted that shows not much difference

in mean values but risk factor (SD) of post period of index future, index option, stock option and stock future are 1.41770, 1.40392, 1.42996 and 1.54729 respectively has gone down as compare of pre period was 1.73484, 1.73039, 1.72511 and 1.71409 respectively. But in case of pre event volatility exceeds the post event volatility (Bandivedekar & Ghosh, 2005).

CONCLUSION

This empirical investigation has been conducted on the Nifty Index market in NSE through 1995-2015. The main result of the study is that SD has gone down in post derivative period as compare of pre derivative of different span period of 1 month, 3 months, 6 months, 1 year, 3 years and 5 years. Change in the volatility process is not due to the introduction of financial derivatives but also other factors e.g. better information dissemination, more transparency and speedy information Mallikarjunappa and Afsal (2008).

REFERENCES

1. Bandivadekar, S. and Ghosh, S. (2005), "Derivatives and Volatility on Indian Stock Markets," *Reserve Bank of India*, Occasional Papers.
2. Bandivedkar S. and Ghosh S., (2003), "Derivatives and Volatility on Indian Stock Markets", *Reserve Bank of India Occasional Papers,* 24 (3).
3. Bhatia, Aparna and Chander, Subash, 2011, "Stock Market Volatility in India: An Analysis of Sensex and Nifty Indices", *Asia Pacific Journal of Research in Business Management*, 2 (8): 1-17.
4. Cox, C. C. (1976), "Future trading and Market information", *Journal of Political Economy,* 84 (6): 1215-1237.
5. Goyal, A. and Arora, S. (2010), "A Garch Analysis of Exchange Rate Volatility and the Effectiveness of Central Bank Actions" *http://www.igidr.ac.in/pdf/publication/wp-2010-009. pdf.*
6. Gupta, K. and Singh, B. (2009), "Investigating the Impact of Equity Futures and options Trading on Indian cash market volatility,'' *Indian Management Studies Journal*, 13(2009): 1-11.
7. Mallikarjunappa, T. and Afsal, E. M. (2008), "The Impact of Derivatives on Stock Market Volatility: A Study of the Nifty Index", *Asian Academy of Management Journal of Accounting and Finance,* 4 (2): 43-65, 2008.
8. Mishra, P. K. and Mall, M. and Pradhan, B. B. (2011), "Volatility of India's Stock Index Futures Market, *Journal of Arts, Science and commerce*, E-ISSN 2229-4686, 2 (3), July 2011 (119).
9. Raju, M. T. and Kiran, K. (2003), "Price discovery and volatility on NSE futures market", *Securities and Exchange Board of India*, Working Paper Series, No. 7, March.
10. Raju, M. T. and Kiran, K. (2003), "Price Discovery and Volatility on NSE Futures Market", Securities and Exchange Board of India, Working Paper Series, No.7.
11. Shenbagaraman, P. (2003), "Do Futures and Options Trading Increase Stock Market Volatility", *NSE News Letter,* NSE Research Institute, Paper No. 20.
12. Singh, G. and Kansal, S. (2010), "Impact of Derivatives Trading on Stock Market Volatility during Pre and Post F and O Period: A Case Study of NSE", M*anagement Convergence*, 1 (1), June 2010.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT   101

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce, Economics & Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue as well as, on the journal as a whole, on our e-mail **infoijrcm@gmail.com** for further improvements in the interest of research.

If you have any queries, please feel free to contact us on our e-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward to an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-
Co-ordinator

DISCLAIMER

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

http://ijrcm.org.in/

III