INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS AND MANAGEMENT

# CONTENTS

# CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the area of Computer, Business, Finance, Marketing, Human Resource Management, General Management, Banking, Insurance, Corporate Governance and emerging paradigms in allied subjects like Accounting Education; 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; Monetary Policy; Portfolio & Security Analysis; Public Policy Economics; Real Estate; Regional Economics; Tax Accounting; Advertising & Promotion Management; Business Education; Business Information Systems (MIS); Business Law, Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labor 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; Public Administration; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism, Hospitality & Leisure; Transportation/Physical Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Digital Logic; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Multimedia; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic and Web Design. The above mentioned tracks are only indicative, and not exhaustive.

Anybody can submit the soft copy of his/her manuscript **anytime** in M.S. Word format after preparing the same as per our submission guidelines duly available on our website under the heading guidelines for submission, at the email addresses: infoijrcm@gmail.com or info@ijrcm.org.in.

# GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION**:

**DATED: _____________**

***THE EDITOR***

IJRCM

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

**(e.g. Computer/IT/Engineering/Finance/Marketing/HRM/General Management/other, please specify).**

**DEAR SIR/MADAM**

Please find my submission of manuscript titled '___________________________________________' for possible publication in your journals.

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

I affirm that all author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if my/our manuscript is accepted, I/We agree to comply with the formalities as given on the website of journal & you are free to publish our contribution in any of your journals.

**NAME OF CORRESPONDING AUTHOR**:

Designation:

Affiliation with full address, contact numbers & Pin Code:

Residential address with Pin Code:

Mobile Number (s):

Landline Number (s):

E-mail Address:

Alternate E-mail Address:

2. **MANUSCRIPT TITLE**: The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.
3. **AUTHOR NAME (S) & AFFILIATIONS**: The author (s) **full name**, **designation**, **affiliation** (s), **address**, **mobile/landline numbers**, and **email/alternate email address** should be in italic & 11-point Calibri Font. It must be centered underneath the title.

4. **ABSTRACT**: Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain the background, aims, methods, results & conclusion in a single para. Abbreviations must be mentioned in full.

5. **KEYWORDS**: Abstract must be followed by list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.

6. **MANUSCRIPT**: Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of the every page. It should be free from grammatical, spelling and punctuation errors and must be thoroughly edited.

7. **HEADINGS**: All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

8. **SUB-HEADINGS**: All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.

9. **MAIN TEXT**: The main text should follow the following sequence:

   INTRODUCTION

   REVIEW OF LITERATURE

   NEED/IMPORTANCE OF THE STUDY

   STATEMENT OF THE PROBLEM

   OBJECTIVES

   HYPOTHESES

   RESEARCH METHODOLOGY

   RESULTS & DISCUSSION

   FINDINGS

   RECOMMENDATIONS/SUGGESTIONS

   CONCLUSIONS

   SCOPE FOR FURTHER RESEARCH

   ACKNOWLEDGMENTS

   REFERENCES

   APPENDIX/ANNEXURE

   It should be in a 8 point Calibri Font, single spaced and justified. The manuscript should preferably not exceed 5000 words.

10. **FIGURES &TABLES**: These should be simple, centered, separately numbered & self explained, and **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.

11. **EQUATIONS**: These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.

12. **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 are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per 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 italics. 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 parentheses.
- The location of endnotes within the text should be indicated by superscript numbers.

**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.

**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, 19–22 June.

**UNPUBLISHED DISSERTATIONS AND THESES**

- 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.

**WEBSITE**

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on December 17, 2011 http://epw.in/user/viewabstract.jsp

# ASSESSING THE IMPACT OF POPULATION EXPLOSION ON GLOBAL ENVIRONMENT

*DR. BREHANU BORJI AYALEW*
*DIRECTOR*
*SCHOOL OF POST GRADUATE STUDIES*
*HAWASSA UNIVERSITY*
*ETHIOPIA*

## ABSTRACT
*Historically, the world population used to grow very slowly from about 2.5 million at the beginning of urbanization and it grew to some 50 million around the time of the black plague of the middle ages. It is only with the industrial, scientific and medical revolution and during the era of colonial expansion of the western powers that the number of the population risen as unmanageable thereby climbing to the dizzying heights. During the 20th century, the world's population increased almost fourfold, from 1.6 to 6 billion. Until very recently, there were fears that in the next century, if the explosion is not checked by wise leaders of the world, the world population would explode to some 12 billion leaving little room for wilderness areas to preserve wildlife and putting extreme pressure on food production, water and non-renewable resources. The increase of population increases the demand for more food, cars and energy. To satisfy their food requirement, they will have to clear forests in order to grow crops for food. Deforestation may result in destruction of homes of the most diverse wild-animals and plants again resulting in the extinction of many species, possibly including hundreds that are yet unidentified by scientists. It also adds to the problem of global warming, because trees naturally absorb carbon dioxide from the atmosphere. When there are trees, they take in carbon dioxide from the air and turn it into oxygen and release it back into the air again. When the trees are cut down, the carbon dioxide is released back into the air and helps trap heat near the earth and raises the temperature which may contribute in global warming. Therefore, the explosion of population should be checked in such a way the resources on the earth may be used sufficiently and economically preserving some non-renewable resource even for the future use.*

## KEYWORDS
Carbon dioxide, deforestation, global warming, non-renewable resources, population explosion, wild animals and plants.

## INTRODUCTION
In these days, the number of world population is enormously increasing more than ever before. Most of poor countries overpopulated in such a way there could arise striking food shortage. Overpopulation is defined as the condition of having more people than can live on the earth in comfort, happiness and health and still leave the world a fit place for future generations. A population explosion occurs when there is a significant increase in numbers of people in a location in such a way it is difficult to supply necessary resources to maintain and sustain the existence of life of all living things including human being. Some effects include a pressure upon resources as there are more people (e.g. Food has to be distributed among more people), prices of goods will increase as the demand for the products increase (higher demand means higher prices, ecological disturbance will take place when more people go for more use of resources. According to some scientists, the greatest threat to the future may come from overpopulation.

During this century, the world's population has grown rapidly, doubling from 2 to 4 billion between 1925 and 1976, and reaching 5.3 billion by 1990 (Paul, 1993, p.22). Much of this growth occurred after World War II.

Some of the possible reasons for rapid growth of population after 1945 were peace, using fertilizers for mechanization farming, urbanization, industrialization, more income generation and medical facilities. In the 1950s and '60s, authors and policy makers who worried about rapid population growth noted that improved sanitation and health care in the postwar period helped more children survive infancy and enabled adults to live longer. It was common in nineteenth-century Europe for one-quarter of all infants to die before the age of 2.5 years, and one-half of adults by age 37.5. But a century later, one-fourth had not died until age 62.5, and one-half had not died until age 72.5(Hauser, 1971, p. 107). Consequently, the rapid growth of the world's population over the past hundred years is believed as resulted from a difference between the rate of birth and the rate of death. As it may be known by all of us, in the past, infant and childhood deaths and short life spans used to limit population growth. In today's world, thanks to improved nutrition, sanitation and medical care, more babies survive their first few years of life. The combination of a continuing high birth rate and associated low death rate is creating a rapid population increase in many countries such as Asia, Latin America and Africa. The rapid explosion of human population around the world affects all people through its impacts on the economy and environment. The current growth rate of population is now a significant burden to human well-being.

Improved sanitation and health care in the postwar period helped more children survive infancy and enabled adults to live longer and fueled the explosion of population after the World War II. For instance, while the world's population increased annually by 20 million people during the 1940s, it increased by more than 50 million every year in the 1950s, 65 million a year in the 1960s (My T., 1975). In 1966, the United Nations estimated that world population would reach 7.5 billion by the end of the century (Philip M., 1971). These projections persuaded government officials around the world that rapid population growth was a serious problem and that steps should be taken to slow it down. In 1969, President Nixon announced that the U.S. government would "give population control and family planning a high priority," and called on other governments to take "prompt action" to slow population growth (Bonnie). And in 1974, the United Nations convened its first world population conference in Bucharest, Romania. At the time, government officials expected that population growth would lead to a series of problems: food shortages and hunger, conflict and war, environmental destruction, and the depletion of natural resources. Events in the mid-1970s initially seemed to confirm their worst fears.

Widespread public recognition of population growth as a global social problem emerged slowly in the 1950s and '60s. It was assisted by the publication of two books with the same title: *The Population Bomb*. In 1954, T. O. Greissimer published a pamphlet with this title that was widely distributed by the Hugh Moore Fund, a private foundation started by the Dixie Cup Corporation. In it, Greissimer argued that "the population bomb threatens to create an explosion as disruptive and dangerous as an explosion of the atom bomb, and with as much influence on prospects for progress or disaster, war or peace (Ibid, p.40). Then in 1968, Paul Ehrlich published a book with the same title that borrowed some of Greissimer's ideas and extended them to explore the environmental consequences of population growth. These two books, and the work of private philanthropical groups like the Hugh Moore Fund, and the Population Council, a group organized in 1952 by John D. Rockefeller III, helped bring rapid population growth to the attention of policy makers and the public (Ibid, p.37).

The availability of sufficient food and sanitation facilities lowered death rates in countries around the world. As a result, people continued to have children at pre-1950 rates. Because people adjusted their behavior slowly to changed circumstances, healthier babies and longer lives contributed to world population grew rapidly. Policy makers concerned about population growth worried that it would result in a series of social, political, and environmental problems. First, they thought that the growing population had or would soon outstrip the amount of food available to eat, resulting in a Malthusian crisis: *too many people, too little food*. "The battle to feed all of humanity is over," Ehrlich argued. "Sometime around 1958, the stork passed the plow." He expected this to lead to widespread hunger and starvation. "In the 1970s," Ehrlich predicted in 1968, "the world will undergo famines hundreds of millions of people are going to starve to death. . ." Ehrlich and others who supported this view were often called "Malthusians" because this argument relies on Robert Malthus's 1798 *Essay on Population*, which proposed that "the power of population is indefinitely greater than the power in the earth to produce subsistence [food] for man."

The growing gap between population and food supply would lead first to starvation, population control advocates expected. And the onset of starvation would lead to a second problem: war. As one population control group explained in a 1967 newspaper ad, "There can be no doubt that unless population is brought under control at an early date, the resulting human misery and social tensions will inevitably lead to chaos and strife to revolutions and wars, the dimensions of which it would be hard to predict." During the 1960s, many U.S. government officials viewed social unrest, communist insurgency, and guerrilla warfare in poor countries as the likely political product of "overpopulation."

Third, the new Malthusians argued that a growing population would increase levels of pollution and waste, which would result in environmental degradation. As Ehrlich wrote, "The causal chain of [environmental] deterioration is easily followed to its source. Too many cars, too many factories, too much detergent, too much pesticide . . . inadequate sewage treatment plants, too little water, too much carbon dioxide all can be easily traced to *too many people*." But in 1990 he still maintained that "Global warming, acid rain, depletion of the ozone layer, and exhaustion of soils and ground water are all related to population size."

And fourth, the new Malthusians believed that the growing population would consume finite natural resources such as minerals and oil at an accelerated rate, resulting in raw material shortages and rising prices for the goods produced by industrial societies. As the Club of Earth argued in 1988, "Overpopulation and rapid population growth are intimately connected with . . . [the] rapid depletion of non-renewable resources. . . ." Because they expected rapid population growth to lead to starvation, war, environmental degradation, and the depletion of natural resources, private groups and government officials began advocating population control in the late 1960s and early 1970s. And they urged governments to adopt programs that would slow population growth. These included the creation of educational family planning programs, the distribution of contraceptives, and sometimes the provision of clinics that performed abortions and sterilizations, usually on a voluntary but sometimes on an involuntary basis. Population control advocates in government and the private sector believed that rapid population growth was such an urgent problem that drastic steps needed to be taken quickly. Some even advanced the concept of triage as a way to address the problem.

## STATEMENT OF THE PROBLEM

Now-a-days, the number of world population is increasing at an alarming and astonishing rate. According to some scientists, the greatest threat to the future may come from overpopulation. Overpopulation and rapid population growth are intimately connected with the rapid depletion of non-renewable resources. Some effects include a pressure upon resources as there are more people (e.g. Food has to be distributed among more people), prices of goods will increase as the demand for the products increase (higher demand means higher prices, ecological disturbance will take place when more people go for more use of resources. To mitigate food shortage, the simplest solution is to increase the area of cultivation land and plant it with the food crops. To this effect, they cleared forests and planted food crops. When forests are cut down, they released carbon dioxide gases into the air which highly contributed for global warming. In 1974, scientists discovered that man-made gases called chlorofluorocarbons (CFCs) that were used in aerosol sprays, solvents, and Styrofoam destroyed the ozone layer, which protects people and plants from the sun's damaging rays. They also observed that the increase of populations contributed to most of the atmospheric pollution resulting from CFC use. The same is true of global warming. During the mid-1980s, scientists discovered that the burning of fossil fuels and forests had increased the level of carbon dioxide in the atmosphere. They predicted that high carbon dioxide levels would trap heat in the atmosphere and make the planet warmer. Rapidly rising temperatures could create serious problems for people in different settings, scientists argue. Rising temperatures could melt polar ice and raise sea levels, inundating islands and low-lying coastal plains where millions live. A one-meter rise would flood deltas on the Nile, Po, Ganges, Mekong, and Mississippi Rivers, displacing millions of people and swamping the croplands now used to feed them. Higher sea levels could drown coral reefs, destroying the fish and ruining the livelihood of people who depend on reefs in the Caribbean and the Pacific. And warmer water could increase the strength of hurricanes and typhoons, causing greater damage for people living along their path in the Western Atlantic and Western Pacific. The insurance industry is particularly concerned about this prospect because windstorms caused $46 billion in losses between 1987 and 1993.

Higher temperatures could also disrupt agriculture. While farmers in northern latitudes North America and northern Europe and Asia could benefit from higher temperatures, longer growing seasons, and higher levels of carbon dioxide (which plants use to grow), even modest increases could devastate farmers in tropical zones in Asia, Africa, and Latin America. Rice yields decline significantly if daytime temperatures exceed 95 degrees, and in many Asian countries, temperatures are already near this limit. One group of scientists predicted that cereal prices could increase between 25 and 150 percent by the year 2060, a development that would cause hunger and starvation for between 60 million and 350 million poor people, most of them in the tropics.

Because of increased number of people, they are highly involving in deforestation. They are using more cars in number. They are using more energy for cooking and heating. There are, for example, sound environmental and social reasons to reduce energy consumption and car use and slow deforestation. Because these activities also release vast quantities of carbon dioxide, efforts to curb the consumption of fossil fuels and wood might also reduce global warming. (The carbon dioxide released by these activities accounts for about half of all greenhouse gases.) The same is true for other activities that produce other greenhouse gases.

People are attempting to satisfy their food demand from different sources. To this effect they increased the number of cows to get meat, milk and milk byproducts. However, the increased number of cows contributed for deforestation and resulted in hunger on the part of human being because of global climate change effect. A reduction of world cow herds would reduce hunger and deforestation, and also curb emissions of methane, which makes up about 18 percent of all greenhouse gases. The ban on CFCs, scheduled to take effect at the turn of the century, will slow destruction of the ozone layer, about which there is no serious scientific dispute, and reduce its contribution (about 14 percent) to global climate change. And if nitrogen fertilizer use was curbed, the problems associated with groundwater pollution could be addressed and nitrous oxide levels in the atmosphere (about 6 percent of the total) could be reduced. However, in the case of nitrous oxide, fertilizer reductions could adversely affect global food supplies and contribute to hunger, which suggests that efforts to curb fertilizer use should be approached with great caution.

Because of explosion of population, the people around the world are using more energy from different sources like fire, petroleum or fuel. For example, to get energy from fire they have to cut down forests for firewood. These would result in releasing more carbon dioxide into the air which may be thought as a major source for global warming. When they want to get energy from fuel, they have to buy the petroleum from the countries endowed with it. This, in turn, hurts the economy of the countries buying fuel from fuel rich countries.

These and others related problems pushed the researcher to investigate the case based on Descriptive Research with the help of secondary date from published texts on globalization in order to arrive at possible solutions as the findings of the study.

## OBJECTIVE OF THE STUDY

The general objective of this study is to communicate the effects of problems of population explosion to the people of the world to generate awareness about the problems associated with the alarming increase of population and push everybody to contribute and heed towards slowing down the number of population all over the world at the earliest.

**SPECIFIC OBJECTIVES**

- To show the impact of population explosion to the people of world
- To make the world leaders heed and take corrective actions towards the explosion of population.
- To generate awareness of the danger of population explosion to householders and make them limit the number of their children thoroughly understanding the impact of the problem and the devastation it causes if not mitigated.

**RESEARCH QUESTIONS**

- Is population explosion mercy or curse to our planet at present? How?
- If it is curse, then how it can be checked?
- Who is more responsible for global warming, the advanced or underdeveloped countries? Why?

## SIGNIFICANCE OF THE STUDY

The number of world population is increasing at an alarming rate. If it continues at the same rate, it is becoming a real danger, worry and curse to the earth. As it is obvious to many of us, we are increasing the number of our children sometimes not knowing the consequences of it. Other times, we are increasing the number of them simply being shy of cultural products like children are wealth gifted from God and people should not involve themselves in checking of such blessings and they should bear as many children as possible. The importance of this study is to generate the awareness of the danger of population explosion and make every concerned body understand the problem and make the decision on the number of his/her children in such a way that the planet (earth) could provide them all necessary facilities of life. Because the increase of population if not supported by economicy it is curse rather than mercy. It becomes mercy only when it is managed appropriately and commensurately with the available resources on the earth.

## METHODOLOGY OF THE STUDY

The present study is based on Descriptive Research with the investigation of secondary data. The secondary data are collected from the published sources on globalization.

## SCOPE OF THE STUDY

The study is entirely focused on consequences of the explosion of population based on Descriptive research with the assistance of secondary data from the texts written on globalization. The study is about the impact of explosion of population on environment all over the world.

## FINDINGS OF THE STUDY

1. Overpopulation is resulting in a striking food shortage because more farm land is being used for urbanization and industrialization in larger quantity in order to accommodate the exploding large number of population. Thus, the greatest threat to the future may come from overpopulation (*too many people, too little food*).
2. Much of the growth of population occurred after World War II due to peace, using fertilizers for mechanization farming, urbanization, industrialization, more income generation and medical facilities (improved sanitation and health care).
3. To maintain the life of people on the earth, the scientists and other concerned bodies should focus on innovations and increase productivity in many folds from the available smaller farm land employing advanced technologies as to feed more people.
4. A growing population would increase the levels of pollution and waste, which would result in environmental degradation. Too many cars, too many factories, too much detergent, too much pesticide, inadequate sewage treatment plants, too little water, too much carbon dioxide all can be easily traced to *too many people*.
5. The growing population would consume finite natural resources such as minerals and oil at an accelerated rate, resulting in raw material shortages and rising prices for the goods produced by industrial societies. Moreover, unbalanced utilization of resources may ultimately lead to the depletion of natural resources.
6. The number of population, thus, should be checked as increasing of population is believed as to leading to the destruction of population thereby creating acute shortage of resources necessary for existence of life.
7. To minimize global warming, every person in the world has to plant one seedling every year personally initiating the Motto “one seedling for one person”. Then, the plants absorb the carbon dioxide thereby releasing oxygen and global warming can be checked.
8. Rich countries are more disturbing the environment though industrialization and deforestation. They have to fund the projects of poor countries in order to plant trees to maintain the environmental balance.

## CONCLUSION

Now-a-days, the number of world population is significantly increasing. The increase of population has been followed by food shortage. To produce more food crops, they involved themselves in deforestation and planting more food crops. To that effect, they cleared or cut-down more trees from the forest. The cut-down of trees contributed to releasing more carbon-dioxide into the air. That, in turn, contributed to global warming. To curb these all problems resulting from the expansion of population, it should be checked as more increase may mean danger to population itself. Finally, for what is happening all over the world, the advanced countries should take more responsibility as they are more disturbing environment in which human being can live through industrialization and technological advancement.

## REFERENCES


1. Kennedy, Paul. *Preparing for the 21st Century*. New York: Random House, 1993, p. 22
2. Vu, My T. *World Population Projections*, 1985. Baltimore: Johns Hopkins University Press, 1985.
3. Hauser, Philip M. "World Population: Retrospect and Prospect," in National Academy of Sciences, *Rapid Population Growth: Consequences and Policy Implications*. Baltimore: Johns Hopkins University Press, 1971, p. 110.
4. Mass, Bonnie. *Population Target: The Political Economy of Population Control in Latin America* Toronto: Women's Press, 1976, p. 63.
5. Ibid, p. 37
6. Ibid, p. 40
7. Teitelbawm, Michael S. "The Population Threat," *Foreign Affairs*, winter 199293, p. 66.
8. Hauser, 1971, p. 107.
9. Ehrlich, Paul R. *The Population Bomb*. New York: Ballentine Books, 1968, p. 37.
10. Ehrlich, Paul R. *The Population Bomb*. New York: Ballentine Books, 1968, p. 37.
11. Ibid, prologue.
12. Malthus, Thomas Robert. "An Essay on the Principle of Population," in Garrett Hardin, ed., *Population Evolution and Birth Control*. San Francisco: Freeman, 1969, p. 7.
13. Ehrlich, 1968, pp. 1516.
14. Mass, 1976, p. 60.
15. Ibid, pp. 4647, 137.
16. Ehrlich, 1968, pp. 6667.
17. Ehrlich, Paul R., and Ehrlich, Anne H. *The Population Explosion*. New York: Simon and Schuster, 1990, p. 58.
18. Ehrlich, Paul R., and Ehrlich, Anne H. "The Population Explosion," *Amicus Journal*, Winter 1990, p. 25.
19. Ehrlich, 1968, p. 133.
20. Ehrlich and Ehrlich, *Amicus*, 1990, p. 26.
21. Ehrlich, 1968, p. 159.
22. Mass, 1976, p. 138.
23. Ehrlich, 1968, pp. 16061.
24. Ibid, p. 166.
25. Bandarage, Asoka. "A New Malthusianism?" *Peace Review*, 6, 3, Fall 1994, p. 294.

26. Mass, 1976, pp. 48, 58.
27. Ibid, p.50.
28. Berreby, David. "The Numbers Game," *Discover*, April 1990, pp. 4849.
29. Lewis, Paul. "World Population Will Top 6 Billion," *New York Times*, May 15, 1990. Stevens, William K. "Feeding a Booming Population Without Destroying the Planet," *New York Times*, May 10, 1992.
30. Sen, Amartya. "Population: Delusion and Reality," *New York Review of Books*, September 22, 1994, p. 69.
31. Jacobson, Jodi. "Planning the Global Family," in Lester Brown, *State of the World 1988*. New York: Norton, 1988, p. 152.
32. Ehrlich and Ehrlich, 1990, p. 193.
33. Haub, Carl, and Riche, March F. "Population by the Numbers," in Laurie Ann Mazur, ed., *Beyond the Numbers: A Reader on Population, Consumption and the Environment*. Washington, D.C.: Island Press, 1994, p. 103.
34. Teitelbawm, 199293, p. 68.
35. Donaldson, Peter, and Tsui, Amy Ong. "The International Family Planning Movement," in Laurie Ann Mazur, 1994, p. 115.
36. Kennedy, 1993, p. 36. Jacobson, 1988, p. 152.
37. Camp, Sharon L. "The Politics of U.S. Population Assistance," in Laurie Ann Mazur, 1994, p. 123.
38. Sen, 1994, p. 70. Brooke, James. "Births in Brazil Are on Decline, Easing Worries," *New York Times*, August 8, 1989.
39. Ibid, p. 70.
40. Brooke, 1989.
41. Brown, Lester. "Feeding Six Billion," *Worldwatch*, SeptemberOctober 1989. Reprinted in John Allen, ed., *Environment 91/92*, Guilford, Conn.: Dushkin, 1991, p. 62.
42. Ibid. p. 66. Brown, Lester. "Facing Food Insecurity," in Lester Brown, *State of the World 1994*, New York: Norton, 1994, p. 177.
43. Ibid. p. 181.
44. Timberlake, Lloyd. *Africa in Crisis: The Causes, the Cures of Environmental Bankruptcy*. London: International Institute for Environment and Development, 1985, p. 18.
45. Mann, Charles C. "How Many Is Too Many?" *The Atlantic*, February 1993. Reprinted in John L. Allen, ed., *Environment 94/95*, Guilford, Conn: Dushkin, 1994, p. 39.
46. Sen, 1994, p. 66.
47. Ibid., p. 67
48. Postel, Sandra. "Carrying Capacity: The Earth's Bottom Line," in Laurie Ann Mazur, 1994, p. 52.
49. Bidwai, Praful. "North vs. South on Pollution," *The Nation*, June 22, 1992, pp. 854 - 856.
50. Mazur, 1994, p. 3.
51. Bidwai, 1992, p. 853.
52. Sagoff, Mark. "Population, Nature and the Environment," in Laurie Ann Mazur, 1994, p. 35.
53. Sen, 1994, p. 68.
54. Mazur, 1994, p. 5.
55. Tierney, John. "Betting the Planet," *New York Times Magazine*, December 2, 1990, p. 81.
56. Berreby, David. "The Numbers Game," *Discover*, April 1990, pp. 4849.
57. Lewis, Paul. "World Population Will Top 6 Billion," *New York Times*, May 15, 1990. Stevens, William K. "Feeding a Booming Population Without Destroying the Planet," *New York Times*, May 10, 1992.
58. Sen, Amartya. "Population: Delusion and Reality," *New York Review of Books*, September 22, 1994, p. 69.
59. Jacobson, Jodi. "Planning the Global Family," in Lester Brown, *State of the World 1988*. New York: Norton, 1988, p. 152.
60. Ehrlich and Ehrlich, 1990, p. 193.
61. Haub, Carl, and Riche, March F. "Population by the Numbers," in Laurie Ann Mazur, ed., *Beyond the Numbers: A Reader on Population, Consumption and the Environment*. Washington, D.C.: Island Press, 1994, p. 103.
62. Teitelbawm, 199293, p. 68.
63. Donaldson, Peter, and Tsui, Amy Ong. "The International Family Planning Movement," in Laurie Ann Mazur, 1994, p. 115.
64. Kennedy, 1993, p. 36. Jacobson, 1988, p. 152.
65. Camp, Sharon L. "The Politics of U.S. Population Assistance," in Laurie Ann Mazur, 1994, p. 123.
66. Sen, 1994, p. 70. Brooke, James. "Births in Brazil Are on Decline, Easing Worries," *New York Times*, August 8, 1989.
67. Ibid, p. 70.
68. Brooke, 1989.
69. Brown, Lester. "Feeding Six Billion," *Worldwatch*, SeptemberOctober 1989. Reprinted in John Allen, ed., *Environment 91/92*, Guilford, Conn: Dushkin, 1991, p. 62.
70. Ibid. p. 66. Brown, Lester. "Facing Food Insecurity," in Lester Brown, *State of the World 1994*, New York: Norton, 1994, p. 177.
71. Ibid. p. 181.
72. Timberlake, Lloyd. *Africa in Crisis: The Causes, the Cures of Environmental Bankruptcy*. London: International Institute for Environment and Development, 1985, p. 18.
73. Mann, Charles C. "How Many Is Too Many?" *The Atlantic*, February 1993. Reprinted in John L. Allen, ed., *Environment 94/95*, Guilford, Conn: Dushkin, 1994, p. 39.
74. Sen, 1994, p. 66.
75. Ibid., p. 67
76. Postel, Sandra. "Carrying Capacity: The Earth's Bottom Line," in Laurie Ann Mazur, 1994, p. 52.
77. Bidwai, Praful. "North vs. South on Pollution," *The Nation*, June 22, 1992, pp. 854 - 856.
78. Mazur, 1994, p. 3.
79. Bidwai, 1992, p. 853.
80. Sagoff, Mark. "Population, Nature and the Environment," in Laurie Ann Mazur, 1994, p. 35.
81. Sen, 1994, p. 68.
82. Mazur, 1994, p. 5.
83. Tierney, John. "Betting the Planet," *New York Times Magazine*, December 2, 1990, p. 81.

# AN EVALUATION OF PATIENTS' SATISFACTION WITH HEALTH CARE SERVICES AT RALEIGH FITKIN MEMORIAL HOSPITAL IN SWAZILAND

*DR. INNOCENT NGWARATI*
*MEDICAL DOCTOR*
*RFM HOSPITAL*
*SWAZILAND*

*DR. MOHAMED SAYEED BAYAT*
*REGIONAL HEAD OF THE MANAGEMENT COLLEGE OF SOUTHERN AFRICA (MANCOSA) WESTERN CAPE*
*& ADJUNCT PROFESSOR: FACULTY OF COMMERCE & MANAGEMENT*
*UNIVERSITY OF FORT HARE*
*ALICE*

## ABSTRACT
*Patient satisfaction has long been considered an important component when measuring health outcomes and quality of care (Ware Jr, and Hays, 1988). The rising strength of consumerism in society highlights the central role patients' attitudes play in health planning and delivery (Baker, 1990). Furthermore, a satisfied patient is more likely to develop a deeper and longer lasting relationship with their medical provider, leading to improved compliance, continuity of care, and ultimately better health outcomes (Fitzpatrick, 1991). Health care recipients in developing and newly developed nations are particularly sensitive to perceptions of the quality of their health care delivery systems when compared with those in advanced economies (Haddad, Fournier, and Potvin, 1998). The study aimed to evaluate the level of satisfaction of patients with the healthcare services at Raleigh Fitkin Memorial (RFM) hospital in Swaziland .The study emanated from the fact that Swaziland being a developing poor country in the Sub Sahara region is facing healthcare service delivery challenges amongst them the HIV and AIDS pandemic, shortage of healthcare personnel, shortage of financial resources and shortage of medical equipment, drugs and machines. For the purpose of this study, a qualitative research strategy has been utilized through categorizing data which is non-numerical. Data was collected by administering a questionnaire to a randomly selected sample of fifty patients from different points of service delivery. The research was designed with more focus of patients' satisfaction therefore characteristics of services as being offered to patients were also examined to ascertain whether these services are exactly being offered according to the perception of the patients or are they variant to the patients' needs. The results of the study essentially showed that the patients were dissatisfied with the health care services being provided at RFM hospital as shown by low mean scores in the various indicators assessed. The information gathered from the research is of paramount importance to the management of the hospital to come up with strategies to improve health care service delivery and the patients will definitely benefit from this study.*

## KEYWORDS
Patient's Satisfaction, Health care services.

## INTRODUCTION
The goals for health systems, according to the World Health Organization, are good health, responsiveness to the expectations of the population, and fair financial contribution. Progress towards them depends on how systems carry out four vital functions: provision of health care services, resource generation, financing, and stewardship (http://www.who.int/whr/2000/en/index.html). Other dimensions for the evaluation of health care systems include quality, efficiency, acceptability, and equity (http://www.liverpool-ha-org.uk/health-care-system.htm). They have also been described in the United States as "the five C's": Cost, Coverage, Consistency, Complexity, and Chronic Illness (http://web.jhu.edu/president/speaker/2007/health.html).The health care services are just like any other services in the service industry with patients being the customers so in the literature review attention will be focused on general aspects of service and customer behavior and expectations.

## RESEARCH CONTEXT AND BACKGROUND
The research was basically meant to assess whether patients are aware of the services being offered by the hospital and how they perceive or view these services. Are they satisfied by the services? The study will go a long way in verifying what patients do need and it will also be used as an opportunity to assess the health care system in order to identify gaps which need rectification, strengthening and reinforcement within the system.

## RESEARCH PROBLEM
According to recent reports in the media there has been growing dissatisfaction of patients towards health care services in Swaziland particularly at RFM Hospital leading to some patients seeking medical services in neighboring South Africa where there are better health care services.

The research aimed at assessing the patient satisfaction with health care services provided at RFM Hospital in Swaziland. The research created an entry point to explore the health system as a whole, it basically exposed some practices in the health care sector and the main purpose being to improve services in areas where the patients are dissatisfied and to maintain and strengthen service delivery in areas where patients are not satisfied.

## RATIONALE SIGNIFICANCE OF THE STUDY
The research discussed the patients' satisfaction with health care services offered at the hospital. The health care delivery system in Africa is still lagging behind as compared to that in western countries. The research also addressed some elements of poor health service delivery be it in terms of the health workers providing the service or the facilities and equipment. The research created an entry point for other areas of research in the health care system to improve quality of service.

## RESEARCH OBJECTIVES
The research objectives were:
1. To explore patients' views and opinions on the services provided at the hospital.
2. To identify the needs and expectations of patients' regarding to health care services.
3. To identify the strengths and weakness of RFM hospital in health care service delivery.
4. To provide information to the management to come up with strategies to improve health care service delivery.

## RATIONALE FOR RESEARCH METHODOLOGY

The research was intensively based on the collection of primary data and analysis of both primary and secondary data. Quantitative Research Methods were used. The major reliance of the research design was the collection of primary data via the questionnaire method. The research was designed with more focus on the patients' satisfaction thus characteristics of services as being offered to patients were also examined to establish whether these services are exactly being offered according to the patients perception or if there are variant to patients' needs.

## LIMITATIONS OF THE STUDY

The study was carried out in English and it had a disadvantage to those who cannot read and understand it well and those who are completely illiterate were not able to participate. The study also left out some patients who were critically ill and could not afford to participate so the results may not be totally reflective of what all patients feel about the services.

## THE 7 PS OF MARKETING AND RELEVANCE TO PATIENT SATISFACTION

The analysis of the customers' satisfaction involves many characteristics to study. While analyzing the customers' behavior and satisfaction, one has to study 7 P's of marketing in order to assess which factors can attract and keep loyal the customers' with a certain service provider. Just like in any service delivery system the customers are the users of the services and in this review the patients are actually the customers who make use of health care services.

The study reviewed the literature on seven factors on customers' satisfaction in the context of the health care services offered by RFM Hospital:-

1. **Product**: the health care service which the patients receive.
2. **Price**: the amount which they pay for consultation the, drugs, the medical investigations to mention but a few.
3. **Place**: the point or location where the service is delivered.
4. **Promotion**: The communication of health care services in other words the marketing of the health services.
5. **People:** the patients themselves.
6. **Physical Evidence**: the evidence of service delivery may be in the form of testimonies by the patients themselves.
7. **Process**: the ways of service delivery.

## SERVICE

Customer service is the provision of service to customers before, during and after a purchase. According to Turban (2002), "Customer service is a series of activities designed to enhance the level of customer satisfaction – that is, the feeling that a product or service has met the customer expectation.''

The study of customers' satisfaction in the field of general marketing has evolved into important parameters that need to be identified and understood in order to satisfy the needs and wants of customers (Paraguayan, Zenithal, and Berry, 1988). Since the success of a business has been linked to providing high levels of customers' satisfaction, a substantial amount of effort has been focused on identifying how consumers perceive service quality in various settings. Gronroos (1982) defined service quality as "the outcome of an evaluation process where the consumer compares his expectations with the service he perceived he has received." In other words, perceived service is measured against expected service. Service quality has been seen as the result of comparing a customer's expectations prior to receiving the service with the customer's experiences with the service. Wyckoff (1984) defined the concept of service quality from the company's perspective. Service quality is the degree of excellence for meeting the customer's requirements, and control over the variability in achieving that excellence.

## CUSTOMER EXPECTATIONS

In general customers compare the perceived service with the expected service (Glenn, Voss, Parasuraman and Grewal, 1998:46).

If the perceived service falls below the expected service, customers are disappointed. Successful companies add benefits to their offering that not only satisfy customers but surprise and delight them. Delighting customers is a matter of exceeding expectations (Roland, Rust and Richard, 2002:86).

The service quality model highlights the main requirements for delivering the high service quality (Parasuraman, Zeithaml , and Berry , 1985:41).

## QUALITY IN CUSTOMER SERVICE

For the assessment of customer satisfaction to the quality of service, the model bases the customer recent experiences in comparison of the customers' perception or expectations (Storbacka, Strandvik and Gronroos,1994:21).

The customer satisfaction is the right standard for the quality of service. A quality of service determines the business relationship and obviously the customer retention, as well. If the customer is dissatisfied with the service quality then it may end with adverse behaviors, where a customer may move away or no longer need the service or may end with weaker relationship. Thus it is pivotal that in-order to retain customer loyalty, then quality focus service needs consistent measurement and follow-up.

## PATIENT SATISFACTION

Surveying the literature on the assessment of quality of care from patient's perspective, the concept has often been operationalized as patient satisfaction. Some authors consider patient satisfaction as an indicator of quality of care from a patient's perspective. There is need for reliable and valid instruments to measure quality of care from the patient's perspective. The assessment of patients' satisfaction with medical services has been a rapidly developing area of research for almost 20 years (Nelson-Wernick, Currey and Taylor, 1981: 65).

According to Glass (1995:83) several specific measures have been developed for evaluating patients' satisfaction in a variety of psychiatric settings, including inpatient and outpatient clinics. Furthermore, satisfaction has been shown to be associated with improved clinical outcomes and administrative measures of quality at the individual level (Ware and Hays, 1988: 393), although it is not clear whether patients' satisfaction is a cause or an effect of changes in symptoms.

In addition, clinics have the goal of expanding a practice, particularly in a managed care environment, should measure patients' satisfaction to identify opportunities for improvement and to remain competitive.

## TOTAL QUALITY MANAGEMENT IN HEALTH CARE

Outside of the health care, quality is defined as exceeding customer expectations. In applying TQM in health care it can be viewed as customer satisfaction as one of the three dimensions of quality.

1. **Patient quality**: Whether the service give patients what they want.
2. **Professional Quality**: Professionals' view of whether the service the patients needs as assessed and whether personnel correctly select and carry out procedures which are believed to be necessary to meet patients needs.
3. **Management Quality**: The most efficient and productive use of resources to meet patients needs without waste and within limits and directives set by higher authorities (Ovretveit, 1992).

## CORE COMPETENCIES FOR PHYSICIANS

The evaluation is based on six core competencies defined by the ACGME- Accreditation Council for Graduate Medical Education

(Healthquasar.blogspot.com/…/6-core-competencies-for-physicians.html) is as follows:

1. **Patient Care** that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
2. **Medical Knowledge** about established and evolving biomedical, clinical, and cognate (for example epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
3. **Practice-Based Learning and Improvement** that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.
4. **Interpersonal and Communication Skills** that result in effective information exchange and teaming with patients, their families, and other health professionals.
5. **Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
6. **Systems-Based Practice,** as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

## STATEMENT OF RESULTS, DISCUSSION AND INTERPRETATION

The survey included 50 (10%) of the almost 500 patients seen on daily basis in all the departments at the hospital. The mean age of the respondents was 35 years. The most common age group was between 30 and 40 years. Most respondents were African (88%), female (64%), widowed (30%) and having attained secondary level education (28%).

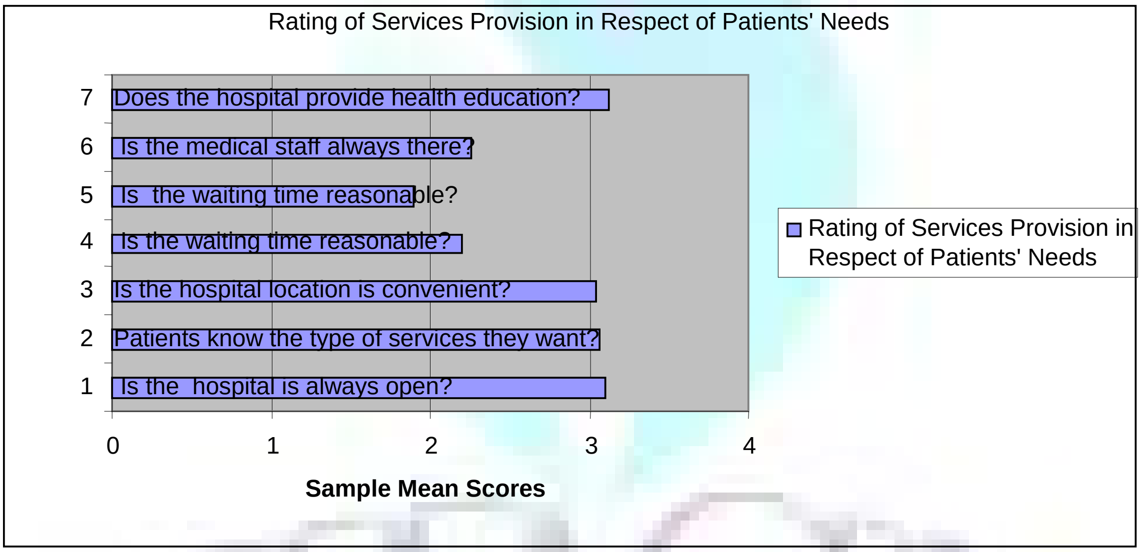
The participants responded differently to various indicators which they were being assessed against. Since the quality of services depends on who provides them, when, where, and to whom, services are highly variable. Some doctors have an excellent bedside manner; others are less empathetic Kotler (2009:390). A service is any act or performance that one party can offer to another that is essentially intangible and does not result in ownership of anything (Kotler , 2009:386). Services have four distinctive characteristics that greatly affect the design and marketing programs: intangibility, inseparability, variability, and perish ability.

The research findings were consistent with the literature review findings on services as the responses generated by the participants did not have any particular pattern were hence services were perceived differently by the participants.

Customer satisfaction means that the customer is satisfied with a product or service which meets the customer's needs, expectations and wants (Customer Service and Satisfaction, 2007). The research findings also supported the literature review as the participants had different needs, expectations and wants hence the responses varied.

## SERVICES PROVISION IN RESPECT OF PATIENTS' NEEDS

### FIGURE 1: RATING OF SERVICES PROVISION IN RESPECT OF PATIENTS' NEEDS




Note: The above scale is based on: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree.

As illustrated in Figure 1, summarized rating mean scores were calculated and the data showed that the majority of the patients agreed that the hospital is always open to provide services, is easily accessible to them and that there were health education materials provided. The majority of the patients also indicated that waiting time was not reasonable, the reception was not welcome and the doctors and nurses are not always available to help as evidenced by very low mean.

## PATIENTS' SATISFACTION ON SERVICES PROVIDED BY DOCTORS

### TABLE 1: ASSESSING PATIENTS' SATISFACTION ON SERVICES PROVIDED BY DOCTORS

| No | Questions | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Mean Score |
|---|---|---|---|---|---|---|---|
| 4.1 | The doctor puts me at ease? | 3 | 9 | 11 | 20 | 7 | 2.62 |
| 4.3 | The doctor is very careful to check everything when examining me? | 6 | 4 | 10 | 16 | 14 | 2.44 |
| 4.5 | The doctor does have everything to arrive to a diagnosis? | 12 | 9 | 7 | 10 | 12 | 2.98 |
| 4.7 | I do not feel rushed when I am with the doctor? | 3 | 4 | 13 | 17 | 13 | 2.34 |
| 4.9 | The doctor respects my right to privacy and confidentiality? | 15 | 6 | 7 | 13 | 9 | 3.1 |

Table shows that in general the patients are dissatisfied by the services provided by doctors as evidenced by very low scores with lowest scores being observed in question 2, 3, 4, 6; 7 and 10. However the doctors were recommended in some areas like upholding the patients' privacy and confidentiality, gaining of patients' trust and having appropriate tests to arrive to a diagnosis as evidenced by scores close to 3 for the questions 5, 8 and 9.

## FACILITY PROVISION

**TABLE 2: FACILITY PROVISION**

| No | Questions | excellent | Very good | Good | fair | Poor | Mean Score |
|---|---|---|---|---|---|---|---|
| 6.1 | The facilities clean? | 10 | 8 | 9 | 12 | 11 | 2.88 |
| 6.2 | The facilities safe (no hazards like slippery floors)? | 3 | 7 | 16 | 12 | 12 | 2.54 |
| 6.3 | There adequate signage and directions in the facilities? | 19 | 12 | 10 | 9 | 0 | 3.82 |
| 6.4 | There enough space within the facilities? | 0 | 2 | 8 | 18 | 22 | 1.8 |
| 6.5 | The ventilation satisfactory within the facilities? | 0 | 3 | 7 | 15 | 25 | 1.76 |
| 6.6 | The waiting rooms and areas comfortable? | 1 | 4 | 16 | 7 | 22 | 2.1 |
| 6.7 | The medical equipment adequate? | 0 | 7 | 13 | 13 | 17 | 2.2 |
| 6.8 | The equipment clean and safe for every patient? | 5 | 11 | 12 | 13 | 9 | 2.8 |

Table 2 shows that the facilities were rated as follows: there is enough provision of signage and directions in the hospital as it was rated close to very good. The space in, the ventilation, the waiting rooms and the medical equipment the facilities in were lowly rated with average scores close to fair. The cleanliness and safety of the facilities and the medical equipment were rated close to good.

## RECOMMENDATIONS

Several recommendations can be deduced from the study to address the observed deficiencies in the health care system.

**Human Resources**: The issue of shortage of staff can be addressed by the employment of more health workers. After having done a thorough staff audit in all departments, a proposal can be made to the responsible authorities like the Church of Nazarene, the Government of Swaziland and various other stake holders involved sponsoring for the recruitment of employees. This is done in line with the WHO health worker / patient ratio.

**Infrastructure**: The issue of limited space can be addressed from different points; one option is to source funds and erect more structures. With meaningful proposals it is always easy to lure various stake holders into sponsoring the projects. Another option is to redesign the layout of the existing infrastructure to suite the current needs for example temporary mini pharmacies can be opened close to clinics like Hypertension and Diabetic clinic this will ease congestion at the main pharmacy..

**Equipment**: There is need to source new and recent medical equipment. The old equipment need to be continuously repaired and maintained to ensure that it is safe and effective to use.

**Drugs:** Drugs should be used appropriately be used to avoid over and inappropriate usage. There should be proper and uniform treatment guidelines drafted. This will allow a stepwise and orderly prescription of drugs. There is need for constant checking of expiry date on the drugs in stock such that the inventory is managed in a First in First out (FIFO) manner.

**Long Queues**: Long queues can also be managed by increasing staff be it non medical especially in the card room where registration and payment happens. More points of service need to be open and there is need that these points are open all the time. On the medical side as already illustrated more nurses and doctors need to be employed. Some activities can also be combined so as to serve patients fast for example in each consultation room the history , the vital signs and the doctor's consultation are done at once instead of having one part done in the nurse's room and the other in the doctors room.

## CONCLUSION

The analysis produced three main groups of reason for dissatisfaction with medical care system. These three groups are:

**1. Systemic**: This refers to policy, socioeconomic, political medico-legal and health system context.

**2. Institutional**: This refers to the operations at the hospital .The presence or absence of an appropriate physical and operational context—that is, availability of materials and facilities to deliver services of acceptable quality, workload management, and organizational norms and practices.

**3 Individual**: This refers to the attitude, the behavior, the knowledge and skills of health workers.

Therefore there is need for a holistic approach in addressing these main reasons for patient dissatisfaction with health care services at RFM hospital. .

## NOTE

The article is based on research studies that were undertaken by Dr. Innocent Ngwarati for the Masters in Business Administration degree with Dr. Mohamed Sayeed Bayat having been the supervisor.

## BIBLOGRAPHY


Baker, R. (1990). Development of a questionnaire to assess patients' satisfaction with consultations in general practice. Br J Gen Pract. MedlineWeb of Science, 40, p. 487–490.

Berry, L.L., and Parasuraman, A. (1991). Marketing Services: Competing through Quality. New York Free Press, p.16.

Customer Service and Satisfaction. (2007). Customer service and satisfaction. [On-line]. Available from URL:http://66.102.9.104/search?q=cache:jAe83fvPRXIJ:media.wiley.com/product_data/excerpt/18/04714595/0471459518.pdf+Definition+of+customer+sa [Accessed 6 April 2011]

Fitzpatrick, R. (1991). Surveys of patient satisfaction. II. Designing a questionnaire and conducting a survey. Br Med J, 302, p. 1129–1132.

Glass, A.P (1995). Identifying issues important to patients on a hospital satisfaction questionnaire. Psychiatric Services, 46, p83-85.

Glenn, B., Voss, A., Parasuraman. and Dhruv Grewal. (1998). The Role of Price, Performance, and Expectations in Determining Satisfaction in Service Exchanges. Journal of Marketing. p46-61.

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. Int J Qual Health Care, 10, p. 93–104.

Healthquasar.blogspot.com/…/6-core-competencies-for-physicians.html [Accessed 6 April 2010]

(http://www.who.int/whr/2000/en/index.html).

(http://www.liverpool-ha-org.uk/health-care-system.htm)

(http://web.jhu.edu/president/speaker/2007/health.html).

Kotler, P.and Keller, K.L (2006).Marketing Management.12th Edition.New Jersey: Pearson Prentice-Hall

Ovretveit, J. (1992). Health Service Quality. Blackwell Scientific Press, Oxford.

Pnarauraman, A., Zeithaml, V.A., and Berry, L.L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. Journal of Marketing, p.41-50.

Storbacka, K. Strandvik, T. and Gronroos, C. (1994).Managing customer relationships for profit. International Journal of Service Industry Management, vol 5, no 5, p 21-28.

Turban, Efraim (2002). Electronic Commerce: A Managerial Perspective. Prentice Hall.

Ware, J.E Jr, and Hays, R.D. (1988). Methods for measuring patient satisfaction with specific medical encounters. Medical Care, 26, p393-402.

http://www.who.int/whr/2006/en/index.html (Accessed on 29 April 2011]

# A COMPARISON STUDY OF STOCK MARKET RETURNS GIVEN BY THE NEWSWEEK 500 GREEN COMPANIES AND BROAD MARKET INDICES IN US

*DR.VIMALA SANJEEVKUMAR*
*ASSOCIATE PROFESSOR*
*COLLEGE OF BUSINESS*
*UNIVERSITY OF UTARA*
*SINTOK, KEDAH*
*MALAYSIA*

**ABSTRACT**

*"Going green" is no longer a fringe topic. The green revolution has already started, and is going green from the bottom up and the top down. Going green is about sustainability. Corporations exhaust resources, pollute the environment, generate large amount of waste and engage themselves in tons of unsustainable practices. These practices become an expense to the nation. Businesses are finding ways to protect the environment, particularly though developing standards and green certification programs. Some corporations are responding to the requirements of consumers to buy products with less impact on the environment (i.e) in their creation, packaging, marketing, use, and disposal. Furthermore with scientific and global consensus that human activities and carbon emissions contribute significantly to climate change, corporations no longer have the choice to ignore being environmentally sensitive. Green practices can be rewarding in the long run as it ensures that natural resources can be sustained as long as possible. Many investors are also prepared to put their money into green businesses because they see that sustainable practices are actually more profitable in the long term. Recent developments in technology have made it easier to protect the environment, and many businesses have learned that a sustainable supply chain is a valuable asset. Furthermore green companies are now gaining greater consumer acceptance as they are portrayed as the more responsible business. The Top 500 companies ranked by the 2009 Newsweek Green Rankings shows a noteworthy green attitude which consumers adore, therefore the publicity which these companies get will in turn translate into more customers and improve their profits ultimately. This study focuses on the green ranked companies thereby analyzing whether the returns of these companies meet the broad market return.*

## KEYWORDS
Green revolution, Sustainability, Global consensus, Green practices, Green ranking.

## INTRODUCTION
With the growth in corporate responsibility efforts over the last two decades has come an increasing number of questions about whether and how investors value these initiatives. The recent financial crisis has brought improved attention to the investor perspective and potentially an opportunity to increase the consideration of companies' social and environmental performance in investment analyses. Many companies have also begun asking how they can evolve their communications on Environmental, Social, and Governance factors to these mainstream investors. In the past few years, topics in global warming and climate change have moved high on the international agenda. There is new impetus for U.S. companies to make energy-efficient, or green, choices. To improve the quality of living, the perception of "green investing" is costly has changed. People are calling for corporations to make changes and some are even willing to pay more for corporations to produce greener products.

**GREEN BUILDING**

Companies are taking green building and the subsequent savings in energy, natural resources, and money seriously. The savings to companies can be large.

**GREEN ENERGY**

Technology advances are also leading U.S. corporations to increase the amount of alternative energy they use. And government incentives are making alternative energy, such as solar and wind power, economically feasible. Companies are also finding less expensive ways to incorporate green energy

**GREEN OPERATIONS**

Businesses are serious about reducing the amount of energy they use to run their operations. The focus for most companies today is developing a "sustainable" supply chain — one that is robust enough to support itself and actually improve the environment. By moving toward a sustainable green supply chain, companies will uncover new opportunities to reduce costs.

**THE RISE OF CORPORATE STAKEHOLDERS**

In recent years, U.S. corporations have reduced environmental emissions and in response to pressures from governments, investors, environmental groups, customers, and employees are developing pollution prevention strategies. Increasingly, corporate leaders see that managing environmental issues effectively can be a significant source of competitive advantage and sustainable growth. The bottom line is that most American corporations now believe they can create a significant source of competitive advantage and sustainable growth by having effective environmental management. Being "green," is seen as good business.

**THE POWER OF STAKEHOLDERS**

The key to modern corporate motivation is a company's concern for building rapport with its stakeholders. Government policy makers, customers, environmental groups, investors, and employees constitute major stakeholders and exert pressures on shaping a firm's environmental strategy. To reach out to these groups, companies use public disclosure and consultations about their activities and their impacts on the environment.

***Government:*** Government regulation is a major driver of environmental policy. Exponential growth in environmental laws forces companies to anticipate and make investments to meet new requirements even before the laws are passed.

***Customers***: Customers, both as voters and as buyers of products and services, have a significant impact on environmental policy. According to a *USA Today*/Gallup Poll conducted in March 2007, more than 8 in 10 Americans consider that a company's environmental record should be an important factor in deciding whether to buy its products.

***Environmental Groups***:. Environmental organizations are using their power to develop tough regulations and also to extend the areas regulated. In addition, these organizations can take other actions that encourage companies to be green.

***Investors:*** Poor environmental performance can increase costs, because companies that produce large quantities of waste tend to have a higher number of spills and hazardous waste sites, and serious compliance problems. Investors can hold corporations accountable for environmental performance by speaking directly with corporate management, filing shareholder resolutions, and voting against the management. If they are still not satisfied, they can withdraw their investment by selling their stocks. In recent years, shareholders have been successful in convincing major banks to consider the environmental risks of projects they consider financing, persuading computer manufacturers to increase the number of computers they recycle, and encouraging public utilities to invest in renewable energy.

***Employees***: Employees bear most of the impact of poor environmental practices. Attracting employees to work in unsafe surroundings is expensive, and workers and their unions often pressure companies to reduce pollution. If employees are ignored, they often respond by changing jobs or by mobilizing public support.

Costs can also rise because of higher employee turnover. Companies respond by providing employee training on environmental health and safety and on environmental management systems.

**CONSUMERS DEMAND GREEN**

Consumers seem to be recognizing what their consumption does to the environment. These consumers are smart, and they want the companies with which they do business to be smart as well. That means creating products that help consumers organize their lives, achieve personal and business success, look their best, feel their best and also that help them lower their carbon footprint. In today's world it is difficult not to be aware of the impact we are having on our limited resources. And it is that concern that has companies catering to consumers' desires to be less offensive to the environment. Indeed, "green" is the new buzzword making its way into the mainstream via commercials, television shows, company dossiers, and conferences. The environmental initiative has made its way to an industry infamous for depleting forests and gobbling up green spaces.

**CORPORATE EXECUTIVES ON GOING GREEN**

**STEVE BALLMER, MICROSOFT CEO**

Explaining that PCs and other technology still consume far too much electricity, Ballmer said: "The lowering of energy consumption is as important for us as new uses of software and IT for the environment." (2008, CeBit Technology Show in Hannover, Germany) *[http://www.news.com/Ballmer-Microsoft-is-thinking-green/2100-1 1392_3-6233152.html?tag=item]*

**STEVE JOBS, APPLE CEO**

It is generally not Apple's policy to trumpet our plans for the future; we tend to talk about the things we have just accomplished. Unfortunately this policy has left our customers, shareholders, employees, and the industry in the dark about Apple's desires and plans to become greener. Our stakeholders deserve and expect more from us, and they're right to do so. They want us to be a leader in this area, just as we are in the other areas of our business. So today we're changing our policy." (Apple Web site) *[http://www.apple.com/hotnews/agreenerapple/]*

**JEFFREY IMMELT, GE (GENERAL ELECTRIC) CHAIRMAN AND CEO**

"We looked across our company and recognized that a focus on environmental technology could be a big business initiative for the company. The concept we worked on at the time was this notion that green is green. In other words, the time had come that, through technology, we felt like we could create a good business initiative to focus on conservation and greenhouse gas emission reduction and do good business at the same time." (2007, interview with VerdeXchange News) *[http://www.verdexchange.org/node/82]*

**THE GREENEST BIG COMPANIES IN AMERICA**

When David Roberts was growing up near the oilfields of West Texas in the early 1960s, it never got dark and the oilfields were lit 24/7 by the gas flares used to burn off natural gas, a by product of oil drilling. The flares released massive amounts of $CO_2$, and over time, oil companies halted that harmful practice in the U.S. But gas flares remain the norm in the developing world—and today Roberts oversees a team at Marathon Oil that's trying to end the practice. In 2007, Marathon opened a $1.5 billion liquid-natural-gas plant in Equatorial Guinea to capture the natural gas that once went up in smoke. The plant is one factor that helped Marathon, No. 100 in Newsweek's Green Rankings, cut its $CO_2$ emissions by 40 percent between 2004 and 2008—and the plant earns a profit.

It's a small example of how the economic case for going green is becoming more compelling. Economists view environmental damage as a classic "externality"—a cost that impacts society but isn't imposed on producers or consumers. But with scientific consensus that carbon emissions threaten our climate, there's growing political will to curb them, particularly with the global powers set to meet in Copenhagen in December. The Obama administration is pushing for a cap-and-trade system that would turn companies' emissions into a bottom-line cost. Smart companies are working to better understand—and cut—those emissions ahead of new regulations.

The inaugural Newsweek Green Rankings recognizes those efforts. For more than a year, the magazine worked with leading environmental researchers KLD Research & Analytics, Trucost, and CorporateRegister.com to rank the 500 largest U.S. companies based on their actual environmental performance, policies, and reputation. Ranking companies based on sustainability is a huge challenge. Some industries are far dirtier than others: a typical financial-services company exacts a smaller environmental toll than even the best-run utility or mining company. Also, many corporations are secretive about key environmental data, if they track the numbers at all. Even among companies that do report green data, there's no uniform standard, so their numbers often aren't comparable.

Despite those obstacles, the members worked hard to design a ranking system that makes sense. More than half of companies' overall Green Scores are based on their environmental policies and reputation, industry-neutral metrics that help even the playing field for companies in carbon-intensive businesses. To overcome limited corporate emissions numbers, Newsweek used data from Trucost, which has created a widely acclaimed system for estimating emissions of companies that fail to provide them. "One of the purposes of this is to improve the transparency of corporations…and encourage them to provide an even higher level of disclosure," says Thomas Kuh, KLD's managing director.

Many of the companies that finished in Top 100 are recognized leaders in sustainability. Intel, No. 4 in Newsweek's ranking, recently launched an initiative in which every employee's annual bonus is tied, in part, to how well the company does in meeting sustainability goals. Wal-Mart, No. 59, recently announced plans to create a Sustainability Index that will help consumers better understand which products sold in its stores are greener than others. Rankings inevitably provoke controversy and Newsweek hope is to open a conversation on measuring environmental performance an essential first step toward improving it.

## GREEN RANKINGS 2009: METHODOLOGY

Newsweek collaborated with three research partners to compile the rankings: KLD Research & Analytics, which tracks environmental, social and governance data on companies worldwide and served as lead partner; Trucost, which specializes in quantitative environmental performance measurement; and CorporateRegister.com, the world's largest online directory of social responsibility, sustainability and environmental reporting. The goal was to assess each company's actual resource use and emissions and its policies and strategies, along with its reputation among its peers. The 500 companies included in the ranking are the largest U.S. companies as measured by revenue, market capitalization and number of employees. The companies are broken out into 15 sectors, based on the FTSE/Dow Jones Industry Classification Benchmark (ICB).

The GREEN SCORE for each company is based on three components: The ENVIRONMENTAL IMPACT SCORE, based on data compiled by Trucost, is a comprehensive and standardized quantitative performance measurement that captures the total cost of all environmental impacts of a corporation's global operations. Over 700 variables are summarized in the EIS. This figure is normalized against a company's annual revenues, so that companies of all sizes and industries can be compared.

The GREEN POLICIES SCORE, derived from data collected by KLD, reflects an analytical assessment of a company's environmental policies and performance. Its scoring model captures best-in-class policies, programs and initiatives, as well as regulatory infractions, lawsuits and community impacts, among other indicators.

The REPUTATION SCORE is based on an opinion survey of corporate social responsibility (CSR) professionals, academics and other environmental experts who subscribe to CorporateRegister.com. CEOs or high-ranking officials in all companies on the Newsweek 500 list were also invited to participate.

KLD, Trucost and CorporateRegister.com scored each company according to their specific methodologies, and then converted the results to Z-scores, a widely accepted statistical technique that measures how well a firm compares to the average score of the collective group. The overall Newsweek Green Score was calculated as the weighted sum of the three component Z-scores: 45 percent for the Environmental Impact Score, 45 percent for the Green Policies Score, which takes into consideration sector differences, so that various industries can be judged against each other and 10 percent for the Reputation Score, which also reflects sector analysis.The rankings also contain a column reporting each company's emissions of greenhouse gases (GHGs)—a reflection of the importance of GHGs as a key component in a corporation's environmental footprint. The GHG data for the rankings comes from Trucost. Newsweek.com contains additional GHG data reported by companies to KLD, Trucost and the Carbon Disclosure Project, which collects GHG data on over 2,500 companies worldwide.

This methodology and weightings were created in consultation with an independent advisory panel. The panel's members include: Daniel Esty, Hillhouse Professor of Environmental Law and Policy at Yale University; Marjorie Kelly, Senior Associate at the Tellus Institute and co-founder of Business Ethics; John Steelman, Climate Centre, National Resources Defense Council; Wood Turner, executive director of Climate Counts; and David Vidal, Global Corporate Citizenship Research Director, the Conference Board. Newsweek's editorial partner on the Green Rankings project is ASAP Media. Founded by journalists and editors Peter Bernstein and Annalyn Swan, ASAP Media specializes in magazine, book and web content development.

**ENVIRONMENTAL IMPACT SCORE**

Four of the major elements that contribute to the overall EIS score (and which are broken out into separate columns) are: greenhouse gas emissions (including nine gases in total, with carbon dioxide the most important in many cases), water use (including direct, purchased and cooling), solid waste disposed, and acid rain emissions (sulphur dioxide, nitrogen oxide and ammonia), all normalized by revenue. All data included in the four columns comes from Trucost based on: standardized company reported data, fuel/resource use, and production based company estimates. Additionally, separate columns on toxic waste emissions and emissions normalized against a company's annual revenues are included. Emissions data is derived from the Toxic Release Inventory, a U.S. Environmental Protection Agency database of information on toxic chemical releases and waste management activities.

**GREEN POLICIES SCORE**

The main elements incorporated in the GPS score are: climate change policies and performance, pollution policies and performance, product impacts, environmental stewardship and environmental management.

**REPUTATION SCORE**

The opinion survey, which was done exclusively for Newsweek, went out to 13,000 CorporateRegister.com users, of whom 6,600 are located in the U.S. and 6,400 are based internationally. Of those surveyed, 4,500 were identified as "sector specialists''—those having a specific working knowledge of environmental issues within their industry—and were only asked to score their sector peers. Additionally, CEOs or high-ranking officials in all companies on the Newsweek 500 list were invited to participate. CEO scores were given a weight of "3," sector specialists a weight of "2," and other participants a weight of "1." Any scores given to a company by its own employees were disregarded.

The survey asked respondents to rate companies as "leaders" or "laggards" in five key "green" areas: green performance, commitment, communications, track record and ambassadors. There were a total of 808 respondents or a six percent response rate, a far higher response than is typical of most public opinion polls reported in the media.

**Z-SCORES**

For presentation purposes, KLD mapped the overall Green Score, the Green Policies Score and the Reputation Survey Z-scores to a 100 point scale, with the Environmental Impact Score mapped to a 100 point scale using Trucost's underlying environmental impact ratio scores. It is important to note that because of the mapping to a 100-point scale, a 45-45-10 weighting applied to each individual component will not result in the overall Green Score.

## NEED FOR THE STUDY

With the recent drive to try and preserve the environment and reduce harmful emissions companies are increasingly realizing that going green could be a new way for companies to save or even make more green. The trend toward going green is extending beyond the most obvious polluters, and reaching companies ranging from big Wall Street firms to technology mainstays. The average person might believe that the worldwide push to "go green" is coming solely from politicians and concerned citizens. In fact, this is not the case! In recent years, many big-name companies have realized their way towards more sustainable and eco-friendly business practices. Companies ranging from retailing titan Wal-Mart to investment firm Goldman Sachs are jumping on the green bandwagon and pledging to make tangible changes that go beyond the public relations-oriented "green washing" of years past. Most business leaders now recognize that they need to take new measures to reduce their companies' effects on the environment.

***Thus this study focuses on analysis whether the market returns of those companies that are ranked as "green companies" by Newsweek meet the broad market returns.***

## OBJECTIVE OF THE STUDY

- To assess whether companies that embrace eco-friendly practices gives a stock market return lesser than the returns given by the broad market.
- To find out the stock market returns for each of the company that is ranked by the Newsweek in a 1 year, 2 year, 3 year, 4 year & 5 year time frame.
- To find out where the annual stock return of the companies at least meet the broad market return.
- To find out the average returns given by the following clusters for a 1 year, 2 year, 3 year, 4 year & 5 year time frame
  - Top 50 companies
  - Top 100 companies
  - Top 250 companies
  - All 500 companies in the list
- To calculate the returns for the indices mentioned below for a 1 year, 2 year, 3 year, 4 year & 5 year time frame.
  - Dow Jones Industrials (DJI)
  - Dow Jones Composite (DJA)
  - S&P 500 (GSPC)
  - NYSE Composite (NYA)
  - NASDAQ Composite (IXIC)
  - Dow Jones Wilshire (DWC)
  - Russell 3000 (RUA)
- To find out the average returns given by the following clusters for a 1 year, 2 year, 3 year, 4 year & 5 year time frame
  - 1-100 companies
  - 101-200 companies
  - 201-300 companies
  - 301-400 companies
  - 401-500 companies
- To compare and contrast the average returns of the cluster and the returns of the indices for a 1 year, 2 year, 3 year, 4 year & 5 year time frame.

## REVIEW OF LITERATURE

- **Asset Management Working Group (AMWG), the United Nations Environment Programme Finance Initiative and Mercer. (2007) "Demystifying Responsible Investment Performance; A Review of Key Academic and Broker Research on ESG Factors".**
  "There is already explicit evidence and acknowledgment of the materiality of ESG factors and its influence in driving business strategy. Addressing ESG factors appears to be currently centered on improving risk management, mainly for large caps. The opportunity side is largely viewed through a thematic lens, mainly for small and mid caps, with a primary focus on environmental aspects."
- **Larson, Andrea. (2008) "Screening Investments of Stakeholders: Socially Responsible Investing in the United States". Vol., pp. 1-16,. Available at SSRN: http://ssrn.com/abstract=909027. Accessed: Nov. 13, 08.**

The goal of socially responsible investing (SRI) is to provide capital to the companies that are socially and environmentally responsible and to deny capital to the ones that are not. SRI involves integrating personal values and societal concerns with investment decisions so as to promote greater corporate responsibility. This technical note discusses the concept and three key strategies of SRI: screening, shareholder advocacy, and community investment. It also traces recent developments in SRI, from the 1960s to 2003. The note gives students an understanding of the rapid growth and performance of socially and environmentally screened investment funds.

- **Statman, Meir. (2007) "Socially Responsible Investors and Their Advisors". Santa Clara University - Department of Finance. Available at SSRN: http://ssrn.com/abstract=997085 Accessed: Nov. 14, 2008.**
  This article presents four financial advisors who advise socially responsible investors. They tell about the life experiences that have drawn them to socially responsible investing and offer lessons about serving socially responsible clients. Socially responsible investors are not only screening their investment choices, but some are also actively involved in changing the behavior of the firms in which they do invest. "We try to find good companies that we can help improve. Clients might be happy to hold a company that's great on human rights but has a lot of work to do on its environmental record as long as they know we're working with the company to improve its record. So our activism complements our investment process".
- **Dupre, Denis and Girerd-Potin, Isabelle. (2004) "The Philosophical, Ethical and Economic Foundations of Ethical Investment". Available at SSRN: http://ssrn.com/abstract=497223. Accessed: Nov. 13, 08.**
  This paper is theoretical in nature, and offers a good overview of the conceptual underpinnings of ethical investment within a historical context, addressing the traditional Marxist-Capitalism debate in relation to ethical investing. It also relates John Rawls' theory of justice, and Amarty Sen's capabilities and entitlements theory to a discussion on investment decisions. The author makes bold statements about the transformed role of the nation state, alluding to the hollowing out of the state. This certainly invites empirical research to test this statement. Although it offers an interesting argument for the future of SRI initiatives, it makes for good background reading rather than a seminal piece shaping the future of SRI from a policy perspective.

## RESEARCH METHODOLOGY

The study primarily focuses on those companies that are ranked green by the Newsweek. The suitable approach for the study falls under the category of Exploratory/Descriptive study. The study is categorised under Exploratory study because there is not much research done on this topic and review of literature related to the study is not available. It can be classified under Descriptive study because certain analysis has been done and conclusion has been drawn from them.

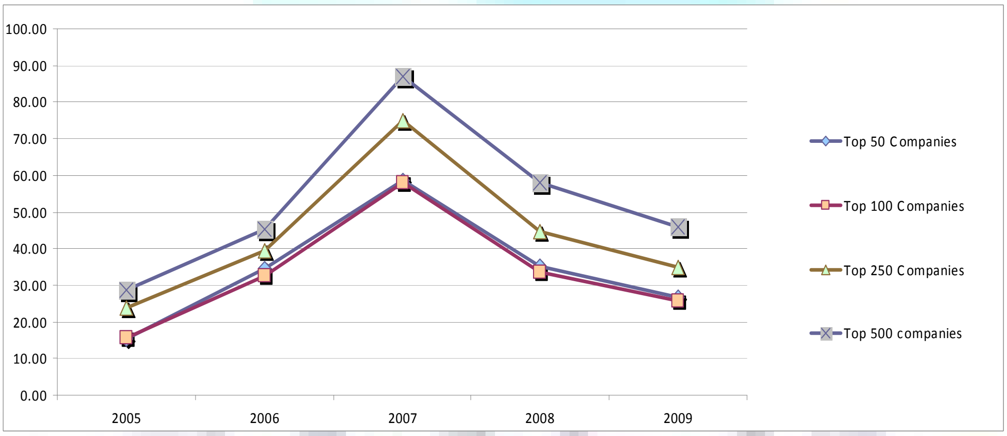
The population for the study includes all the companies listed in the US Stock Exchanges. The Sample of 500 companies is considered for the study. These companies are ranked as “green companies” by the Newsweek during the year 2009. The sampling technique followed can be categorized into Non-Probability - Purposive Sampling because the information is obtained from a specific person/organization. The study consists of only secondary data. No primary data were collected for this study. The data was collected from Newsweek’s website and the Daily adjusted closing share price of the sample was collected from the Yahoo website. (Yahoo Finance)

The following tools were used for analysis

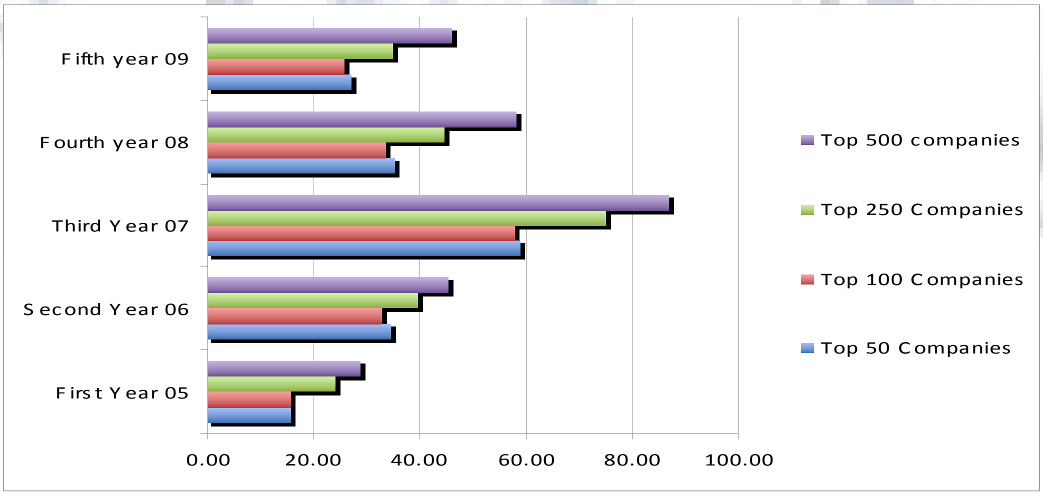
$$\text{Return} = \frac{\text{Ending price-Beginning price}}{\text{Beginning price}} \times 100$$

## ANALYSIS AND INTERTRETATION

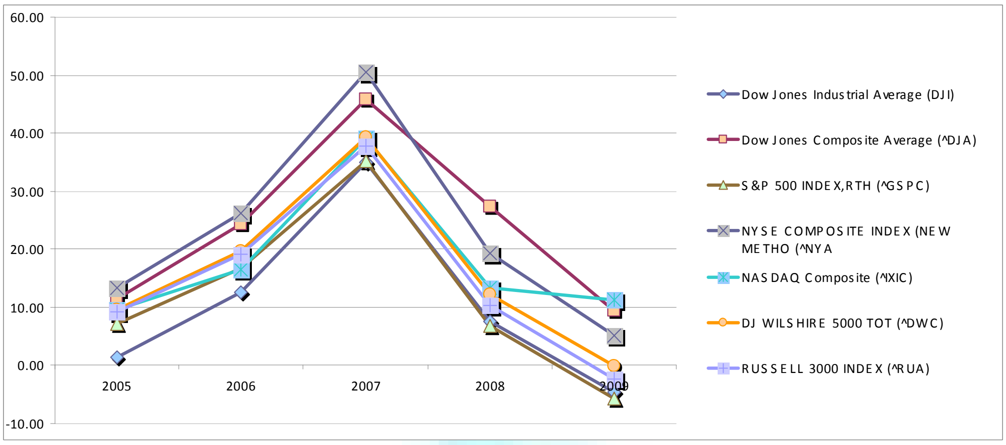
**GRAPH NO 1: AVERAGE RETURNS (IN %) FOR THE TOP COMPANIES**




**GRAPH NO 1A: AVERAGE RETURNS (IN %) FOR THE TOP COMPANIES**



**GRAPH NO 2: AVERAGE RETURNS (IN %) FOR THE INDICES**




**GRAPH NO 2A: AVERAGE RETURNS (IN %) FOR THE INDICES**

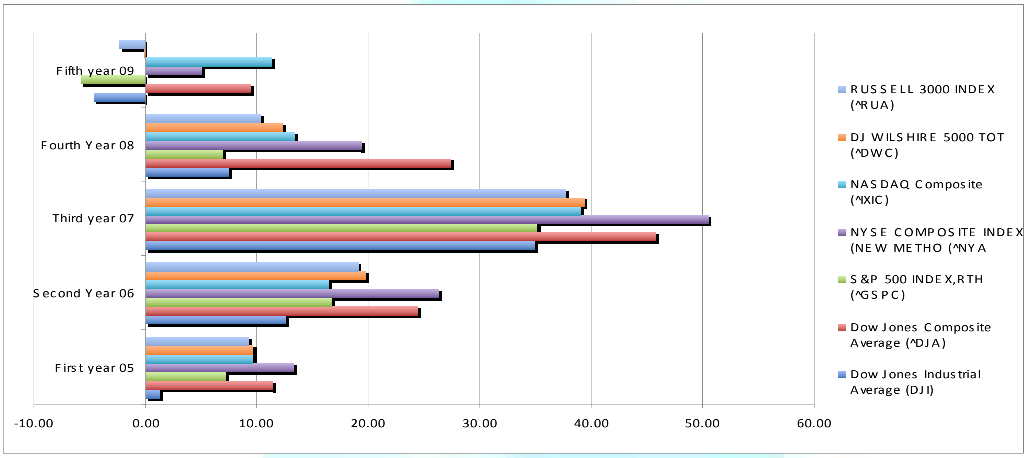



**TABLE NO 1: COMPARISON OF THE DOW JONES COMPOSITE AVERAGE (DJA) AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| Top 50 Companies | 15.39 | 34.57 | 58.71 | 35.08 | 26.86 |
| Top 100 Companies | 15.70 | 32.69 | 57.83 | 33.53 | 25.80 |
| Top 250 Companies | 23.84 | 39.48 | 74.94 | 44.53 | 34.95 |
| Top 500 companies | 28.82 | 45.31 | 86.92 | 58.07 | 45.97 |

**TABLE NO 1a: THE PERFORMANCE OF THE DOW JONES COMPOSITE AVERAGE (DJA) AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| Top 50 Companies | 3.94336797 | 10.1610607 | 12.9568457 | 7.7558968 | 17.39986 |
| Top 100 Companies | 4.25393684 | 8.2760154 | 12.0715326 | 6.2034602 | 16.3349 |
| Top 250 Companies | 12.3946955 | 15.0632682 | 29.1864662 | 17.201696 | 25.48143 |
| Top 500 companies | 17.3773546 | 20.8989512 | 41.1627869 | 30.747094 | 36.51056 |

The above table shows the performance of the top companies against the Dow Jones Composite Average. The performance table depicts the % by which the top companies have outperformed the Index.

**TABLE NO 2: COMPARISON OF THE S&P 500 INDEX AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| S&P 500 INDEX | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| Top 50 Companies | 15.39 | 34.57 | 58.71 | 35.08 | 26.86 |
| Top 100 Companies | 15.70 | 32.69 | 57.83 | 33.53 | 25.80 |
| Top 250 Companies | 23.84 | 39.48 | 74.94 | 44.53 | 34.95 |
| Top 500 companies | 28.82 | 45.31 | 86.92 | 58.07 | 45.97 |

**TABLE NO 2a: PERFORMANCE OF THE S&P 500 INDEX AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| Top 50 Companies | 8.227227 | 17.86149 | 23.60485 | 28.19527 | 32.58783 |
| Top 100 Companies | 8.537795 | 15.97645 | 22.71954 | 26.64283 | 31.52287 |
| Top 250 Companies | 16.67855 | 22.7637 | 39.83447 | 37.64107 | 40.66939 |
| Top 500 companies | 21.66121 | 28.59939 | 51.81079 | 51.18647 | 51.69852 |

The above table shows the performance of the top companies against the S & P 500 Index. The performance table depicts the % by which the top companies have outperformed the Index.

**TABLE NO 3: PERFORMANCE OF THE NYSE COMPOSITE INDEX (NYA) AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| Top 50 Companies | 2.097262 | 8.340657 | 8.22825 | 15.70554 | 21.80801 |
| Top 100 Companies | 2.407831 | 6.455611 | 7.342937 | 14.1531 | 20.74305 |
| Top 250 Companies | 10.54859 | 13.24286 | 24.45787 | 25.15134 | 29.88958 |
| Top 500 companies | 15.53125 | 19.07855 | 36.43419 | 38.69674 | 40.91871 |

The above table shows the performance of the top companies against the NYSE Composite Index. The performance table depicts the % by which the top companies have outperformed the Index.

**TABLE NO 4: COMPARISON OF THE NASDAQ COMPOSITE (IXIC) AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| Top 50 Companies | 15.39 | 34.57 | 58.71 | 35.08 | 26.86 |
| Top 100 Companies | 15.70 | 32.69 | 57.83 | 33.53 | 25.80 |
| Top 250 Companies | 23.84 | 39.48 | 74.94 | 44.53 | 34.95 |
| Top 500 companies | 28.82 | 45.31 | 86.92 | 58.07 | 45.97 |

**TABLE NO 4a: PERFORMANCE OF THE NASDAQ COMPOSITE (IXIC) AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| Top 50 Companies | 5.737514 | 18.09572 | 19.67008 | 21.66477 | 15.57607 |
| Top 100 Companies | 6.048083 | 16.21068 | 18.78477 | 20.11233 | 14.51112 |
| Top 250 Companies | 14.18884 | 22.99793 | 35.8997 | 31.11057 | 23.65764 |
| Top 500 companies | 19.1715 | 28.83361 | 47.87602 | 44.65597 | 34.68677 |

The above table shows the performance of the top companies against the NASDAQ Composite. The performance table depicts the % by which the top companies have outperformed the Index.

**TABLE NO 5: COMPARISON OF THE DJ WILSHIRE 5000 TOT (DWC) AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| Top 50 Companies | 15.39 | 34.57 | 58.71 | 35.08 | 26.86 |
| Top 100 Companies | 15.70 | 32.69 | 57.83 | 33.53 | 25.80 |
| Top 250 Companies | 23.84 | 39.48 | 74.94 | 44.53 | 34.95 |
| Top 500 companies | 28.82 | 45.31 | 86.92 | 58.07 | 45.97 |

**TABLE NO 5a: PERFORMANCE OF THE DJ WILSHIRE 5000 TOT (DWC) AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| Top 50 Companies | 5.748079683 | 14.8119419 | 19.39531 | 22.80318 | 26.95566 |
| Top 100 Companies | 6.058648561 | 12.9268966 | 18.51 | 21.25074 | 25.8907 |
| Top 250 Companies | 14.1994072 | 19.7141494 | 35.62493 | 32.24898 | 35.03723 |
| Top 500 companies | 19.18206632 | 25.5498323 | 47.60125 | 45.79437 | 46.06636 |

The above table shows the performance of the top companies against the DJ WILSHIRE 5000 TOT. The performance table depicts the % by which the top companies have outperformed the Index.

**TABLE NO 6: COMPARISON OF THE RUSSELL 3000 INDEX (RUA) AGAINST TOP COMPANIES**

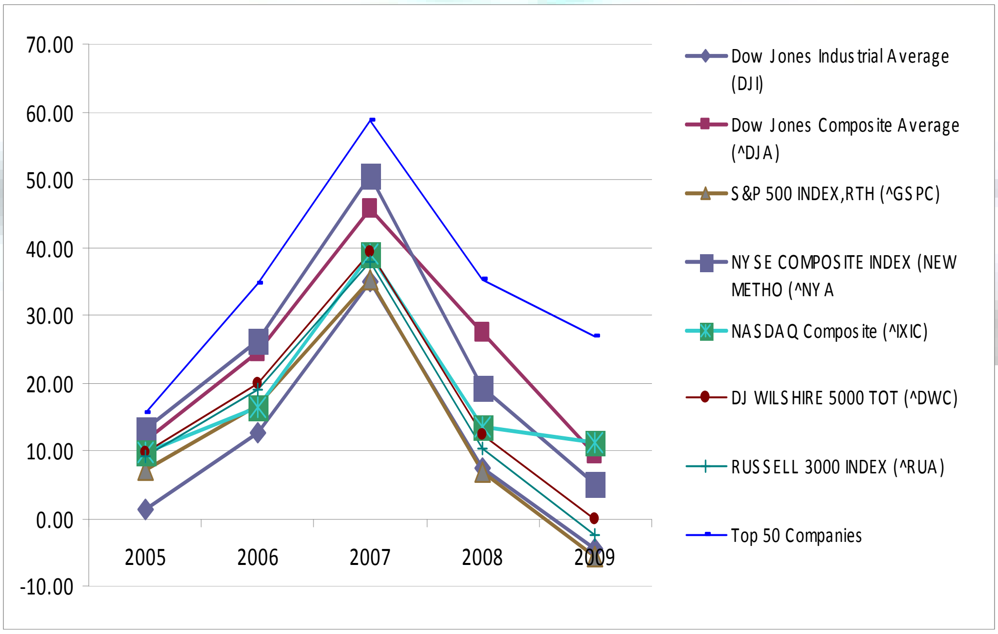
| | | | | | |
|---|---|---|---|---|---|
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |
| Top 50 Companies | 15.39 | 34.57 | 58.71 | 35.08 | 26.86 |
| Top 100 Companies | 15.70 | 32.69 | 57.83 | 33.53 | 25.80 |
| Top 250 Companies | 23.84 | 39.48 | 74.94 | 44.53 | 34.95 |
| Top 500 companies | 28.82 | 45.31 | 86.92 | 58.07 | 45.97 |

**TABLE NO 6a: PERFORMANCE OF THE RUSSELL 3000 INDEX (RUA) AGAINST TOP COMPANIES**

| | | | | | |
|---|---|---|---|---|---|
| Top 50 Companies | 6.139332 | 15.50503 | 20.98734 | 24.71535 | 29.22525 |
| Top 100 Companies | 6.449901 | 13.61998 | 20.10203 | 23.16292 | 28.16029 |
| Top 250 Companies | 14.59066 | 20.40723 | 37.21697 | 34.16115 | 37.30681 |
| Top 500 companies | 19.57332 | 26.24292 | 49.19329 | 47.70655 | 48.33594 |

The above table shows the performance of the top companies against the Russell 3000 Index. The performance table depicts the % by which the top companies have outperformed the Index.

**GRAPH NO 3: TOP 50 COMPANIES**



It can be inferred from the above graph that the top 50 companies has outperformed all the indices for the period ranging 2005-2009.

**TABLE NO 7: COMPARISON OF THE TOP 50 COMPANIES AGAINST THE INDICES**

| | | | | | |
|---|---|---|---|---|---|
| Top 50 Companies | 15.39 | 34.57 | 58.71 | 35.08 | 26.86 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

**TABLE NO 8: COMPARISON OF THE TOP 100 COMPANIES AGAINST THE INDICES**

| | | | | | |
|---|---|---|---|---|---|
| Top 100 Companies | 15.70 | 32.69 | 57.83 | 33.53 | 25.80 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

**TABLE NO 9: COMPARISON OF THE TOP 250 COMPANIES AGAINST THE INDICES**

| | | | | | |
|---|---|---|---|---|---|
| Top 250 Companies | 23.84 | 39.48 | 74.94 | 44.53 | 34.95 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

**TABLE NO 10: COMPARISON OF THE TOP 500 COMPANIES AGAINST THE INDICES**

| | | | | | |
|---|---|---|---|---|---|
| Top 500 companies | 28.82 | 45.31 | 86.92 | 58.07 | 45.97 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

**TABLE NO 11: COMPARISON OF THE TOP 1-100 COMPANIES AGAINST THE INDICES**

| | | | | | |
|---|---|---|---|---|---|
| Top 1 - 100 | 15.70 | 32.69 | 57.83 | 33.53 | 25.80 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

**TABLE NO 12: COMPARISON OF THE TOP 101-200 COMPANIES AGAINST THE INDICES**

| | | | | | |
|---|---|---|---|---|---|
| Top 101 – 200 | 32.44 | 45.80 | 91.51 | 54.88 | 44.92 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

**TABLE NO 13: COMPARISON OF THE TOP 201-300 COMPANIES AGAINST THE INDICES**

| | | | | | |
|---|---|---|---|---|---|
| Top 201 - 300 | 29.96 | 45.72 | 88.64 | 61.03 | 46.96 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

TABLE NO 14: COMPARISON OF THE TOP 301-400 COMPANIES AGAINST THE INDICES

| | | | | | |
|---|---|---|---|---|---|
| Top 301 - 400 | 28.08 | 49.14 | 97.40 | 57.97 | 44.35 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

TABLE NO 15: COMPARISON OF THE TOP 401-500 COMPANIES AGAINST THE INDICES

| | | | | | |
|---|---|---|---|---|---|
| Top 401 - 500 | 38.92 | 53.64 | 100.12 | 84.44 | 68.27 |
| Dow Jones Industrial Average (DJI) | 1.30 | 12.58 | 34.90 | 7.52 | -4.55 |
| Dow Jones Composite Average (DJA) | 11.45 | 24.41 | 45.75 | 27.33 | 9.46 |
| S&P 500 INDEX,RTH (GSPC) | 7.16 | 16.71 | 35.11 | 6.89 | -5.72 |
| NYSE COMPOSITE INDEX (NEW METHO (NYA) | 13.29 | 26.23 | 50.48 | 19.38 | 5.06 |
| NASDAQ Composite (IXIC) | 9.65 | 16.48 | 39.04 | 13.42 | 11.29 |
| DJ WILSHIRE 5000 TOT (DWC) | 9.64 | 19.76 | 39.32 | 12.28 | -0.09 |
| RUSSELL 3000 INDEX (RUA) | 9.25 | 19.07 | 37.72 | 10.37 | -2.36 |

## FINDINGS

- The pattern of returns from the green rated companies is similar to the market returns except the fact that they outperform the indices.
- The Top 50,100,250 and 500 companies have outperformed the various indices like_Dow Jones Industrials (DJI), Dow Jones Composite (DJA), S&P 500 (GSPC),NYSE Composite (NYA), NASDAQ Composite (IXIC), Dow Jones Wilshire (DWC), Russell 3000 (RUA).
- It is also found that the cluster of 1-100, 101-200,201-300,301-400 and 401-500 has also outperformed the broad market return and gives better average returns than any indices selected for comparison, which indicates that a group of green rated companies perform better than the indices.
- It was found that the average return of top companies 401-500 is more than all others top companies (i.e. 1-100, 101-200, 201-300, 301-400) in the list, which tells us that companies ranked the last 100, perform financially better than first 400.
- It can be supported by fact that most of high profit making companies such as Chesapeake Energy, Diamond Offshore Drilling, and Occidental Petroleum are ranked in the last 100.
- As most group of ranked companies perform better than the indices compared in the study, it can be said that the companies present in indices are not able to match the returns that the green rated companies of Newsweek fetches.
- The average returns of all companies (i.e. 1-100, 101-200, 201-300, 301-400, 401-500) starts decreasing in fourth and fifth year, 2008 and 2009 respectively due to global "slowdown" , which affected all the companies listed in the stock market.

## RECOMMENDATIONS

- Investors are demanding green products which have a lesser amount of impact on the environment and are willing to pay extra. Thus there lies a huge potential for companies that manufacture green/ eco-friendly products.
- Multiple Portfolio's can be constructed using portfolio models like Markowitz model, CAPM model, MPT model etc from the top 500 ranked companies.
- Investor who wants to invest in hardcore green companies can invest in the top 100 companies though they do not give higher returns when compared to the other companies in the list.
- Green companies are now gaining greater consumer acceptance and investors can invest their money in green businesses because sustainable practices are profitable in the long term.

## CONCLUSION

It is understood from the study that the corporations in the USA have started realising the need for going green. It is evident that the top ranked 500 green companies have outperformed the broad market return. Many companies have understood that environmental issues are a vital part of a company's economic well-being. Multiple Portfolios' can be constructed for the investors who are interested in investing in hardcore green companies.

From the analysis done it can be concluded that a new wave of environmental investors is looking at environmental protection as an opportunity, and they are investing in market sectors that are eco-friendly and are responsible. Investors now have a greater chance of making money by investing in these green companies and the new technologies. Companies seem to be positive and are focusing on sustainability as it reduces cost and also helps to protect the environment. Many citizens throughout the world are demanding environmentally friendly products and it can be concluded from the study that the future of sustainability looks green.

## BIBLIOGRAPHY


- **Engardo, Pete**. "Beyond the Green Corporations." *Business Week,* issue 4019 (29 January 2007)
- Green investing proves a winning strategy, by Martin de Sa'Pinto, November 13, 2008, *Reuters,* Switzerland.
- *http://www.cleanedge.com/*
- *http://www.greenbiz.com/*
- *http://www.greenbizleaders.com/*
- *http://www.stateofgreenbusiness.com/*
- *http://www.msnbc.msn.com/id/17950339/*
- http://www.newsweek.com/id/215522
- http://greenrankings.newsweek.com/
- http://www.investopedia.com/articles/07/clean_and_green.asp?viewed=1
- http://richard-wilson.blogspot.com/2008/09/socially-responsible-investing.html

# INFLATION AND EXCHANGE RATE, AND ITS IMPACT ON TRADE IN PAKISTAN (1980-2010)

*DR. ABDUL QAYYUM KHAN*
*ASST. PROFESSOR*
*COMSATS INSTITUTE OF INFORMATION TECHNOLOGY*
*WAH CANTT CAMPUS*
*PAKISTAN*

## ABSTRACT

*The paper explicates expected inflation in Pakistan, UK and USA and inaugurate inflationary/deflationary gap between Pakistan and USA and between Pakistan and UK. Further, this paper appraises predictions for appreciation/depreciation of currency on the basis of inflationary/deflationary gap, and evaluates expected gains/losses from export receipts and import payments on the basis of depreciation/appreciation of currency. For analysis, ARIMA model with ordinary least square method is used. The study reveals that positive gap in inflation between two countries is responsible for domestic currency depreciation, while negative inflationary gap insinuates appreciation of domestic currency. This study further reveals that comparative high inflation increases our export receipts and import payment, whereas comparative low inflation reduces our export receipts and import payments. The findings of the study suggest that parallel and harmonized fiscal and monetary policies are required to check inflation as well as foreign reserve outflow. Monetary policy needs more attention as inflationary/deflationary situation is mostly dealt with interest rate. Fiscal policy is then more involved in planning for extra receipts from export due to devaluation and extra payments from import due to appreciation of currency.*

## KEYWORDS

Forecasting of inflation, exchange rate, ARIMA model and exports/imports, gain/loss.

## INTRODUCTION

In the present unstable economic condition it is very hard for the Government of Pakistan to dole out its debt from revenues, and is borrowing to finance its debt servicing obligations. The large debt burden problem facing Pakistan's economy has pushed policy makers to pay special attention to this particular issue, with the objective of trying to introduce proper policy to reduce the debt burden without creating inflationary situation for the economy. Inflation is considered as the main problem for all developing countries, as these countries are more prone to external shocks due to limited financing opportunities, inequitable corrective policies, baggy political situation, and bounded donor' conditionality. Most of the developing countries meet their excess expenditure than their revenue, and confine in a budget deficit. Pakistan is one of the developing countries facing the same situation.

Exchange rate policy has considerable implications for developing countries. Pakistan followed fixed exchange rate policy, from early 1950 to 1982. In the entire period, the currency was devalued against US dollar once in May 1972.There is extensive literatures on devaluation and its related features. Many developing countries followed this practice in 1980s, after the success of floating exchange rate policy. Pakistan implemented the managed floating exchange rate policy in 1982.

Exchange rate estimates the price the country currency's expressed in terms of one unit of another country's currency. After World War II a system of adjustable peg known as Britton Woods's system was commenced. Under this system United State dollar was pegged to gold at fixed parity of US$ 35 per ounce of gold. The authorities of United States (US) prepared to buy and sell unlimited amounts of gold at the official rate. All of the other countries currencies were pegged against the dollar. Chronic inflation and escalating depreciation of currency have become major concerns both for developed and developing countries.

## LITERATURE REVIEW

An extensive theoretical and empirical literature has been developed to examine the relationship between the inflation and exchange rates. Friedman (1968) argued that the monetary authorities could control the inflation rates, especially in the long run, with control of the money supply. Sargent and Wallace (1981) have supported the proposition that Central Bank will be obliged to monetise the deficit either at the same time or in later periods. Such monetisation results in an increase in the money supply and the rate of inflation in the long run. Miller (1983) argues that government budget deficits are necessarily inflationary irrespective of the situation whether the deficits are monetised or not. Barro (1978, 1979) has hypothesized that deficits are as a result of inflation, rather than inflation being a result of deficits. Hossain (1986) argues that changes in the prices of traded goods in international market, real income, real money supply, the expected rate of inflation, and changes in terms of trade between traded and non-traded goods are the major determinants of inflation in Pakistan.

Chaudhary and Anjum (1996) argue that sustainability of fiscal deficit have an important bearing on macroeconomic policies. Inflation and increasing burden of debt servicing are linked with budget deficit. Bundt and Solocha (1988) focus on the relationship between budget deficits and exchange rate. They argue that in an open economy, portfolio crowding-out can arise through the exchange rate affecting the current account. Mundell (1963) and Fleming (1962), argue that in a small open economy model, where prices are fixed and exchange rate are expected to be static, fiscal policy with expansionary debt-financing is completely crowded out under a flexible exchange rate and perfect capital mobility. Bisignano and Hoover (1982) show how increases in the deficit may appreciate or depreciate the exchange rate depending on the relative importance of wealth effects and relative asset substitution effects. They conclude that the deficit, combined with tight monetary policy, will cause the currency to appreciate. Burney and Akhtar (1992) argue that, budget deficits have significant positive impact on the real exchange rate directly as well as indirectly through the price level.

The latest studies in Pakistan present consistent evidence that domestic price level retorts significantly but steadily the exchange rate devaluation (Ahmad and Ram, 1991; Bilquees, 1988; Hassan and Khan, 1994; Khan and Qasim, 1996). It has also been observed that domestic inflation is the main energetic force behind the principal objective of currency adjustment to conserve a competitive Real Exchange Rate (Burney and Akhtar, 1992; and Mahmood et al. 1996). There are numerous ways through which the domestic price level retorts to the changes in prices of traded goods due to currency adjustments 9Sodersten and Reed, 1994). The literature has also exposed that domestic inflation is the strong driving force behind the practices of currency devaluation (e.g. Sodersten and Reed, 1994a).

The recent experience of currency devaluation and price inflation in Pakistan gives interesting information to deal with the above issue. An ordinary insight is that the practice of repetitive currency devaluation is the main cause of inflation in Pakistan. This would indicate that the general price level in Pakistan bends quickly to the traded goods prices. On the other hand, the policy makers believed that currency devaluation is essential to maintain competitive strength in the world market as inflation rate in Pakistan is higher than the world inflation rate.

Keeping in view this background, this research aims to study the relationship between the difference in increase/decrease in inflation rates between two countries and nominal exchange rate. This framework allows us to trace the expected difference in inflation and its impact on depreciation/appreciation of currency. The research will enable us to make financial planning for extra export receipts and payments for import in case of depreciation, and less export receipts and payments for import in case of appreciation.

The main objectives of the present study are: (i) to calculate expected inflation for Pakistan, UK and USA (ii) to find inflationary/deflationary gap between Pakistan and USA, and between Pakistan and UK (iii) to make prediction for appreciation/depreciation of currency on the basis of inflationary/deflationary gap

(iv) to estimate expected gain/loss from export receipts and import payments on the basis of depreciation/appreciation of currency (v) to suggest policy measures for inflation control and their ultimate impact on export (import) gain (loss) due to domestic currency depreciation (appreciation).

## DATA AND METHODOLOGY

This study will use annual data for the period 1980-2010 for Pakistan, UK and USA respectively. Different sources for the data have to be reached (Pakistan government, private sector, and international organizations) to find out the nature of the available data. A non-seasonal ARIMA model denoted by ARIMA (p, d, q), (Box and Jenkins, 1976) will be used with ordinary least square method for estimation of results.

$y_t = \eta + \alpha_1 y_{t-1} + \alpha_2 y_{t-2} + \dots + \alpha_p y_{t-p} + \beta 0\, \mu_t + \beta_1 \mu_{t-1} + \beta_2 \mu_{t-2} + \dots + \beta_q \mu_{t-q} + \mu_t$ ..... (1)

Where η is constant, $\mu_t$ is residual term. p is the order of auto regressive process, d is the order of homogeneity i.e. the numbers of difference to make the series stationary and q is the order of moving average process.

The data utilized for the estimation will be yearly data from 1980-2010. However, it will be necessary, before starting to perform any empirical estimation of the model, to analyze the time series data, which will be used in this study. The analysis of data depends on finding out whether the series are stationary or non–stationary. However, firstly, to test if a time series is non–stationary this study will use the Augmented Dickey-Fuller test, which examines the hypothesis that the variable in question has a unit root. If the series is found to have a unit root differencing the data is appropriate, to avoid the problem of spurious regression arising from non-stationarity in the time series. Statistical software packages like MINITAB and E.View have been used to estimate the coefficients of the model.

## RESULTS AND DISCUSSIONS

The results of this study are given in Tables 1, 2, 3, 4, 5, 6, 7 and 8 in details. The results in Table 1 and 2 of the unit root test indicate that inflation for three countries (Pakistan, UK and USA) are non-stationary at level whether trend is included or not. The results illustrate that first differenced series ("d") showed appropriate stationary behavior than the second differenced series ("d"). The selected value of'd' was '1'. The selected value of parameters 'p' and 'q' were found '2' and '2' respectively. As such, ARIMA (2, 1, 2) model was selected and estimated. The model results for the three countries are given in tables 3, 4 and 5. The results indicate that parameters of ARIMA model used for Pakistan are statistically significance at 1% level of significance for AR(2) and MA(2), parameters for USA are statistically significance at 1% level of significance for MA(2), while parameters for UK are statistically significance at 10% level of significance for AR(2) .

Forecasts for inflation (with 95% confidence intervals) were generated by using ARIMA (2, 1, 2) model for the period 2011 to 2030. Forecasts (with their upper & lower limits at 95% confidence intervals) are presented in Table 4. Data presented in Table 4 show that inflation would increase for all the three countries but intensity of increase in Pakistan is greater than that of USA and UK. This means that the difference in increase between Pakistan and USA and between Pakistan and UK is positive for most of the predicted years. The positive difference in increase in inflation between Pakistan and any other country lead to depreciation of Pakistani currency by the difference margin. Similarly, the negative difference of increase in inflation between Pakistan and any other country lead to appreciation of Pakistani currency by the difference margin.

Tables 7 and 8 depict Pak Rupees value against US dollar and UK pound and expected gain/loss from export receipts and import payments due depreciation and appreciation of rupees. The results indicate that gain from export receipts and loss from import payment in US dollar and UK pound increase for 2011 and 2012 due to depreciation of local currency against US dollar and UK pound. In the next two years i.e. in 2013 and 2014 gain from export receipts and loss from import payments in US dollar and UK pound decreases due to appreciation of rupees against dollar and pound. In 2015 and 2016 the gain from export receipts and loss from import payments in US dollar and UK pound increase, while, in 2017 the gain from export receipts and loss from import payments in US dollar and UK pound decrease (see Table 8). The results of Table 8 further indicate that gain from export receipts and loss from import payments in US dollar and UK pound increase in 2018 and 2019, decrease in 2020 and 2021, increase in 2022 and 2023, decrease in 2024, increase in 2025 and 2026, decrease in 2027 and 2028, and increase in 2029 and 2030 due to depreciation/appreciation of Pak rupees against UK pound.

**TABLE 1: ADF TEST FOR STATIONARITY (INCLUDES INTERCEPT BUT NOT A TREND)**

| Variables | I(0) | | I(1) | | I(2) | | Result |
|---|---|---|---|---|---|---|---|
| | Test statistics[1] | Critical value | Test statistics | Critical value | Test statistics | Critical value | |
| INF Pakistan | 0.3205[0] | -3.6422 | -6.2061[0] | -3.6496 | | | I(1) |
| INF UK | -1.7403[1] | -3.6496 | -5.5255[1] | -3.6496 | | | I(1) |
| INF USA | -2.8745[0] | -3.6422 | -5.7169[0] | -3.6496 | | | I(1) |

[1] Figures in square brackets besides each statistics represent optimum lags, selected using the minimum AIC value. INF stands for inflation.

**TABLE 2: ADF TEST FOR STATIONARITY (INCLUDES INTERCEPT AND A TREND)**

| Variables | I(0) | | I(1) | | I(2) | | Result |
|---|---|---|---|---|---|---|---|
| | Test statistics[1] | Critical value | Test statistics | Critical value | Test statistics | Critical value | |
| INF Pakistan | -1.9760[0] | -4.2605 | -6.3844[0] | -4.2712 | | | I(1) |
| INF UK | -1.9677[0] | -4.2605 | -4.8225[1] | -4.2826 | | | I(1) |
| INF USA | -2.8357[0] | -4.2605 | -5.5901[0] | -4.2712 | | | I(1) |

[1] Figures in square brackets besides each statistics represent optimum lags, selected using the minimum AIC value. INF stands for inflation.

**TABLE 3: ESTIMATES OF THE PARAMETERS (PAKISTAN)**

| Parameter | Value | Coef | SE Coef | t-value |
|---|---|---|---|---|
| AR (p) | 1 | -0.4056 | 0.2556 | -1.59 |
| | 2 | -1.0081 | 0.2442 | -4.13 |
| MA (q) | 1 | -0.0287 | 0.3706 | -0.08 |
| | 2 | -0.8566 | 0.3714 | -2.31 |
| Constant | | 0.910 | 1.100 | 0.83 |

**TABLE 4: ESTIMATES OF THE PARAMETERS (USA)**

| Parameter | Value | Coef | SE Coef | t-value |
|---|---|---|---|---|
| AR (p) | 1 | -0.4827 | 0.3097 | -1.56 |
| | 2 | 0.0401 | 0.2922 | 0.14 |
| MA (q) | 1 | 0.0423 | 0.2683 | 0.16 |
| | 2 | 0.8945 | 0.2661 | 3.36 |
| Constant | | -0.15231 | 0.03159 | -4.82 |

**TABLE 5: ESTIMATES OF THE PARAMETERS (UK)**

| Parameter | Value | Coef | StDev | t-value |
|---|---|---|---|---|
| AR (p) | 1 | 0.1988 | 0.4100 | 0.48 |
| | 2 | -0.6578 | 0.4100 | -1.60 |
| MA (q) | 1 | 0.1723 | 0.5114 | 0.34 |
| | 2 | -0.3604 | 0.5187 | -0.69 |
| Constant | | -0.2139 | 0.2147 | -1.00 |

**TABLE 6: FORECAST FOR INFLATION IN PAKISTAN, USA AND UK**

| Year | Pakistan | | | USA | | | UK | | |
|---|---|---|---|---|---|---|---|---|---|
| | Forecast Value | Lower Limit (95%) | Upper Limit (95%) | Forecast Value | Lower Limit (95%) | Upper Limit (95%) | Forecast Value | Lower Limit (95%) | Upper Limit (95%) |
| 2011 | 15.5 | 8.9 | 22.1 | 2.8 | 0.6 | 5.0 | 3.5 | 1.59 | 5.4 |
| 2012 | 20.8 | 13.1 | 28.4 | 1.0 | -1.3 | 3.5 | 3.2 | 0.42 | 5.9 |
| 2013 | 15.5 | 6.7 | 24.3 | 1.8 | -0.6 | 4.2 | 2.7 | -0.33 | 5.9 |
| 2014 | 13.2 | 2.2 | 24.2 | 1.2 | -1.2 | 3.7 | 2.7 | -0.66 | 6.07 |
| 2015 | 20.4 | 8.1 | 32.7 | 1.4 | -1.0 | 3.8 | 2.7 | -0.99 | 6.4 |
| 2016 | 20.7 | 7.9 | 33.5 | 1.1 | -1.3 | 3.6 | 2.5 | -1.54 | 6.7 |
| 2017 | 14.2 | 0.3 | 28.1 | 1.1 | -1.3 | 3.6 | 2.3 | -2.11 | 6.7 |
| 2018 | 17.5 | 2.0 | 32.9 | 0.9 | -1.5 | 3.4 | 2.1 | -2.51 | 6.8 |
| 2019 | 23.6 | 7.6 | 39.6 | 0.8 | -1.5 | 3.3 | 2.0 | -2.82 | 7.0 |
| 2020 | 18.8 | 2.3 | 35.2 | 0.7 | -1.7 | 3.2 | 1.9 | -3.21 | 7.1 |
| 2021 | 15.5 | -2.2 | 33.2 | 0.6 | -1.8 | 3.1 | 1.7 | -3.65 | 7.2 |
| 2022 | 22.6 | 3.9 | 41.3 | 0.5 | -1.9 | 3.0 | 1.6 | -4.04 | 7.2 |
| 2023 | 23.98 | 5.0 | 42.9 | 0.4 | -2.0 | 2.9 | 1.4 | -4.37 | 7.3 |
| 2024 | 17.1 | -2.5 | 36.8 | 0.3 | -2.1 | 2.8 | 1.3 | -4.71 | 7.4 |
| 2025 | 19.4 | -1.3 | 40.2 | 0.2 | -2.2 | 2.7 | 1.1 | -5.07 | 7.4 |
| 2026 | 26.3 | 5.0 | 47.6 | 0.1 | -2.3 | 2.6 | 1.03 | -5.43 | 7.5 |
| 2027 | 22.1 | 0.5 | 43.7 | 0.03 | -2.4 | 2.5 | 0.89 | -5.76 | 7.5 |
| 2028 | 17.8 | -4.7 | 40.3 | -0.06 | -2.5 | 2.4 | 0.75 | -6.08 | 7.5 |
| 2029 | 24.7 | 1.3 | 48.0 | -0.17 | -2.6 | 2.3 | 0.61 | -6.41 | 7.6 |
| 2030 | 27.1 | 3.5 | 50.7 | -0.27 | -2.7 | 2.2 | 0.45 | -6.74 | 7.6 |

**TABLE 7: FORECAST FOR USA AND UK CURRENCIES RATES AGAINST PAK RUPEES**

| Year | USD vs PKR | UK vs PKR |
|---|---|---|
| 2011 | 87.34 | 141.22 |
| 2012 | 93.45 | 149.20 |
| 2013 | 86.91 | 141.87 |
| 2014 | 85.44 | 138.74 |
| 2015 | 91.46 | 148.68 |
| 2016 | 91.96 | 149.34 |
| 2017 | 86.02 | 140.07 |
| 2018 | 88.94 | 144.85 |
| 2019 | 94.47 | 153.83 |
| 2020 | 90.00 | 146.55 |
| 2021 | 87.11 | 141.99 |
| 2022 | 93.43 | 152.38 |
| 2023 | 94.78 | 154.61 |
| 2024 | 88.41 | 144.24 |
| 2025 | 90.55 | 147.82 |
| 2026 | 96.86 | 158.20 |
| 2027 | 92.88 | 151.76 |
| 2028 | 88.99 | 145.45 |
| 2029 | 95.22 | 155.70 |
| 2030 | 97.65 | 159.73 |

**TABLE 8: EXPECTED GAIN/LOSS FROM EXPORT RECEIPTS AND IMPORT PAYMENTS**

| Year | Receipts from Exports | | Payments for Imports | |
|---|---|---|---|---|
| | Against USD | Against UKP | Against USD | Against UKP |
| 2011 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2012 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2013 | Decrease ↓ | Decrease ↓ | Decrease ↓ | Decrease ↓ |
| 2014 | Decrease ↓ | Decrease ↓ | Decrease ↓ | Decrease ↓ |
| 2015 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2016 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2017 | Decrease ↓ | Decrease ↓ | Decrease ↓ | Decrease ↓ |
| 2018 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2019 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2020 | Decrease ↓ | Decrease ↓ | Decrease ↓ | Decrease ↓ |
| 2021 | Decrease ↓ | Decrease ↓ | Decrease ↓ | Decrease ↓ |
| 2022 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2023 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2024 | Decrease ↓ | Decrease ↓ | Decrease ↓ | Decrease ↓ |
| 2025 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2026 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2027 | Decrease ↓ | Decrease ↓ | Decrease ↓ | Decrease ↓ |
| 2028 | Decrease ↓ | Decrease ↓ | Decrease ↓ | Decrease ↓ |
| 2029 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |
| 2030 | Increase ↑ | Increase ↑ | Increase ↑ | Increase ↑ |

## CONCLUSION

Results of this study are highly meaningful in general and particularly for policy makers. Outcomes of the study reveal that the positive difference in inflation growth of host country with respect to foreign country almost leads to the same level of depreciation, while negative difference in inflation growth of host country with respect to foreign country leads to same level of appreciation of currency. Depreciation of currency increases both receipts and payments in foreign currency, while appreciation reduces both receipts and payments in foreign currency. The results of the forecasting indicate that government planning authority should arrange extra payments for import bills and have to plan for extra receipts from export bills due to depreciation of currency. Similarly, planning authority should plan for retrieving fund obtained from less payments of import bills and have to prepare for less receipts from export bills due to appreciation of currency. The conclusion of this study suggests that Pakistan needs to harmonize the fiscal policy with exchange rate policy for sustainable trade deficit planning. This will help to reduce country reliance on foreign borrowings both for budget deficit and trade deficit financing as well.

## REFERENCES


Ahmad, E., and H. Ram (1991). "Foreign Price Shocks and Inflation in Pakistan: A Monetarist Approach". *Pakistan Economics and Social Review* 29:1, 1-20.

Barro, R. J. (1974). "Are Government Bonds Net Wealth?" *Journal of Political Economy* 82:6, 1095-1117.

Barro, R. J. (1978). "Comments from an Unreconstructed Ricardian". *Journal of Monetary Economic* 4:3, 569-581.

Barro, R. J. (1979). "On the Determination of the Public Debt". *Journal of Political Economy* 87:5, 940-971.

Bilqees, F. (1988). "Inflation in Pakistan: Empirical Evidence on the Monetarist and Structuralist Hypothesis. *The Pakistan Development Review* 27:2, 109-130.

Bisignano, J. and K. D. Hoover (1982). "Monetary and Fiscal Impacts on Exchange Rates". *Economic Review (Federal Reserve Bank for Sanfrancisco).* First Quarter, 19-33.

Box, G.E.P. and G.M. Jenkins. (1976). "The Time Series Analysis: Forecasting and Control, Holdon-Day, San Francisco.

Bundt, T. and A. Solocha (1988). "Debt, Deficits, and Dollar". *Journal of Policy Modeling* 10: 4, 581-600.

Burney, A. N., and N. Akhtar (1992). "Government Budget Deficits and Exchange Rate Determination: Evidence from Pakistan". *The Pakistan Development Review* 31: 4 part II, 871-882

Chaudhary, M.A., and S.W. Anjum (1996). "Macroeconomic Policies and Management of Debt, Deficit, and Inflation in Pakistan". *The Pakistan Development Review* 35: 4: part II, 773-786.

Fieleke, N. S. (1987). "The Budget deficit: Are the International Consequences Unfavorable?" in Fink, R. and High, J. (Eds.). *A Nation in Debt: Economists Debate the Federal Budget Deficit.* Maryland: University Publications of America, Fredrick. 171-180.

Fleming, J. M. (1962). "Domestic Financial Policies Under Fixed and Under Floating Exchange Rate". *International Monetary Fund Staff Papers.*.9, 369-379.

Friedman, M. (1968). "The Role of Monetary Policy". *American Economic Review* 58: 1, 1-17.

Govt. of Pakistan. Pakistan Economic Survey, (various issues), Ministry of Finance.

Hassan, M.A., and A.H. Khan (1994). "Impact of Devaluation on Pakistan's External Trade: An Econometric Approach. *The Pakistan Development Review* 33:4, 1205-1215.

Hossain, MD. A. (1986). "Monetary Disequilibrium and Inflation: A Monetary Model of Inflation in Pakistan, 1963-82". *The Pakistan Development Review* XXV: 2, 141-162.

IMF. (2005). Int. Financial Statistics*.* Washington, D.C. Int. Monetary Fund.

Khan, A.H., and M.A. Qasim (1996). "Inflation in Pakistan Revisited. *The Pakistan Development Review* 35: 4, 747-757.

Khan, M. et.al (2008). "Forecasting Mango Production in Pakistan, An Econometric Model Approach". *Sarhad J. Agri.* 24: 2, 363-369.

Mahmood, Z., R. Siddiqui, and U. Afridi (1996). "Exchange Rate Determination in Pakistan: A Simultaneous Equation Model". *The Pakistan Development Review* 35: 4, 537-548.

Miller, P. (1983). "Higher Deficit Policies Lead to Higher Inflation". *Quarterly Review,* Federal Reserve Bank of Minneapolis. 5, 8-19.

Mundell, R. A. (1963). "Capital Mobility and Stabilization Policy Under Fixed and Flexible Exchange Rate". *Quarterly Journal of Economics*. 74, 227-257.

Sargent, T. and N. Wallace (1981). "Some Unpleasant Monetarist Arithmetic". *Quarterly Review,* Federal Reserve Bank of Minneapolis. 5, 1-18.

Sodersten, B., and G. Reed (1994). Macroeconomic Policy with Fixed and Pegged Exchange Rates". In Bo Sdersten and Geoffery Reed (Eds). *International Economics Third Edition.* Houndmills, Basingstoke: The McMillan Press Ltd. 613-641.

Sodersten, B., and G. Reed (1994a). "The Determination of Floating Exchange Rates". In Bo Sdersten and Geoffery Reed (Eds). *International Economics Third Edition.* Houndmills, Basingstoke: The McMillan Press Ltd. 571-595.

# PSYCHOLOGICAL MAPPING OF STUDENTS TOWARDS COSMETIC BRANDS: AN EMPIRICAL STUDY

*DR. D.S. CHAUBEY*
*DIRECTOR*
*UTTRANCHAL INSTITUTE OF BUSINESS STUDIES*
*DEHRADUN*

*JYOTI SHARMA*
*RESEARCH SCHOLAR*
*UTTRAKHAND TECHNICAL UNIVERSITY*
*DEHRADUN*

*PRABHAT RANJAN PRASAD*
*RESEARCH SCHOLAR*
*DEPARTMENT OF MANAGEMENT STUDIES*
*DRAVIDIAN UNIVERSITY*
*KUPPAM*

## ABSTRACT
*This study analyses the effect of perceived instrumental/utilitarian and emotional brand benefits on student's satisfaction regarding cosmetic brands, focusing on relief from dissatisfaction with one's self-image as one of the important identified emotional experiences of the brand. A survey of 244 students was carried out, assessing instrumental and emotional brand benefits as well as the degree of satisfaction of the brand used by each interviewed participant. The results from the factor analysis of the collected data indicate that, the brands of used cosmetics contribute to satisfaction as both utilitarian and emotional brand benefits - with an overall stronger influence of emotional consumption experiences. The greatest influences were found for the feeling of relief from dissatisfaction with one's self-image. This research reveals that feeling better and looking attractive to have pleasant texture and to make social interaction a success, overall, the influence of emotional consumption experiences seems to be more significant.*

## KEYWORDS
Brand associations, physical attractiveness, cosmetics consumption, advertising, consumer's psychology.

## INTRODUCTION
In today's society, beauty and physical attractiveness are constantly emphasized as desirable and admirable characteristics. Cosmetics products used for the purpose of cleansing, beautifying, promoting attractiveness or alternating one's appearance. It is applied to the human body for cleansing, colouring, conditioning, or protecting the skin, hair, nails, lips, eyes, or teeth. The cosmetics industry is a multinational, multi-billion-dollar industry. As the consumers' lifestyles are changing significantly, in the recent years, Indians, who have long been perceived to be more savers than spenders, increasingly loosened their purses strings and started to "live for today". This changing mindset led to consumers pampering themselves and spending more on cosmetics and toiletries. The desire to improve one's physical attractiveness seems to be an inherent characteristic of most individuals. Researcher argued that cosmetics are used specifically as a part of human grooming behaviour. And the grooming behaviours in general, function to manage and to control not only the social impressions but also the self-image (for example, body image, self-perceptions, and mood states). These findings indicate that the benefits sought after in the purchase of cosmetics in general as well as in deciding on a specific cosmetic brand are not limited to instrumental or functional benefits but may also be related to emotional consumption experiences. It is therefore, not surprising that a significant share of the claims in cosmetic brand advertising are related to subjective psychological consumption motives, rather than objective outcomes. The aim of this study is to explore the brand associations of cosmetic brands from consumers' perspective and to analyze the comparative effects of identified brand benefits on the level of satisfaction.

## REVIEW OF LITERATURE
### CUSTOMER SATISFACTION
Among researchers, the concept of customer satisfaction is usually discussed from two different perspectives: According to a cognitive perspective, this term is understood to be the assessment resulting from comparing customers' expectations and their perception of the value of the product/service received (Churchill and Surprenant, 1982; Oliver and DeSarbo, 1988). From an emotional perspective, satisfaction is considered a positive emotional state resulting from the consumption experience (Mano and Oliver, 1993; Westbrook and Oliver, 1991). On the other hand, customer satisfaction also depends on perceived value (Bolton and Drew, 1991; Ravald and Grönroos, 1996), which can be defined as "the consumer's overall assessment of the utility of a product/brand, based on perceptions of what is received (benefits received) and what is given (price paid and other costs associated with the purchase)" (Zeithaml, 1988). In the scope of this study, satisfaction is viewed as Vanessa et al. 793 a multidimensional construct (Danaher and Haddrell, 1996; Oliver and Swan, 1989) and it is conceptualized as an overall, post-consumption affective response by the consumer.

### PHYSICAL APPEARANCE AND COSMETIC CONSUMPTION
Despite the fact that the cosmetic market is traditionally associated with women, the consumption of cosmetics has significantly increased in the men segment also. Empirical study on the subjects reveals that the major variables that affect men's behavior and attitude toward the consumption of cosmetic products and consumers' motivations and attitudes differ among markets when the product is at different stages of the life cycle. Judgments based on physical appearance are considered powerful forces in contemporary consumer culture. Physical attractiveness has been extensively studied in both personnel and social psychology. A number of studies have shown that people rated as "attractive" are found to be generally treated better socially than "unattractive" people. Thus, attractive individuals are predicted to be more successful than unattractive individuals in their business and personal lives (Godoy et al., 2005; Cash, 1980; Cox and Glick, 1986). Attractive people are ascribed more positive interpersonal attributes such as intelligence, happiness, and sociability (Miller, 1970). This effect is so robust and ubiquitous that it has been coined the "what-is-beautiful-is-good effect" (Eagley et al., 1991). As a consequence, the consumer culture highlights the self-preservationist concept of the body, which encourages individuals to adopt instrumental strategies to combat deterioration and decay and combines it with the notion that the body is a vehicle of pleasure and selfexpression (Featherstone, 1993; Sturrock and Pioch, 1998). Consequently, to experience this connection and enjoy social favour, many individuals look for ways to improve their appearance and adhere to popular notions of beauty. The cosmetics and grooming industries all successfully cater to this demand for aesthetic enhancement (Askegaard et al., 2002).

**INSTRUMENTAL AND EMOTIONAL BENEFITS OF COSMETIC BRANDS**

The Instrumental and emotional benefits of cosmetic brands has been studied by number of researcher engaged in the field of social science. A study by the University of the Basque Country (UPV/EHU) shows that people who use cosmetics buy these products primarily for emotional reasons. "The study shows that both the emotional and utility aspect of cosmetic brands have a significant impact on consumer satisfaction, but that the emotional component has a greater effect," Most authors agree in making a distinction between affective and cognitive processing in consumer choice behaviour (Petty et al., 1983; Janiszewski, 1990; Bagozzi et al., 1999). The, researchers have focused on major dimensions of product or brand associations (Hirschman and Holbrook, 1982; Mittal and Lee, 1989; Batra and Ahtola, 1990; Mano and Oliver, 1993; Bhat and Reddy, 1998; Voss et al., 2003). The traditional notion of instrumental or utilitarian performance where the brand is seen as performing a useful function. The other dimension is that of emotional performance whereby brands are valued for their intrinsically pleasing properties. The influence of these brand dimensions on customer satisfaction has been extensively studied by researchers in different contexts like utilitarian brand benefits etc. However, the perception of tangible outcomes of the use of cosmetics may be considered quite subjective. To underline the utilitarian benefit of cosmetic products, marketers most often use sophisticated packaging designs as product containers. In this context, some researchers suggest that the consumer's perception of the packaging may constitute a significant factor in his/her quality and performance judgements (Bloch, 1995; Pantin-Sohier et al., 2005; Stravinskien_ et al., 2008). The important emotional experiences related to cosmetic brand consumption were identified in the literature includes feelings of social and professional success, feeling sexually attractive, feeling of sensorial pleasure, and relief from feelings of dissatisfaction with oneself.

**FEELINGS OF SOCIAL AND PROFESSIONAL SUCCESS**

The use of cosmetics to improve one's image is being sought to enhance confidence levels, social acceptance and professional success. There have been numerous studies on the psychological aspects of cosmetics use and the factors responsible for one's attraction to a particular brand. It is known that emotional and utility aspects are responsible for satisfaction from a brand. Most consumer agree on the fact that features such as physical attractiveness and beauty are more and more appreciated and required by society, and that attractive women have more chances of succeeding in their social and professional relationships (Etcoff et al., 2004). Indeed, research shows that external appearance frequently affects professional success (Marlowe et al., 1996; Frieze et al., 1990) Thus, the consumption of specific cosmetic brands may deliver the feeling of being more successful in social interactions on a personal or professional level.

**FEELING SEXUALLY ATTRACTIVE**

The leading force behind cosmetics use isn't how well the products work; it's our emotional response to them. Several studies have shown that women perceive themselves as being more feminine, sensual, and sexually attractive to men when they use cosmetics (Cash, 1988). Some authors also suggest that women may feel more sexually attractive while consuming a particular brand (Herman, 2003). Cosmetic brands advertised by physically attractive women (Joseph, 1982; Patzer, 1985) as well as those inspiring a sense of identification in the consumer generate a significant emotional impact, activating and strengthening the "brand-to-attractiveness" association in the minds of consumers.

**FEELINGS OF SENSORIAL PLEASURE**

Cosmetic brands can deliver emotional benefits through their association with multi-sensorial brand experiences (Aaker, 1996) such as touch (with textures capable of giving a sensation of smoothness and/or coolness to the skin) and smell (sensual fragrances capable of creating a sense of wellbeing and pleasure; Sedgwick et al., 2003). The positive stimulation of these senses by the brand can induce sensory as well as psychological pleasure (Craig Roberts et al., 2009; Korichi et al., 2009; Abriat et al., 2007).

**RELIEF FROM FEELINGS OF DISSATISFACTION WITH ONESELF**

For creating a brand value, it is important for the cosmetic marketing companies to make women feel dissatisfied by advertising the product with beautiful models. It has been suggested that women frequently experience negative emotions such as feelings of worry for their physical appearance, or the feeling of guilt deriving from the self-perception of not doing enough to care for or improve their appearance (Fallon, 1990;). In today's society women are made to feel increasingly responsible for their body and physical appearance (Turner, 1996). In addition, numerous advertisements present standards of beauty that most women cannot attain with the effect that most women develop feelings of dissatisfaction with their own physical appearance. According to Etcoff (1999), the need to reduce these negative emotions constitutes one of the main psychological motivations urging women to purchase cosmetic brands. The positive influence that utilitarian and emotional brand dimensions exert on customer satisfaction has been shown in varying contexts. In the empirical study, the following research question will be addressed: To what extent (strength of observable effects) are the identified brand associations (utilitarian and emotional brand benefits) influential in shaping satisfaction judgments toward cosmetic brands?

## OBJECTIVES AND METHODOLOGY

The primary purpose of this exploratory cum descriptive study is to determine cosmetic usage, personality traits, price perceptions and selected demographic characteristics of affluent young students doing professional and non profession studies. The study focuses on the objective to address the factors influencing students and their cosmetics purchase behavior. Additionally, the research will broaden our understanding of consumer behavior. It can thus definitely contribute to larger studies concerned with the enhancement of the domestic market for cosmetics. In order to address the research question, personal interviews were conducted on a sample of 244 students in the age group of 15 to 35 years from professional and non professional cadre seeking education in different institute of Garhwal Region of Uttrakhand state. The study is focused on exploring the perception of students toward cosmetics brand. In each interview the person was asked to rate a number of items related to his/her perception of functional and emotional benefits of the cosmetic brand. The development of measurement scales and indicators are based on the literature and several qualitative focus group sessions. Perceptions of "instrumental" brand benefits, perception of the packaging and other sensorial stimuli and customer satisfaction are measured using 5-point Likert-type scales. It was hypothesized that the impact of different factors of brand associations does not lead to customer satisfaction. The measurement scales were tested for their reliability and found to be 0.762 which indicates that Factor loadings of all indicators are significant ($p < 0.000$) and exceed the minimum recommended value of 0.50. Furthermore, the ANOVA was carried out to test the relationship between factors with their demographic characteristics.

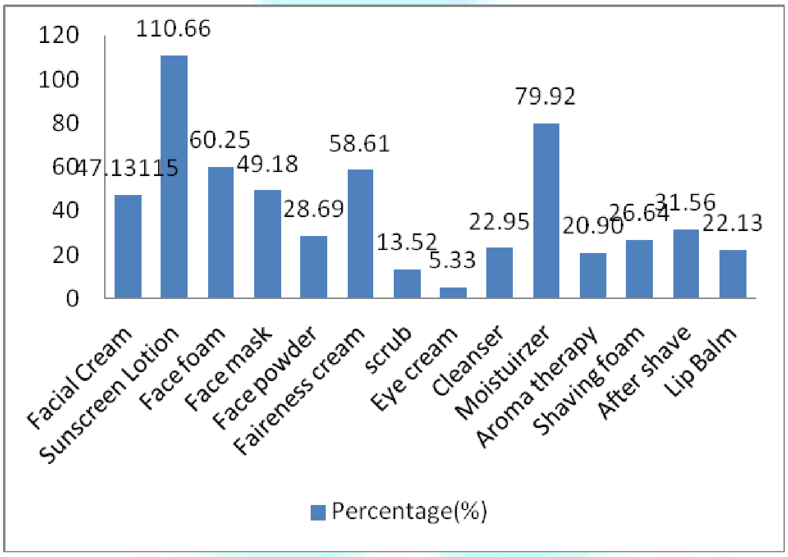
**TABLE -1: DEMOGRAPHIC CHARACTERISTICS**

| | *Categories* | *Count* | *Percentage* |
|---|---|---|---|
| Age | Up to 15 Years | 34 | 13.9 |
| | 15 to 20 Years | 128 | 52.5 |
| | 20to 25 years | 35 | 14.3 |
| | Above 25 Years | 47 | 19.3 |
| Gender | Male | 143 | 58.6 |
| | Female | 101 | 41.4 |
| Education Level | Up to 10th | 60 | 24.6 |
| | Up to 12th | 130 | 53.3 |
| | Up to Graduation | 54 | 22.1 |
| Parents' Income | Up to Rs15000PM | 58 | 23.8 |
| | Rs. 15000 to Rs25000PM | 60 | 24.6 |
| | Rs. 25000PM to Rs.35000 PM | 73 | 29.9 |
| | From Rs. 35000- Rs.50000PM | 35 | 14.3 |
| | Above Rs.50000PM | 18 | 7.4 |

The data presented in the above table indicates that sample is dominated by male respondent as it is indicated by 58.8% respondent in the sample. Age analysis of respondents indicates that most of the respondents fall in the age group of 15-20 years and covers 52.5 percent of the sample. The respondents in the age group of 20-25 years accounts for 14.3 percent and respondents in the age group of above 25 years account for 19.3 percent. The remaining 13.9% students fall in the age up to 15 years. The information related to educational qualifications of respondents indicates that majority of the sample fall in the education categories of under graduate as indicated by 77.9% respondents in the sample. Students having education up to graduation account for 22.1 percent. Parental Income classification of respondents indicates that majority of the respondents fall in the income group of 15000- to 35000PM.

**TABLE -2: TYPE OF CREAMS USED**

| Sl. | Type of Cream | Total Number of Respondents | Number of Users | Percentage (%) |
|---|---|---|---|---|
| A | Facial Cream | 244 | 106 | 43.44262 |
| B | Sunscreen Lotion | 244 | 202 | 82.78689 |
| C | Face foam | 244 | 147 | 60.24590 |
| D | Face mask | 244 | 110 | 45.08197 |
| E | Face powder | 244 | 51 | 20.90164 |
| F | Fairness cream | 244 | 143 | 58.60656 |
| G | scrub | 244 | 33 | 13.52459 |
| H | Eye cream | 244 | 13 | 5.32787 |
| I | Cleanser | 244 | 56 | 22.95082 |
| J | Moisturizer | 244 | 197 | 80.73770 |
| K | Aroma therapy | 244 | 51 | 20.90164 |
| L | Shaving foam | 244 | 64 | 26.22951 |
| M | After shave | 244 | 78 | 31.96721 |
| N | Lip Balm | 244 | 54 | 22.13115 |




Consumer uses various Cosmetics substances to enhance the appearance or to remove body odor and in cases it's the protecting or antiseptic ointment. These cosmetics include Facial Cream, Sunscreen Lotion, Face foam, Face mask, Face powder, Fairness cream, scrub, Eye cream, Cleanser, Moisturizer, Aroma therapy, Shaving foam, After shave, Lip Balm, skin-care creams, lotions, powders, perfumes, lipsticks, fingernail and toe nail polish, eye and facial makeup, towelettes, permanent waves, colored contact lenses, hair colors, hair sprays and gels, deodorants, hand sanitizer, baby products, bath oils, bubble baths, bath salts, butters and many other types of products. For the purpose of study multiple responses were obtained to know the usage pattern of cosmetics. It is worthwhile to know that majority of respondents (80.7377%) and (82.78689%) use Moisturizer and Sunscreen Lotion. Face foam, Fairness cream and Facial Cream usage is indicated by 60.2459%, 43.44262% and 58.60656% respondents respectively. However it is seen that Eye cream, scrub and Face powder are used by very few respondents.

**TABLE -3: PURPOSE OF USE**

| Sl No | Purpose of Use | Total Number of Respondents | Mean | Standard Deviation |
|---|---|---|---|---|
| A | Look Attractive | 244 | 2.67 | 1.465 |
| B | To have pleasant texture | 244 | 2.66 | 1.497 |
| C | To get Social Interactions Success | 244 | 2.16 | 1.515 |
| D | to Relief from Self-Dissatisfaction | 244 | 1.50 | 0.927 |
| E | For medical reason | 244 | 2.03 | 1.147 |
| F | To feel Better | 244 | 2.77 | 1.461 |

Cosmetics have been in use since ages for improving the appearance of the person wearing them. Beauty cosmetics can make a drastic change in a person's features, as they enhance the best features and cover the blemishes. Intention of using cosmetics differs across the consumers. The mean and standard deviation presented in the above table indicate that sample is dominated by the respondents who use cosmetics for feeling better and looking attractive. It is followed by those respondents who use it to have pleasant texture and to get social interaction success. Higher SD (1.515) indicates that customer response on this issue is heterogeneous.

## ANALYSIS AND DISCUSSION

Understanding consumer behavior in enhancing the brand satisfaction and various factors affecting the usage pattern of the cosmetics has been of a major interest for the cosmetic industries. Marketers use different marketing techniques to influence customers and attract them in favour of the cosmetic brand. These decisions are also influenced by exogenous factors such as purchasing power and internal factor like feeling of pleasure and looking attractive. These components are viewed together since they are highly interdependent and together represent forces that influence how the consumer will react to the object. Keeping these into view, an attempt was made to assess the consumer's satisfaction, their expectation from the different marketing strategies influencing in favour of enhancing uses pattern. For this respondents were asked to rate their views on the following statement such as "The container of my favourite Brand of creams is exclusive and innovative", "My experiences using particular Brand of cream have always been good", "I'm satisfied with cosmetics Brand", "Cosmetic Cream keep my skin s soft and hydrated", "I usually choose lower price fairness creams", "I am impulsive when purchasing fairness Creams", "Once I find a fairness Cream or brand I stick with it", "It's a pleasure to smell the sensual fragrance of choosen brand of cream", "I like the feeling of my Brand products on my skin", "My standards and expectations for fairness creams are very high", "I purchase the brand whichever is available", "The preferred band of cream makes my skin and body have a younger appearance", "My favourite cosmetics creams restore firmness and elasticity to my skin and body", "By Purchasing of my preferred brand, I made the right choice", "I stick to the brand in spite of change in price of the cosmetics", "Sometimes it is hard to choose which brands to buy", "The higher the price of a product, the better is the quality", "I like the design of the packaging of favourite Brand creams", "It is fun and exciting to buy fairness creams that I have never used", on a scale of 1 to 5 in order of their preference. The exploratory factor analysis was used in order to identify the various factor influencing customers in favour of purchase. Reliability analysis of all the factors was carried out with the help of SPSS using Cronbach's Alpha test. The value of Cronbach's Alpha for the entire factor found to be 0.762 which indicates that factor analysis can be applied on the variables. Kaiser-Meyer-Olkin (KMO) measure is adopted to determine the appropriateness of data set for factor analysis. High value (between 0.5 and 1) of KMO indicates that the factor analysis is appropriate, low value below the 0.5 implies that factor analysis may not be appropriate. In this study, the result of Bartlett's test of sphericity (0.00) and KMO (0.554) indicate that the data are appropriate for factor analysis. Principal Component analysis is employed for extracting factors and orthogonal rotation with Varimax is applied. As latent root criterion is used for extraction of factors, only the factors having latent roots or Eigen values greater than one are considered significant; all other factors with latent roots less than one are considered insignificant and are disregarded. The extracted factors along with their Eigen values are shown in table 6. The factors have been given appropriate names on the basis of variables represented in each case. The names of the factors, the statements, the labels and factor loading have been summarized in Tables 6. There are six factors each having Eigen value exceeding one for motivational factors. Eigen values for six factors are 5.507, 3.537, 2.800, 1.555, 1.288, and 1.063 respectively. The index for the present solution accounts for 82.894% of the total variations for the motivational factors. It is a pretty good extraction because we are able to economize on the number of choice factors (from 19 to 6 underlying factors), we lost 17.106 % of information content for choice of variables. The percentages of variance explained by factors one to six are 28.983%, 18.616%, 14.739%, 8.184% 6.778%, and 5.595% respectively. Large communalities indicate that a large number of variance has been accounted for by the factor solutions. Varimax rotated factor analysis results for motivational factors are shown in table 5, which indicates that after 6 factors are extracted and retained the communality is 0.831 for variable1, 0.819 for variable2, 0.820 for variable 3 and so on. It means that approximately 83.1 % of the variance of variable1 is being captured by extracted factors together. The proportion of the variance in any one of the original variable which is being captured by the extracted factors is known as communality (Nargundkar, 2002).

**TABLE 4: PURPOSE OF USE ROTATED COMPONENT MATRIX (a)**

| | Component | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Packaging and price Effect** | Economic and **Sensorial** | Utilitarian Effect | Brand Loyalty | Premium Pricing and brand satisfaction | Innovation | Communality |
| The container of my favourite Brand of creams is exclusive and innovative. | .867 | | | | | | .831 |
| My experiences using particular Brand of cream have always been good. | .781 | | | | | | .819 |
| I'm satisfied with cosmetics Brand. | .778 | | | | | | .820 |
| Cosmetic Cream keeps my skin s soft and hydrated. | .684 | | | | | | .816 |
| I usually choose lower price fairness creams. | | .468 | | | | | .750 |
| I am impulsive when purchasing fairness Creams | | .831 | | | | | .724 |
| Once I find a fairness Cream or brand, I stick with it. | | .803 | | | | | .772 |
| It's a pleasure to smell the sensual fragrance of chosen brand of cream. | | .737 | | | | | .874 |
| I like the feeling of my Brand products on my skin. | | .641 | | | | | .772 |
| My standards and expectations for fairness creams are very high. | | .549 | | | | | .859 |
| I purchase the brand whichever is available. | | .498 | | | | | .862 |
| The preferred band of cream makes my skin and body have a younger | | | .902 | | | | .908 |
| My favourite cosmetics creams restore firmness and elasticity to my | | | .823 | | | | .811 |
| By Purchasing of my preferred brand, I made the right choice. | | | .782 | | | | .838 |
| I stick to the brand in spite of change in price of the cosmetics | | | | .856 | | | .898 |
| Sometimes it is hard to choose which brands to buy. | | | | .813 | | | .829 |
| The higher the price of a product, the better is the quality. | | | | | .874 | | .899 |
| I like the design of the packaging of favourite Brand creams. | | | | | .674 | | .732 |
| It is fun and exciting to buy fairness creams that I have never used. | | | | | | .948 | .937 |
| ***Eigen Values*** | 5.507 | 3.537 | 2.800 | 1.555 | 1.288 | 1.063 | |
| **% of Variation** | 28.983 | 18.616 | 14.739 | 8.184 | 6.778 | 5.595 | |
| **Cumulative % of Variation** | 28.983 | 47.599 | 62.337 | 70.521 | 77.299 | 82.894 | |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 8 iterations.

Principal components & associated Variables indicate that first factor influencing students in favour of cosmetic product is the Packaging and pricing effect which is the combination of variables like, "The container of my favourite Brand of creams is exclusive and innovative", "My experiences using particular Brand of cream have always been good", "I'm satisfied with cosmetics Brand", "Cosmetic Cream keep my skin s soft and hydrated", and accounting 28.983% variance of the total variances. The second Factor is the Economic and Sensorial Pleasure factor which is the combination of the variable like "I usually choose lower price fairness creams", "I am impulsive when purchasing fairness Creams", "Once I find a fairness Cream or brand, I stick with it", "It's a pleasure to smell the sensual fragrance of choosen brand of cream", "I like the feeling of my Brand products on my skin", "My standards and expectations for fairness creams are very high", "I purchase the brand whichever is available", and accounts 18.616% variance of total variance. Third factor is the Utilitarian Effect which is the combination of "The preferred band of cream makes my skin and body have a younger appearance", "My favourite cosmetics creams restore firmness and elasticity to my skin and body", "By Purchasing of my preferred brand, I made the right choice", and account 14.739% variance of the total variances. Fourth factor is the Brand Loyalty factor which includes the variable like "I stick to the brand in spite of change in price of the cosmetics", "Sometimes it is hard to choose which brands to buy" and accounts 8.016% of total variance. Fifth factor is Premium Pricing and brand satisfaction which is the combination of variable like the "The higher the price of a product, the better is the quality", "I like the design of the packaging of favourite Brand creams" and accounts 6.778 % of total variance. Sixth factor is the effect of Innovation and accounts to 5.595% of total variance.

**TABLE 5: MEAN OF DIFFERENT FACTOR ACROSS AGE**

| Age | Packaging and price factor | Economic | Utilitarian | Brand loyalty | Premium | Innovation |
|---|---|---|---|---|---|---|
| upto 15 Years | 3.0686 | 3.0798 | 3.0490 | 2.1471 | 3.0147 | 2.5882 |
| 15 to 20 Years | 3.3438 | 3.3069 | 3.1172 | 2.7617 | 2.9336 | 2.7656 |
| 20to 25 years | 3.3048 | 3.3020 | 3.2000 | 2.6143 | 2.8714 | 3.1429 |
| Above 25 Years | 3.2199 | 3.2492 | 3.2128 | 2.4043 | 2.8511 | 2.5532 |
| Total | 3.2760 | 3.2635 | 3.1380 | 2.5861 | 2.9201 | 2.7541 |

Mean rating of different factors promoting brand usage of cosmetics among the age group of students indicate that Packaging and price factor scored highest mean among all the factors in almost all age groups. Whereas the Economic factor is found more important in above 25 years age group. Further one way ANOVA is carried out to assess the mean difference of different factors promoting usage of cosmetics across different age of respondents. The value of F is calculated with the help of SPSS-15 software and depicted below.

**TABLE-6: ANOVA WITH AGE**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Packaging and price factor | Between Groups | 2.227 | 3 | .742 | 1.212 | .306 |
| | Within Groups | 146.970 | 240 | .612 | | |
| | Total | 149.197 | 243 | | | |
| Economic | Between Groups | 1.450 | 3 | .483 | .895 | .444 |
| | Within Groups | 129.531 | 240 | .540 | | |
| | Total | 130.981 | 243 | | | |
| Utilitarian | Between Groups | .722 | 3 | .241 | .281 | .839 |
| | Within Groups | 205.188 | 240 | .855 | | |
| | Total | 205.910 | 243 | | | |
| Brand loyalty | Between Groups | 12.083 | 3 | 4.028 | 3.349 | .020 |
| | Within Groups | 288.609 | 240 | 1.203 | | |
| | Total | 300.693 | 243 | | | |
| Premium | Between Groups | .635 | 3 | .212 | .268 | .849 |
| | Within Groups | 189.557 | 240 | .790 | | |
| | Total | 190.192 | 243 | | | |
| Innovation | Between Groups | 8.139 | 3 | 2.713 | 3.238 | .023 |
| | Within Groups | 201.107 | 240 | .838 | | |
| | Total | 209.246 | 243 | | | |

From the table it is clear that calculated value of F for the factors i.e. Brand Loyalty and Innovation is greater than the tabulated value F (2.37) at ($p< 0.05$) level of significance. Hence null hypothesis is rejected indicating that there is significant difference in the mean of different factor across the different level of age of the respondents.

**TABLE 7: MEAN OF DIFFERENT FACTOR ACROSS GENDER CATEGORY**

| Gender Categories | Packaging and price factor | Economic | Utilitarian | Brand loyalty | Premium | Innovation |
|---|---|---|---|---|---|---|
| Male | **3.3357** | 3.3077 | 3.2704 | 2.5979 | 2.9790 | 2.6643 |
| Female | 3.1914 | 3.2008 | 2.9505 | 2.5693 | 2.8366 | 2.8812 |
| Total | 3.2760 | 3.2635 | 3.1380 | 2.5861 | 2.9201 | 2.7541 |

Mean rating of different factors promoting brand usage of cosmetics in different sex groups of students indicate that Packaging and price factor scored highest mean in male category. Whereas the Economic factor is found more important in female category over Packaging and Price factor. It is it important to find that both male and female students are not much concerned about using a particular brand and thus the Brand loyalty factor mean is least in both the genders. Further one way ANOVA is carried out to assess the mean difference of different factors promoting usage of cosmetics across different genders of respondents. The value of F is calculated with the help of SPSS-15 software is given below.

**TABLE 8 ANOVA WITH GENDER CATEGORY**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Packaging and price factor | Between Groups | 1.232 | 1 | 1.232 | 2.014 | .157 |
| | Within Groups | 147.965 | 242 | .611 | | |
| | Total | 149.197 | 243 | | | |
| Economic | Between Groups | .676 | 1 | .676 | 1.255 | .264 |
| | Within Groups | 130.306 | 242 | .538 | | |
| | Total | 130.981 | 243 | | | |
| Utilitarian | Between Groups | 6.058 | 1 | 6.058 | **7.335** | .007 |
| | Within Groups | 199.853 | 242 | .826 | | |
| | Total | 205.910 | 243 | | | |
| Brand loyalty | Between Groups | .048 | 1 | .048 | .039 | .844 |
| | Within Groups | 300.644 | 242 | 1.242 | | |
| | Total | 300.693 | 243 | | | |
| Premium | Between Groups | 1.200 | 1 | 1.200 | 1.537 | .216 |
| | Within Groups | 188.992 | 242 | .781 | | |
| | Total | 190.192 | 243 | | | |
| Innovation | Between Groups | 2.784 | 1 | 2.784 | **3.263** | .072 |
| | Within Groups | 206.462 | 242 | .853 | | |
| | Total | 209.246 | 243 | | | |

From the table above it is clear that the calculated value of F for the factors i.e. Utilitarian and Innovation is greater than the tabulated value F (2.37) at ($p< 0.05$) level of significance. Hence null hypothesis is rejected indicating that there is significant difference in the mean of different factor across the different genders of the respondents. Here ANOVA indicates no significant relation in other factors except the two identified earlier across the gender categories.

## CONCLUSIONS AND IMPLICATIONS

The results of the study confirm that utilitarian brand benefits significantly contribute to female consumers' satisfaction with cosmetic brands. Thus, in first place, instilling product attribute beliefs through advertising is a relevant factor of brand success, in particular if objective utilitarian benefits (improvement of body shape, reduction of wrinkles, etc.) are difficult to assess or absent. In addition, the positive influence of the cosmetic products' packaging on the utilitarian benefit perception is confirmed. The female consumers seem to infer product quality judgments as per the economic consideration indicating that the female respondents are more price sensitive as compared to the males. Dominated by the respondents who use cosmetics for feeling better and looking attractive followed by those respondents who use it to have pleasant texture and to get social interaction success, overall, the influence of emotional consumption experiences seems to be more significant, confirming the view of a number of authors (Bloch and Richins, 1992; Chao and Schor, 1998; Herman, 2003). Thus, from a managerial standpoint, it seems advantageous if the brand evokes feelings of "sexual attractiveness" and "social and professional interaction success" in female consumers. This can be achieved through advertising by associating the brand with imagery representing successful and highly attractive role models. The concern for sexual attractiveness is hypothesized to originate from one of the most basic evolutionary patterns of human behaviour. Darwinian approaches to the study of physical attractiveness posit that the features of attractiveness are important biological signals of mate value that motivate behaviour in others (Etcoff, 1999; Perrett et al., 1998; Grammer and Thornhill, 1994; Aharon et al., 2001). Remarkably, "relief from dissatisfaction with one's self" doesn't hold good and advertisers should be careful while targeting this kind of market and the promotion of the product as a reliever of self dissatisfaction should be avoided. Although the feeling of worry and/or guilt as a consequence of dissatisfaction with one's appearance and the perception of not doing enough to improve may be the combined result of the exposure to attractive women in advertising and the society-wide accepted notion of responsibility for one's appearance (Martin and Gentry, 1997; Martin and Kennedy, 1993; Tiggemann and McGill, 2004; Stiles and Kaplan, 2004). Indirectly, this finding confirms the view that the need to look attractive is driven by sexual feeling.

## REFERENCES


1. Aaker DA (1996). Building Strong Brands. New York: Free Press.
2. Adams GR (1977). Physical Attractiveness Research. Toward a Developmental Social Psychology of Beauty. Hum. Dev., 20: 217-239.
3. Adams GR, Read D (1983). Personality and social influence styles of attractive and unattractive college women. J. Psychol., 114 (2): 151-157.
4. Anderson JC, Gerbing DW (1988). Structural Equation Modelling in Practice: A Review and Recommended Two-Step Approach. Psychol. Bull., 103 (3): 411-423.
5. Ashmore RD, Solomon MR, Longo LC (1996). Thinking about fashion models' looks: a multidimensional approach to the structure of perceived physical attractiveness. Personal. Soc. Psychol. Bull., 22: 1083-1104.
6. Askegaard S, Gertsen MC, Langer R (2002). The Body Consumed: Reflexivity and Cosmetic Surgery. Psychology and Marketing, 19 (10): 793-812.
7. Batra R, Ahtola OT (1990). Measuring the Hedonic and Utilitarian Sources of Consumer Attitudes. Marketing Letters, 2 (April): 159-170.
8. Bentler PM (1990). Comparative Fit Indexes in Structural Models. Psychol. Bull., 107 (2): 238-246.
9. Bhat S, Reddy SK (1998). Symbolic and functional positioning of brands. J. Consum. Mark., 15 (1): 32-43.
10. Brakus JJ, Schmitt BH, Zarantonello L (2009). Brand Experience: What is it? How is it measured? Does it affect loyalty? J. Mark., 73 (May): 52-68.
11. Burns DJ, Neisner L (2006). Customer satisfaction in a retail setting: The contribution of emotion. Int. J. Retail Distribut. Manage., 34 (1): 49-66.
12. Buss DM, Schmitt DP (1993). Sexual Strategies Theory: An evolutionary perspective on human mating. Psychol. Rev., 100: 204- 232.
13. Byrne D, London O, Reeves K (1968). The effects of physical attractiveness, sex, and attitude similarity on interpersonal attraction. J. Soc. Psychol., 36: 259-271.
14. Vanessa et al. 799 Cash TF (1988). The psychology of cosmetics: A research bibliography. Perceptual Motor Skills, 66: 445-460.
15. Cash TF, Dawson K, Davis P, Bowen M, Galumbeck C (1989). Effects of Cosmetics Use on the Physical Attractiveness and Body Image of American College Women. J. Soc. Psychol., 129 (3): 349-355.
16. Chao A, Schor JB (1998). Empirical tests of status consumption: Evidence from women's cosmetics. J. Econ. Psychol., 19: 107-131.
17. Churchill GA, Surprenant C (1982). An investigation into the determinants of customer satisfaction. J. Mark. Res., 19 (4): 491-504.
18. Dhar R, Wertenbroch K (2000). Consumer Choice Between Hedonic and Utilitarian Goods. Journal of Marketing Research, 37 (February): 60-71.
19. Dion K, Berscheid E, Walster E (1972). What is beautiful is good. J. Personal. Soc. Psychol., 24 (3): 285-290.
20. Downs AC, Harrison SK (1985). Embarrassing age spots or just plain ugly? Physical attractiveness stereotyping as an instrument of sexism on American television commercials. Sex Roles, 13 (1/2): 9-19.
21. Eagly AH, Ashmore RD, Makhijani MG, Longo LC (1991). What is beautiful is good, but…: A Meta-analytic review of research on the physical attractiveness stereotype. Psychol. Bull., 110: 109-128.
22. Hamermesh DS, Biddle JE (1994). Beauty and the labor market. American Economic Review, 84 (5): 1174-1194.
23. Homa D, Haver B, Schwartz T (1976). Perceptibility of schematic face stimuli: Evidence for a perceptual gestalt. Memory and Cognition, 4: 176-185.

24. London: Thousand Oaks, Sage Publications. Huckeba J (2005). Emotional Response to Beauty. http://etd.fcla.edu/UF/UFE0009421/ huckeba_j.pdf, March 2007.
25. Huston TL (1973). Attraction and affiliation: ambiguity of acceptance, social desirability and dating choice. J. Exp. Soc. Psychol., 9: 32-42.
26. Joseph WB (1982). The Credibility of Physically Attractive Communicators: A Review. Journal of Advertising, 11 (3): 15-24.
27. Joy A, Venkatesh A (1994). Postmodernism, feminism, and the body: The visible and the invisible in consumer research. Int. J. Res. Mark., 11: 333-357.
28. Kaats CR, Davis KE (1970). The dynamics of sexual behaviour of college students. J. Marriage Family, 32 (August): 390-399.
29. Kaplan D (2000). Structural Equation Modelling: Foundations and Extensions. London: Newbury Park, Sage Publications.
30. Korichi R, Pelle-De-Queral D, Gazano G, Aubert A (2009). Why women use makeup: Implication of psychological traits in makeup functions. Int. J. Cosmet. Sci., 31 (2): 156-157.
31. Krebs D, Adinolfi AA (1975). Physical Attractiveness, Social Relations, and Personality Style. J. Personal. Soc. Psychol., 31 (2): 245-253.
32. Kyle DJ, Mahler HIM (1996). The effects of hair color and cosmetic use on perceptions of a female's ability. Psychol. Women Quart., 20: 447- 455.
33. Lang PJ, Greenwald MK, Bradley MM, Hamm AO (1993). Looking at pictures: Affective, facial, visceral and behavioural reactions. Psychophysiol., 30: 261-273.
34. Mano H, Oliver RL (1993). Assessing the Dimensionality and Structure of the Consumption Experience: Evaluation, Feeling, and Satisfaction. J. Consum. Res., 20 (December): 451-466.
35. Marlowe CM, Schneider SL, Nelson CE (1996). Gender and attractiveness biases in hiring decisions: are more experienced managers less biased?. J. Appl. Psychol., 81 (1): 11-21.
36. Martin MC, Gentry JW (1997). Stuck in the model trap: the effects of beautiful models in ads on female pre-adolescents and adolescents. J. Advert., 26 (2): 19-33.
37. Miller AG (1970). Role of physical attractiveness in impression formation. Psychon. Sci., 19: 241-243. Miller LC, Cox CL (1982). For appearances' sake: public selfconsciousness and makeup use. Personality Soc. Psychol. Bull., 8 (4): 748-751.
38. Mittal B, Lee MS (1989). A causal model of consumer involvement. J. Econ. Psychol., 10 (June): 363-389.
39. Oliver RL, Swan JE (1989). Consumer perceptions of interpersonal equity and satisfaction in transaction: a field survey approach. J. Mark., 53 (April): 21-35.
40. Pantin-Sohier G, Decrop A, Brée J (2005). An Empirical Investigation of the Product's Package as an Antecedent of Brand Personality. Innov. Mark., 1 (1): 69-80.
41. Schwer RK, Daneshvary R (2000). Keeping up one's appearance: Its importance and the choice of type of hair-grooming establishment. J. Econ. Psychol., 21 (2): 207-222.
42. Kaplan HB (2004). Adverse social comparison processes and negative self-feelings: a test of alternative models. Soc. Behav. Personal., 32 (1): 31-44. Stravinskien_, J., R_telion_, A., Butkevi_ien_, V. (2008). Impact of Consumer Package Communication on Consumer Decision Making Process. Eng. Econ., 1 (56): 57-65.
43. Vanessa et al. 801 Sturrock F, Pioch E (1998). Making himself attractive: the growing consumption of grooming products. Mark. Intel. Plan., 16 (5): 337-343.
44. Wierzbicka A (1992). Defining Emotion Concepts. Cognit. Sci., 16 (4): 539-581.
45. Winston, R. (2003). Human Instinct: How our primeval impulses shape our modern lives. UK: Bantam Press Wykes M, Gunter B (2005). The Media and Body Image. London: Sage Publications.
46. Zeithaml VA (1988). Consumer Perceptions of Price, Quality and Value: A Means-End Model and Synthesis of Evidence. J. Mark., 52 (3): 2- 22. 802 Afr. J. Bus. Manage.

# ECONOMIC VIABILITY OF MICRO-FINANCE FOR DAIRY ENTERPRISE

*SURESH, K.*
*RESEARCH SCHOLAR*
*DEPARTMENT OF AGRICULTURAL ECONOMICS*
*GANDHI KRISHI VIGNANA KENDRA*
*UNIVERSITY OF AGRICULTURAL SCIENCES*
*BANGALORE*

*MUNDINAMANI, S.M.*
*PROFESSOR & HEAD*
*DEPARTMENT OF AGRICULTURAL ECONOMICS*
*COLLEGE OF AGRICULTURE*
*UNIVERSITY OF AGRICULTURAL SCIENCES*
*DHARWAD*

**ABSTRACT**

*The dairy farming in India as traditionally practiced under mixed farming mode along with crop farming has been supplementary to the major occupation of crop farming. Provision of micro finance to undertake dairy enterprise is a key tool to generate employment and earn income by rural women dairy entrepreneurs in rural India. The present study attempted to analyse the economic viability of micro-finance for dairy enterprise in the North Karnataka region of India. The data needed for the study was collected from the respondents by personal interview method using pre-tested schedule prepared for the purpose in the year 2008. The data collected was subjected to tabular and financial feasibility analysis. The study revealed that the total cost per buffalo per annum was found to be Rs. 9,937.21 in Haveri district and Rs. 10,306.17 in Bellary district of North Karnataka region. The net returns were found to be Rs. 3,945.48 and Rs. 4,959.02 per annum in Haveri and Bellary districts, respectively. The net present value was found positive and benefit cost ratio more than unity. The internal rate of return was higher than bank rate. Hence, the study concluded that Dairy is feasible enterprise and very much suitable for rural women to practice and empower them economically and socially. So the financial institutions and NGOs should come forward to extend financial support and guidance for rural women through Self Help Groups to take up dairy enterprise as an income generating activity.*

## KEYWORDS
Dairy, Feasible, Micro finance, Net return, Rural Women, Total cost.

## INTRODUCTION
Micro finance is a broad term that includes deposits, loans, payment services and insurances to poor. The concept of micro finance and micro credit are used interchangeably. But micro credit does not include savings; hence micro finance is more appropriate term (Manimekalai, 2004). The concept is understood as providing poor families with very small loans to help them engage in productive activities or grow their tiny businesses. A success indicator of micro finance lies in a ' credit-plus' approach, where the focus has not only been on providing credit, but to integrate it with other development activities. Today micro finance is very much in the agenda of public policy and it has been increasingly used as a vehicle for reaching the otherwise unreachable poor in the country.

The dairy farming in India as traditionally practiced under mixed farming mode along with crop farming has been supplementary to the major occupation of crop farming. The traditional system of cattle keeping served the purposes of requirement of cattle and buffalo males for farm work, utilization of crop byproducts which otherwise shall go waste, utilization of surplus family labour, meeting the family requirement of milk and milk products and through sale of animals. Keeping of a few dairy animals also served as an insurance against crop failure.

The dairying has been considered as a potential means of alleviating large scale unemployment, especially in rural areas (Alagumani and Anjugam, 2000). Women play a key role in animal, farm and home management (Savitha, 2004). Successful dairy husbandry enterprise not only improves the socio-economic status of rural women, but also assures a sustained and assured means of income to supplement their income from the main enterprise (Rais *et al.,* 2007). To improve the socio-economic conditions of rural women, the Community Based Tank Management Consultancy Project (CBTMCP), UAS, Dharwad has extended micro finance to poorest among the poor women entrepreneurs in selected tank commands of Haveri and Bellary districts through Tank Users Group (TUGs) on pilot basis. The assessment of impact of micro finance on empowerment of rural women in terms of income and employment may help to extend similar financial assistance for poor women entrepreneurs in other areas. Hence the present study is undertaken with the objective to analyse the feasibility of investment on dairy enterprise through micro finance.

## REVIEW OF LITERATURE
Misra and Pandey (1986) analysed the dairy financing scheme for small and marginal farmers and agricultural labourers under IRDP in Basthi district of UP. Researcher found that the net present value of investment was positive, Benefit Cost ratio was more than unity and pay back period fell within the prescribed period of loan repayment. Hence the scheme was economically feasible.

Shanmugan (1991) evaluated capital investment in dairy farming and reported that the NPV and B: C ratio in case of crossbreed cow's project was Rs. 55,576.70 and 1.24 respectively. The NPV and B: C ratio in case of graded buffalo's project was found to be17, 842.85 and 1.09 respectively.

Singh *et al.* (1995) conducted a study on Watershed approach for improving the socio-economic status of tribal area. The study reported that the watershed management programme had not only increased the crop yield, but also allowed for the development of fodder resources in the area. Per capita income has gone up from Rs. 598 to Rs. 1739, and the average Benefit-Cost Ratio (1.76:1) indicated the economic feasibility of the watershed management programme for improving the socioeconomic status of farmers residing in the tribal areas.

Pawar (1996) conducted a study on economic analysis of dairying in assured rainfall zone of Maharashtra. It was found that the Benefit Cost Ratio was comparatively with 2.03 in small followed by 1.92 and 1.83 in landless and large farm dairy units respectively. Net Present Value was high as Rs. 274.57 in large farm followed by Rs. 21486 and Rs. 11413 in small farm and landless dairy unit respectively. Pay back period was least (1.99 years) in small farm whereas prolonged to 2.10 and 2.21 years in landless and large farm units respectively. The Internal Rate of Return was highest at 45 per cent in small farm followed by 42 per cent and 39 per cent in landless and large farm dairy units respectively.

Sharma and Singh (1996) in their study on economic evaluation of Hill Cattle Development Programme in Himachal Pradesh found that the Benefit Cost Ratio was 12.4 at 11 per cent, 10.72 at 12.5 per cent and 9.4 per cent at 14 per cent interest rate and Net Present Worth of the programme was Rs. 29.06 million at 11 per cent, Rs. 20.87 million at 12.5 per cent and 15.15 million at 14 per cent discount rate. The Internal Rate of Return was found to be very high (40.6%). It could be inferred from the study that programme is economically viable. Thus, the cattle improvement programmes which have high returns to investment, as evinced by this study, should be introduced on extensive scale to increase milk production and ameliorate the socio-economic conditions of the rural poor living in these areas.

Bijai *et al.* (1997) conducted a study on economic feasibility of dairy financing under IRDP for weaker section in Azamgarh district (U.P). In their study all borrower households were stratified into two strata viz landless labourers and marginal farmers. The analysis was done separately for defaulter and non-defaulter households. The findings of the study revealed that the average net return per buffalo per annum was found to be Rs. 1084 for defaulters and Rs. 976 for non-defaulter groups of landless labour. In case of marginal farmers, net return was Rs. 1150 and Rs. 879 for non defaulter and defaulter group respectively. Net Present Value was positive in all cases. Benefit Cost Ratio was also more than one and pay back period was favorable situation for non-defaulters of both categories where repayment was scheduled for three years.

Sanjay and Gill (2006) conducted a study on economic viability of important agriculture based enterprises for women in Punjab. The study was conducted with a total sample of 100 women entrepreneurs for the year 2004-05. The study has revealed that the net returns to dairy women entrepreneurs were Rs. 4878 per cow and Rs. 7498 per buffalo per annum. Total profits per entrepreneur shot sharply when the cost of the fodder and family labour was not included.

## DATA AND METHODOLOGY

The data needed for the study was collected from the respondents by personal interview method using pre-tested schedule prepared for the purpose in the year 2008. Majority of the respondents have not maintained records of expenditure and income relating to the dairy enterprise they have taken up. Hence, data collected was based on the memory of the respondents. At the time of interview, personal bias of the sample rural women was minimized by convincing them about the genuinely of the purpose for which the data were collected. The data collected from the beneficiaries pertaining to the socio-economic status, establishing cost and maintenance cost incurred in management of dairy enterprise during the project period. Similarly, the data on income and employment generated through dairy enterprise and constraints faced while managing dairy enterprise was collected.

## FINANCIAL FEASIBILITY ANALYSIS

Financial feasibility analysis was carried out to evaluate the feasibility of investment in dairy enterprise. The discounted cash flow technique which has advantage of reducing the cash flows to a single point of time was used to facilitate comparison (Pawar, 1996).

The discounting procedure estimates the present value of an amount either received or paid out in the future. The discount factor permits the determination of the present value and has applications in evaluation of many agricultural projects. In case of dairy enterprise majority of the dairy owners were maintaining the milch animals for six years on the business point of view in their dairy unit. Then these animals were either culled out or disposed off in the market. Therefore, investment in the dairy unit was considered for six years.

Following four conventionally used project evaluation techniques were used in the study to evaluate the feasibility of investment on dairy enterprise.

1. Net Present Value/worth (NPV)
2. Benefit-Cost Ratio (B: C Ratio)
3. Internal Rate of Return (IRR) and
4. Pay Back Period (PBP)

**NET PRESENT VALUE**

This indicates the present value of expected or realized returns of a project over a period of time when discounted at the opportunity cost of capital. The opportunity cost of capital in this study was 8.5 per cent bank rate of interest per annum. It was worked out as follows:

$$NPV = \sum_{i=1}^{n} Y_i (1 + r)^{-i} - I$$

Where,

$Y_i$ = the net cash inflows in the year n

r = the discount factor

I = Initial investment

i = years of life period 1, 2. . . . . . . n.

The project passes the feasibility test if the NPV is positive.

**BENEFIT COST RATIO**

The Benefit Cost Ratio was calculated by the sum of the present values of six years divided by the initial investment in the dairy unit. If the ratio would be greater than unity, it indicated that the financial position of the business would be feasible.

$$B: C \text{ ratio} = \frac{\text{Discounted net cash flows}}{\text{Initial investment}} = \frac{\sum_{i=1}^{n} Yi\,(1+r)^{-i}}{I}$$

Where,

$Y_i$ = the net cash inflows in the year n

I = Initial investment

**INTERNAL RATE OF RETURN (IRR)**

The rate at which the net present value of project is equal to zero is Internal Rate of Return (IRR) to the project. The net cash inflows were discounted to determine the present worth following the interpolation technique.

The method of interpolation followed is as under:

$$IRR = \text{Lower discount rate} + \text{Difference between the two discount rates} \left( \frac{\text{Present worth of cash flows at lower discount rate}}{\text{Absolute difference between present worth of cash flows stream at the two discount rates}} \right)$$

The project is considered to be feasible if the IRR is higher than the prevailing interest rate.

**PAY BACK PERIOD (PBP)**

Pay back period represents the length of time required for the stream of cash proceeds produced by the investment to be equal to the original cash outlay. i.e. the time required for the project to pay for itself.

$$\text{Pay back period} = \frac{\text{Initial investment}}{\text{Annual average returns}}$$

## RESULTS AND DISCUSSION

### COST AND RETURNS PER BUFFALO IN THE STUDY AREA

Most of the sample beneficiaries were poor and mainly depends on agriculture and wage earning for their livelihood. In the project they were provided with a buffalo as dairy unit to enhance their income level. The average cost incurred and returns realized per buffalo by the beneficiaries was computed and presented in Table 1 Portrays that the total cost over entire four years in Haveri district and it was found to be highest (Rs.12086.98) in first year of starting of dairy unit. Cost in second year was found to be lowest Rs.9038.19. The average total cost was worked out to be Rs. 9937.21 (Misra and Pandey, 1986; Singh, 1999). In variable cost labour cost constituted highest and average labour cost it was worked out to be Rs. 4889.50 followed by dry fodder cost Rs. 1339.75 and concentrate cost Rs. 654.30 respectively.

The milk production was found to be 1456 litres in first year of the project and on anaverageduring last four years was 1008.06 litres. The gross return and net return foundhighest in firstyear of being Rs. 18162.00 and Rs. 6075.02 respectively. On an averagethe gross return andnet return during last four years were Rs. 13882.79 and Rs3945.58 respectively.

**TABLE 1: COSTS AND RETURNS PER BUFFALO ON SAMPLE DAIRY ENTERPRISE IN TANK COMMAND OF HAVERI DISTRICT**

| Sl. No. | Particulars | Unit | I Year | II Year | III Year | IV Year | Average |
|---|---|---|---|---|---|---|---|
| 1 | Variable cost | | | | | | |
| | a) Dry fodder | Rs. | 1424.75 | 1557.25 | 1490.50 | 886.50 | 1339.75 |
| | b) Green fodder | Rs. | 253.50 | 179.50 | 247.50 | 262.00 | 235.63 |
| | c) Concentrates | Rs. | 1022.40 | 414.20 | 510.59 | 670.00 | 654.30 |
| | d) Labour | Rs. | 6042.92 | 3971.66 | 3979.54 | 5563.88 | 4889.50 |
| | e) Miscellaneous | Rs. | 229.21 | 248.68 | 267.82 | 217.17 | 240.72 |
| | f) Interest on working capital | Rs. | 807.55 | 573.42 | 584.64 | 737.84 | 675.86 |
| | Total variable cost | Rs. | 9780.33 | 6944.71 | 7080.58 | 8337.38 | 8035.75 |
| 2 | Fixed cost | | | | | | |
| | a) Depreciation on fixed capital | Rs. | 1140.60 | 1026.54 | 923.89 | 412.32 | 875.84 |
| | b) Interest on fixed capital | Rs. | 1166.05 | 1066.94 | 976.25 | 893.27 | 1025.63 |
| | Total fixed cost (a+b) | Rs. | 2306.65 | 2093.48 | 1900.13 | 1305.59 | 1901.46 |
| 3 | Total cost (1+2) | Rs. | 12086.98 | 9038.19 | 8980.72 | 9642.97 | 9937.21 |
| 4 | Total returns | | | | | | |
| | a) Milk production | litres | 1456.00 | 713.00 | 825.25 | 1038.00 | 1008.06 |
| | b) Value of milk | Rs. | 17472.00 | 8556.00 | 9903.00 | 12456.00 | 12096.75 |
| | c) Sale of FYM and calf | Rs. | 690.00 | 2910.00 | 1990.00 | 1554.17 | 1786.04 |
| 5 | Gross return (b+c) | Rs. | 18162.00 | 11466.00 | 11893.00 | 14010.17 | 13882.79 |
| 6 | Net return (5-3) | Rs. | 6075.02 | 2427.81 | 2912.28 | 4367.20 | 3945.58 |

The detailed costs incurred and returns obtained in maintaining a buffalo for three years after providing micro finance under CBTMCP in Bellary district is presented in Table 2 the total cost was found to be highest in first year (Rs. 13985.57) and lowest during second year being Rs.7874.40. On an average total cost during last three years was Rs. 8597.21. In total variable cost labour cost constituted highest being and average labour cost was 6158.92 followed by dry fodder cost Rs. 800.33. The concentrate cost was highest in first year, Rs. 921.6 and on average was found to be Rs.617.7.The milk production was found to be 1583 litres in first year and on an average was 1136.93 litres. The gross return as well as net return during last three years was Rs. 15265.19 and Rs. 4959.02 respectively (Sanjay and Gill,2006; Bharadwaj *et al., 2006;.*). It is interesting to observe that the gross return and net return was found to be highest in third year being Rs.17683.33 and Rs. 8624.80 respectively (Singh *et al.*, 2006;). In Bellary district the total cost was also found to be highest in the first year (Table 2). This is mainly due to high investment on dry fodder, green fodder and concentrates. Cost was lowest during second year because second year was mostly reported to be dry period and hence beneficiaries were not interested to invest much on concentrates and labour. Therefore, labour cost for milking of animals and selling of milk was automatically reduced. The higher cost was associated with more use of concentrates and relatively better management of animals. Among the variable cost the cost on labour was highest because of dairy involves operations from roughage collection to transportation of milk for sale. The other reason was in Bellary district wage rate was high.

**TABLE 2: COSTS AND RETURNS PER BUFFALO ON SAMPLE DAIRY ENTERPRISE IN TANK COMMAND OF BELLARY DISTRICT**

| Sl. No. | Particulars | Unit | I Year | II Year | III Year | Average |
|---|---|---|---|---|---|---|
| 1 | Variable cost | | | | | |
| | a) Dry fodder | Rs. | 786.00 | 795.00 | 820 | 800.33 |
| | b) Green fodder | Rs. | 236.00 | 195.56 | 246.67 | 226.07 |
| | c) Concentrates | Rs. | 921.6 | 487.5 | 444 | 617.7 |
| | d) Labour | Rs. | 8926.75 | 3995 | 5555 | 6158.92 |
| | e) Miscellaneous | Rs. | 116.43 | 155.71 | 80 | 117.38 |
| | f) Interest on working capital | Rs. | 985.67 | 419.94 | 624.81 | 676.81 |
| | Total variable cost | Rs. | 11972.45 | 6048.71 | 7770.48 | 8597.21 |
| 2 | Fixed cost | | | | | |
| | a) Depreciation on fixed capital | Rs. | 1088.18 | 979.36 | 513.67 | 860.40 |
| | b) Interest on fixed capital | | 924.95 | 846.33 | 774.39 | 848.56 |
| | Total fixed cost (a+b) | | 2013.12 | 1825.69 | 1288.06 | 1708.96 |
| 3 | Total cost (1+2) | Rs. | 13985.57 | 7874.40 | 9058.53 | 10306.17 |
| 4 | Total returns | | | | | |
| | a) Milk production | litres | 1583 | 781.11 | 1046.67 | 1136.93 |
| | b) Value of milk | Rs. | 15830 | 7122.22 | 10466.67 | 10761.67 |
| | c) Sale of FYM and calf | Rs. | 1180 | 3980.00 | 7216.67 | 4125.56 |
| 5 | Gross return (a+b) | Rs. | 17010 | 11102.22 | 17683.33 | 15265.19 |
| 6 | Net return (5-3) | Rs. | 3024.43 | 3227.83 | 8624.80 | 4959.02 |

**FEASIBILITY OF INVESTMENT ON DAIRY ENTERPRISE**

To evaluate the feasibility of investment on dairy enterprise the criteria such as Net Present Value, Benefit Cost Ratio, Internal Rate of Return and Pay Back Period were employed and results are presented in Table 3

**TABLE 3: FEASIBILITY OF INVESTMENT IN DAIRY ENTERPRISE**

| Sl. No. | Particular | Study area | |
|---|---|---|---|
| | | Haveri | Bellary |
| 1 | Net Present Value | 10833.90 | 6881.38 |
| 2 | Benefit Cost Ratio | 1.80 | 1.63 |
| 3 | Payback period (Years) | 3.93 | 3.68 |
| 4 | Internal Rate Return (%) | 42.44 | 45.19 |

**NET PRESENT VALUE (NPV)**

Net present value of an investment is the difference between the present value of series of inflows (returns) and outflows over the entire economic life of the dairy animal. Table 4 indicates that the Net Present Value found was Rs. 10833.90 for the beneficiaries of Haveri district, whereas, in Bellary district the Net Present Value was Rs. 6881.38 for the beneficiaries.

**BENEFIT COST RATIO (BCR)**

This criterion indicates the rate of return per rupee of investment made in dairy enterprise. Table 3 indicates that the Benefit Cost ratio was found to be 1.80 for the beneficiaries of Haveri district, whereas it was 1.63 for the beneficiaries of Bellary district

**INTERNAL RATE OF RETURN (IRR)**

This criterion measures the rate of return that can be realized by investment in dairy enterprise, and hence IRR is considered better than other criterion of evaluation. The value of IRR generally depends on the magnitude of returns realized in each year over the economic life of animal (Singh *et al.* 2006; Pawar, 1996). It could be noted from the Table 3 that, the IRR was highest at 45.19 per cent (Shanmugan, 1991) for the beneficiaries of Bellary district, whereas it was 42.44 per cent for the beneficiaries of Haveri district.

**PAY BACK PERIOD (PBP)**

It is the period required to recover the initial investment made on dairy enterprise. It could be observed from the Table 4 that the payback period was 3.93 for the beneficiaries of Haveri district and 3.68 years for the beneficiaries of Bellary district.

Thus, all the four criteria of feasibility analysis revealed that investment on dairy enterprise is a feasible proposition (Misra and Pandey ,1986; Bajai *et al.*1997; Pawar,1996).

## CONCLUSION

The dairy farming in India is traditionally practiced under mixed farming mode along with crop farming has been supplementary to the major occupation of crop farming. Women play a key role in animal, farm and home management. Successful dairy husbandry enterprise not only improves the socio-economic status of rural women, but also assures a sustained and assured means of income to supplement their income from the main enterprise. Micro finance for dairy enterprise is considered to be an important approach to eradicate poverty in rural areas. Dairy is feasible enterprise and very much suitable for rural women to practice and empower them economically and socially. In the study area after provision of micro finance the herd size of rural women beneficiaries increased and it enabled them to get additional income and additional livestock assets. The feasibility analysis showed that dairy enterprise through microfinance is more returns to women entrepreneurs. The Internal Rate of Return was high compare to the rate of interest charged by the commercial banks indicating the worthiness of project. So the financial institutions and NGOs should come forward to extend financial support and guidance for rural women through Self Help Groups to take up dairy enterprise as an income generating activity. The government and department of animal husbandry need to encourage to take up dairy enterprise in rural areas by providing all the facilities and training to dairy women entrepreneurs especially to poor vulnerable sections of society so that it will supplement the income and ensures the overall growth of the family and society.

## REFERENCES


Alagumani, T. and Anjugam, M. (2000), "Impact of Dairy Enterprises on Income and Employment in Madurai District, Tamil Nadu," Proceedings of the 7th Annual Conference of Agricultural Economics Research Association on Livestock in Different Farming Syst*ems*, held at Tamil Nadu Veterinary and Animal Science University, Chennai, p.30.

Bharadwaj, A., Dixit, V.B., Sethi, R.K. (2006), "Economics of Buffalo Milk Production in Hisar District of Haryana State," Indian Journal of Dairy Science*,* **59**(5): 322-327.

Bijai Kumar, Singh, S.K. and Singh, V.K. (1997), "Economic Feasibility of Dairy Financing Under IRDP for Weaker Section of Azamgarh District (U.P)," Indian Cooperative Review, **35**(2): 133-140.

Manimekalai, N. (2004), "Impact of Various forms of micRo Financing on Women," Dept. of Women and Child Development, Ministry of Human Resource Development, Govt. of India.

Misra J.P. and Pandey B.K. (1986), "An Economic Analysis of Banks Dairy Financing Scheme for Small and Marginal Farmers and Agricultural Laborers Under IRDP in Basti district of U.P,*"* Indian Cooperative Review*,* **24**(1): 34-42.

Pawar, R. Balaji (1996), "Economics of Dairying in Assured Rainfall Zone of Maharashtra," Ph.D. Thesis, University of Agricultural Sciences, Dharwad.

Rais Uddin Mian, Jamatul Fatema and Habibur Rahman (2007), "Impact of Dairy Farming on Livelihood of Participating Women Under Grameen Bank in a selected area of Rangpur district in Bangladesh," Indian Journal of Agricultural Economics*,* **62**(2): 259-271.

Sanjay Kumar and Gill, G.S. (2006), "Economic Viability of Important Agriculture Based Enterprises for Women in Punjab*,"* Agricultural Economic Research Review*,* **19** (conference No.), pp. 59-70.

Savitha, S. Shetter (2004), "Role of Rural Women in Animal Husbandry," M.H.Sc. Thesis, University of Agricultural Sciences, Dharwad, Karnataka, India.

Singh Ajmer (1999), "Economic Analysis of Dairy Financing under IRDP in Haryana," Ph.D. Thesis, National Dairy Research Institute, Karnal

Singh, P.K., Japal Singh, Mahnot, S.C. and Modi, S. (1995), "Watershed Approach in Improving the Socio-economic status Of Tribal Area," Journal of Rural Development, Hyderabad, **14**(2): 107-116.

Shanmugan, T.R. (1991), "Economic Analysis of Dairy Projects," Agriculture Banker, **15**(3) : 26-29.

Singh, R.N., Chauhan, A.K.and Sharma, S.P. (2006), "Economic Analysis of Milk Production in Tribal Areas of Udaipur (Rajasthan)," Indian Journal of Dairy Science, **59**(5): 328-336.

# ADAPTATION TO CLIMATE CHANGE THROUGH FOREST CARBON SEQUESTRATION IN TAMILNADU, INDIA

*K. S. SHOBA JASMIN*
*RESEARCH SCHOLAR*
*SCHOOL OF ECONOMICS*
*MADURAI KAMARAJ UNIVERSITY*
*MADURAI*

*DR. V. DHULASI BIRUNDHA*
*FORMER PROFESSOR AND HEAD*
*DEPARTMENT OF ENVIRONMENTAL ECONOMICS*
*SCHOOL OF ECONOMICS*
*MADURAI KAMARAJ UNIVERSITY*
*MADURAI*

**ABSTRACT**

*In India 21.02 percent of the geographical area is covered by forest land and the National Forest Policy of India treats forests as an environmental and social resource. Moreover India has a target of bringing one-third of its land cover under forest cover by launching the Greening India Mission programme. Adaptation is needed to cope with climate change and to protect the most vulnerable systems and society. Using forests and trees as part of a strategy to cope with impacts of climate change, forests become part of a climate strategy for adaptation. This paper presents an assessment of carbon sequestration potential of the existing forests of India and Tamilnadu, a state of India, and afforestation programmes of Tamilnadu for carbon sequestration, as a tool of adaptation to climate change. Estimates of carbon in above-ground biomass made with the annual rate of biomass increment given by Forest Survey of India and the results show that 116 million tones of $CO_2$ sequestrated by Indian forests per year and it is 5.4 million tonnes for the forests of Tamilnadu. Afforestation also contributes significantly as an option to adapt climate change as per the estimates made in this paper. The assessment made in this paper does not include the forest disturbances in estimating the carbon sequestration.*

**KEYWORDS**

Carbon sequestration, adaptation, biomass growth, afforestation and climate change.

**INTRODUCTION**

Climate Change is the term which is pronounced often in the present era, as a global environmental problem. A notable rise in the level of Green House Gases (GHGs – Carbon dioxide, Methane and Nitrous Oxide) results variations in the global surface temperature which causes heat waves, cyclones, floods, salinisation of coastal line, irregular monsoon, adverse effect on agriculture, desertification, water scarcity and health problems to the living organisms. Carbon in the form of carbon dioxide ($CO_2$) forms the core in the GHG emissions because all organic materials contain carbon. These GHG emissions were justified on the ground of industrial development which creates employment generation, economic growth and improve the standard of living of people. Rapid industrialization has not only increased the concentration of GHGs in the atmosphere, it has also reduced the planet's capacity to absorb GHGs by land-use changes including deforestation (Government of Tamilnadu Demand Note 15, 2010).

All organic materials contain carbon, whether it is a smallest vitamin molecule or long polymer chains of proteins and DNA. Carbon in the form of $CO_2$ released as a waste of oxidation, combustion of fossil fuels and in the respiration of organisms has a tremendous effect on the climate, since it is a green house gas (ESA21). The $CO_2$ is a major green house gas that contributes to earth's global warming. Over the past two centuries, its concentration in the atmosphere has greatly increased because of human activities, primarily as a result of combustion of fossil fuels, a leading cause of building up of greenhouse gases, warm the atmosphere by allowing sunlight to reach the surface of the earth's atmosphere and prevent the heat to escape from the earth's atmosphere acting as an insulating blanket. India occupies third position in the world with highest GHG emissions and it's total GHG emissions were 1.8 billion metric tonnes equivalent of $CO_2$, about 4.9 percent of global emissions in 2005 as per the estimates of World Resources Institute and as per Ministry of Environment and Forest estimates India's carbon dioxide emissions alone were 1.4 billion tonnes in 2008, or about 1.3 tonnes per capita (MoEF, 2009).

Carbon in the atmosphere is in two forms: solid and gas. The atmospheric $CO_2$ taken by the trees through photosynthesis stored in trees in solid state. Respiration of living organisms and combustion of fossil fuels put back more carbon to the atmosphere in gaseous form. Generally, the rate of emission of $CO_2$ is greater than the absorption which affects the carbon balance in the atmosphere. The level of $CO_2$ has increased from about 292 ppm to 360 ppm over the last 100 years (ESA21). There are two important ways to prevent GHG emissions: (a) reduce the fossil fuel consumption and (b) speed up the rate of carbon sequestration (a temporal process that removes carbon from the atmosphere) (Bhadwal and Singh, 2002). The later gained importance because carbon sequestration practices enhance the quality of soil, water, air and wildlife habitat. Carbon sequestration is the process by which atmospheric carbon dioxide is taken up by trees, grasses and other plants through photosynthesis and stored as carbon in biomass and soils. Trees have much more woody biomass to capture $CO_2$ and so they are considered as nature's most efficient carbon sinks (www.pww.org). Carbon sequestration will capture and secure carbon in the atmosphere and an alternative to control atmospheric emission of carbon.

Among the alternative ways of carbon sequestration, tree planting has greatest potential because trees grow in all extreme conditions, tolerate annual climate fluctuations and yield additional benefits to the society along with sequestration of atmospheric carbon. Trees planted in tropical climates, will sequester atmospheric $CO_2$ at an average of 50 pounds of $CO_2$ per tree per year (info@treesftf.org). Forests are major carbon sinks and the activities that alter forests significantly affect the amount of $CO_2$ in the atmosphere (Gorte and Ramseur, 2008) and forests have the potential of stabilizing atmospheric carbon in the near term (20-50 years) and provide time to develop fundamental technological solution in the form of reduced carbon emission energy sources (Sedjo, 2001). Apart from these, sufficient lands are available for growing trees and sequestration is relatively inexpensive to reduce atmospheric carbon naturally (Kolshus, 2001). It is estimated that the forests of the World store 283 Giga tonnes of carbon in their biomass. Hence periodic assessment of growing stock of carbon is essential to know the changes that are taking place in total carbon pool overtime and it is an urgent need of the hour (FSI, 2005).

**OBJECTIVES**

The purpose of the present paper is (i) to assess the carbon sequestration potential of existing forests in Tamilnadu, and (ii) to examine the potential of afforestation programmes in Tamilnadu as a tool for climate change adaptation.

## METHODOLOGY
The forest types and their respective share in the total forest area of Tamilnadu and of India were taken from the Forest Survey of India, 2009. The total forest area of Tamilnadu and India were multiplied by the respective share of different forest types to measure their area in square kilometers. It was multiplied by 100 to convert the area in hectares. Further it was multiplied by per hectare annual biomass increment to get annual growth of standing biomass as mentioned by Forest Survey of India 1995, reported by Lal and Singh, for different types of forests in India. The annual carbon sequestration is usually taken as 50 percent of the annual biomass increment measured in terms of tC/ha (Ravindranath, Somashekhar and Gadgil, 1997, Bhadwal and Singh, 2002 and Poffenberger et al, 2002). Therefore the annual biomass growth of different forest types was divided by two and that was taken as annual carbon sequestration of the particular type of forest. Further, the carbon sequestration is multiplied by 3.67 to get the carbon dioxide ($CO_2$) sequestration of the forests of Tamilnadu and India because 1 ton carbon is equal to 3.67 tonnes of $CO_2$ (C=12 and O=16, Therefore $CO_2$ =12+16+16 = 44, 44/12=3.67).

## NEED FOR ADAPTATION
Adaptation refers to "changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change" (IPCC, 2001). Adaptive measures were used to tackle the problem of climate change in right manner which has immediate effect and high responsiveness to reduce anthropogenic activities causing climate change with the participation of local community. Climate change is affecting every aspect of human and natural systems of the planet although they vary in sensitivity and adaptive capacity (Nkem et al, 2008). The need to develop appropriate policies for adaptation is widely acknowledged and the factors which hindered the development of adaptation policies are identified (Locatelli, 2008). Land use change, socio-economic pressures and forest policies are the drivers of changes in forests. Rising atmospheric $CO_2$ concentration and climate change are added stress to forests which will affect the forest cover, biodiversity, species composition, biomass productivity and regeneration (Murthy, Tiwari and Ravindranath, 2010).
It is possible to respond to climate change through the development of adaptation strategies (Nkem et al, 2008). Adaptation is the only way to deal with the inescapable impacts of climate change, therefore dedicated efforts are needed to mainstream adaptation in national, sectoral and local development plans (Murthy, Tiwari and Ravindranath, 2010). Hence adaptation is needed to cope with climate change and to protect the most vulnerable systems and society.

## FOREST CARBON SEQUESTRATION AND CLIMATE CHANGE ADAPTATION
The negotiations towards a new agreement on climate change, within the framework of UNFCCC, put forests at the heart of the climate change agenda (www.Copa-Cogeca.eu). Forests cover more than 4 billion hectares of the Earth's land surface area and contain huge reservoirs of carbon in their vegetation and soils (www.iufro.org). Forest biomes store as much as 10 times more carbon in their vegetation than the non-forest biomes (Gorte and Ramseur, 2008). The recognized importance of forests in adapting climate change has led countries to study the forest carbon budgets and initiate the assessment of enhancing and maintaining carbon sequestration of their forest resources (IPCC, 2000). Forests actively contribute to the environmental stability of the world and have economic, cultural and recreational value.
Sequestration stores $CO_2$ removed from the atmosphere or captured from emissions and stores it in another form naturally and so carbon sequestration should not be excluded from any serious discussion of policy options (Leistra, 2002). Forest sector offers carbon sequestration opportunities through afforestation, reforestation and existing plantations (Gera, 2008) and increase the carbon stocks on the land base through afforestation, reforestation, agroforestry and forest restoration (Bowling, 2002). Afforestation is planting trees on lands that have not grown trees in recent years, such as abandoned cropland (Gorte, 2007). Afforestation will sequester more carbon than reforestation and provide a broad array of other environmental benefits (Gorte and Ramseur, 2008).
In India 21.02 percent of the geographical area is covered by forest land and the National Forest Policy of India treats forests as an environmental and social resource. Moreover India has a target of bringing one-third of its land cover under forest cover by launching the Greening India Mission programme. Under this mission the thrust to afforestation has been given with a target to afforest additional 10 Mha of degraded forest land (Murthy, Tiwari and Ravindranath, 2010). The $CO_2$ removal by India's forests and tree cover is enough to neutralize 11.25 percent of India's total GHG emissions at 1994 level. It is clear that India's forest is serving as a major mode of carbon sequestration in India (SFR, 2009). Hence, afforestation is a best option to adapt the effect of climate change for developing countries with varied climatic conditions like India, and especially the study area Tamilnadu. All potential forestry sector activities will make significant contribution to socio-economic and environmental benefits including reducing carbon emission or expanding carbon sinks (Ravindranath, Sudha and Rao, 2001).

## CARBON SEQUESTRATION POTENTIAL OF EXISTING FORESTS IN TAMILNADU
Tamilnadu has 23,338 square kilometers of forest area which is only 17.94 of the geographical area of 1, 30,058 square kilometers of the State as per Forest Survey of India, 2009. The forests in Tamilnadu classified as tropical wet evergreen, tropical semi evergreen, tropical moist deciduous, littoral and swamp, tropical dry deciduous, tropical thorn, tropical dry evergreen, subtropical broadleaved hill, montane wet temperate and plantations. The tropical dry deciduous forest occupies the major part of forest land in Tamilnadu, covers 10961.85 square kilometers, 46.97 percent of the forested area which is followed by plantations, 4893.98 square kilometers (20.97%) and tropical thorn forests, 3012.94 square kilometers (12.91%). All the other types of forests mentioned earlier individually accounts less than 10 percent in the forest area of Tamilnadu and littoral and swamp forest accounts the least, 95.69 square kilometers (0.41%) only.

**TABLE 1: CARBON SEQUESTRATION POTENTIAL OF EXISTING FORESTS IN TAMILNADU**

| Forest Types | Percentage in total forest area | Area (in $km^2$) | Annual biomass increment (t/ha) | Annual biomass growth (tC) | Annual Carbon Sequestration(tC) | Total $CO_2$ Intake ($tCO_2$) |
|---|---|---|---|---|---|---|
| Tropical wet evergreen | 3.30 | 770.15 | 1.20 | 92418 | 46209.0 | 169587 |
| Tropical semi evergreen | 3.66 | 854.17 | 1.18 | 100792 | 50396.0 | 184953 |
| Tropical moist deciduous | 8.12 | 1895.05 | 0.80 | 151604 | 75802.0 | 278193 |
| Littoral and swamp | 0.41 | 95.69 | 1.07 | 10239 | 5119.5 | 18789 |
| Tropical dry deciduous | 46.97 | 10961.85 | 0.66 | 723482 | 361741.0 | 1327590 |
| Tropical thorn | 12.91 | 3012.94 | 0.73 | 219945 | 109972.5 | 403599 |
| Tropical dry evergreen | 1.61 | 375.74 | 0.62 | 23296 | 11648.0 | 42748 |
| Subtropical broadleaved hill | 1.01 | 235.71 | 1.09 | 25692 | 12846.0 | 47145 |
| Montane wet temperate | 1.04 | 242.72 | 1.37 | 33253 | 16626.5 | 61019 |
| Plantations | 20.97 | 4893.98 | 3.20 | 1566074 | 783037.0 | 2873746 |
| Total | 100 | 23338.00 | ---- | 2946795 | 1473397.5 | 5407369 |

Source: FSI, 2009 Lal M and Roma Singh, 2000

1 ton C = 3.67 tons of $CO_2$

The total forest area of Tamilnadu was classified under various forest types with their respective shares in the total forest area. It was multiplied by per hectare annual biomass increment to get annual growth of standing biomass as mentioned by Forest Survey of India 1995, reported by Lal and Singh, for different types of forests in India. The annual carbon sequestration is usually taken as 50 percent of the annual biomass increment measured in terms of tC/ha (Ravindranath, Somashekhar and Gadgil, 1997, Bhadwal and Singh, 2002 and Poffenberger et al, 2002). Further, the carbon sequestration is multiplied by 3.67 to get the carbon dioxide ($CO_2$) sequestration of the forests of Tamilnadu because 1 ton carbon is equal to 3.67 tonnes of $CO_2$.

From the table 1, existing forests of Tamilnadu is sequestrating more than 5.4 million ones of $CO_2$ per year which is equal to 1.47 million ones of carbon sequestration, contributes to reduce atmospheric carbon significantly. The average carbon sequestration potential and $CO_2$ intake is 0.63 tonnes and 2.32 tonnes per hectare respectively for the existing forests in Tamilnadu. The plantations record the highest contribution to carbon sequestration (783037 tonnes) and $CO_2$ intake (2.87 million ones) because the per hectare biomass increment of plantations is high and it accounts one-fifth of the forested area in Tamilnadu. The annual biomass growth is 2.95 million ones per year and average biomass growth per hectare is 1.26 tonnes per annum.

The potential for carbon sequestration is large, but there are large variations in the estimates as factors such as land availability and the rate of carbon uptake complicate the calculations (Kolshus, 2001) and the amount of carbon sequestered in a forest is constantly changing with growth, death and decomposition of vegetation (Gorte, 2007).

Aggarwal et al (2006) estimated that 5.24 tons of carbon sequestered by the forests under protection annually. Poffenberger et al (2002) estimated that in India the above ground mean annual growth of degraded forests was 3 tons of carbon per hectare and some of the earlier studies estimated 1tC/ha for unclassed forests.

## CARBON SEQUESTRATION POTENTIAL OF EXISTING FORESTS OF INDIA

India has 690,899 square kilometers of forest area which covers 21.02 percent of the geographical area of 32,87,263 square kilometers as per Forest Survey of India, 2009. The forests of India classified as tropical wet evergreen, tropical semi evergreen, tropical moist deciduous, littoral and swamp, tropical dry deciduous, tropical thorn, tropical dry evergreen, subtropical broadleaved hill, subtropical pine, subtropical dry evergreen, montane wet temperate, Himalayan moist temperate, Himalayan dry temperate and alpine and sub alpine forests. The tropical moist deciduous forest occupies the major part of forest land in India, covers 234352.94 square kilometers, 33.92 percent of the forested area which is followed by tropical dry deciduous forests, 208375.13 square kilometers (30.16%) and tropical wet evergreen forests, 60453.66 square kilometers (8.75%). All the other types of forests mentioned earlier accounts the remaining 27.17 percent of the forest area of India.

**TABLE 2: CARBON SEQUESTRATION POTENTIAL OF EXISTING FORESTS OF INDIA**

| Forest Types | Percentage in total forest area | Area (in $km^2$) | Annual biomass increment (t/ha) | Annual biomass growth (tC) | Annual Carbon Sequestration (tC) | Total $CO_2$ Intake ($tCO_2$) |
|---|---|---|---|---|---|---|
| Tropical wet evergreen | 8.75 | 60453.66 | 1.20 | 7254439 | 3627219.5 | 13311895 |
| Tropical semi evergreen | 3.35 | 23145.11 | 1.18 | 2731123 | 1365561.5 | 5011611 |
| Tropical moist deciduous | 33.92 | 234352.94 | 0.80 | 18748235 | 9374117.5 | 34403011 |
| Littoral and swamp | 0.38 | 2625.42 | 1.07 | 280920 | 140460.0 | 515488 |
| Tropical dry deciduous | 30.16 | 208375.13 | 0.66 | 13752758 | 6876379.0 | 25236310 |
| Tropical thorn | 5.11 | 35304.94 | 0.73 | 2577261 | 1288630.5 | 4729274 |
| Tropical dry evergreen | 0.29 | 2003.61 | 0.62 | 124224 | 62112.0 | 227951 |
| Subtropical broadleaved hill | 0.38 | 2625.42 | 1.09 | 286171 | 143085.5 | 525124 |
| Subtropical pine | 5.99 | 41384.85 | 1.32 | 5462800 | 2731400.0 | 10024238 |
| Subtropical dry evergreen | 0.36 | 2487.24 | 0.65 | 161671 | 80835.5 | 296666 |
| Montane wet temperate | 3.45 | 23836.02 | 1.37 | 3265535 | 1632767.5 | 5992257 |
| Himalayan moist temperate | 3.79 | 26185.07 | 1.54 | 4032501 | 2016250.5 | 7399639 |
| Himalayan dry temperate | 0.28 | 1934.52 | 2.10 | 406249 | 203124.5 | 745467 |
| Alpine and sub-alpine | 3.79 | 26185.07 | 1.51 | 3953946 | 1976973.0 | 7255491 |
| Total | 100 | 690899.00 | ---- | 63037833 | 31518916.5 | 115674422 |

Source: FSI, 2009 Lal M and Roma Singh, 2000

1 ton C = 3.67 tons of $CO_2$

The total forest area of India was classified under various forest types with their respective shares in the total forest area. It was multiplied by per hectare annual biomass increment to get annual growth of standing biomass as mentioned by Forest Survey of India 1995, reported by Lal and Singh, for different types of forests in India. Fifty percent of the annual growth of standing biomass was taken as carbon sequestration potential of existing forests in India and it was multiplied by 3.67 to get total $CO_2$ intake of the forests of India.

From the table 2, existing forests of India is sequestrating more than 116 million tonnes of $CO_2$ per year which is equal to 32 million tonnes of carbon sequestration, contributes to reduce atmospheric carbon of the globe. The average carbon sequestration potential and $CO_2$ intake is 0.46 tonnes and 1.67 tonnes per hectare respectively for the existing forests of India. The tropical moist deciduous forests record the highest contribution to carbon sequestration (9.4 million tonnes) and $CO_2$ intake (34 million tonnes) because it occupies one-third of the forested area in India. The annual biomass growth is 63 million tonnes per year and average biomass growth per hectare is 0.91 tonnes per annum.

The carbon sequestration potential of the existing forests of Tamilnadu and India are compared in terms of per hectare biomass growth, carbon sequestration and $CO_2$ intake. Tamilnadu accounts only 3.4 percent of forest area of India but it sequestrates 6.24 percent of the total carbon sequestration of the forests of India. When comparing the average per hectare biomass growth, it is 1.26 for Tamilnadu and 0.91 for India. The average per hectare carbon sequestration and $CO_2$ intake is 0.63 tonnes and 2.32 for Tamilandu, 0.46 and 1.67 for India. It reveals that in all manners Tamilnadu is doing better than the average of India.

**FOREST PROTECTION AND AVOIDED EMISSIONS**

Forest protection prevents the release of carbon stored in trees and in the forest soil to the atmosphere. Forest protection not only protects the forests from degradation and deforestation but avoid emissions of GHGs to the atmosphere also. Forest eco-systems capture and store $CO_2$, making a major contribution to adapt climate change, but if they are destroyed or burned they turn as a source of $CO_2$ emissions. Tropical deforestation and forest degradation accounts for approximately 17 percent of global green house gas emissions (www.Copa.Cogeca.eu). Rigid state control and indiscriminate removal of trees by industries degraded the forests in the past and raised the $CO_2$ emissions. Part of the vast degraded areas and degraded pasture areas is available for reforestation and afforestation for meeting biomass demands as well as carbon sequestration. The government supported afforestation, reforestation and conservation activities could be largely on state or community owned forest and degraded lands (Ravindranath, Sudha and Rao, 2001).

**SUSTAINABLE FOREST MANAGEMENT (SFM)**

**S**ustainable Forest Management is a way of achieving the goals outlined by the UNFCCC with respect of forests. SFM is a system of forestry practices that aims to maintain and enhance the economic, social and environmental values of all types of forest and it plays an important role in climate change adaptation. Using forests and trees as part of a strategy to cope with impacts of climate change, forests become part of a climate strategy for adaptation. The study area Tamilnadu is the southern state of India with a geographical area of 1, 30,058 square kilometers which constitutes 3.96 percent of geographical area of India. By considering the features, it is divided into four major regions namely, Coastal plains, Eastern Ghats, Central Plateau and Higher Mountains. In the total geographical area of Tamilnadu, 17.59 percent were recorded forest area which is 22,877 square kilometers (SFR, 2009). Due to anthropogenic impact and biotic pressure, a sizeable part of the forests in Tamilnadu had undergone changes in their structure and composition. Illicit cutting and removal of trees, encroachment of forest land, sandalwood smuggling, forest fire, grazing, ganja cultivation, illicit distillation, poaching of wildlife and theft of medicinal plants etc. pose a threat to the protection of forest resources. Table 3 explains the diversion of forest land for various reasons.

**TABLE 3: DIVERSION OF FOREST LAND IN INDIA AND TAMILNADU – A COMPARISON**

| Year | India | | Tamilnadu | |
|---|---|---|---|---|
| | No. of cases | Area diverted (in hectares) | No. of cases | Area diverted (in hectares) |
| 2006 | 664 | 10978.41 | 1 | 4.17 |
| 2007 | 443 | 6633.5 | 5 | 13.14 |
| 2008 | 363 | 6377.55 | 3 | 5.81 |
| 2009 | 78 | 1853.26 | 1 | 1.18 |
| Total | 1547 | 25677.58 | 10 | 24.30 |

www.tamilnadustat.com

To adapt the ill-effects of climate change several afforestation programmes have been undertaken in the state in recent years which will help to increase the forest and tree cover and absorb more carbon from the atmosphere (Government of Tamilnadu Demand Note 15, 2010). With this aim TamilNadu Government had initiated Schemes namely Afforestation Programmes in Tamilnadu, sustainable management of forest and wildlife, Joint Forest Management (JFM), Tamilnadu Afforestation Project, National Afforestation Programme , Integrated Forest Protection Scheme and Urban Afforestation programme – To achieve the goal of programmes like sustainable management of forest and wildlife the financial support of Rs.3135.01 crores from the State, Central and external aids are provided .In Tamilnadu the JFM is started during the year 1997-98 and the aim of JFM is to bring about complete transformation of livelihoods so that forest dependent communities take up other viable vocations and need not revert to illicit activities in the forest (Kaushal, 2009). In Tamilnadu, 200 villages are selected for JFM programme and Village Forest Councils established at the village level for the participation of people in forest protection and conservation. There are 1367 Joint Forest Management Committees (JFMCs) managing about 0.48 million hectrares of forest area as on March, 2005, which is about 21 per cent od the forest area of the state (FSI, 2005). There is a considerable change in the condition of natural forests in after the formation of JFMCs (Mishra and Singh, 2009). Regarding TAP,the first phase of this project was implemented at a cost of Rs. 688 crores for the period of 8 years from 1997-98. An extent of 4.8 lakh hectares of degraded forests and community lands has been covered, 1,75,000 forest dependent villagers benefited through alternate employment and 60 million person days of employment created. Phase II of TAP was implemented for a period of 8 years upto 2012-13 to cover another 1,77,500 hectares of degraded forests. The National Afforestation Programme(NAP) is an umbrella scheme which establishes linkages between rural development, employment generation and forest conservation. This scheme was implemented in 2002-03 through 32 Forest Development Agencies and to the extent of 50,695 hectares of degraded forests were preserved under this scheme. The Integrated Forest Protection Scheme was implemented by the Forest Department with the share of 3:1 by the Government of India and State. The important objective of the scheme is to control forest fires and strengthen forest protection measures in Tamilnadu. Urban Afforestation programme was implemented with an outlay of 4.0 crores to mitigate pollution because trees act as effective carbon and methane sinks.

**CARBON SEQUESTRATION POTENTIAL OF AFFORESTED AREA IN TAMILNADU**

The unavailability of time series data regarding the coverage of afforestation programmes is a major draw back in estimating the carbon sequestration potential of specific afforestation programmes in Tamilnadu. Another discrepancy is the afforestation programmes and environmental conservation activities are interrelated. Therefore two major afforestation programmes TAP and NAP in Tamilnadu, were considered for estimating the carbon sequestration potential of afforested area in Tamilnadu.

**TABLE 4: CARBON SEQUESTRATION POTENTIAL OF AFFORESTATION PROGRAMMES IN TAMILNADU**

| Afforestation Programme | Area forested (in hectares) | Carbon sequestration (tC/ha) | Annual Carbon Sequestration (tC) | Annual $CO_2$ intake (t $CO_2$) |
|---|---|---|---|---|
| TAP Phase - I (1997-98 to 2004-05) | 480000 | 0.63 | 302400 | 1109808 |
| TAP Phase – II (2005-06 to 2009-10) | 88750 | 0.63 | 55913 | 205201 |
| NAP | 50695 | 0.63 | 31938 | 117212 |
| Total | 619445 | ---- | 390251 | 1432221 |

Source: Tamilnadu Forest Department Report

∗ The average carbon sequestration potential is taken from the results of earlier estimate.

∗∗ Phase II of TAP is a current programme; hence the average area covered per year is used for estimation.

The carbon sequestration potential of the afforestation programmes in Tamilnadu is arrived by multiplying the average per hectare sequestration of the forests of Tamilnadu with the area forested by various afforestation programmes. It gives the annual carbon sequestration from that the annual $CO_2$ intake of the forested area is derived. From the table 4, it is clear that the afforestation programmes contribute to reduce the atmospheric $CO_2$ significantly. From the two selected afforestation programmes, TAP and NAP, the afforestation and prevention of degradation of forests is made upto the extent of 6.2 lakh hectares. This aforested area sequestrates 3.9 lakh tonnes of carbon and scrubs 14.3 lakh tonnes of $CO_2$ from the atmosphere per year. It proves that afforestation is the affordable and natural way to reduce the accumulation of $CO_2$ in the atmosphere and prevents the earth from the evil impacts of climate change.

## STRATEGIES NEEDED

- Need for establishing a forest monitoring system with complete data on multi-date forest area change, carbon emissions from land uses change, carbon changes in remaining forest areas and significant emissions from other carbon pools.
- Assessment of existing national forest monitoring framework and capacities, and identification of gaps in the existing data sources.
- Forest area change assessment for understanding of deforestation drivers and factors

- National carbon monitoring system established for historical period and future monitoring. With National and international reporting on forest carbon changes.
- Changes in carbon stocks due to land use change, changes in forest areas and remaining forests
- Analysis of drivers and factors of forest change such as processes affecting forest change, socio-economic drivers, spatial factors, forest management and land use practices, and spatial planning
- Establishment of reference emission level and regular updating data and knowledge on deforestation and forest degradation processes, associated GHG emissions, drivers and expected future developments.

## CONCLUSION

Climate is the interaction of all of the components of the Earth's system. Adaptation though carbon sequestration concentrate on single factor that is, $CO_2$ emissions in a complex problem of climate change. Sequestration activities could potentially be organized in either centralized government or decentralized market processes. Government involvement in the production of a marketable commodity is usually justified by the failure of private markets to correctly provide public goods, usually from ignoring the non-financial social costs or social benefits of economic activities such as carbon and global warming.

## REFERENCES

Aggarwal, A., R.S. Sharma, B. Suthar and K. Kunwar, "An ecological assessment of greening of Aravali mountain range through joint forest management in Rajasthan, India", International Journal of Environment and Sustainable Development, 5 (1), pp. 35-45, 2006

Bruno Locatelli, CIFOR Annual Reporty, 2008

Daniel J Leistra, "Carbon Sequestration Methods: the State of the Art", GCCS Final Presentation, 2002

Denis Sonwa, Youssoufa Bele, Olufunso Somorin, Cyprain Jum and Johnson Nkem, "Adaptation for Forests and Communities in the Congo Basin", ETFRN News, 50, 2009

ESA21, Environmental Service Activities for the 21st Century

Hans H Kolshus, "Carbon Sequestration in Sinks: An overview of potential and costs", CICERO Working Paper, 11, 2001

Jill Bowling, "Climate Change and Forest Carbon Sequestration", Position Paper, 2002

Johnson Nkem, Monica Idinoba, Heru Santoso and Javier Sabario, "Developing Adaptation Strategies to Climate Change Impacts on Tropical Forest Systems", III Annual Report, 2008

Kaushal K K, "Village Forest Councils: Emerging Rural Institutions in Tamilnadu State of India", XIII World Forestry Congress, Buenos Aires, Argentina, 2009

Lal M and Roma Singh, "Carbon Sequestration Potential of Indian Forests", Environmental Monitoring and Assessment, 60, pp.315-317, 2000.

Manish Mishra and S P Singh, "Indigeneous Community Participation in India", ETFRN News, 50, 2009

Mohit Gere, "Clean Development Mechanism and LULUCF", The Energy and Research Institute, 2008

Murthy, I K, Rakesh Tiwari and N. H. Ravindranath, "Climate Change and Forests in India: Adaptation Oppurtunities and Challenges", Mitigation Adaptation Strategy to Global Change, 2010

Poffenberger M, E D'Silva, N H Ravindranath, U Pingle, I Murthy and A Tuttle, "The Clean Development Mechanism and Village-based Forest Restoration. A case study from Adilabad District, Andhra Pradesh, India", United States of America, Community Forestry International, 2002

Ravindranath N H, B S Somashekhar and Madhav Gadgil, "Carbon Flow in Indian Forests", Climate Change, 35, pp.297-320, 1999

Ravindranath N H, P Sudha and Sandhya Rao, "Forestry for Sustainable Biomass Production and Carbon Sequestration in India", Mitigation and Adaptation Strategies for Global Climate Change, 6, pp.233-256, 2001

Roger A Sedjo, "Forest Carbon Sequestration: Some Issues for Forest Investments", Disscussion Paper 01-34, 2001

Rohit Jindal, John Kerr and Shailesh Nagar, "Voluntary Carbon Trading: Potential for Community Forestry Projects in India", Asia-Pacific Development Journal, 14 (2), 2007

Ross W Gorte, "Carbon Sequestration in Forests", Congressional Research Service Report, 2007

Ross W Gorte and Jonathan L Ramseur, "Forest Carbon Market: Potential and Drawbacks", Congressional Research Service Report, 2008

Subodh Sharma, Sumana Bhattacharya and Amit Garg, "Greenhouse gas emissions from India: A perspective", Current Science, 90 (3), 2006

Suruchi Bhadwal and Roma Singh, "Carbon Sequestration Estimates for Forestry Options Under Different Land-Use Scenarios in India", Current Science, 83 (11), 2002, pp.1380-1386.

**REPORTS**

Government of Tamilnadu Archives

Government of Tamilnadu, Demand Note 15, 2010

IPCC, 2000

IPCC, 2001

Ministry of Environment and Forests, 2009

Policy Note on Tamilnadu Forest Department

State of Forest Report, Forest Survey of India, 1995, 2005, 2009

www.Copa_Cogeca.eu

www.info@treesftf.org

www.iufro.org

www.pww.org

# PROBLEMS OF WOMEN ENTREPRENEURS: A COMPARATIVE STUDY OF VELLORE (INDIA) AND THIMPHU (BHUTAN)

*DR. KASAMSETTY SAILATHA*
*HEAD*
*P.G. DEPARTMENT OF COMMERCE*
*FIRST GRADE COLLEGE*
*VIDYA VIKAS EDUCATIONAL TRUST*
*MYSORE*

## ABSTRACT

*Entrepreneurship is the core of economic development. It is a multi dimensional task and essentially a creative activity. Entrepreneur is key factor of production process in any economy. Women entrepreneurship is a recent phenomenon and in the process have to face various problems. Therefore, this study was conducted with a sample size of one hundred and forty women entrepreneurs selected through random sampling technique from Vellore (India) and Thimphu (Bhutan), seventy each. Garment business, shoe making, beauty parlours and general stores were the enterprise selected for the study. The statistical tools applied for the study were to ascertain the financial, making, social and environmental, managerial, family life problems and many other problems of women entrepreneurs. This paper analysed problems faced by the Vellore women entrepreneurs and Bhutanese women entrepreneurs for the above categories and it also discussed the comparative analysis that means the weightage given by both women entrepreneurs to each problem as such. This paper also focused on male domination to check whether women entrepreneurs are comfortable in male dominated society or not. Finally this paper discussed some solutions to overcome the above problems in the form of suggestions to the family members and the policy makers.*

## INTRODUCTION

Entrepreneur is the key factor of entrepreneurship and now women have been recognized as successful entrepreneurs as they have qualities desirable and relevant for entrepreneurship development. In the process of entrepreneurs, women have to face various problems associated with entrepreneurship and these problems get doubled because of her dual role as a wage earner and a homemaker. According to Reddi (1991) women entrepreneurs in Goa feel frustrated at times because they need to space their time and energy, both towards their business as well as domestic affairs. Women in Asian countries a larger proportion of total unemployed population and hence it is imperative to find out the entrepreneurial constraints faced by them.

## CONCEPT AND DEFINITION OF ENTREPRENEURSHIP

Generally, economic development depends on the efforts of people to generate goods and services. This effort is labeled as 'entrepreneurship'. Such entrepreneurs may be classified into 'innovative' and 'initiative' entrepreneurship. Both of these entrepreneurship styles have a role to play in any economy. If innovative entrepreneurship lays the foundation for development potentials, the imitative entrepreneurship results in equitable distribution of fruits of economic development. Totally, entrepreneurship is referred to a 'fourth factor' of production and a 'catalyst of development'.

Much early literature debates at length the question of how 'entrepreneur' should be defined. The debate has not yet concluded and a variety of 'working' definitions are adopted, the justification of which is rarely made clear. The bases for defining entrappers have ranged across the following: length of time in business; number of others employed (Creigh, 1986) level of turnover; innovation ((Schumpeter, 1954) propensity for risk taking; success (Hornaday and Aboud, 1971) scores on need for achievement (McClelland, 1961) and so on. Specifically, Cantillion (Circa, 1700) portrays "an entrepreneur as the individual who assumed the risk for the firm." Palmer (1971) states that the "risk assessment and risk-taking are the primary elements of entrepreneurship". Further, Sexton and Bowman (1986) and Carland et. al. (1995) discovers "a higher propensity for risk-taking among entrepreneurs". However, Brockhaus (1980) and Sexton and Bowman (1983) indicate no significant differences in risk-taking propensities for entrepreneurs as compared to the general population.

McClelland (1961) Hornaday and Abound (1971) Timmons (1978) Brockhaus (1982) Carland et. al. (1984) and Gartner (1990) state that innovation remains a frequently identified functional characteristic of entrepreneurs. Timmons (1978) suggested that "creativity and innovation were conditions inherent in the role of entrepreneurs".

Adding another dimension to the concept, Drucker (1985) defines 'entrepreneurship as innovation in a business setting". Further, Olson (1985) states entrepreneurship as "an invention, an activity analogous to innovation, as a primary entrepreneurial activity". Further, Carland et. al. (1984) proposes that innovation as the critical factor in distinguishing entrepreneurs from managers and small business owners.

Similarly McClelland (1961) concludes that "a high need for achievement would influence the self selection of an entrepreneurial position". Further evidences by Hornaday and Bunker (1970) Hornaday and Aboud (1971) DeCarlo and Lyons (1979) and Lachman (1980) and Begley and Boyd (1986) show "a positive relationship between achievement motivation and entrepreneurship". The most pertinent definition of entrepreneurship suitable for developing countries like India has been provided by Envick and Langford (1997) who define an entrepreneur as "someone who created or seized his/her own business…" It is also important to note that the concept of entrepreneurship is not empirically delineated in the right perspective and in fact, it is virtually a black box. With all these unresolved issues, the economic show has been going on in every country of the world basically through revolutionary change agents called entrepreneurs.

## REVIEW OF LITERATURE

Harper (1996) refers to the lack of exposition to information as an important barrier of women to create and expand their business. This is probably due to the accumulation of domestic and agricultural, tasks which rural women are involved I rural areas (Dollinguer, 1985). Furthermore, Harper (1996) points out that lack of time is not an important factor and poverty per se, is not a "pushing" factor to entrepreneurship. Awareness has to be created and change has to be perceived as something possible.

Arif (1999) evidences problems of women entrepreneurs as (1) immobility; (2) dual role as a mother-cum-householder as well as employer, manager, and entrepreneur; (3) lack of motivation; (4) lack of confidence of women entrepreneurs as perceived by banks and financial institutions; and (5) lack of infrastructural facilities is most non-metropolitan and small cities. She also observes: "The training that a girl receives at home to be a good house-wife that is a good manager of the house, has developed in her over the years, an intrinsic ability to mange effectively." This has been noticed both in the office and at the universal level. She also suggests that there is specific support needed, for existing women entrepreneurs as most of the agencies concentrate in the direction of developing new entrepreneurs. At the same time, all of us must necessarily engage ourselves in a silent cultural revolution for changing our attitudes towards women. Special training-cum-orientation programmes for appraising officers of banks and state agencies should be planned to change their basic attitude. While dealing with this group, documentation should be maintained regarding number of women entrepreneurs running the enterprise, production performance, available facilities for training, credit, directories of women entrepreneurs, enterprise run by women and compilations of existing facilities granted by various agencies should be prepared on high priority basis. Lastly, she concludes that our motto should be "take care of the women entrepreneurs" and she will take care of her small enterprise.

Asghari (1987) identified problems of rural women entrepreneurs such as illiteracy, lack of vital information and skill, lack of knowledge regarding accounting, sources of raw materials, technology, rules and regulations, fear to take risks and lack of experience. In a study of rural women entrepreneurs in the States of Andhra Pradesh and Kerala, she found that in Andhra Pradesh entrepreneurs have some previous/traditional family skill and are helped initially by male members of family and officials in establishing their enterprises. Their activities were mostly confined to traditional and family based enterprises. In contrast, women in Kerala venture into non-traditional and non-family based enterprises in the case of forward class women, whereas the backward class women confine to traditional and non-family based enterprises. Women entrepreneurs in both states were willing to take moderate risks and had a desire for expansion/diversification of business.

Pushpa (1983) identified the problems of educated women entrepreneurs in raising finance and problems due to lack of expertise in marketing, accounting and management and in identifying viable projects. She suggested that banks should remove prejudices of their staff towards women entrepreneurs, establish special cells, at least at regional levels to look into the credit needs of women entrepreneurs and provide counseling to them. She called for the establishment of a single window development agency, 'Women's Development Corporation' to act as a focal agency to promote and finance women entrepreneurs.

The study by Pushpa (1983) identified procedural difficulties faced by women entrepreneurs such as obtaining suitable land/sheds, bank procedures (guarantees, margin money) procurement of raw materials, lack of information on procedures to be followed, agencies involved and changes in policy. She recommended that all applications of women entrepreneurs should be routed through a single agency, or alternatively a special window for women entrepreneurs should be crated in all agencies. She advocated reservation of lands, sheds, raw materials etc. for women, joint appraisals for loans by commercial banks and state finance corporations and development of information literature on various procedures involved in establishing a unit.

Saravanavel (1987) identifies the problems faced by women entrepreneurs. According to him attitude of the society towards women and the constraints in which they have to live and work keep women away from entrepreneurship. Women also face difficulties in obtaining finance, and due to lengthy procedures of obtaining finance, and due to lengthy procedures of obtaining bank loans. The delay and the running around deter many women from venturing into entrepreneurship. He recommends that in order to ensure adequate credit flow to women entrepreneurs a sub-goal may be fixed under the priority sector advances by banks. Also, banks and financial institutions can waive the insistence for provision of collateral security.

The study of Pooja Nayyar et. al (2007) were ascertain the financial, marketing and production constraints faced by women in their enterprises; assessment of their health status, work place facilities and to develop guidelines for becoming a successful entrepreneur. Poor location of unit, tough competition from larger and established units, lack of transport facility, lack of rest and sleep and non-availability of raw material were the significant problems faced by entrepreneurs. The factors causable to these problems were; difficulty in affording own vehicle, not being popular, heavy schedule of work and long working hours. Common entrepreneurial problems can be dealt by formulating self help mutually aided groups.

## NEED FOR THE STUDY

The review of literature reveals that the studies in many countries examined, only the women entrepreneur's problems and prospects. No study was done comparing problems faced by women entrepreneurs of different countries. As a result, there is a gap in research on women entrepreneurship, in a sense that no study has been conducted comparing problems faced by the women entrepreneurs based on socio-cultural and economic factors prevailing in the country. In other words, problems of women entrepreneurs were not examined based on country's geographic, climatic, economic, and socio-cultural conditions. Hence, the present study has been taken up to fill this gap and the researcher chooses Vellore (India) and Thimphu (Bhutan) for the study.

## OBJECTIVES OF THE STUDY

The main objective of the study is to find out the problems faced by the women entrepreneurs based on socio-cultural and economic factors prevailing in any economy and also to find whether these factors have any impact on women entrepreneurs' business success.

## HYPOTHESES FOR THE STUDY

Bhutanese women entrepreneurs are facing lack of confidence is considered as a problem when compared to Indian women entrepreneurs.

Indian women entrepreneurs believe that bankers wrongly perceive them when they apply for loan is considered as a problem when compared to Bhutanese women entrepreneurs.

Indian women entrepreneurs believe that collateral security is considered as a problem while availing loan from bank when compared to Bhutanese women entrepreneurs.

## RESEARCH METHODOLOGY

Based on the snap survey, the researcher could find 140 business women entrepreneurs running the enterprises. We could cover only the business women entrepreneurs having located their units in northern part of Tamil Nadu (India), Vellore and the capital city of Bhutan-Thimphu. The activities of these entrepreneurs included garment business, shoe making, beauty parlors and general stores and like. The schedule questionnaire consisted of twenty-two statements, which were perceived as problems faced by women entrepreneurs while starting and running a business, was prepared and the responses were elicited form 140 women entrepreneurs, 70 from India and 70 from Bhutan. The opinions were sought on a five-point scale consisting of strongly agree, agree, cannot say, disagree and strongly disagree. These degrees of opinions were given weithtages of 5 points, 4 points, 3 points, 2 points and 1 point respectively. Finally, the data were collaged and interpreted by applying the mean value, standard deviation and chi-square test to arrive at meaningful conclusions.

## LIMITATIONS OF THE STUDY

In carrying out the study, the following were the limitations of the study.

The sample size was smaller because the physical identification of business unit was not traced out through proper channel.

The sample respondent mainly drawn from India was restricted to only Vellore (Tamil Nadu), which is a small part of India. Vis-à-vis the sample respondent drawn from Bhutan was restricted to only Thimphu, which is a small part of Bhutan.

The Researcher could not attempt on gender performance analysis of entrepreneurship from one country to another.

## OPINIONS ON STATEMENTS PROBLEMS OF THE ENTREPRENEURS COMPARATIVE ANALYSIS

| Statements | Indian women entrepreneurs | | Bhutanese women entrepreneurs | |
|---|---|---|---|---|
| | Mean | Standard Deviation | Mean | Standard Deviation |
| Guidance | 4.1000 | 1.06526 | 3.9286 | 1.17117 |
| Government control and procedures | 3.4571 | 0.91185 | 3.2571 | 0.97335 |
| Initial Capital | 3.4714 | 0.89639 | 3.8571 | 2.39738 |
| Marketing Practices | 3.4571 | 0.81090 | 3.4000 | 0.96909 |
| Stiff competition with opposite counterpart | 3.4857 | 0.97420 | 3.5000 | 1.12611 |
| Proper motivation | 3.2000 | 1.00145 | 3.3714 | 0.93517 |
| Collateral security while availing loan | 3.3857 | 0.87299 | 3.9857 | 1.02848 |
| Managing dual role (as a married women) | 3.0286 | 0.88418 | 3.0714 | 1.38649 |
| Environmental factors | 3.1429 | 1.08060 | 3.4000 | 1.22060 |
| Exploitation by dealers and agents | 3.1000 | 1.13124 | 2.6286 | 1.18164 |
| Wrong perception by bankers about women | 3.0429 | 0.99907 | 2.5429 | 1.12528 |
| Working long hours | 3.2000 | 0.05775 | 3.9714 | 3.52618 |
| Disturbance in family life | 3.1143 | 0.92537 | 3.3714 | 1.02394 |
| Cooperation from family members | 3.2571 | 0.94310 | 3.0000 | 1.11641 |
| Business skills | 3.4000 | 0.87477 | 3.4429 | 0.98739 |
| Proper skills | 3.1571 | 1.00196 | 3.3429 | 1.04792 |
| Untimely cash flow | 3.0571 | 1.03400 | 3.0571 | 0.99160 |
| Poor skills in risk management | 3.0857 | 1.00351 | 3.3286 | 0.95889 |
| Appropriate education | 3.0571 | 1.00557 | 3.0571 | 1.01989 |
| Lack of confidence | 2.7429 | 1.12528 | 3.1143 | 1.12344 |
| Lack of working capital | 2.9143 | 0.98897 | 3.2857 | 1.00927 |
| Socio-cultural Barriers | 3.0571 | 0.97632 | 2.8571 | 1.21924 |

Source: Field Survey

The above comparative statement analysis shows the various problems faced by Indian women entrepreneurs and Bhutanese women entrepreneurs. Majority of the Indian women entrepreneurs and Bhutanese women entrepreneurs strongly agreed that guidance was the main problem for starting their business for which, mean value stood at 4.1000 and 3.9286 and the standard deviation stood at 1.06526 and 1.17117 respectively. Most of the Bhutanese women entrepreneurs agreed that working long hours was the main problem where the mean value and standard deviation stood at 3.9714 and 3.52618 respectively, whereas Indian women entrepreneurs' mean value and standard deviation stood at 3.2000 and 1.05775 respectively for the same problem. Many Bhutanese women entrepreneurs agreed that initial capital was the problem for starting their business where the mean value stood at 3.8571 and standard deviation at 2.39738, where as Indian women entrepreneurs face comparatively less problem with initial capital to start their business, the mean value and standard deviation being 3.4714 and 0.89639 respectively. Most of the Bhutanese women entrepreneurs agreed that another problem was lack of confidence where the mean value and standard deviation stood at 3.1143 and 1.12344 respectively. As against this, only few Indian women entrepreneurs agreed that another problem was the wrong perception by bankers while availing loan where the mean and standard deviation stood at 2.5429 and 1.12528 respectively. To conclude, majority of the Indian women entrepreneurs strongly agreed that guidance was the main problem for starting their business where the mean value stood at 4.1000 and standard deviation stood at 1.06526 and majority of Bhutanese women entrepreneurs agreed that working long hours was the main problem for them where the mean and standard deviation stood at 3.9714 and 3.52618 respectively.

## HYPOTHESES TESTING

| No. | Null Hypothesis | Chi-square value (Sig. value) | Accepted /Rejected Null Hypotheses |
|---|---|---|---|
| | Bhutanese women entrepreneurs are facing lack of confidence is considered as a problem when compared to Indian women entrepreneurs. | 0.294 | Accepted |
| | India women entrepreneurs believe that bankers wrongly perceive them when they apply for loan is considered as a problem when compared to Bhutanese women entrepreneurs. | 0.058 | Accepted |
| | Indian women entrepreneurs believe that collateral security is considered as problem while availing loan from bank when compared to Bhutanese women entrepreneurs. | 0.075 | Accepted |

## CONCLUSIONS

On the whole, most of the Indian and Bhutanese women entrepreneurs considered proper guidance and initial capital are the main problems to start and run the business. It is interesting to note that, most of the Indian women entrepreneurs believed that socio-cultural barriers are the major problem and as against to this, Bhutanese women entrepreneurs considered lack of business skills are the main problem. To conclude, most of Indian as well as Bhutanese women entrepreneurs given the weightage to almost all statements in between 3 and 4 i.e. cannot say and agree respectively. So, this is where the government and family have to think and can take few steps to empower and educated women entrepreneur about problem recognition and solving techniques. If the government and family overlook this issue invariably women entrepreneurs lead to the emergence of potential sickness, which ultimately kills the laudable objective of women emancipation itself. In order to aver this situation the women entrepreneurs should get educated and trained in various functional areas of an enterprise otherwise the status of women will find a retreat.

## REFERENCES

Reddi, P.N. 1991. "Problems of women entrepreneurs in Goa: A pilot study". Khadi Gramdyog, 37(4):pp.157-159.
Creigh, S., (1986). Self-Employment in Britain: Results from the Labour Force Surveys 1981-1984, Employment Gazette, June, pp.183-194.
Schumpeter, J.A., (1954). The Theory of Economic Development, Cambridge, Mass:Harvard University Press.
Hornaday, J.A., and J.Aboud (1971). Characteristics of Successful entrepreneurs, Personnel Psychology, 24(2), pp.42-45.
McCelland, D.C., (1961). The Achieving Society, Princeton, NJ: Van Nostrand.
Cantillion, (Circa, 1700).
Palmer, M., (1971). The Application of Psychological Testing to entrepreneurial Potential, California Management Review, 13(3), p.78.
Sexton, D.L., and N.B.Bowman (1986). Violation of Personality Index: Comparative Psychological Characteristics Analysis of Female entrepreneurs, Managers, entrepreneurship students and Business Students, in R.Ronstadt, J. Hornady, R.Peterson, and K.Vesper (eds), Frontiers of entrepreneurship research, Wellesley, MA:Babson College, pp.40-57.

Carlan, J.W.III., J.W.Carland, J.A.Carland, and J.W.Pearce (1995). Risk-taking propensity among entrepreneurs, small business owners and managers, Journal of Business and entrepreneurship, 7(1), March, pp.12-23.
Brockhaus, R.H., (1980). Risk-taking propensity of entrepreneurs, academy of management journal, 23(3), pp.509-520.
Sexton, D. and N.Bowman (1983). Comparative entrepreneurship characteristics of students in Hornaday, Timmons and vesper (eds), frontiers of entrepreneurship research, Wellesley, MA: Babson College, pp.465-478.
McClelland, D., (1961).
Hornaday, J.A. and J.Abound (1971). Pp.141-153.
Timmons, J.A., (1978) Characteristics and Role Demands of entrepreneurship, American journal of small business, 3, pp.5-17.
Brockhaus, R.H., (1982) Psychology of entrepreneur, in Kent, Sexton and Vesper (eds), Encyclopedia of entrepreneurs, Englewood Cliffs: Prentice Hall, pp.39-57.
Carland, J.W. F. Hoy, W.R. Boulton and J.A. Carland (1984) Differentiating entrepreneurs from small business owners, the academy of management review, 9(2), April, pp.354-359.
Gartner, W. (1990) What are we talking about when we talk about entrepreneurship? Journal of Business venturing, 5(1), pp.15-28.
Timmons, J.A. (1978).
Drucker, P. (1985) Innovation and entrepreneurship, New York: Harper and Row.
Olson, P., (1985) entrepreneurship: Opportunistic Decision Makers, Journal of Small Business Management, 11(2), pp.25-31.
Carland, J.W., W.R.Boulton and J.A.Carland (1984).
McClelland, D.C., (1961).
Hronaday, J., and C.Bunker (1970). The Nature of entrepreneur, Personnel Psychology, 23, pp.47-54.
Hornaday, J.A, and Jabbed (1971) pp.141-153.
DeCarlo, J., and P.Lynos (1979). Comparison of Personal Characteristics of Minority and Non-minority Female entrepreneurs, Journal of Small Business Management, December, pp.22-29.
Lachman, R., (1980) Toward Measurement of entrepreneurial tendencies, Management International Reviews, 20(2), pp.108-116.
Begley, T., and D.Boyd (1986) A Comparison of entrepreneurs and managers of successful firms, Journal of Management, 13(1), pp.99-108.
Envick, B.R. and M.Langford (1997). Behaviors of entrepreneurs: A Gender Comparison, Association for small business and entrepreneurship proceedings of 1998 Annual Meeting, Dalls TX; March, pp.4-7. Internet Web Address: www.icxb.org, dated 10/04/2001.
Haper, M., (1996) Self-help Groups – Some Issues from India, Small Enterprise Development, June 7(2), pp.36-40.
Dollignuer, M.J. (1985) Environmental Contacts and Financial Performance of the Small Firms, Journal of Small Business Management, 23(1), pp.24-30.
Haper, M., (1996).
Arif, Yasmeen, (1999) Women entrepreneurship, in B.S.Rathora and S.K.Dhameja, (eds), entrepreneurship in 21st Century, 1999, New Delhi: Rowat Publication, pp.310-315.
Asghari Mohiuddin, (1987) entrepreneurship in Rural women : A study, Kurukshetra, 35(12), pp.19-25.
Pushpa Sudnar, (1983) Credit for Self-Employment of Women Science and Technology Graduates, in Pushpa Sundar, Credit for Self Employment for Women, Discussion Paper series, Ford Foundation, Delhi, pp.73-83.
Pushpa Sundar, (1983) Procedural Difficulties Faced by Women entrepreneurs, in Pushpa Sundar, Credit for Self Employment for Women, Discussion Paper Series, Ford Foundation, Delhi, pp.85-92.
P.Saravanavel (1987) entrepreneurial development: principles, policies and programmes, Madras: Fee Pee Kay Publishing House.
Pooja Nayyar, Avinash Sharma, Jatinder Kishtwaria, Aruna Rana and Neena Vyas (2007) Causes and Constraints Faced by Women entrepreneurs in entrepreneurial Process, Journal of Social Sciences, 14(2), pp.99-102.

## ANNEXURE

## STATEMENT OF OPINION

| | Statements | More ⟵⟶ Less<br>5 4 3 2 1 |
|---|---|---|
| | Guidance | |
| | Government control and procedures | |
| | Initial capital | |
| | Marketing practices | |
| | Stiff competition with opposite counterpart | |
| | Proper motivation | |
| | Collateral security while availing loan | |
| | Management dual role (as a married women) | |
| | Environmental factors | |
| | Exploitation by dealers and agents | |
| | Wrong perception by bankers about women | |
| | Working long hours | |
| | Disturbance in family life | |
| | Cooperation from family members | |
| | Business skills | |
| | Proper training | |
| | Untimely cash flow | |
| | Poor skills in risk management | |
| | Appropriate education | |
| | Lack of confidence | |
| | Lack of working capital | |
| | Socio-cultural Barriers | |

# VOLATILITY OF STOCK RETURN OF THE SELECT BANKING COMPANIES LISTED AT BOMBAY STOCK EXCHANGE

*DR. V. K. SHOBHANA*
*HEAD*
*PG & RESEARCH DEPARTMENT OF COMMERCE*
*VELLALAR COLLEGE FOR WOMEN (AUTONOMOUS)*
*ERODE*

*DR. R. KARPAGAVALLI*
*ASST. PROFESSOR OF COMMERCE*
*RVS COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)*
*COIMBATORE*

## ABSTRACT
*The issues of stock return and volatility have become increasingly important to the Indian investors, regulators, bankers, policy makers and dealers. Stock prices change every day. Basically, share prices change because of supply and demand. Volatility in the stock return is an integral part of stock market with the alternating bull and bear phases. Pricing of securities depends on volatility of each asset. Investors interpret a rise in stock market volatility as an increase in the risk of equity investment and consequently they shift their funds to less risky assets. The post reform period witnessed deregulatory initiatives in the banking sector, an important constituent of the financial sector of the economy. The focus of this paper is on the volatility of stock return of specified shares (A Group) and non-specified (B Group) shares of the banking companies listed at BSE. Simple average, standard deviation and beta concept were employed in the analysis of data. The findings reveal that stock return of non-specified shares is more prone to risk due to bank-specific factors.*

## INTRODUCTION
The capital market, is being recognized as one of the most transparent, efficient and clean market. In the recent past there have been perceptions that volatility in the market has gone up. Volatility is an important indicator of the dynamic fluctuation of stock market prices. Sometimes, wide fluctuations in prices of stock can scare away the investor from the market place. However, they have to know the variations in the stock market from time to time in order to understand the changing pattern of the capital market prices for their decision to buy / sell the securities. A certain degree of market volatility is unavoidable, even desirable, as the stock price fluctuation indicates changing values across economic activities and it facilitates better resource allocation. But frequent and wide stock market variations cause uncertainty about the value of an asset and affect the confidence of the investor.

## STATEMENT OF THE PROBLEM
Volatility is a symptom of a highly liquid stock market. Pricing of securities depends on volatility of each asset. An increase in stock market volatility brings a large stock price change of advances or declines. Investors interpret a rise in stock market volatility as an increase in the risk of equity investment and consequently they shift their funds to less risky assets. It has an impact on business investment spending and economic growth through a number of channels. Changes in local or global economic and political environment influence the share price movements and show the state of stock market to the general public. The issues of return and volatility have become increasingly important to the Indian investors, regulators, brokers, policy makers, dealers and researchers, with the increase in the FIIs investment.

## OBJECTIVES
1. To measure the volatility of stock return of select banks.
2. To determine the volatility of the group of shares to market return.
3. To assess the riskiness of the securities.

## METHODOLOGY AND ANALYTICAL TOOLS
**PERIOD OF STUDY**
The study covers a period of ten financial years i.e. from 2000-2001 to 2009-2010.
**DATA SOURCE**
The data required for the study have been collected from the official directory of the Bombay Stock Exchange and the Electronic Database provided by Center for Monitoring of Indian Economy (CMIE).
**SAMPLING**
The sample was drawn from the list of Banks listed at Bombay Stock Exchange (BSE 500).
While selecting the sampled banking companies, the following criteria were adopted:
- Availability of the necessary financial data required for determining the fundamental variables pertaining to the banks for the period 2000-01 to 2009-10.
- Banks whose market price data were available.

The Banks thus selected for the study comprise of twelve banks with 'A' Group and twelve banking companies with 'B' Group shares which are as follows:

| Sl.No. | Banking Companies with 'A' Group Shares | S.No. | Banking Companies with 'B' Group Shares |
|---|---|---|---|
| 1 | Axis Bank | 13 | Bank of Rajasthan |
| 2 | Bank of Baroda | 14 | City union Bank |
| 3 | Bank of India | 15 | Dena Bank |
| 4 | Corporation Bank | 16 | Dhanalakshmi Bank |
| 5 | Federal Bank | 17 | ING Vysya Bank |
| 6 | HDFC Bank | 18 | Indusind Bank |
| 7 | ICICI Bank | 19 | Jammu & Kashmir Bank |
| 8 | Indian Overseas Bank | 20 | South Indian Bank |
| 9 | Kotak Mahindra | 21 | State Bank of Bikaner & Jaipur |
| 10 | Oriental Bank of Commerce | 22 | State Bank of Mysore |
| 11 | State Bank of India | 23 | State Bank of Travancore |
| 12 | Syndicate Bank | 24 | Vijaya Bank |

## EMPIRICAL ANALYSIS AND RESULTS

### MEASUREMENT OF VOLATILITY

The most common of historical or actual stock market volatility measurement is by standard deviation. In simple terms, standard deviation measures the deviation of the returns of equity from its mean return. It is an absolute measure i.e. standard deviation of stock returns in one period can be compared with standard deviation of another period to understand which period has been more volatile. Volatility is calculated as the standard deviation of the rates of return(r). The rate of return is the change in price during the period, divided by the price of the investment at the beginning of the period. The rate of change in the return may be calculated as:

$$r_t = In\left(I_t / I_{t-1\_}\right)$$

Where $r_t$ is the rate of return for the period, In is natural logarithm, $I_t$ and $I_{t-1}$ are the beginning and closing prices for the two successive periods t-1 and t.

The riskiness of stocks in terms of systematic and unsystematic components is tested through the market model. A widely accepted market model is based on empirical testing. This measure of quantifying risk is also referred to as Beta Analysis. The application of the Beta concept is done through a regression equation.

### REGRESSION EQUATION

Y = α +βX + E…

Y = Return from the security in a given period

α = Alpha or the intercept (where the line crossed vertical axis).

β = Beta or slope of the regression formula.

E = Epsilon or Error involved in estimating the value of the stock.

### BETA (β)

As Beta measures the volatility of a security's returns relative to the market, the larger the beta, the more volatile the security. A beta of 1.0 indicates a security of average risk. A stock with Beta greater than 1.0 has above average risk. Its returns would be more volatile than the market returns.

### ALPHA (α)

The size of the alpha exhibits the stock's unsystematic return and its average return independent of the market's return. If alpha gives a positive value, it is a healthy sign but alpha's expected value is zero. The belief of many of the investors is that they can find stocks with positive alpha and have a profitable return. It must be recalled, however, that in an efficient market, positive alphas cannot be predicted in advance. The portfolio theory also maintains that the alphas of stocks will average out to 0 in a properly diversified portfolio.

### CO EFFICIENT OF DETERMINATION ($R^2$)

The coefficient of determination helps to find out the extent to which the market model explains a stock return. $R^2$ can be calculated by the squared correlation coefficient between stock return and market return.

Coefficient of correlation =

$$\frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\left[\left\{\left(N\Sigma Y^2\right) - \left(\Sigma Y^2\right) - \left(\Sigma Y^2\right)\right\}\right]^{1/2}}$$

### CO-VARIANCE

Co-variance of returns on two assets measures their co-movement. The following points need to be considered for the calculation of covariance between two returns:

- Determine the expected returns on assets.
- Determine the deviation of possible returns from the expected return for each asset.
- Determine the sum of the product of each deviation of each of returns of two assets and respective probability.

In the present study, returns on the shares of selected banking companies are the stock return. Selected samples are those listed in Bombay Stock Exchange which lies in BSE 500, hence BSE500 return has been taken as Market return. The stock returns for specified and non-specified shares were determines and are presented in Tables 1&2. The analysis carried out taking the pooled data of both groups of shares of the select banks based on the stock return of that group and the market return is reported in Tables 3 &4.

**TABLE – 1: YEARLY AVERAGE STOCK RETURN OF SPECIFIED (A GROUP) SHARES- 2000-01 - 2009-10 (Share Price in Rs. & Stock Return in %)**

| Year / Month | 2000-01 | | 2001-02 | | 2002-03 | | 2003-04 | | 2004-05 | | 2005-06 | | 2006-07 | | 2007-08 | | 2008-09 | | 2009-10 | | SD whole period |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | |
| Axis | 10.97 | 16.21 | -2.73 | 15.16 | 4.04 | 13.54 | 1.11 | 8.15 | 13.20 | 25.41 | 5.64 | 13.71 | 3.50 | 8.11 | 3.98 | 10.22 | 5.83 | 14.29 | -3.31 | 17.99 | 14.28 |
| BOB | 1.31 | 22.65 | 4.55 | 11.46 | -1.83 | 10.82 | 6.46 | 17.20 | 9.71 | 16.46 | 0.33 | 15.49 | 1.43 | 13.22 | 0.45 | 9.42 | 3.63 | 14.80 | 1.02 | 17.65 | 14.92 |
| BOI | -1.63 | 8.61 | -0.40 | 15.02 | 7.63 | 12.72 | 3.91 | 11.68 | 4.74 | 11.58 | 6.30 | 19.15 | 3.38 | 17.21 | 2.98 | 13.33 | 5.03 | 14.45 | 2.77 | 20.75 | 14.45 |
| Corporation | 1.48 | 20.40 | 6.06 | 16.47 | 1.63 | 12.86 | 0.06 | 9.49 | 6.91 | 6.65 | 2.68 | 15.13 | 1.96 | 15.87 | -0.78 | 17.40 | 0.28 | 12.27 | -2.32 | 14.41 | 14.10 |
| Federal | 7.26 | 29.41 | -0.66 | 10.30 | 7.57 | 17.62 | 0.30 | 11.02 | 14.52 | 23.41 | 3.84 | 15.47 | 2.33 | 10.27 | 0.86 | 8.67 | 1.63 | 13.94 | -2.08 | 16.98 | 15.71 |
| HDFC | 13.17 | 18.85 | -0.25 | 8.48 | 0.40 | 5.01 | 0.93 | 7.71 | 3.22 | 6.76 | 4.10 | 7.23 | 4.32 | 8.31 | 2.76 | 7.66 | 4.33 | 10.19 | -0.69 | 14.05 | 9.43 |
| ICICI | 25.76 | 40.17 | -2.91 | 16.91 | -0.72 | 22.07 | 1.51 | 9.12 | 7.84 | 9.55 | 3.67 | 10.56 | 3.67 | 10.56 | 3.81 | 10.07 | 0.57 | 13.61 | -2.93 | 18.48 | 16.11 |
| IOB | - | - | -5.99 | 4.12 | 1.27 | 7.43 | 5.69 | 11.33 | 12.75 | 16.24 | 5.04 | 19.56 | 2.77 | 9.72 | 1.41 | 8.93 | 2.63 | 13.13 | -6.89 | 15.37 | 11.76 |
| Kotak | 24.89 | 46.26 | -3.90 | 17.54 | 12.18 | 28.01 | 3.04 | 13.77 | 7.36 | 13.22 | 4.86 | 15.31 | 6.27 | 12.49 | 5.35 | 11.04 | 4.06 | 17.80 | -3.34 | 20.61 | 19.61 |
| Oriental | 3.41 | 15.82 | 2.14 | 7.53 | -0.54 | 5.59 | 3.80 | 6.61 | 15.08 | 18.48 | 0.40 | 12.36 | -1.68 | 7.25 | -0.42 | 15.08 | 0.43 | 13.50 | -1.87 | 16.56 | 11.88 |
| SBI | 1.28 | 20.45 | 0.82 | 11.02 | -0.59 | 10.66 | 1.90 | 5.97 | 6.55 | 9.12 | 1.95 | 13.02 | 3.80 | 10.23 | 0.85 | 10.98 | 6.18 | 13.17 | -0.44 | 18.53 | 12.32 |
| Syndicate | -7.03 | 5.30 | 0.12 | 7.62 | 1.71 | 6. 18 | 5.02 | 18.63 | 8.24 | 14.97 | 4.40 | 19.32 | 5.58 | 13.22 | -1.35 | 15.71 | 2.83 | 14.38 | -2.09 | 13.78 | 12.91 |

Source: Compiled and computed from the share price data in CMIE prowess.

Table 1 shows the yearly average stock returns of Specified Shares for the periods from 2000-01 to 2009-10. It is noticed that Stock return of Axis Bank registered the highest average of 13.20% during 2004-05 followed by 10.97% in 2000-01. 2009-10 presented a negative return of 3.31%. Higher volatility was noted in the years 2004-05 and 2009-10, as is evident from the computed value of standard deviation.

The stock return of the Bank of Baroda registered the highest of 9.71 per cent in 2004-05. The average stock return of 1.02% was recorded in 2009-10 which presented higher deviations when compared to the other periods as is evident from the computed values of standard deviation.

In case of Bank of India, negative average stock returns were found during 2000-01 and 2001-02. The highest of 7.63 per cent was recorded during 2002-03. Wide variations were noted in the stock return during all the periods excluding 2003-04 and 2004-05.

Corporation Bank recorded the highest mean stock return of 6.91 % in the year 2004-05. The stock returns witnessed a declining trend in the later four years of the study period. The standard deviation indicated moderate variations.

In case of Federal Bank it was noted from the table that the mean stock return fluctuated throughout the study Period. The periods such as 2004-05, 2005-06, 2008-09 and 2009-10 presented more deviations in share prices. The monthly average of the stock return stood at a negative figure of 2.08 per cent during the year 2009-10.

The stock return of HDFC Bank recorded negative return of -0.69 during the year 2009-10. Stock return presented comparatively more fluctuations towards the later years of the study period i.e. during 2008-2009 and 2009-2010.

The mean stock return of ICICI Bank presented a steady increase except the year 2009-10. The deviation stood higher during the initial year of 2000-01 which declined later. However, the periods 2008-09 and 2009-10 witnessed fluctuations in stock return.

In the case of Indian Overseas Bank, it is clear from the Table that the mean stock return witnessed fluctuations in the study period. The standard deviation of stock return indicated that fluctuations were lower during 2006-07 and 2007-08.

The yearly average stock return of Kotak Mahindra Bank pertaining to the study period revealed that the stock return declined from an average of 6.27 per cent in 2006-07 to 4.06 per cent in 2008-09. Negative returns were recorded during 2001-02 and 2009-10. The standard deviation indicated more deviation in the year 2008-09 and 2009-10. The final year of the study period i.e. 2009-10 registered a negative monthly average stock return at 3.34 per cent.

Negative average stock return was found in Oriental Bank of Commerce from the year 2006-07 to 2009-10 excluding the year 2008-09. The year 2009-10 witnessed comparatively larger fluctuations over the proceeding periods.

The mean stock return of SBI stood higher at 6.55% and 6.18% during 2004-05 and 2008-09 respectively. The year 2009-10 witnessed more fluctuations in stock return in comparison with the other periods of the study when the mean stock returns stood negative at 0.44 per cent.

The mean stock return of Syndicate Bank emerged negative during 2000-01, 2007-08 and 2009-10. Fluctuations in stock return were comparatively greater from 2003-04 onwards.

**TABLE – 2: YEARLY AVERAGE STOCK RETURN OF NON-SPECIFIED (B GROUP) SHARES- 2000-01 - 2009-10 (Share Price in Rs. & Stock Return in %)**

| Year / Month | 2000-01 | | 2001-02 | | 2002-03 | | 2003-04 | | 2004-05 | | 2005-06 | | 2006-07 | | 2007-08 | | 2008-09 | | 2009-10 | | SD whole period |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | |
| BOR | 1.72 | 20.77 | -3.56 | 13.12 | -1.22 | 12.46 | 2.14 | 18.28 | 10.36 | 16.19 | 5.15 | 21.98 | -1.36 | 8.76 | -0.44 | 11.82 | 15.19 | 27.85 | -3.22 | 19.72 | 17.10 |
| CUB | 2.89 | 15.06 | 1.91 | 15.24 | 0.05 | 8.43 | 4.03 | 6.55 | 7.33 | 18.75 | 3.35 | 13.82 | 3.45 | 7.60 | 4.68 | 14.14 | 6.23 | 23.69 | -5.22 | 15.33 | 13.86 |
| Dena | 0.86 | 8.39 | -0.38 | 13.17 | -1.69 | 15.12 | 6.49 | 20.18 | 8.85 | 18.28 | 2.86 | 16.47 | 1.05 | 10.19 | 0.88 | 12.36 | 4.73 | 16.71 | -0.77 | 16.23 | 14.71 |
| Dhanalakshmi | 2.79 | 8.17 | 4.51 | 14.09 | -2.73 | 10.90 | 0.90 | 11.91 | 5.57 | 13.19 | 0.91 | 17.33 | 1.76 | 11.89 | 6.28 | 15.07 | 4.30 | 17.00 | 0.61 | 21.52 | 14.11 |
| ING Vysysa | 3.98 | 20.68 | 0.89 | 5.06 | 7.01 | 17.23 | 0.61 | 10.41 | 7.26 | 15.86 | 2.11 | 23.07 | 0.19 | 7.38 | 3.29 | 16.49 | 6.64 | 12.52 | -5.64 | 13.85 | 14.26 |
| Indusind | 7.55 | 36.88 | -4.21 | 13.88 | 1.50 | 13.41 | -0.30 | 10.71 | 10.83 | 18.77 | 2.84 | 15.22 | -0.19 | 12.52 | 0.76 | 18.36 | 8.33 | 20.26 | -5.16 | 16.70 | 17.67 |
| J & K | 3.54 | 9.47 | 1.97 | 8.00 | 5.73 | 15.61 | 4.28 | 10.34 | 13.80 | 18.56 | -1.15 | 17.05 | 3.02 | 9.50 | 3.81 | 9.46 | 1.13 | 9.96 | -4.85 | 16.17 | 7.07 |
| South Indian | 1.27 | 9.94 | 3.45 | 13.94 | 3.86 | 17.29 | -1.30 | 10.36 | 6.73 | 15.05 | 0.80 | 18.26 | 0.40 | 11.09 | 4.67 | 8.42 | 4.93 | 16.52 | -4.68 | 13.97 | 13.48 |
| SBB & J | 4.52 | 15.73 | 0.17 | 7.91 | 1.46 | 6.07 | 4.53 | 8.38 | 12.41 | 21.31 | 3.99 | 12.98 | 6.10 | 15.61 | -1.15 | 13.56 | 4.20 | 14.18 | -12.85 | 28.23 | 14.40 |
| SBM | 1.90 | 13.02 | -2.17 | 12.14 | 0.70 | 12.54 | 3.17 | 9.41 | 14.63 | 27.34 | 2.21 | 13.99 | 12.31 | 21.85 | -0.11 | 14.65 | 4.54 | 17.81 | -11.05 | 28.43 | 17.12 |
| SBT | -0.78 | 12.95 | 1.67 | 7.43 | 0.16 | 3.98 | 4.02 | 8.88 | 13.33 | 21.67 | 3.26 | 11.92 | 7.22 | 16.92 | -1.74 | 11.35 | 4.84 | 15.26 | -14.75 | 26.04 | 13.64 |
| Vijaya | - | - | -7.73 | 12.92 | 6.26 | 20.79 | 7.93 | 10.51 | 17.92 | 27.75 | 1.92 | 15.75 | -1.84 | 7.99 | -0.92 | 11.41 | 3.41 | 18.81 | -4.80 | 14.00 | 13.99 |

Source: Compiled and computed from the share price data in CMIE prowess.

Table 2 reveals the mean stock return of Group 'B' Shares for the ten year study period. The stock return of Bank of Rajasthan stood negative during the years 2001-02, 2002-03, 2006-07, 2007-08 and 2009-10. The fluctuations in stock returns were more pronounced during 2008-09 and 2009-10. A negative stock return of 3.22 per cent was found during the year 2009-10.

The mean stock return of City Union Bank stood in a range of 0.05 per cent and 7.33 per cent during 2000-01 to 2009-10. The year 2009-10 presented negative stock return at 5.22 per cent. The year 2008-2009 witnessed greater volatility in stock returns.

In case of Dena Bank, Stock return on the average stood low for the periods other than 2002-03, 2003-04 and 2004-05. The period 2004-05 presented the highest average stock return of 8.85 percent followed by 6.49 per cent during 2003-04. A negative stock return of 0.77 per cent was found during 2009-10. Variability of stock returns stood comparatively greater from 2003-04 to 2009-10, barring 2006-07.

Dhanalakshmi Bank's Stock return on an average stood at the highest of 6.28 per cent during 2007-08. Mean stock return recorded negative at 2.73 per cent during 2002-03. The year 2009-10 recorded low return at 0.61 per cent. Variations in stock returns were found comparatively higher from 2007-08 to 2009-10 as indicated by the computed values of standard deviation.

The highest average stock return of ING Vysya Bank was registered as 7.26 per cent during 2004-05. Even though the year 20008-09 recorded an average stock return of 6.64 per cent, during the year 2009-10 a negative stock return of 5.64 per cent was recorded. Stock return on the whole registered undue fluctuations.

As regards Indusind Bank the periods 2004-05 and 2008-09 revealed comparatively greater stock return on the average at 10.83 per cent and 8.33 per cent respectively. The year 2008-09 presented greater fluctuations in stock return over the other years of the study period. A negative average stock return of 5.16 per cent was observed during 2009-10.

Jammu and Kashmir Bank presented positive average stock return except during 2005-06 and 2009-10, the highest being 13.80 percent during 2004-05.

Regarding South Indian Bank's stock return, yearly average stood at the highest of 6.73 per cent during 2004-05. The average stock return of 2009-10 dipped to a negative of 4.68 percent.

The behaviour of stock returns of SBB&J revealed the highest of 12.41 per cent during 2004-05. Even though the stock return presented a mean ratio of 4.20 per cent in 2008-09, a negative return of 12.85 per cent was recorded during 2009-10. Fluctuations in stock returns were greater during 2009-10 in comparison with the other periods.

Stock returns of State Bank of Mysore were registered higher at 14.63 per cent and 12.31 per cent during 2004-05 and 2006-07respectively. The year 2009-10 presented the lowest average stock returns and stood negative at 11.05 per cent. Greater volatility of stock returns was evident during 2009-10.

The yearly averages of stock returns of State Bank of Travancore showed comparatively larger returns at 13.33 per cent in 2004-05and 7.22 per cent in 2006-07. The year 2009-10 presented stock return at a negative rate of 14.75 per cent, with more fluctuations in the monthly average returns.

Yearly averages of the stock return stood negative during 2000-01, 2006-07, 2007-08 and 2009-10 for Vijaya Bank. The highest rate of stock return was registered at 17.92 per cent during the year 2004-05.

The stock return of specified and non-specified shares for the period 2000-01 to 2009-10 and the market return for the period are depicted in Table 3.

**TABLE – 3: POOLED DATA OF SPECIFIED AND NON-SPECIFIED SHARES STOCK RETURN AND BSE 500 INDEX RETURN (2000-01 TO 2009-10)**

| Year | Average Stock Return - Group 'A' Shares (%) | Average Stock Return - Group 'B' Shares (%) | BSE 500 Index Return - Market Return (%) |
|---|---|---|---|
| 2000-01 | 6.544 | 2.519 | 4.557 |
| 2001-02 | -0.299 | -0.249 | -4.121 |
| 2002-03 | 2.382 | 1.757 | 0.557 |
| 2003-04 | 2.625 | 3.041 | -0.635 |
| 2004-05 | 9.545 | 10.752 | 6.165 |
| 2005-06 | 3.801 | 2.355 | 2.237 |
| 2006-07 | 2.862 | 2.675 | 4.423 |
| 2007-08 | 1.639 | 1.667 | 0.932 |
| 2008-09 | 3.190 | 5.705 | 2.296 |
| 2009-10 | -1.920 | -6.030 | -2.677 |
| Grand Mean | 3.04 | 2.32 | 1.37 |

It is noticeable from the table that the returns of specified shares stood higher than market return for all the years except the year 2006-07.

The financial year 2004-05 recorded highest level of stock return at 9.55% and market return at 6.17%. Returns presented wide fluctuations during the period under study. Negative stock return has been recorded during 2001-02(-0.299) and 2008-09 (-1.920) whereas market return stood negative during three years of the study period, 2001-02, 2003-04 and 2009-10 at 4.121, 0.635 and 2.677 respectively.

It is apparent that the returns of non-specified shares stood negative during 2001-02 and 2009-10. The year 2004-05 recorded highest level of stock return at 10.75 per cent. Stock return was found positive during eight years of the study period and registered higher return than the market return barring the years 2000-01 and 2006-07.

**TABLE – 4: SUMMARIES OF REGRESSION PARAMETERS FOR GROUP SPECIFIED & NON-SPECIFIED SHARES' STOCK RETURN VS MARKET RETURNS**

| | Specified | Non-Specified | | | |
|---|---|---|---|---|---|
| Alpha (intercept) | 1.843 | 1.089 | | | |
| Standard error of Alpha | 0.566 | 1.028 | | | |
| Beta | 0.869 | 0.969 | | | |
| Standard error of Beta | 0.167 | 0.304 | | | |
| Correlation | 0.878 | 0.748 | | | |
| Coefficient of determination | 0.771 | 0.559 | | | |
| F-Statistics | 26.986 | 10.158 | | | |
| Significance | 0.000 | 0.013 | | | |
| | | | **Market** | **Group A** | **Group B** |
| Average Monthly Return | | | 1.373 | 3.037 | 2.319 |
| Variance of returns | | | 9.55 | 9.354 | 16.021 |
| Covariance | 8.30 | 1.788 | | | |

The regression parameters for stock return of Group 'A' shares of banks and the market return summarized in Table 4 shows that Group 'A' had a beta of 0.869 based on the monthly returns during April 2000 to March 2010. A beta of less than 1 means that Group 'A' shares returns is less volatile than the market returns. The positive correlation (0.878) indicates the fact that stock return moves in the same direction as market return. The coefficient of determination of 0.771, indicates that 77 per cent of the variance of Group 'A' shares returns is explained by the changes in market return. So the unexplained variance of 23 per cent is the bank-specific variance. The total riskiness of the stock is measured at 9.35 per cent.

It is evident from the beta value of 0.969 of non-specified shares that its stock return is less volatile than the market return. The coefficient of correlation is 0.748. The positive correlation indicates that when markets return goes up, Group 'B' bank's return also goes up. The squared coefficient of correlation of 0.559 implies that 56 per cent of the variance of Group 'B' banks are explained by the changes in the market returns. Hence the 44 per cent unexplained variance is the bank-specific variance. The systematic and non-systematic risks of Group 'B' banks is measured at 16.02 per cent.

## CONCLUSION

This paper has examined the volatility of stock return of each of the select banks and that of the groups with the market return and the riskiness of the securities. The results have shown that, Bank-wise, in specified shares stock return of Kotak Mahindra Bank was more volatile followed by that of ICICI Bank and Bank of India. In the group of Non-specified shares stock return of Indusind Bank tended to have greater volatility, State Bank of Mysore and State Bank of Rajasthan presenting similar trends. Stock return of specified shares stood higher at 3.04 per cent than those of non-specified shares (2.32%) and market return (1.37%). Non-specified shares are more prone to risk, due to bank-specific factors. In case of specified shares, higher percentage of variance of stock return (77%) is explained by market related factors.

## REFERENCES

**BOOKS**

- **Fisher and Jorden,** (2008) *Security Analysis and Portfolio Management,* Prentice Hall of India, New Delhi.
- **Pandey I M,** (2005), *"Financial Management",* Vikas Publishing House Private Ltd., New Delhi.
- **Prasanna Chandra,** (2006), *Investment Analysis and Portfolio Management,* Tata McGraw Hill, New Delhi.

**JOURNALS**

- **Goyal R,** (1995) *"Volatility in Stock Market Return"* Reserve Bank of India Occasional Papers, Vol. 16, Pg. 175-195.
- **Harvinder Kaur** (2004), *"Stock Market Volatility in India",* The Indian Journal of Commerce, Vol.57, No.4 pp.55.
- **Pandey I M and Chee H K** (2002), *"Predictors of variation in Stock Returns: Evidence from Malasysian Company Panel Data",* Global Business and Financial Review, Vol.7, No.1, pp.61-62.
- **Partha Aparatim Pal** (2005), *"Volatility in the stock market in India and Foreign Institutional Investors: A Study of the post-election Crash",* Economic and Political Weekly, pp.765-772.
- **Seth A K & Saloni Gupta** (2005) *"Understanding Volatility at BSE: A Quality Control Approach Implications for Investors",* Decision, Vol.32, No.1, pp.1-37.

# FINANCIAL STUCTURE OF MANUFACTURING CORPORATIONS AND THE DEMAND FOR WORKING CAPITAL: SOME EMPIRICAL FINDINGS

*DR. A. VIJAYAKUMAR*
*ASSOCIATE PROFESSOR IN COMMERCE*
*ERODE ARTS AND SCIENCE COLLEGE (AUTONOMOUS)*
*ERODE*

## ABSTRACT

*The aim of the study is that to determine empirically whether transactions working capital balances including cash and inventories vary proportionately or less than proportionately to changes in the volume of sales. The study also describes the effect of capital costs on working capital holdings of the selected companies of Indian automobile industry. Further, Partial Adjustment Model used in the study explains the speed with which the actual level of working capital is adjusted to the desired level. The results of the study showed that Indian automobile industry and its three sectors desires to hold working capital balances depend not only on sales but on holding costs also. Further, the adjustment speed of actual to desired balances has been observed as highest for cash followed by net working capital, gross working capital, inventory and receivables in the Indian automobile industry.*

## KEYWORDS

Indian Automobile Industry, Demand for Working Capital, Partial Adjustment Model, Receivables, Inventory and Cash Management.

## INTRODUCTION

Fixed capital and working capital are the dominant contributors to the total capital of a developing country. Fixed capital investments generate production capacity whereas working capital makes the utilisation of that capacity possible. Especially in small firms, working capital management may be the factor that decides success or failure; in larger firms, efficient working capital management can significantly affect the firms' risk, return and share price. A firm can exist and survive without fixed capital, but cannot survive without working capital. Management of working capital has acquired a great significance and sound position for the twin objects of profitability and liquidity. In a period of rising capital costs and scarce funds, the working capital is one of the most important areas requiring management review. It consumes a great deal of time to increase profitability as well as to maintain proper liquidity at minimum risk. Viewed in this perspective, the study devoted to working capital management may be very rewarding one.

## REVIEW OF LITERATURE

Interest in the study of the demand for working by Indian Automobile Industry has been stimulated by the empirical works on the demand for cash and inventories. A review of the empirical works on the demand for cash showed that the Post – Keynesian revival of interest in the demand function for cash has followed two distinct paths. **Frazer, Nadiri and Coates** observed economics of scale thereby supporting **Baumol and Tobin,** while **Meltzer, Whalen, De Allessi and Vogel and Maddala** observed diseconomies of scale thereby supporting **Friedman** as far as the transactions demand for cash is concerned. Similarly, there are no unanimous findings as regards the effect of capital costs on the demand for cash. Among others, **Selden De Allessi, Nadiri and Coates** showed the statistically significant effect of capital costs on the demand for cash.

Like studies on the demand for cash the earlier studies on the demand for inventories also did not present unanimous findings. **Albert et al, Liu Kuznets, Lieberman**, **Irvine and Akhtar** observed significant effects of capital costs on the demand for inventories, while **Terleckyj, Robinson, McGouldrick, Lovell, Joyee, Burrows and Maccini and Rossana** did not observe the same. Similarly, some reported economies of scale with respect to holding inventories, while others did not report the same. Controversy also exists with respect to coefficients of adjustment. Among others, **Lovell and Grossman** noticed the slow speed of adjustment between actual inventories and target inventories, while **Goodwin, Burrows, and Maccini and Rossana** did not find the same.

## STATEMENT OF THE PROBLEM

It has therefore become difficult to support one view or another in the context of Indian Automobile Industry. However, investigation in this study is not limited to the study of the demand for cash and inventories only. It has been extended to test whether models similar to those explaining the demand for cash and inventories also explain the demand for receivables, and gross and net working capital. The purpose of this study is that to determine empirically whether transactions working capital balances including cash and inventories vary proportionately or less than in proportion to changes in the volume of sales. It also describes the effect of capital costs on working capital holdings of the enterprises. Further, the study also takes in to account a Partial Adjustment Model of working capital behavior. The partial adjustment or flexible accelerator models that explain the speed with which the actual level of working capital balance is adjusted to the desired level.

## METHODOLOGY

### ECONOMETRIC MODEL

In this study, econometric models are used to describe the demand for working capital and its various components by Indian automobile companies. The decisions about the aggregate amount of working capital and its various components to be held may be regard as subject to wealth constraint and opportunity cost of working capital. As a first approximation to the theory, the functions may be written as

**$y_1 = f(s, i)$ --------------- (i)**
**$y_2 = f(s, i)$ --------------- (ii)**
**$y_3 = f(s, i)$ --------------- (iii)**
**$y_4 = f(s, i)$ --------------- (iv)**
**$y_5 = f(s, i)$ --------------- (v)**

Where

$y_1$ = Real Cash
$y_2$ = Real Inventories
$y_3$ = Real Receivables
$y_4$ = Real Gross working capital
$y_5$ = Real Net working capital
S = Real Sales in terms of $S_t - 1$
C = Opportunity cost of working capital measured by short – term interest rates of Indian commercial banks.
In an empirical investigation, it take the form.

$$Y^* = KS^{b_1} i^{b_{21}} e^u \ldots\ldots\ldots\ldots\ldots\ldots\ldots(vi)$$

where u is assumed to be independently and normally distributed. Taking the natural logarithm

$$\text{Ln } Y^* = K + b_1 \text{Ln } S + b_2 \text{Ln } i_2 + u \ldots\ldots\ldots\ldots\ldots\ldots..(vii)$$

Where $b_1$ and $b_2$ are elasticity's of $y^*$ with respect to the explanatory variables of the model. The above models assume reasonable a priori hypothesis of

**$\partial y / \partial s > 0$ and $> \partial y / \partial i_2 < 0$**

**PARTIAL – ADJUSTMENT MODEL**

In estimating the above equations, the study also takes in to account a partial adjustment or flexible accelerator model of working capital behaviour. This model hypothesizes that each enterprise has a desired target level of working capital and that of each enterprise, finding its actual working capital not equal to its optimum, attempts only a partial adjustment towards the optimum level within any one period. The models indicate the speed with which firms adjust their actual working capital balances to the desired working capital balances.

The simplest assumption to make about the adjustment process on working capital balances is that

$$\frac{\bar{y}_t}{\bar{\bar{y}}_{t-1}} = \left(\frac{y^*_t}{y_{t-1}}\right)^{\varphi} e^{ut} \ldots\ldots\ldots\ldots\ldots\ldots(viii)$$

Where $\phi$ - rate of adjustment or adjustment coefficient

**$0 < \phi < 1$**

Substituting expression (viii) for desired level of working capital balances into equation (vii) gives

$$\frac{\bar{y}_t}{\bar{\bar{y}}_{t-1}} = \left(\frac{KS_t^{b_1} i_2^{b_2}}{\bar{\bar{y}}_{t-1}}\right)^{\varphi} e^u \ldots\ldots\ldots\ldots\ldots\ldots(ix)$$

Taking logs of this equation gives

$$\text{Ln}\bar{y}_t - \text{Ln}\bar{y}_{t-1} = \varphi \text{Lnb}_0 + \varphi b_1 \text{Ln } S_t + \varphi b_2 \text{Ln } i_2 - \varphi \text{Ln } y_{t-1} + U_t \ldots\ldots\ldots\ldots(x)$$

(or)

$$\text{Ln}\bar{y}_t = C_0 + C_1 \text{Ln } S_t - C_2 \text{Ln } i_2 + (1-\varphi)\text{Ln } \bar{y}_{t-1} + U_t \ldots\ldots\ldots\ldots(X)$$

where $C_1$ and $C_2$ are the short – term elasticity's of working capital or its components with respect to sales and their opportunity cost, respectively. The long run elasticity's with respect to sales and cost are $b_1$ and $b_2$

Since $C_1 = \varphi\, b_1$ and $C_2 = \varphi\, b_2$

**$b_1 = \frac{C_1}{\varphi}$** and **$b_2 = \frac{C_2}{\varphi}$**

$\phi$ - the rate of adjustment coefficient

The long – run elasticity's of cash with respect to sales and the opportunity cost of cash should be approximately equal to 0.5 and – 0.5, respectively if the Baumol model is correct.

**SAMPLE DESIGN**

Keeping in view the scope of the study, it is decided to include all the companies under automobile industry working before or from the year 1996-97 to 2008-09. There are 26 companies operating in the Indian automobile industry. But, owing to several constraints such as non-availability of financial statements or non-working of a company in a particular year etc., it is compelled to restrict the number of sample companies to 20. The companies under automobile industry are classified into three sectors namely; Commercial vehicles, Passenger Cars and Multiutility vehicles and Two and Three wheelers. For the purpose of the study all the three sectors have been selected. It accounts for 73.23 per cent of the total companies available in the Indian automobile industry. The selected 20 companies include 5 under commercial vehicles, 6 under Passenger cars and Multiutility vehicles and 9 under two and three wheeler sectors. It is inferred that sample company represents 98.74 percentage of market share in commercial vehicles, 89.76 percentage of market share in Passenger Cars and Multiutility vehicles and 99.81 percentage of market share in two and three wheelers. Thus, the findings based on the occurrence of such representative sample may be presumed to be true representative of automobile industry in the country.

**DATA**

The study is mainly based on secondary data. The major source of data analysed and interpreted in this study related to all those companies selected is collected from "PROWESS" database, which is the most reliable on the empowered corporate database of Centre for Monitoring Indian Economy (CMIE). Besides prowess database, relevant secondary data have also been collected from BSE Stock Exchange Official Directory, CIME Publications, Annual Survey of Industry, Business newspapers, Reports on Currency and Finance, Libraries of various Research Institutions, through Internet etc.

## RESULTS AND DISCUSSION

**SCALE AND CAPITAL COST EFFECTS ON DEMAND FUNCTIONS OF WORKING CAPITAL**

The pooled regression results of the model showing the scale and capital cost effects on demand functions of working capital and its components of Indian Automobile Industry and its three sectors are presented in Table – to Table -. The overall results presented in the table are encouraging. The signs of the entire co-efficient are as expected and the goodness of fit of the model is also satisfactory.

**AUTOMOBILE INDUSTRY**

It is evident from the Table 1 that the co-efficient of sales are highly significant and indicated that higher sales increases working capital and its components. The sales elasticity varies from 0.34 for cash to 0.91 for gross working capital. Thus, the sales elasticity is smallest for cash, followed by net working capital, receivables, inventory and gross working capital. This elasticity's are consistently less than unity in all cases, suggesting economies of scale. This finding seems to support the theoretical propositions of Baumol, Tobin, Frazer, Nadiri and Coates and contradict the propositions of Friedman, Meltzer, Whalen, De Allessi and Vogel and Maddala, as far as the demand for cash by the Indian Automobile Industry is concerned. Similarly, the results, seem to support the findings of Akhtar and Irvine, among others, and contradict unitary or more than unitary sales elasticity noticed in some of the equations of Liberman showing the demand for inventories is concerned.

Table 1 also showed that fluctuations in cash and inventory levels depend in a statistically significant manner on fluctuations in their financial carrying costs. This finding is consistent with the results of Seldom, De Allessi, Nadiri, and Coates and contradicts Friedman's so far as the effect of capital costs on cash holding is concerned. Similarly, the finding supports the conclusion of Albert et al., Liu, Kuznets, Lieberman, Irvine and Akhtar and contradicts the results of Terlekyj, Robinson, Lovell, Jon Joyce and Maccini and Rossana as far as the effect of interest cost on inventory demand is concerned.

The estimated elasticity's of the target levels of working capital and its components with respect to capital costs measure indicate that the target level of cash is much more sensitive to capital cost fluctuations as compared to the target level of inventory, receivables and gross and net working capital. Among, these, the target level of gross working capital is least sensitive to fluctuations in capital costs. It all be seen from the interest rate elasticity of 0.78 for cash, 0.30 for net working capital, 0.29 for inventory, 0.17 for receivables and 0.04 for gross working capital.

Holding the sales constant, Table 1 indicates that a one percentage point increase interest rate leads on an average to about 0.78 per cent decline in the cash balances. Similarly, this kind of decline is noticed to be about 0.29 per cent for inventory, 0.17 per cent for receivables, 0.04 per cent for gross working capital and 0.30 per cent for net working capital balances when there is a one percentage point increase in interest rate. In the same way, holding the interest rate constant, a one percentage point increase in sales leads on an average to about 0.34 per cent increase in cash balances. This kind of increase is noticed to be about 0.70 per cent for inventory, 0.65 per cent for receivables, 0.91 per cent for gross working capital and 0.64 per cent for net working capital. The increase in target cash, receivables, inventories and gross and net working capital as a whole due to the increase in the capital cost may mean higher production and higher employment.

The estimated regression results of Partial Adjustment Model of Indian Automobile Industry are presented in Table 2. The regression results indicated that co-efficient of $y_{t-1}$ are significant in all the cases. The coefficient of the lagged dependent variable has been observed to be 0.27 for cash, 0.46 for inventory, 0.51 for receivables, 0.34 for gross working capital and 0.28 for net working capital. Since the coefficient of lag $L_n y_t$ is equal to 1 minus the adjustment coefficients $(1-\phi)$, the adjustment coefficient is equal to 0.73 for cash, 0.54 for inventory, 0.49 for receivables, 0.66 for gross working capital and 0.72 for net working capital. It seems that 73 per cent of the adjustment of actual to desired real cash balances is completed within one year. Similarly, the adjustment speed of actual to desired balances is 54 per cent for inventory, 49 per cent for receivables, 66 per cent for gross working capital and 72 per cent for net working capital. The speed of adjustment is however highest for cash followed by net working capital, gross working capital, Inventory and receivables.

In the partial adjustment models, the estimated coefficients of the independent variables are equal to the elasticity's of these variables times the adjustment coefficient. These long-run elasticizes are 0.49 for sales and 0.81 for short-term interest rates with respect to cash; 0.63 and 0.80 with respect to inventory; 1.24 and 0.22 with respect to receivables; 0.88 and 0.13 with respect to gross working capital; and 0.32 and 0.51 with respect to net working capital.

**COMMERCIAL VEHICLES SECTOR**

The estimated demand function of commercial vehicles sector of Indian Automobile Industry are presented in Table 3. The table indicates that higher the sales increases working capital and its components. The sales elasticity's are consistently less than unity in all cases, suggesting economies of scale. This finding seems to support the theoretical propositions of Baumol, Tobin, Frazer, Nadiri and Coates and contradict the propositions of Friedman, Meltzer, Whalen, De Allessi and Vogel and Maddala, as far as the demand for cash by the commercial vehicles sector of Indian Automobile Industry is concerned. The results also support the findings of Akhtar and Irvine and contradict unitary or more than unitary sales elasticity noticed in the some of the equations of Liberman showing the demand for inventories is concerned.

The table also revealed that fluctuations in cash and inventory levels depend in a statistically significant manner on fluctuations in their financial carrying cost supporting the findings of Selden, De Allessi, Nadiri and Coates and contradicts Friedman's result. Similarly, the finding supports the conclusion of Albert et al., Liu, Kuznets, Liberman, Irvine and Akhtar as far as the effect of interest cost on inventory demand is concerned. The estimated elasticity's of the target levels of working capital and its components with respect to capital costs measure indicated that the target level of cash (0.98) is much more sensitive to capital cost fluctuations, followed by Receivables (0.88), Net working capital (0.86), Gross working capital (0.48) and Inventory (0.30). The increase in target cash, inventories, receivables, gross working capital and net working capital as a whole due to the increase in the capital cost may mean higher production and higher employment.

The pooled estimates of the partial adjustment models of commercial vehicles sector of Indian Automobile Industry are presented in Table 4. The regression results indicated that coefficients of $S_{t-1}, i \text{ and } y_{t-1}$ are significant in all cases. It is evident from the table that the adjustment coefficient is equal to 0.76 for cash, 0.85 for inventories, 0.60 for receivables, 0.71 for gross working capital and 0.79 for net working capital. In other words, the speed of adjustment implied by these values is much higher. It seems that 76 per cent of the adjustment of actual to desired real cash balances is completed within one year. Similarly, the adjustment speed of actual to desired balance is 85 per cent for inventories, 60 per cent for receivables, 71 per cent for gross working capital and 79 per cent for net working capital. These results supports the high speed of adjustment observed by Coates and Nadiri in the case of cash and by Goodwin, Burrows, Maccini and Rossana and Irvine in the case of inventories.

In the partial adjustment models, the estimated coefficients of the independent variables are equal to the elasticity's of these variables times the adjustment co-efficient. The long-run elasticity's are 0.20 for sales and 1.07 for short-run interest rates with respect to cash; 0.93 for sales and 0.32 for short-term interest rates with respect to inventories; 0.43 for sales and 1.10 for short-term interest rates with respect to receivables; 0.82 for sales and 0.46 for short-term interest rates with respect to gross working capital; and 0.90 for sales and 1.22 for short-term interest rates with respect to net working capital.

**PASSENGER CARS AND MULTIUTILITY VEHICLES SECTOR**

It is evident from the Table 5 that the coefficients of sales are highly significant in the case of passenger cars and multiutility vehicles sector of Indian Automobile Industry and indicate that higher sales increase working capital and its component. The sales elasticity is smallest for networking capital (0.43) followed by inventory and receivables (0.53), gross working capital (0.94) and net working capital (0.97). These elasticity's are consistently less than unity in all cases supports the theoretical propositions of Baumol, Tobin, Frazer, Nadiri and Coates and contradict the propositions of Friedman, Meltzer, Whalen, De Allessi and Vogel and Maddala, as far as the demand for cash is concerned. Similarly, the results support the findings of Akhtar and Irvine and contradict unitary or more than unitary sales elasticity noticed in some of the equations of Lieberman as far as the demand for inventories is concerned.

The results also show that fluctuations in cash and inventory levels depend in a statistically significant manner on fluctuations in their financial carrying costs. This finding is consistent with the results of Selden, De Allessi, Nadiri and Coates and contradicts Friedman's so far as the effect of capital costs on cash holding is concerned. The findings supports the conclusion of Albert et al., Liu, Kuznets, Lieberman, Irvine and Akhtar and contradicts the results of Robinson, Lovell, and Maccini and Rossana as far as the effect of interest cost on inventory demand is concerned. The effect of capital costs can be observed for investment in receivables, gross working capital and net working capital. The sign of interest rate co-efficient is not only negative but also statistically significant in all these cases except net working capital.

The regression results of Partial Adjustment Model are presented in Table 6 . It is from the table that the coefficient of the lagged dependent variable has been observed to be 0.25 for cash, 0.65 for inventories, 0.37 for receivables, 0.64 for gross working capital and 0.42 for net working capital. The adjustment co-efficient $(1-\phi)$ is equal to 0.75 for cash, 0.35 for inventory, 0.63 for receivables, 0.36 for gross working capital and 0.58 for net working capital. The speed of adjustment is however highest for cash followed by receivables, net working capital, gross working capital and inventory. These results support the high speed of adjustment observed by Coates and Nadiri in case of cash and contradict by Goodwin, Maccini and Rossana and Irvine in the case of inventories. The long-run elasticity's are 1.32 for sales and 0.53 for short-term interest rates with respect to cash; 2.06 and 1.37 with respects to inventories; 0.62 and 0.51 with respect to receivables; 2.56 and 0.50 with respect to gross working capital; and 0.69 and 0.26 with respect to net working capital.

**TWO AND THREE WHEELER SECTOR**

Table 7 showed the results of estimated demand functions of two and three wheeler sector of Indian Automobile Industry. It is evident from the table that higher the sales increases working capital and its component and sales elasticity's are consistently less than unity in all cases, suggesting economies of scale. This result supports the findings of Baumol, Tobin, Frazer, Nadiri and Coates and contradict the propositions of Friedman, Meltzer, Whalen, De Allessi and Vogel and Maddala, as far as the demand for cash is concerned. The results also showed that short-term interest rate elasticity's are less than unity in all cases, supporting the findings of Akhtar and Irvine and contradict the findings of Lieberman showing the demand for inventory is concerned.

Further, the estimated elasticity's of the target levels of working capital and its components with respects to capital costs measures indicated that target level of cash (0.67) is more sensitive to capital cost fluctuations, followed by net working capital (0.56), gross working capital (0.36), inventory (0.13) and receivables (0.03). The pooled estimates of the partial adjustment models of two and three wheeler sector of Indian automobile industry presented in Table 8. It is evident from the table that the speed of adjustment of actual to desired real cash balances is 79 per cent completed within one year. Similarly, the adjustment speed of actual to desired balance is 88 per cent for inventories, 86 per cent for receivables, 82 per cent for gross working capital and 74 per cent for net working capital. These results supports the high speed of adjustment observed by Coates and Nadiri in the case of cash and by Goodwin, Burrows, Maccini and Rossana and Irvine in the case of inventories. The long-run elasticity's are given by $b_1 = c_1/\phi$ and $b_2 = c_2/\phi$. These elasticity's are 1.25 for sales and 0.67 for short-term interest rates with respect to cash; 0.49 and 0.09 for inventories; 0.67 and 0.06 for receivables; 0.77 and 0.38 for gross working capital; and 1.34 and 1.09 for net working capital.

## CONCLUSION

The pooled regression results of this analysis contradict unitary or more than unitary sales elasticity hypothesis of Friedman, Meltzer, Whalen, De Allessi and Vogel and Maddala with respect to demand for cash by all the three sectors and the whole Indian automobile industry. The presence of economies of scale in cash holdings is consistent with the conclusion of Baumol, Tobin, Frazer, Nadiri and Coates. The demand for inventory equations showed economies of scale in inventory thereby supporting the findings of Akhtar and Irvine and contradicts the findings of Lieberman. The presence of economies of scale has also been observed for receivables, gross working capital and net working capital. The regression results also show that the levels of working capital and its components of Indian automobile industry and its three sector desires to hold depend not only on sales but on holding costs also. The capital cost coefficients are all statistically significant with the theoretically correct signs. This finding is consistent with the findings of Selden, De Allessi, Nadiri, and Coates and contradicts Friedman's so far the effect of capital costs on cash holdings is concerned. Further, the results supports the conclusion of Albert et al., Liu, Kuznets, Lieberman, Irvine and Akhtar and contradicts the results of Robinson, Lovell and Maccini and Rossana as far as the effect of capital cost on inventory demand is concerned. Besides, the effect of capital costs has also been observed in the case of receivables, and gross and net working capital. The adjustment speed of actual to desired balances has been observed as highest for cash followed by networking capital, gross working capital, inventory and receivables in the Indian Automobile Industry during the study period.

## REFERENCES


1. Richard M. Goodwin (1948). "Secular and Cyclical Aspects of the Multiplier and Accelerator", in Income, Employment and Public Policy : Essays in honour of Alvin H. Hansen, New York : Norton and Company.
2. Baumol, W. (1952). "The Transactions Demand for Cash: An Inventory Theoretic Approach", *The Quarterly Journal of Economics,* pp.545-566.
3. Tobin, J. (1956). "The Interest Elasticity of Transactions Demand for Cash", *The Review of Economics and Statistics,* pp.241 – 247.
4. Friedman, M. (1959). "The Demand for Money; Some Theoretical and Empirical Results", *The Journal of Political Economy,* pp.327 – 351.
5. Newton Y. Robinson (1959). "The Acceleration Principle: Departmental Store Inventories, 1920 - 1956", *The American Economic Review,* pp. 348 - 358.
6. Richard, T. Selden (1961). "The Postwar Rise in the Velocity of Money: A Sectoral Analysis", *The Journal of Finance,* pp.483 – 545.
7. Nestor E. Terleckyj (1961). "Measures of Inventory Conditions", in Inventory Fluctuations and Economic Stablisations, Part II, (Washington : Joint Economic Committee, 87th Congress, First Session)
8. Mc Gouldrick, P.P. (1961). "The Impact of Credit Cost and Availability on Inventory Management" in Inventory Fluctuations and Economic Stabilisation, Part II (Washington: *Joint Economic Committee, 87th Congress*).
9. Michael Lovell (1961). "Manufacturers, Inventories, Sales Expectations and the Acceleration Principle", *Econometrica,* pp. 293 – 314.
10. Allan H. Meltzer (1963). "The Demand for Money: A Cross – Section Study of Business Firms", *The Quarterly Journal of Economics,* p.410.
11. Ablert Ando et al., (1963). "Lags in Fiscal and Monetary Policy" in Stabilisation Policies: Commission on Money and Credit, (Englewood Cliffs).
12. Liu, T.C. (1963). "An Exploratory Quarterly Model of Effective Demand in the Post-War US Economy", *The Econometrica,* pp. 301 – 308.
13. William J. Frazer, Jr. (1964). "Financial Structure of Manufacturing Corporations and the Demand for Money: Some empirical findings", *The Journal of Political Economy,* pp.176 – 183.
14. Paul W. Kuznets (1964). "Financial determinants of Manufacturing Inventory Behaviour: A Quarterly Study Based on United States Estimates, 1947 - 1961", *Yale Economic Essays,* pp. 331 – 369.
15. Lovell, M.C. (1964). "Determinants of Inventory Behaviour", in Models of Income Behaviour, Edward F. Denison and Lawrence R. Klein, eds., New York.
16. Maddala G.S., and Robert C. Vogel (1965). "The Demand for Money: A Cross-Section Study of Business Firms : Comments", *The Quarterly Journal of Economics,* pp.153 – 159.
17. Edward L. Whalen (1965). "A Cross – Section Study of Business Demand for Cash", *The Journal of Finance,* pp. 423 – 443.
18. Louis De Allessi (1966). "The Demand for Money: A Cross-Section Study of British Business Firms", *Economica,* pp. 288 – 302.
19. Nadiri M.I. (1969). "The Determinants of Real Cash Balances in the US Total Manufacturing Sector", *The Quarterly Journal of Economics,* pp.173 - 196.
20. Paul Burrows (1971). "Explanatory and Forecasting Models of Inventory Investment in Britain", *The Applied Economics,* pp. 275 – 289.
21. Jon M. Joyee, "Cost of Capital and Inventory Investment: Further Evidence", *The Southern Economic Journal,* pp. 323-329.
22. Steven D. Grossman (1973) "A Test of Speed of Adjustment in Manufacturing Inventory Management", *The Quarterly Review of Economics and Business,* pp. 21-32.
23. Robert Coates, C. (1976). "The Demand for Money by Firms", New York : Marcel Dekker, Inc.,
24. Charles Lieberman (1980). "Inventory Demand and Cost of Capital Effects", *The Review of Economics and Statistics,* pp. 348 – 356.
25. F.Owen Irvine, Jr., (1981). "Retail Inventory Investment and the Cost of Capital", *The American Economic Review,* p. 633.
26. Louis J. Maccini and Robert J. Rossana (1981) "Investment in Finished Goods Inventories: An Analysis of Adjustment Speeds", *The American Economic Review Papers and Proceedings,* pp. 17 – 22.
27. Akhtar, M.A., (1983). "Effects of Interest Rates and Inflation on Aggregate Inventory Investment in the United States", *The American Economic Review,* pp. 319 - 328.
28. Vijayakumar, A., (1999). "Estimating Demand Functions of Working Capital – Partial Adjustment Model", *The Management Accountant,* pp. 172 – 174.

## TABLES

### TABLE 1: ESTIMATING DEMAND FOR WORKING CAPITAL – INDIAN AUTOMOBILE INDUSTRY

($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i$)

| Dependent Variables | Regression Co-efficient | | $R^2$ | Adj $R^2$ | F Value | DW |
|---|---|---|---|---|---|---|
| | $S_{t-1}$ | *i* | | | | |
| Cash | 0.34<br>(6.75) * | -0.78<br>(2.03)*** | 0.92 | 0.90 | 54.17 | 1.94 |
| Inventory | 0.70<br>(5.85) * | -0.29<br>(4.25)* | 0.81 | 0.78 | 21.71 | 1.52 |
| Receivables | 0.65<br>(8.86) * | -0.17<br>(5.23)* | 0.92 | 0.90 | 54.05 | 1.48 |
| Gross Working Capital | 0.91<br>(7.42)* | -0.04<br>(3.17)* | 0.90 | 0.88 | 43.44 | 1.86 |
| Net Working Capital | 0.64<br>(2.85)** | -0.30<br>(4.45)* | 0.82 | 0.79 | 20.16 | 1.63 |

*- Significant at 0.01 level; ** - Significant at 0.05 level
*** - Significant at 0.10 level; DW - Durban-Watson Statistics;
Figures in Parenthesis denotes 't' value.

Source: Computed

### TABLE 2: PARTIAL ADJUSTMENT MODEL – INDIAN AUTOMOBILE INDUSTRY

($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i + (1-\phi) L_n Y_{t-1} + u$)

| Dependent Variables | Regression Co-efficient | | | $R^2$ | Adj $R^2$ | F Value | DW |
|---|---|---|---|---|---|---|---|
| | $S_{t-1}$ | *i* | $Y_{t-1}$ | | | | |
| Cash | 0.36<br>(4.77)* | -0.59<br>(3.16)* | 0.27<br>(6.81)* | 0.94 | 0.92 | 44.89 | 1.52 |
| Inventory | 0.34<br>(2.89)** | -0.43<br>(3.61)* | 0.46<br>(4.86)* | 0.82 | 0.76 | 13.60 | 1.96 |
| Receivables | 0.61<br>(4.46)* | -0.11<br>(2.80)** | 0.51<br>(6.04)* | 0.91 | 0.88 | 30.82 | 1.64 |
| Gross Working Capital | 0.58<br>(3.82)* | -0.09<br>(4.16)* | 0.34<br>(3.86)* | 0.90 | 0.87 | 27.50 | 1.89 |
| Net Working Capital | 0.23<br>(2.84)* | -0.37<br>(4.07)* | 0.28<br>(4.26)* | 0.81 | 0.79 | 12.96 | 1.19 |

*- Significant at 0.01 level; ** - Significant at 0.05 level
*** - Significant at 0.10 level; DW - Durban-Watson Statistics;
Figures in Parenthesis denotes 't' value.

Source: Computed

### TABLE 3: ESTIMATING DEMAND FOR WORKING CAPITAL – COMMERCIAL VEHICLES SECTOR

($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i$)

| Dependent Variables | Regression Co-efficient | | $R^2$ | Adj $R^2$ | F Value | DW |
|---|---|---|---|---|---|---|
| | $S_{t-1}$ | *i* | | | | |
| Cash | 0.18<br>(4.87) * | -0.98<br>(2.80)** | 0.86 | 0.84 | 31.78 | 1.40 |
| Inventory | 0.76<br>(16.96) * | -0.30<br>(3.20)* | 0.97 | 0.96 | 166.61 | 1.28 |
| Receivables | 0.44<br>(4.93) * | -0.88<br>(4.70)* | 0.75 | 0.70 | 15.19 | 1.37 |
| Gross Working Capital | 0.71<br>(10.66)* | -0.48<br>(3.42)* | 0.92 | 0.91 | 60.12 | 1.31 |
| Net Working Capital | 0.65<br>(5.74)* | -0.86<br>(6.23)* | 0.94 | 0.93 | 75.67 | 1.58 |

*- Significant at 0.01 level; ** - Significant at 0.05 level
*** - Significant at 0.10 level; DW - Durban-Watson Statistics;
Figures in Parenthesis denotes 't' value.

Source: Computed

### TABLE 4: PARTIAL ADJUSTMENT MODEL – COMMERCIAL VEHICLES SECTOR

($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i + (1-\phi) L_n Y_{t-1} + u$)

| Dependent Variables | Regression Co-efficient | | | $R^2$ | Adj $R^2$ | F Value | DW |
|---|---|---|---|---|---|---|---|
| | $S_{t-1}$ | *i* | $Y_{t-1}$ | | | | |
| Cash | 0.15<br>(3.87)* | -0.81<br>(4.71)* | 0.24<br>(3.19)* | 0.87 | 0.84 | 26.92 | 1.48 |
| Inventory | 0.79<br>(4.90)* | -0.27<br>(3.39)* | 0.15<br>(4.59)* | 0.97 | 0.96 | 90.80 | 1.31 |
| Receivables | 0.26<br>(3.90)* | -0.66<br>(2.84)** | 0.40<br>(3.12)* | 0.77 | 0.73 | 17.66 | 1.71 |
| Gross Working Capital | 0.58<br>(3.75)* | -0.33<br>(3.12)* | 0.29<br>(4.30)* | 0.92 | 0.89 | 33.22 | 1.42 |
| Net Working Capital | 0.71<br>(3.64)* | -0.96<br>(4.15)* | 0.21<br>(2.86)** | 0.96 | 0.95 | 70.98 | 1.33 |

*- Significant at 0.01 level; ** - Significant at 0.05 level
*** - Significant at 0.10 level; DW - Durban-Watson Statistics;
Figures in Parenthesis denotes 't' value.

Source: Computed

**TABLE 5: ESTIMATING DEMAND FOR WORKING CAPITAL – PASSENGER CARS AND MULTIUTILITY VEHICLES SECTOR**

($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i$)

| Dependent Variables | Regression Co-efficient | | $R^2$ | Adj $R^2$ | F Value | DW |
|---|---|---|---|---|---|---|
| | $S_{t-1}$ | $i$ | | | | |
| Cash | 0.97 (2.84)** | -0.42 (3.67)* | 0.84 | 0.77 | 19.06 | 1.98 |
| Inventory | 0.53 (4.03)* | -0.23 (2.95)** | 0.87 | 0.83 | 10.22 | 1.74 |
| Receivables | 0.53 (5.39)* | -0.09 (2.47)*** | 0.81 | 0.77 | 21.60 | 1.19 |
| Gross Working Capital | 0.94 (11.45)* | -0.27 (3.73)* | 0.95 | 0.94 | 90.39 | 2.01 |
| Net Working Capital | 0.43 (3.14)* | -0.23 (1.32) | 0.75 | 0.69 | 9.12 | 1.83 |

*- Significant at 0.01 level; ** - Significant at 0.05 level
*** - Significant at 0.10 level; DW - Durban-Watson Statistics;
Figures in Parenthesis denotes 't' value.

Source: Computed

**TABLE 6: PARTIAL ADJUSTMENT MODEL – PASSENGER CARS AND MULTIUTILITY VEHICLES SECTOR**

($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i + (1 - \phi) L_n\, Y_{t-1} + u$)

| Dependent Variables | Regression Co-efficient | | | $R^2$ | Adj $R^2$ | F Value | DW |
|---|---|---|---|---|---|---|---|
| | $S_{t-1}$ | $i$ | $Y_{t-1}$ | | | | |
| Cash | 0.99 (3.29)* | -0.40 (4.28)* | 0.25 (3.14)* | 0.78 | 0.74 | 15.62 | 2.05 |
| Inventory | 0.72 (3.72)* | -0.48 (4.71)* | 0.65 (3.61)* | 0.86 | 0.81 | 18.29 | 1.85 |
| Receivables | 0.39 (4.06)* | -0.32 (2.90)** | 0.37 (2.80)** | 0.86 | 0.81 | 18.37 | 1.79 |
| Gross Working Capital | 0.92 (3.14)* | -0.18 (4.30)* | 0.64 (2.86)** | 0.94 | 0.92 | 49.88 | 1.98 |
| Net Working Capital | 0.40 (3.10)* | -0.15 (4.26)* | 0.42 (2.87)** | 0.72 | 0.71 | 9.32 | 1.86 |

*- Significant at 0.01 level; ** - Significant at 0.05 level
*** - Significant at 0.10 level; DW - Durban-Watson Statistics;
Figures in Parenthesis denotes 't' value.
Source: Computed

TABLE 7: ESTIMATING DEMAND FOR WORKING CAPITAL – TWO AND THREE WHEELERS SECTOR

($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i$)

| Dependent Variables | Regression Co-efficient | | $R^2$ | Adj $R^2$ | F Value | DW |
|---|---|---|---|---|---|---|
| | $S_{t-1}$ | $i$ | | | | |
| Cash | 0.92 (7.87)* | -0.61 (2.11)*** | 0.90 | 0.88 | 46.44 | 1.45 |
| Inventory | 0.47 (5.74)* | -0.13 (3.65)* | 0.90 | 0.88 | 43.50 | 1.97 |
| Receivables | 0.47 (7.28)* | -0.03 (2.18)*** | 0.93 | 0.91 | 61.60 | 1.62 |
| Gross Working Capital | 0.72 (8.82)* | -0.36 (1.79)*** | 0.93 | 0.91 | 64.31 | 1.43 |
| Net Working Capital | 0.98 (2.33)** | -0.56 (3.34)* | 0.96 | 0.93 | 68.50 | 1.69 |

*- Significant at 0.01 level; ** - Significant at 0.05 level
*** - Significant at 0.10 level; DW - Durban-Watson Statistics;
Figures in Parenthesis denotes 't' value.

Source: Computed

**TABLE 8: PARTIAL ADJUSTMENT MODEL – TWO AND THREE WHEELERS SECTOR**

($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i + (1 - \phi) L_n\, Y_{t-1} + u$)

| Dependent Variables | Regression Co-efficient | | | $R^2$ | Adj $R^2$ | F Value | DW |
|---|---|---|---|---|---|---|---|
| | $S_{t-1}$ | $i$ | $Y_{t-1}$ | | | | |
| Cash | 0.99 (5.07)* | -0.53 (2.78)*** | 0.21 (2.93)** | 0.93 | 0.90 | 37.29 | 1.86 |
| Inventory | 0.43 (4.78)* | -0.08 (3.42)* | 0.12 (2.14)*** | 0.90 | 0.86 | 25.54 | 1.93 |
| Receivables | 0.58 (4.45)* | -0.05 (2.46)** | 0.14 (3.77)* | 0.93 | 0.91 | 40.32 | 1.89 |
| Gross Working Capital | 0.63 (3.31)* | -0.31 (4.22)* | 0.18 (2.88)** | 0.95 | 0.93 | 51.61 | 1.63 |
| Net Working Capital | 0.99 (3.68)* | -0.81 (2.59)** | 0.26 (3.77)* | 0.98 | 0.95 | 55.16 | 2.02 |

*- Significant at 0.01 level; ** - Significant at 0.05 level
*** - Significant at 0.10 level; DW - Durban-Watson Statistics;
Figures in Parenthesis denotes 't' value.

Source: Computed

# SOCIO-ECONOMIC DETERMINANTS OF RURAL INDUSTRIALISATION IN EASTERN UTTAR PRADESH

*RACHNA MUJOO*
*ASSOCIATE PROFESSOR*
*DEPARTMENT OF APPLIED ECONOMICS*
*FACULTY OF COMMERCE*
*UNIVERSITY OF LUCKNOW*
*LUCKNOW*

## ABSTRACT

*The Eastern region of reorganized State of Uttar Pradesh is one of its most backward areas. This region is characterised by inadequacy of human resource development, besides having a poor opportunity structure. Agricultural productivity is very low and diversification is possible only by promoting rural industrialisation, which by offering dynamic benefits will help change the traditional structure of a backward economy. In the present paper an attempt is being made to examine the importance of selected determinants, namely, human capability, infrastructure, urbanisation, and commercialisation of agriculture to rural industrialisation (CR) in 1991,2000, 2008 through multiple regression analysis of linear form for the Eastern region as a whole and two categories of 27 districts delineated on the basis of level of CR in 1991.Urbanisation turns out to be the most important influencing variable of rural industrialisation in the region. The need is, therefore, to bring vital elements of the city to the countryside to start the process of rural industrialisation in a dispersed manner.*

## KEYWORDS

Capability levels, infrasturucal base, urbanisation, commercialisation, rural transformation, growth centres, composite indices, cross-sectional data, village and small industries.

## INTRODUCTION

Backward areas are characterised by excessive pressure of population on land and the Eastern region of Uttar Pradesh is no exception, with almost 65 per cent of its population being dependent on agriculture for its livelihood. The capacity of agriculture to productively absorb increasingly larger rural labour force is not unlimited owing to the fixity of land and operation of diminishing returns. This is reflected in a low per capita agricultural productivity of Rs. 2,866 in 2005-06 obtained in the region, being the lowest among all the other economic regions of Uttar Pradesh.[1]

Thus, the expansion of modern industrial sector with thrust on employment generation, infrastructural, institutional and attitudinal benefits on the traditional economy is *sine-qua-non*. Concomitantly, however, transfer of surplus labour from rural to urban areas is not as smooth and costless as most of the internal migration models have prophesized. There is a loss of agricultural production at the point of origin and apart from skill bottlenecks, significant capital and social costs are involved at the point of destination.[2] Further, the modern sector finds itself incapable of expanding at a pace so as to gainfully employ the influx of surplus labour from agriculture due to its lower employment elasticity and the intensification in migration with every employment generation due to urban-rural expected income differentials, exacerbating the urban unemployment problem as well.[3]

Given this scenario, the only recourse left for addressing the problem of both rural and urban unemployment is to make rural economy viable economically through its diversification in terms of output and employment growth, besides equitable distribution of incomes. The principal instrument of such diversification, *inter-alia*, is by promoting rural industrialisation, which by offering dynamic benefits will help change the traditional structure of a backward economy.

## RURAL INDUSTRIALISATION: AN OVERVIEW

While conceptualising the term "rural industrialisation" one has to consider the type of industry to be incorporated and their location and size in terms of investment. The usual notion of including only artisanal and household based activities, making use of local skills and materials and catering to local market, as falling under the purview of rural industries, will tend to have smaller linkage effects, thereby confining advantages to smaller pockets only. If the aim is to benefit rural people at a larger scale through income and employment generation and for a better inter-regional development, introduction and promotion of small scale manufacturing enterprises (but not necessarily cottage based ones only) should essentially mean rural industrialisation.[4] Similarly, according to Haan rural industries should incorporate both the traditional industries as well as the modern enterprises. While the former is mainly consisting of household industries, using traditional technology, local materials and catering mainly to local demand with the exception of handicrafts manufacturing especially for exports. The latter although small in size, use technology resembling that is being used in big modern factories producing non-traditional products and catering mainly to non-local demand.[5]

As far as the location is concerned, rural industrialisation cannot be confining to villages only, if the aim is to benefit the lives of local people. According to UNDP, where transport, infrastructure and the marketing and trade network are well developed or where general urbanization is vividly marked, larger urban areas may be regarded as locations for rural industries, as long as such areas provide comparable environment to small towns.[6]

The practical definition of rural areas varies from country to country. While in case of advanced countries rural areas are those having a population of up to 20,000 or 30,000, whereas in developing countries like India areas having population up to only 5,000 are termed to be rural. With a high rate of natural increase, very often this limit is exceeded with newly urbanised areas retaining their rural characteristics. Small enterprises in such areas should also be considered as rural industries, irrespective of absolute population figures. Thus, according to Islam, 'if people in villages have access to employment opportunities available in nearby small rural towns or market centres (or the so called 'rural growth centres' as they are often termed), such locations should also be covered by the term rural.

As for the size of industries to be incorporated in rural industries is concerned,the general perception is to incorporate only small scale cottage based units. Besides, employment is not the only consideration and the process of rural industrialisation does not only have to involve people as labourers, but also as entrepreneurs. This is possible if size of industries to be incorporated is relatively small. Thus, rural industrialisation can be conceived in terms of introduction and promotion of small scale industries, irrespective of their locational restrictions.

Aiming at integration of small and medium enterprises, and also facilitating their growth and enhancing their competitiveness a Micro, Small and Medium Enterprises Development (MSED) Act was passed in the year 2006. This act provides first ever legal framework for recognition of the concept of 'enterprise' comprising both manufacturing and services and integrating the three tiers of these enterprises, i.e., micro, small and medium. Under this act, enterprises have been categorised broadly into those engaged in: (i) manufacturing, and (ii) providing/rendering of services. Both have been further classified into micro, small and medium enterprises, based on their investment in P&M (for manufacturing enterprises) and equipment (enterprises providing/rendering services).

Under manufacturing enterprises category, micro enterprises, small enterprises and medium enterprises are those having an investment upto Rs.25 lakh; above Rs.25 lakh and upto Rs.5 crore; and above Rs.5 crore and upto Rs.10 crore, respectively. For service enterprises, micro-enterprises are those having investment upto Rs.10 lakh; small enterprises are those having investment above Rs.10 lakh and upto Rs.2 crore and medium enterprises are having above Rs.2 crore and upto Rs.5 crore.[8]

**DEFINING RURAL INDUSTRIALISATION IN THE PRESENT CONTEXT**

Choice of small scale industries as a proxy of rural industries seems to be logical and supported by several studies. For defining rural industrialisation and its level in the present context, the total vector of seven indicators have been selected for construction of Composite Index of Rural Industrialisation (CR). The choice of these variables is confining to registered SSIs only, due to data constraint. Besides, the detailed district-wise data being published on registered SSIs by Directorate of Industries, Kanpur does not provide information on production and exports. Therefore, the value added indicators are confining to total manufacturing only.

However, hopefully this will not affect the CR unduly as SSIs' share in number and employment of the total registered manufacturing sector in the Eastern Uttar Pradesh is more than 80 percent. Thus, the selected indicators, representing the concentration of employment and investment and also the productivity in registered SSIs, are indicative of the performance of total manufacturing sector. These consist of: (i) number of registered SSIs per lakh of population; (ii) number of workers engaged in registered SSIs per lakh of population; (iii) investment per worker in registered SSIs; (iv) percentage contribution of manufacturing to total Net District Domestic Product; (v) Net value added by manufacturing per capita; (vi) Net value added per worker in registered manufacturing (SSIs + Heavy Industries); and (vii) percentage of net value added from registered manufacturing to net value added from total manufacturing. With the help of these variables, using the index method we have constructed CR for each district of the Eastern region to represent district-wise levels of rural industrialisation.

## CHOICE OF VARIABLES AND METHODOLOGY

The process of industrialisation and its pivotal role in development and social transformation is an outcome of the interplay of numerous factors broadly covered under economic, social, political and environmental aspects. The important among them can be listed as: (i) natural, material and human resources, including human capability; (ii) economic and business environment determining factors, such as, infrastructure including markets, institutional arrangements, agriculture and urbanisation; and (iii) political set-up and the dispensation of the public policies. Some of these factors are measurable, while some others are not. In view of this, for purposes of empirical analysis in the present case, only quantifiable socio-economic variables have been selected. Thus, the determining variables of rural industrialisation (CR) as identified here consist of (i) human capability defined in terms of human development index (HDI); (ii) composite index of economic infrastructure (CEI), (iii) degree of urbanisation (U); and (iv) commercialisation of agriculture (CA). Besides, one more variable included in our total analytical framework is (v) composite index of infrastructure (CI), which is arrived at by combining composite index of economic infrastructure (CEI) and composite index of social infrastructure (CSI).

Rural industrialisation, which has been selected as the dependent variable, can be conceived as a diversification of the rural economy through introduction and promotion of tiny sector, village and small scale industries (SSIs). Among the independent variables, human capability is considered to be the most crucial. The focus of development has, in recent times, shifted from unidimensional material progress in terms of GNP (single choice) to multi-dimensional measure of socio-economic progress (multiple choices), incorporating in itself the indicators of human welfare as well. This is because human beings are not only economic agents of the growth process but, are also the main beneficiaries of the gains of its progress. Human development, *per-se*, is taken as an expansion of human capabilities, a widening of choices, an enhancement of freedoms and a fulfillment of human rights,[9] so that people can lead the lives they have the reason to value the most. The most critical choices are (i) to lead long and healthy lives; (ii) to be educated; and (iii) to enjoy a decent standard of living.

UNDP has provided a standard methodology for capturing these choices in terms of a composite index called Human Development Index (HDI), with enough margins for improvements and modifications, within a flexible framework. For the State of Uttar Pradesh two Human Development Reports(UPHDRs) have been published so far with detailed district-wise HDI values provided for the years 1991, 2001and 2005 within UNDPs broad methodological framework,[10] which have been used as an indicator of human capability in the present paper. However, there are some differences in selected variables as per data availability at district level and suitability in light of State's specific considerations. For arriving at the education index figures of literacy at age 7 are used. The indicator of combined gross enrollment data is not used due to inadequacies in the reported data. Most advanced countries do not produce literacy data and are assumed to have literacy rates closer to unity leading to bunching at top and almost similar index for educational attainment. It is also said that since literacy measures the stock of a Nation's education, it thus does not capture the flow of education being achieved.[11] To take care of all these inadequacies, and to discriminate between the countries at top a second indicator of gross enrollment ratio was incorporated by UNDP in their HDRs.

At the very basic capability levels, however, literacy rates are fairly representative of knowledge for a number of reasons. Firstly, literacy rates are found to be considerably less than unity with large inter-regional and intra-regional variations. Secondly, it follows from the above that many of these countries are still struggling with low level of literacy, and are, therefore, not in a position to think about the specialised knowledge in a big way. Thirdly, the literacy figures available for India and its States including Uttar Pradesh are for "persons aged 7 years and above."These figures for 1991 and 2001 are taken from the Census, whereas for 2005 these have been extrapolated (minimum and maximum values are taken as 0 and 100).

For estimating the health index, infant mortality rate (IMR) data has been used instead of life expectancy at birth. It has often been argued that life expectancy at birth is closely associated with both income and IMR. Hence, as income is already included in HDI, IMR should be used instead of life expectancy.[12] Besides, prevailing paucity of data at the micro-level makes the task of measuring longevity very difficult. District-wise data for U.P. are available only for 1981 and 1991. In UPHDR IMR for 2001 and 2005 are the derived rates based on RCH surveys. Minimum and maximum values taken are 10 and 100 respectively based on current and past observed IMRs in India and U.P.

Income is taken as a surrogate of all those capabilities which are not captured in health and education index. For estimating the income index UPHDR makes use of adjusted per capita income in PPP$. The district per capita income in PPP$ equivalent is derived from district per capita income at constant prices in Rs, multiplying with ratio of per capita GDPin PPP$ in India and per capita GDP in Rs. in India for several years. Further these figures are converted to logarithmic form, from which income index is estimated with minimum and maximum values being log (100) and log (40000) respectively. HDI of $j^{th}$ district is a simple arithmetic average of the three attainment indices as follows

$$\mathbf{HDI} = \frac{1}{3}\sum_{i=1}^{3}\frac{X_{ij} - \min X_{ij}}{\max X_{ij} - \min X_{ij}}$$

An other equally important independent variable included in our framework is infrastructure or 'social overhead capital' (SOC). It is defined as those basic services and public utilities, which are essential for various kinds of economic activities in primary, secondary and tertiary sectors.[13] Without infrastructure, development is inconceivable; it assists in augmenting directly productive activities (DPA) by providing not only significant external economies but also the foundation for these activities to flourish. This crucial variable can broadly be divided into two – economic and social infrastructure. Both are essential for an accelerated, all-encompassing socio-economic development. The positive role of public spending on roads, power, irrigation, education, health, etc. in productivity improvement and reduction in incidence of poverty is well established.[14]

Due to its overwhelming importance, a massive investment on infrastructure had been made under various Five Year Plans of Uttar Pradesh. In spite, the State is still characterised by inadequacy of infrastructure and inefficiency in its use. The available literature on the subject points out that inadequacy of infrastructure, especially erratic and irregular supply of power, happens to be the main reason for low productivity levels as observed in case of the SSIs of the Eastern region. This basic lacunae has already been corroborated by the U.P.'s Five Year Plans and several other studies.[15]

Inadequacy of infrastructure and inefficiency in its use, probably because of weak institutions[16] in the State and its regions, calls for an in-depth analysis of its role in the rural industrialisation of the Eastern region. In the present case, CI is based on a total vector of twelve indicators, six comprising components of CEI and the remaining six of CSI. These, per lakh of population, are: (i) length of pucca roads under PWD; (ii) percentage of villages electrified to total number of inhabited villages; (iii) number of scheduled commercial banks; (iv) number of rural markets; (v) number of industrial estates/areas; (vi) number of telephone lines;(vii) number of Junior Basic Schools; (viii) number of Senior Basic Schools; (ix) number of Higher Secondary Schools; (x) number of Allopathic Hospitals/Dispensaries including PHCs; (xi) number of polytechnics; and (xii) number of ITIs. For estimating CI simple index method has been used.

In addition, urbanisation, which refers to the proportion of urban population to total population, is an indicator of transformation of the economy from agrarian to non-agrarian and from traditional to modern. It is well established fact that economic development in developing economies is, by and large, contingent upon introduction of industry and the process of industrialisation is closely associated with urban growth.[17] This is mainly because of cost advantages or agglomeration economies. These can take two forms – (i) urbanisation economies, which are the effects associated with the general growth of concentrated geographical regions; and (ii) locationalisation economies, which refer to the effects captured for the particular sectors of the economy and, often take the form of backward and forward linkages.[18] To put it more simply, industrial firms reap substantial cost benefits due to better access to infrastructure[19] and diversified market for labour and other inputs in an urban setting.

Developing economies like ours are, however, facing the problem of urban gigantism–an unhealthy structure of urbanisation, with a tendency of the population to concentrate in one or few mega cities. In contrast, the situation in the developed economies at the similar stage of development was different; with urban centres being greater in number and population distribution over these centres being more diffused.[20] The problem of urban gigantism leads not only to unbalanced regional development, but also gives rise to numerous social costs, like, the problem of housing and social services; increased crime, pollution and congestion. It becomes imperative for these countries to pursue the policies of urban decentralization, developing dispersed rural growth centres through a better designed infrastructure development programmes – roads, utilities and telecommunications. This will also go a long way in promoting rural urbanisation and a transformation of rural economies through technology and skill upgradation.

Moreover, the promotion of dispersed rural growth centres is essential for the growth and development of village and small scale industries. Rural industrialisation is not possible in an isolated pocket experiencing shortages of basic amenities including infrastructure. Besides providing villages with an access to urban amenities and assisting in rural development, rural workers commuting to nearby towns for employment are able to press the rural interests with the officials at the regional and the National level, thereby aiding in better and effective policy initiatives at the Governmental level.[21]

In view of the above, urbanisation, which is defined as percentage of urban population to total population, has been incorporated as one of the crucial independent variable in analytical framework of the present work.

For a sustained development of rural economy, integrated rural development with particular emphasis on agricultural development appears to be *sine-qua-non*. Agriculture alone can prove to be a dynamic source of growth, employment, equitable distribution of income and earning foreign exchange. Experiences of developed countries have shown that industrial revolution has been more widespread in countries like, Great Britain, Western Europe and North America, where vibrant agricultural sector with high agricultural productivity already existed. Nurkse has argued that a spectacular industrial revolution would not have been possible without the agricultural revolution that preceded it. Similarly, Rostow has stated that revolutionary changes in agricultural productivity are essential conditions for successful take-off.[22] Lewis was also of the opinion that limits to manufacturing were set by poor productivity levels of farmers whose marketable surplus was to exchange for manufactures.[23] Low agricultural productivity has often been cited as an important reason for sluggishness in Indian manufacturing.

A positive relationship between growth of agriculture output and growth of village and small scale industries has often been strongly advocated. In India, approximately 40 per cent of the raw materials is made available to SSIs by agriculture alone. The modernisation and transformation of agriculture accompanied by infrastructural facilities acts as a catalyst and stimulate rural industrialisation through input, output and consumption linkages.

Agricultural modernisation may be described in terms of a gradual but sustained transition from subsistence to diversified and specialised production, where sizeable part of the produce is sold in market to fulfill the demand of other needy households or business community. [24] Thus, agricultural transformation is found to be a crucial variable influencing pace and process of rural industrialisation, more so, in the agrarian economies. In the present case, commercialisation of agriculture defined as the percentage of area under commercial crops to gross cropped area, has also been included as one of the important independent variables.

**OPERATIONAL AREA AND METHODOLOGY**

In the present context, the operational area is confining to the Eastern region of Uttar Pradesh only, with district being chosen as a unit of analysis. The study is both temporal and cross-sectional in nature. The selected points of time are 1991 and 2000 and 2008.

To measure and analyse the contribution of selected independent variables to rural industrialisation (CR), the linear multiple regression models of following type have been used.

$$\mathbf{CR_i = \beta_o + \beta_1 HDI_i + \beta_2 CEI_i + \beta_3 U_i + \beta_4 CA_i + \mu_i} \quad \text{......... } \textbf{Model I}$$

$$\mathbf{CR_i = \beta_o + \beta_1 HDI_i + \beta_2 CI_i + \beta_3 U_i + \beta_4 CA_i + \mu_i} \quad \text{.......... } \textbf{Model II}$$

Where,

CR = Composite index of rural industrialisation
HDI = Human development index
CEI = Composite index of economic infrastructure
CI = Composite index of infrastructure (i.e. CEI and CSI combined)
U = Urbanisation
CA = Commercialisation of agriculture
$\beta_s$ = are estimated coefficients of the selected variables, with $\beta_o$ representing the constant term
$\mu$ = is the error term; and
i = 1 ….. n, representing cross-sectional district-wise values of the selected variables.

The main hypothesis of the present paper is that there exists an inverse relationship between the selected independent variables, i.e., CEI, HDI, U, CA, CI and industrial backwardness. In other words, higher the level of human capability, infrastructure, and urbanisation higher would be the level of rural industrialisation. An attempt is being made here to examine the said hypothesis more rigorously by using the micro-level, district-wise data of the selected variables in the Eastern U.P. Further, all the districts of the region have been divided into two categories, namely, (i) relatively more industrialised; and (ii) relatively less industrialised on the basis of the slabs of CR placed hierarchically in descending order and taking the arithmetic mean of CR in 1991 as the dividing line.

A simple arithmetic mean separately for CR and the selected independent variables has been taken for each category to demonstrate inter-category differentials. Table 1 reveals the industrial backwardness of the Eastern region, as approximately 68 per cent of total 19 and 63 per cent of the total 27 districts respectively, in 1991 and 2000 fall in 'relatively less industrialised' category. Besides, the value of average CR for more industrialised category is found to be as low as 140.62 and 135.36 at the above mentioned points of time. Some improvement, however, is discernible in 2008 as 67 per cent of total 27 districts are found to be falling in more industrialized category-I and the value of average CR has shown significant improvement (162.16).

For the Eastern region as a whole, although the level of rural industrialisation is still low, an improvement is discernible at the latest selected point of time. An in depth examination reveals that in case of Category I – comprising of 6 districts in 1991, 10 districts in 2000 and 18 districts in 2008, the average value of all the selected socio-economic variables is significantly higher than in category-II. This reflects the poor status of the districts falling in Category II, which continue to suffer from low levels of human capability, poor social services, traditional agriculture and inefficiency in use of economic infrastructure. This, in turn, has caused a negative influence on the rural industrialisation of the region as a whole.

The slow-down in rural industrialisation in the Eastern region during the decade of Nineties and an improvement thereafter is broadly following the similar trend experienced at the State level during the same period. It has been observed that the economy of Uttar Pradesh, which was having very low total and sectoral growth rates prior to the Fifth Five Year Plan, began to experience a fairly satisfactory growth from the mid-Seventies to the end of Eighties. The industrial growth during the Fifth, the Sixth and the Seventh Five Year Plans was 9.4 per cent, 9.4 per cent and 10.9 per cent respectively, as against a low growth rate of 3.4 per cent during the Fourth Plan. However, there was a sharp deceleration in the industrial growth at 4.2 per cent and 4.3 per cent respectively, during the Eighth and the Ninth Plans (i.e. period of 1992-2002). A turnaround, however, occurred and an industrial growth of 7.3 per cent was experienced in the State during the Tenth Plan period resulting in an ambitious target of 12 per cent in the same being envisaged during the Eleventh Plan.

**TABLE 1: CATEGORY-WISE AVERAGE VALUES OF SELECTED VARIABLES (1991 – 2008)**

| Sl. No | Categories based on level of CR | No. of Districts | 1991 | | | | | | No. of Districts | 2000 | | | | | | No. of Districts | 2008 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CR-1 | HDI-1 | CEI-1 | CSI-1 | U-1 | CA-1 | | CR-2 | HDI-2 | CEI-2 | CSI-2 | U-2 | CA-2 | | CR-3 | HDI-3 | CEI-3 | CSI-3 | U-3 | CA-3 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 1 | High | 6 | 157.59 | 0.43 | 122.02 | 102.49 | 14.52 | 10.73 | 10 | 135.36 | 0.54 | 117.35 | 107.69 | 16.95 | 10.07 | 18 | 162.16 | 0.54 | 106.99 | 96.99 | 13.28 | 11.50 |
| 2 | Low | 13 | 71.42 | 0.41 | 84.80 | 101.98 | 8.78 | 10.35 | 17 | 69.61 | 0.49 | 99.79 | 99.29 | 7.42 | 10.67 | 9 | 76.36 | 0.50 | 76.64 | 90.34 | 6.37 | 7.70 |
| Eastern Region | | 19 | 98.63 | 0.42 | 96.55 | 102.14 | 10.59 | 10.47 | 27 | 93.96 | 0.50 | 105.93 | 102.39 | 10.95 | 10.45 | 27 | 133.56 | 0.53 | 96.87 | 94.77 | 10.98 | 10.23 |

**Note:** High-(CR>98.63);Low(CR<98.63).

**1991 High**: Varanasi, Sultanpur, Gonda, Allahabad, Mirzapur, Sonbhadra:

**Low:** Deoria,Faizabad,Siddarthnagar,Basti,Ghazipur,Gorakhpur,Maharajganj,Bahraich, Azamgarh, Mau,Ballia, Jaunpur&Pratapgarh.

**2000 High:** Varanasi,Sonbhadra,Allahabad,Mau,S.RavidasNagar,Mirzapur,Maharajganj,Ballia,Gorakhpur,Basti.

**Low:** Deoria,Chandauli,Sultanpur,Jaunpur,Faizabad,Bahraich,Ghazipur,Gonda,Azamgarh,Kushinagar,Pratapgarh,Balrampur, S.Kabirnagar, Siddarthnagar, Kaushambi,Ambedkarnagar,Shrawasti.

**2008 High:** Sonbhadra,Allahbad,Kaushambi,Varanasi,Balrampur,S.Kabirnagar,Sultanpur,S.Ravidasnagar,Mau,Gorakhpur,Faizabad, Mirzapur, Jaunpur,Gonda, Ballia,Deoria,Basti,Chandauli.

**Low:** Maharajganj, Bahraich, Ghazipur, Kaushambi, Pratapgarh, Azamgarh, Ambedkarnagar, Siddarthnagar & Shrawasti.

Source: Estimated on basis of data placed in Appendix Table 1.

The main reason for low industrial development in the State economy can be attributed partly to the decline in public investment due to a deep fiscal crisis and a consistent decline in Plan Outlays to industrial sector since the Eighth Plan. Further, despite the three policy announcements of 1998, 2002 and 2004 to attract private investment, the effort more or less went in vain due to non-congenial industrial climate in the State. Only 1.5 per cent Foreign Direct Investment (FDI) in the country has come to Uttar Pradesh, and, the major portion of new industrial investment has gone to relatively more developed districts of the Western region bordering Delhi. Due to paucity of funds for developmental purposes, infrastructure development suffers the most which reinforces the vicious cycle of less private investment. As is clear from table 1 excepting HDI, average values of all other variables have experienced a decline over selected time period.

On the basis of the above analysis, it can be concluded that the Eastern region is still characterised by industrial backwardness. However, if the investment climate is made congenial, and infrastructural bottlenecks are overcome, the region will be in a position to benefit from improved human capability levels, which will go a long way in reducing the severity of industrial backwardness in the region in the changed domestic and global scenario.

## MULTIPLE REGRESSION ANALYSIS

Using multiple regression models, an attempt has been made here to examine and analyse the causal or functional relationship of the dependent variable, i.e. CR with those of selected independent variables, i.e., HDI, CEI, CI, U and CA in the Eastern region. The results of linear regression analysis for the Eastern region at the three selected points of time (i.e. 1991, 2000 and 2008) are presented in Table 2. In 1991, the coefficients of all the independent variables are positive, excepting HDI, which is found to be negative but statistically

**TABLE 2: LINEAR MULTIPLE REGRESSION MODELS FOR EASTERN U.P.**

**No. of Observations: 27** **Dependent Variable: CR**

| Sl. No. | Independent Variables | Model I | | | | | | | | | Model II | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1991 | | | 2000 | | | 2008 | | | 1991 | | | 2000 | | | 2008 | | |
| | | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1 | CEI | 0.460 | 2.183 | 0.047 | 0.173 | 1.350 | 0.191 | 0.134 | 0.842 | 0.409 | - | - | - | - | - | - | - | - | |
| 2 | HDI | -0.417 | -1.542 | 0.145 | 0.181 | 1.163 | 0.257 | -0.026 | -0.128 | 0.899 | -0.487 | -1.586 | 0.135 | 0.139 | 0.845 | 0.407 | 0.006 | 0.026 | 0.979 |
| 3 | U | 0.585 | 2.336 | 0.035 | 0.641 | 4.265 | 0.000 | 0.593 | 3.113 | 0.005 | 0.743 | 2.810 | 0.014 | 0.674 | 4.457 | 0.000 | 0.586 | 3.035 | 0.006 |
| 4 | CA | 0.260 | 1.225 | 0.241 | 0.086 | 0.709 | 0.486 | 0.422 | 2.673 | 0.014 | 0.280 | 1.235 | 0.237 | 0.100 | 0.814 | 0.424 | 0.425 | 2.649 | 0.015 |
| 5 | CI | - | - | - | - | - | - | - | - | - | 0.359 | 1.601 | 0.132 | 0.188 | 1.382 | 0.181 | 0.029 | 0.172 | 0.865 |
| 7 | $R^2$ | 0.50 | | | 0.68 | | | 0.49 | | | 0.43 | | | 0.69 | | | 0.47 | | |
| 8 | $\overline{R}^2$ | 0.36 | | | 0.63 | | | 0.39 | | | 0.27 | | | 0.63 | | | 0.39 | | |
| 9 | S.E. | 47.34 | | | 26.44 | | | 50.69 | | | 50.39 | | | 26.39 | | | 51.47 | | |
| 10 | F-Value | 3.47* | | | 11.923* | | | 5.274* | | | 2.655** | | | 11.987* | | | 4.951** | | |
| 11 | D.W. | 1.44 | | | 1.96 | | | 2.09 | | | 1.15 | | | 2.00 | | | 2.156 | | |

**Notes:**

1. CR = Composite Index of Rural Industrialisation; CEI = Composite Index of Economic Infrastructure; HDI= Human Development Index; U = Urbanisation; CA = Commercialisation of Agriculture; CI = Composite Index of Infrastructure.
2. For 1991 no. of observations: 19
3. *, ** Shows significance at 1and 5 per cent levels respectively.

Source: Based on the data of selected indicators at three points of time.

Insignificant Urbanisation, with a highly significant coefficient (P=0.035) is found to be the most crucial determinant of rural industrialisation. This is followed by CEI with its coefficient (0.460) showing lower order of significance with P value of 0.047. HDI and CA are found to have played only insignificant role in rural industrialisation of the Eastern region in 1991.

A highly significant coefficient of U again indicates the crucial role of this variable in rural industrialisation of the Eastern U.P. during 2000. This is followed by CEI whose coefficient, however, is having a very low order of significance. The coefficients of HDI and CA, although positive are statistically insignificant, indicating towards still existing lower levels of competencies and agricultural development in the region.

In 2008 also, urbanisation turns out to be the most important determinant of rural industrialisation in the Eastern region. Interestingly, this is followed by a highly significant coefficient of CA (p=0.014). Disappointingly, however, coefficients of CEI and HDI are found to be insignificant. As can be seen from table 1, between 2000 and 2008 average value of HDI has shown only a very small increase from 0.50 to 0.53. . This is a matter of great concern as lack of self-initiative and entrepreneurial skills tend to exacerbate backwardness. Moreover, in this era of globalisation and liberalisation, high human capabilities, including engineering skills are *sine-qua-non* for introducing technological innovations, enhancing productivity levels and increasing competitiveness in the beleaguered manufacturing sector. Further, the average value of CEI has shown a decline over the same period. Low levels of both public and private investment seem to have adversely affected the infrastructure development in the region.

In Model II, a new independent variable CI has been introduced, which is simply a combination of CEI and CSI. In Model I, we have taken CEI only as a representative of infrastructure on a premise that all improvements in social infrastructure will get reflected in the output measure of HDI with its literacy and life expectancy components and this will, thus, capture the contribution of social infrastructure to rural industrialisation indirectly. HDI, as a composite measure, is also inclusive of NDDP per capita, and for explicitly analysing the role of economic and social infrastructure, it was deemed worthwhile to carry out regression analysis based on Model II.

The results of Model II, are almost analogous to that of Model I. Positive coefficients of U, CA, CI are accompanied by negative but insignificant coefficient of HDI in 1991. This is obviously because level of human capability in this region in 1991 was extremely low, and therefore could not significantly affect rural industrialisation in a big way. Urbanisation is found to be highly significant (P = 0.014). However, the coefficients of CA and CI are showing a very low level of significance. Model II also yields positive coefficients of all the determining variables in 2000. However, coefficient of U (P=0.000) only is found to be statistically significant. These results are in line with those obtained on the basis of Model I, for this year. Analogous to Model-I, significant coefficient of urbanisation accompanied by a significant coefficient of CA in Model-II also is observed in 2008. This shows that agriculture diversification and commercialisation has resulted in significant improvements in CR of the region. This is very desirable as agro-based industries dominate the industrial sector of the Eastern region.

However, an insignificant coefficient of HDI even in 2008 reveals that skill development and human capability in the region are still at a nascent stage. Even CI, which is included as an independent variable in Model II, does not seem to have made any significant contribution to rural industrialisation. This can be ascribed to inadequacy of economic and social infrastructure in the Eastern region as compared to other regions of the State.[25] This calls for greater public as well as private efforts in terms of increased investment on infrastructure in the region. But the private investment on it will be forthcoming only if investment climate is improved and the scope of profitability is enhanced. Viewing this, the role of public investment assumes greater significance for speedier process of infrastructural development.

The data fit in respect of both the models I and II seems to be good only in 2000, as witnessed with high value of $R^2$ (0.70). D.W. test indicates that error terms are serially independent at all the three points of time. From the foregoing analysis, urbanisation seems to be the most important determining variable of rural industrialisation in the Eastern region. The catalytic role of urbanisation and its accompanying infrastructure have already been demonstrated in previous studies. In order to exploit the benefits due to access of both infrastructure and diversified market for labour and other inputs, industrial firms tend to concentrate in cities.[26] The origin of any technical invention leading to social change can also be traced back to city.[27]

Rural transformation via rural industrialisation, therefore, requires that the vital elements of the city be brought to the countryside to start the process of rural urbanisation in a dispersed way. For this, public investment should be directed towards the rural districts so that these could metamorphose into agropolis or city on fields[28] inclusive of growth centres with urban characteristics, adequate infrastructural facilities, large and diversified product and factor markets and a good network of financial institutions. These rural towns (agropolis) given welcome environment are logical business locations for many types of enterprises.[29] This is because they serve as centres for marketing farm produce, for obtaining wage employment, for engaging in non-farm enterprises, and for investing.[30] Rural towns or agropolis, thus help check migration from rural areas to cities.

One disappointing result based on both the Models is that the coefficients of CEI and CI are either less significant or insignificant. Rural towns without proper infrastructural build up, will not be able to act as catalyst for rural industrialisation, resulting in several cost disadvantages and a drain on scarce resources. The reasons for this, however, are not far to seek. U.P. has been ranked very low in the hierarchy of States as far as the levels of infrastructure and investment climate, an essential prerequisite for attracting private investment, are concerned.[31] Eastern region being one of the extremely backward region of the State suffers more from inadequacy of infrastructure and inefficiency in its use, particularly the decreasing as well as irregular supply of power, and, water for irrigation purposes, lowering the productivity levels both in agriculture and industry. This has a cascading effect across the board due to weak sectoral linkages. The levels of social infrastructure are also very low in this region. The sluggishness in government spending on infrastructure and social services in recent years is not being compensated by the private investment due to overall poor credibility of the State and its regions. This problem is further exacerbated by weak institutions, which tend to reduce the efficiency of whatever is being spent.[32]

Inter-correlation matrices based on models I and II for 1991, 2000 and 2008 are presented in Table 3. In 1991, urbanisation and CEI are showing significant correlation with CR, further corroborating our previous results. HDI is showing a positive association with urbanisation as well as infrastructure. A highly urbanized setting with increasing availability, as well as the efficiency in the use of social infrastructure is dire need of the day for a social transformation, which is, deemed to be a prerequisite for higher capability levels. Multicolinearity among independent variables may, *inter-alia*, be an important reason for insignificant coefficients of these variables. In 2000, high coefficient of correlation is observed between CR and the independent variables HDI and U. While the importance of urbanization has also been substantiated by the regression results, a strong correlation between U and HDI might have resulted in insignificant coefficient of HDI. The correlation results in 2008 are similar to that in the year 2000.

**TABLE 3: INTER -CORRELATION MATRIX FOR EASTERN U.P. – 1991, 2000 &2008**

| Sl. No. | Variables | Based on Models I & II | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1991 | | | | | | 2000 | | | | | | 2008 | | | | | |
| | | CR | CEI | HDI | U | CA | CI | CR | CEI | HDI | U | CA | CI | CR | CEI | HDI | U | CA | CI |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1. | CR | 1.000 | | | | | | 1.000 | | | | | | 1.000 | | | | | |
| 2. | CEI | 0.538* | 1.000 | | | | | 0.361 | 1.000 | | | | | 0.184 | 1.000 | | | | |
| 3. | HDI | 0.209 | 0.395 | 1.000 | | | | 0.623* | 0.329 | 1.000 | | | | 0.257 | 0.290 | 1.000 | | | |
| 4. | U | 0.514* | 0.385 | 0.598* | 1.000 | | | 0.787* | 0.219 | 0.603* | 1.000 | | | 0.546* | .139 | 0.598* | 1.000 | | |
| 5. | CA | 0.143 | 0.068 | 0.363 | 0.005 | 1.000 | | 0.056 | -0.145 | -0.010 | -0.005 | 1.000 | | 0.351 | -0.60 | -0.260 | -0.119 | 1.000 | |
| 6. | CI | 0.309 | 0.859* | 0.417 | 0.168 | 0.100 | 1.000 | 0.331 | 0.832* | 0.416 | 0.157 | -0.209 | 1.000 | 0.123 | 0.932* | 0.412 | 0.234 | -0.108 | 1.000 |

**Note:** * shows significance at 1 percent level.

Source: Based on the data of selected indicators at three points of time.

**CATEGORY-WISE RESULTS OF LINEAR FORMULATION - MODELS I & II**

As already indicated in a previous section, all the 27 districts of the Eastern region have been divided into two categories – relatively more industrialised (category I) and relatively less industrialised (category II), based on levels of rural industrialization (CR) arranged in descending order and taking its arithmetic mean in 1991 as the dividing line.. In 1991, however, the Eastern region comprised only 19 districts. There were respectively 6, 10 and 18 districts falling in relatively more industrialised category in 1991, 2000 and 2008 (see note of table 1) showing the slow but steady improvement overtime.

Category-wise results of Models I & II at the three selected points of time have been placed in tables 4 and 5. The results based on Model I for Category I, have not yielded any promising results at all the selected points of time. Excepting the coefficient of urbanisation in 2008, all other variables are found to be insignificant at all three points of time. Besides, the coefficient of HDI is found to be negative in 1991 and 2008 and positive in 2000, yet it is found to be statistically insignificant at all these points.

**TABLE 4: CATEGORY-WISE LINEAR MULTIPLE REGRESSION FOR EASTERN U.P. - MODEL I**

**Dependent Variable: CR**

**No. of Observations: 6, 10, 18** **No. of Observations: 13, 17, 9**

| Sl. No. | Independent variables | Category I | | | | | | | | | Category II | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1991 | | | 2000 | | | 2008 | | | 1991 | | | 2000 | | | 2008 | | |
| | | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1. | CEI | 1.228 | 0.687 | 0.617 | 0.117 | 0.406 | 0.702 | 0.053 | 0.217 | 0.832 | -0.159 | -0.558 | 0.592 | 0.014 | 0.052 | 0.959 | 0.616 | 3.887 | 0.018 |
| 2. | HDI | -2.350 | -0.620 | 0.647 | 0.109 | 0.238 | 0.822 | -0.315 | -0.777 | 0.451 | -0.452 | -1.211 | 0.261 | 0.299 | 1.063 | 0.309 | 0.012 | 0.064 | 0.952 |
| 3. | U | 2.129 | 0.753 | 0.589 | 0.706 | 1.633 | 0.163 | 0.667 | 2.164 | 0.050 | 0.335 | 0.969 | 0.361 | 0.368 | 1.404 | 0.186 | 0.344 | 1.603 | 0.184 |
| 4. | CA | 1.388 | 0.625 | 0.645 | 0.147 | 0.464 | 0.662 | 0.202 | 0.629 | 0.540 | 0.712 | 2.534 | 0.035 | 0.134 | 0.547 | 0.594 | 0.365 | 1.507 | 0.206 |
| 5. | $R^2$ | 0.46 | | | 0.66 | | | 0.31 | | | 0.47 | | | 0.34 | | | 0.91 | | |
| 6. | $\bar{R}^2$ | - | | | 0.39 | | | 0.10 | | | 0.21 | | | 0.12 | | | 0.81 | | |
| 7. | S.E. | 127.30 | | | 27.25 | | | 58.26 | | | 11.22 | | | 24.08 | | | 7.51 | | |
| 8. | F-Value | 0.22 | | | 2.45 | | | 1.48 | | | 1.80 | | | 1.53 | | | 9.59* | | |
| 9. | D.W. | 2.32 | | | 1.58 | | | 0.70 | | | 0.84 | | | 0.89 | | | 2.53 | | |

**Note:** 1. CEI, HDI, U, CA – same as in Table 5.3
2. Category I – CR>98.63; Category II – CR<98.63.
3. *, ** shows levels of significance at 1 and 5 per cent levels respectively.

Source: Appendix Table 1.

**TABLE 5: CATEGORY-WISE LINEAR MULTIPLE REGRESSION FOR EASTERN U.P. - MODEL II**

**Dependent Variable: CR**

**No. of Observations: 6, 10, 18** **No. of Observations: 13, 17, 9**

| Sl. No. | Independent variables | Category I | | | | | | | | | Category II | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1991 | | | 2000 | | | 2008 | | | 1991 | | | 2000 | | | 2008 | | |
| | | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance | Coefficient | 't' Value | Significance |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1. | CI | 0.708 | 0.274 | 0.830 | -0.211 | -0.730 | 0.498 | -0.254 | -0.615 | 0.549 | -0.423 | -1.371 | 0.208 | 0.209 | 0.760 | 0.462 | 0.574 | 1.804 | 0.146 |
| 2. | HDI | -1.322 | -0.253 | 0.842 | -0.076 | -0.166 | 0.875 | 0.636 | 2.075 | 0.058 | -0.197 | -0.492 | 0.636 | 0.187 | 0.631 | 0.540 | -0.018 | -0.591 | 0.586 |
| 3. | U | 1.622 | 0.353 | 0.784 | 0.771 | 1.846 | 0.124 | 0.204 | 0.636 | 0.536 | 0.287 | 0.913 | 0.388 | 0.430 | 1.612 | 0.133 | 0.035 | 0.092 | 0.931 |
| 4. | CA | 0.765 | 0.274 | 0.830 | 0.076 | 0.234 | 0.498 | -.073 | -0.291 | 0.776 | 0.627 | 2.352 | 0.047 | 0.186 | 0.768 | 0.457 | 0.481 | 1.244 | 0.281 |
| 5. | $R^2$ | 0.26 | | | 0.69 | | | 0.314 | | | 0.56 | | | 0.37 | | | 0.75 | | |
| 6. | $\bar{R}^2$ | - | | | 0.43 | | | 0.103 | | | 0.34 | | | 0.16 | | | 0.51 | | |
| 7. | S.E. | 148.91 | | | 26.32 | | | 58.18 | | | 10.29 | | | 23.53 | | | 12.18 | | |
| 9 | F-Value | 0.09 | | | 2.72 | | | 1.49 | | | 2.51** | | | 1.75 | | | 3.02 | | |
| 10 | D.W. | 1.28 | | | 1.80 | | | 0.62 | | | 1.09 | | | 0.97 | | | 1.81 | | |

Note: 1. CEI, HDI, U, CA – same as in Table 5.3
2. Category I – CR>98.63; Category II – CR<98.63.
3. *, ** shows levels of significance at 1 and 5 per cent levels, respectively.

Source: Appendix Table 1.

As far as Category II is concerned, in 1991 CA is found to be the most significant contributor to rural industrialisation (P=0.035). This is in accordance with expectation simply because the less industrialised category is constituted by majority of the districts heavily biased to agriculture. The contribution of all other selected variables to CR is found to be insignificant, portraying the general backwardness of the districts falling in this category. In 2000, Model I has yielded positive coefficients of all the independent variables, but only U is found to be showing a very weak statistical significance. Thus, it seems that impulses of urbanism have started taking place in less industrialised districts. In 2008 also similar results for urbanisation can be observed which have been accompanied by significant improvements in economic infrastructure (CEI) and collectively seem to be positively influencing the rural industrialisation process in the districts falling in category-II.

Excepting HDI, Model II is found to be yielding positive but insignificant coefficients of all the variables in 1991 for the districts falling in category I. Some improvement in the results of this model can be observed at the latter two points of time. In 2000, urbanisation is having a positive and significant coefficient. However, what is more appealing is a highly significant coefficient of HDI (P=0.058) in 2008 for category I. Higher capability levels seem to be positively influencing CR in more industrialised districts at the latest selected point of time.

**TABLE 6: CATEGORY-WISE CORRELATION MATRIX FOR EASTERN U.P.**

**1. Category I**

| Sl. No. | Variables | Based on Models I & II | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1991 | | | | | | 2000 | | | | | | 2008 | | | | | |
| | | CR | CEI | HDI | U | CA | CI | CR | CEI | HDI | U | CA | CI | CR | CEI | HDI | U | CA | CI |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1. | CR | 1.000 | | | | | | 1.000 | | | | | | 1.000 | | | | | |
| 2. | CEI | 0.261 | 1.000 | | | | | 0.030 | 1.000 | | | | | -0.064 | 1.000 | | | | |
| 3. | HDI | 0.362 | 0.533 | 1.000 | | | | 0.525 | -0.370 | 1.000 | | | | -0.020 | 0.253 | 1.000 | | | |
| 4. | U | 0.442 | 0.078 | 0.660** | 1.000 | | | 0.795* | -0.120 | 0.703* | 1.000 | | | 0.405** | 0.004 | 0.629* | 1.000 | | |
| 5. | CA | 0.037 | 0.086 | 0.469 | -0.166 | 1.000 | | 0.275 | 0.262 | -0.256 | 0.178 | 1.000 | | 0.195 | -0.193 | -0.683 | -0.317 | 1.000 | |
| 6. | CI | -0.003 | 0.931* | 0.360 | -.253 | 0.229 | 1.000 | -0.431 | 0.102 | -0.369 | -0.302 | -0.202 | 1.000 | -0.161 | 0.930* | 0.370 | 0.096 | -0.270 | 1.000 |

**2. Category II**

| Sl. No. | Variables | Based on Models I & II | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1991 | | | | | | 2000 | | | | | | 2008 | | | | | |
| | | CR | CEI | HDI | U | CA | CI | CR | CEI | HDI | U | CA | CI | CR | CEI | HDI | U | CA | CI |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1. | CR | 1.000 | | | | | | 1.000 | | | | | | 1.000 | | | | | |
| 2. | CEI | -0.193 | 1.000 | | | | | 0.100 | 1.000 | | | | | 0.691* | 1.000 | | | | |
| 3. | HDI | -0.063 | 0.397 | 1.000 | | | | 0.467** | 0.336 | 1.000 | | | | 0.319 | -0.071 | 1.000 | | | |
| 4. | U | 0.021 | 0.376 | 0.637 | 1.000 | | | 0.485** | 0.034 | 0.413** | 1.000 | | | 0.639* | 0.059 | 0.417 | 1.000 | | |
| 5. | CA | 0.572 | 0.026 | 0.335 | 0.046 | 1.000 | | 0.137 | -0.202 | 0.085 | -0.054 | 1.000 | | 0.703* | 0.150 | 0.568** | 0.695* | 1.000 | |
| 6. | CI | -0.425 | 0.474 | 0.611 | 0.401 | 0.006 | 1.000 | 0.223 | 0.911* | 0.413** | -0.061 | -0.201 | 1.000 | 0.780* | 0.598 | 0.367 | 0.600** | 0.522 | 1.000 |

Note: *, ** shows levels of significance at 1 and 5 per cent levels respectively.

Source: Based on data placed at Appendix Table 1.

Model II results for the less industrialised category II show negative but insignificant coefficients of CI and HDI in 1991. Only CA is found to be significantly influencing CR. Excepting U in 2000 and CI in 2008 all other variables are insignificant in the said years. This has added fuel to the fire of industrial backwardness of the districts constituting this category and some effective policy measures are required for their speedy development.

Category-wise inter-correlation matrix based on Models I and II has been presented in Table 6. None of the independent variables are showing a strong correlation with CR, excepting U and CA. U and HDI, however are found to be closely correlated, which might have resulted in insignificant coefficient of these variables in regression results due to multicolinearity. To promote industrialization and reduce severity of industrial backwardness in the Eastern region, especially the very backward districts, namely, Maharajganj, Bahraich, Ghazipur, Kaushambi, Pratapgarh, Azamgarh, Ambedkarnagar, Siddarthnagar & Shrawasti. a strong infrastructural base with special emphasis on skill and capability development is considered to be the most crucial. Besides, intra- regional imbalances which are plaguing this region also need to be addressed for balanced development of the region and the State of Uttar Pradesh as a whole.

## CONCLUSION

In sum, rural industrialisation is designated as a prerequisite for rural development. As urbanisation is found to be the most important contributor to rural industrialisation in the preceding analysis, this calls for pursuing a policy, which aims at promoting dispersed urbanisation in terms of the development of rural towns or agropolis, providing an urban environs within a rural setting in terms of infrastructural, marketing and institutional arrangements. For this purpose, a massive public investment will be needed in rural districts in order to transform them into growth centres, stimulating the growth in the surrounding periphery through provision of services and social infrastructure. Rural urbanisation, therefore, seems to be the need of hour for accelerating rural industrialisation not only in the Eastern region, but also majority of the districts constituting the reorganised State of Uttar Pradesh. In spite, there will be fundamental distortions in the path of development, if the region is lacking in human capability. Even if government ensures adequate availability of infrastructure and financial resources, lack of human capability and entrepreneurship, the active factor of growth, will, no doubt, retard the progress of rural industrialisation in the industrially backward districts. Due to its inadequacy, these districts will not be in a position to assimilate and adapt the modern technology, and, application of new innovations will then become the remotest possibility. For this, enabling factors, such as, high quality technical education and better health care services will have to be put in place. Also, the workforce equipped with high capabilities and competencies will be largely able to participate in the fruits of accelerated growth.

For a predominantly agrarian Eastern region, the importance of commercialisation of agriculture cannot be undermined. As agro-based industries form the majority of SSIs in this region, more so in the less industrialised category districts, sustained efforts should be made for enhancing the area and yield under commercial crops. In Eastern region, a silver lining is discernible in terms of significant role which CA is playing in rural industrialisation of the region. This will pave the way for ensuring regular supply of raw materials to agro-based industries and thereby enhancing the sustainability of rural industrialisation in the Eastern Uttar Pradesh.

## NOTES AND REFERENCES

1. See Government of Uttar Pradesh (2008), *Statistical Diary, 2008*, Economics and Statistics Division, State Planning Institute, Lucknow, p.273.
2. A. Sen, "Choice of Techniques', in Gerald M. Meier (1990), *Leading Issues in Economic Development*, V$^{th}$ Edition, Oxford University Press, New Delhi, pp.117-119; and, T.S. Papola (1979), "Rural Industrialisation: Issues and Some Evidence", in *Studies on Development of Uttar Pradesh*, GIDS, Lucknow, p.136.
3. M.P. Todoro and Stephen, C. Smith (2004), "Economic Development", VIIIth edn., Pearson Education, pp.S.336-345.
4. Rizwanul Islam (1987), *Rural Industrialization and Employment in Asia*, ILO (ARTEP), New Delhi, p.3.
5. H.H. de Haan (1980), *Rural Industrialisation in India*, Discussion Paper No.53, Centre for Development Planning, Erasmus University, Rotterdam, p.19.
6. UNDP (1988), "Development of Rural Small Industrial Enterprise: Lessons from Experience", *UNIDO*, Vienna, A Joint Study with the Government of Netherlands, ILO and UNIDO.
7. Rizwanul Islam (1987), *op.cit.*, p.3.
8. Government of India, *Economic Survey*, 2006-2007.
9. Sakiko Fukuda-Parr and A.K.Shiva Kumar (eds.) (2003), *Readings in Human Development: Concepts, Measures and Policies for a Development Paradigm*, OUP, p.xxi.
10. **Variables Used in Constructing Human Development Indices**

| Dimensions | UP HDR II | NHDR | UNDP HDR (2006) |
|---|---|---|---|
| a) Income | Adjusted Per Capita Inco at constant prices in PPP in $ | Inflation and inequality adjusted per capita consumption expenditure | Per Capita Income at constant prices in PPP in $ |
| b) Education | Literacy (7+) | 1. Literacy (7+)<br>2. Intensity of formal education | 1. Literacy age 15 and above<br>2. Gross Enrolment Ratio – school education |
| c) Health | Infant Mortality Rate | 1.Life expectancy at age1<br>2.Infant Mortality Rate | Life expectancy at age 0 |

11. Peter Smith (1992), *Measuring Human Development*, Department of Economics, University of Southampton, U.K., Mimeographed.
12. Graham Pyatt (1991), Personal Communication with Inge Kaul, as reproduced in Sakiko Fukuda-Parr and A.K. Shiva Kumar (eds.) (2003), *op.cit.*
13. A.B. Mountjoy (ed.) (1978), *Industrialisation in the Third World: Problems and Prospects*, London.
14. See Mainly Valerie Kozel and Barbara Parker (January 25-31, 2003), 'A Profile and Diagnostic of Poverty in Uttar Pradesh", *Economic and Political Weekly*, Vol.XXXVIII, No.4.
15. *Ibid*, (2003).
16. Institutions which form an integral part of infrastructure – financial, technical and training, upgrade the environment, and help in providing better opportunity structure by smooth and swift flow of funds and an enhancement in the level of human capability, through development of technical and managerial skills.
17. Hoselitz, F. (1951) "The City, the Factory, and Economic Growth' in P.K. Hatt and A.J. Reiss (eds.), *Cities and Societies*, The Free Press Illinois, as cited in S. Dutta (July 27-August 2, 2002) 'Urbanisation and Development of Rural Small Enterprises: Studying the Linkage with Focus on West Bengal", *Economic and Political Weekly*, Vol.XXXVII, No.30.
18. M.P. Todaro and S.C. Smith (2003, Chapt.8), *Economic Development*, Pearson Education, New Delhi.
19. Infrastructure including industrial sites, electricity and water supply, roads, railways, ports and additional services, like, financial and other institutional services.
20. J.W. Mellor as quoted in S. Dutta (2002), *op.cit.*
21. J. Guglar, and W.G. Flanagan (1978), *Urbanisation and Social Change in West Africa*, Cambridge University Press, Cambridge, as cited in P.C. Bhattacharya (October 12-18, 2002), 'Urbanisation in Developing Countries', *Economic and Political Weekly*, Vol. XXXVII, No.41.
22. As quoted in G.M. Meier *et. al.*, (2003), *op.cit.*
23. W.A. Lewis, "Development Economics in the 1950s', in G.M. Meier and Dudley Seers (eds.), *Pioneers in Development*, OUP, New York, as cited in R. Nagraj (2003), 'Industrial Policy and Performance Since 1980: Which Way Now?" *Economic and Political Weekly*, Vol. XXXVIII, No.35 (August 30-September 5).
24. M.P. Todaro *et al,* (2003), *op.cit.*

**25.** For details, see Statistical Diary of U.P. (2008), Economics & Statistics Division, SPI, Lucknow, U.P., pp.272-275.

**26.** A.S. Oberai (1993), *Population Growth, Employment and Poverty in Third World Mega-Cities; Analytical and Policy Issues*, ILO, Geneva; as cited in S. Dutta, *op.cit.* (2002).

**27.** N. Anderson (1971), *The Industrial Urban Community: Historical and Comparative Perspectives*, Meredith Corporation, New York; as cited in S. Dutta *op.cit.*, (2002).

**28.** J. Friedman and M. Douglas (1976), 'Agropolitan Development: Towards a New Strategy for Regional Planning in Asia" in *Growth Pole Strategy and Regional Development Planning in Asia* by UNCRD; cited in S. Dutta, *Ibid*.

**29.** A. Bindavid-Val (1991), 'Rural Area Development Planning: Principles, Approaches and Tools of Economic Analysis', Vol.I, *FAO*, United Nations; cited in S. Dutta, *Ibid.*

**30.** *Ibid.* (1991).

**31.** C. Veermani and B.N. Goldar (June 11-17, 2003), 'Manufacturing Productivity in Indian States: Does Investment Climate Matter?', *Economic and Political Weekly*, Vol.XL, No.24.

**32.** Valerie Kozel and Barbara Parker, (2003), *op.cit.*

## APPENDIX

**TABLE 1: DISTRICT-WISE VALUES OF THE VARIABLES IN EASTERN UTTAR PRADESH, 1991, 2000, 2008**

| DISTRICTS | CR-1 | CEI-1 | CSI-1 | CI-1 | HDI-1 | U-1 | CA-1 | CR-2 | CEI-2 | CSI-2 | CI-2 | HDI-2 | U-2 | CA-2 | CR-3 | CEI-3 | CSI-3 | CI-3 | HDI-3 | U-3 | CA-3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Pratapgarh | 44.63 | 83.81 | 120.58 | 102.19 | 0.37 | 5.5 | 7.03 | 63.24 | 89.07 | 133.93 | 111.5 | 0.50 | 5.28 | 6.85 | 75.50 | 81.64 | 95.25 | 88.44 | 0.53 | 5.26 | 5.49 |
| Allahabad | 105.08 | 119.47 | 89.39 | 104.43 | 0.41 | 20.8 | 7.92 | 160.58 | 106.69 | 121.81 | 114.25 | 0.55 | 24.56 | 6.98 | 280.13 | 101.57 | 115.76 | 108.67 | 0.57 | 24.97 | 5.49 |
| Bahraich | 66.76 | 89.38 | 87.31 | 88.34 | 0.27 | 7.8 | 7.18 | 88.69 | 85.91 | 86.1 | 86 | 0.41 | 9.98 | 9.13 | 95.55 | 83.73 | 100.15 | 91.94 | 0.44 | 10.23 | 8.38 |
| Gonda | 167.01 | 64.31 | 86.28 | 75.29 | 0.33 | 7.4 | 9.52 | 85.15 | 72.87 | 88.3 | 80.59 | 0.45 | 7.09 | 8.62 | 113.03 | 71.59 | 88.36 | 79.97 | 0.48 | 7.06 | 18.65 |
| Faizabad | 89.92 | 96.67 | 91.11 | 93.89 | 0.43 | 11.7 | 12.26 | 92.97 | 97.22 | 89.66 | 93.44 | 0.53 | 13.47 | 12.16 | 118.85 | 128.77 | 117.99 | 123.38 | 0.55 | 13.66 | 18.85 |
| Ambedkar Nagar | - | - | - | - | - | - | - | 27.55 | 90.4 | 69.61 | 80.01 | 0.53 | 8.89 | 12.16 | 70.74 | 54.32 | 104.79 | 79.55 | 0.56 | 8.65 | 11.18 |
| Sultanpur | 167.47 | 176.42 | 140.42 | 158.42 | 0.42 | 4.5 | 11.5 | 94.74 | 143.69 | 144.27 | 143.98 | 0.51 | 4.76 | 12.42 | 168.13 | 284.36 | 114.05 | 199.20 | 0.54 | 4.79 | 12.23 |
| Siddharth Nagar | 80.1 | 63.41 | 92.29 | 77.85 | 0.33 | 3.5 | 5.7 | 43.2 | 82.97 | 86.94 | 84.96 | 0.45 | 3.82 | 5.96 | 51.95 | 64.04 | 86.43 | 75.24 | 0.47 | 3.85 | 3.9 |
| Maharajganj | 72.17 | 65.43 | 115.72 | 90.57 | 0.37 | 4.9 | 11.48 | 111.45 | 113.51 | 108.33 | 110.92 | 0.47 | 5.08 | 10.18 | 97.81 | 94.19 | 72.58 | 83.39 | 0.49 | 5.10 | 9.57 |
| Basti | 80.1 | 68.72 | 97.99 | 83.36 | 0.32 | 6.4 | 9.6 | 99.75 | 132.38 | 105.07 | 118.73 | 0.46 | 5.56 | 14.11 | 101.10 | 97.77 | 112.14 | 104.96 | 0.49 | 5.48 | 17.27 |
| Gorakhpur | 72.17 | 92.69 | 118.63 | 105.66 | 0.48 | 18.8 | 8.59 | 105.79 | 107.17 | 141.07 | 124.12 | 0.55 | 19.58 | 7.57 | 124.82 | 92.47 | 120.60 | 106.54 | 0.58 | 19.66 | 6.77 |
| Kushinagar | – | – | – | – | – | – | – | 72.93 | 80.36 | 91.02 | 85.69 | 0.48 | 4.6 | 29.44 | 242.27 | 63.56 | 71.98 | 67.77 | 0.50 | 4.39 | 27.57 |
| Deoria | 92.21 | 74.44 | 99.11 | 86.77 | 0.42 | 7.3 | 19.85 | 96.33 | 90.24 | 89.61 | 89.92 | 0.52 | 9.9 | 10.74 | 106.06 | 91.60 | 124.85 | 108.22 | 0.54 | 10.21 | 7.31 |
| Mau | 64.54 | 87.02 | 90.67 | 88.84 | 0.51 | 16.9 | 10.26 | 151.82 | 122.75 | 93.59 | 108.17 | 0.57 | 19.36 | 8.57 | 158.07 | 119.78 | 110.51 | 115.14 | 0.59 | 19.62 | 6.68 |
| Azamgarh | 64.54 | 99.26 | 90.84 | 95.05 | 0.41 | 7.2 | 10.04 | 73.75 | 100.67 | 96.06 | 98.37 | 0.51 | 7.63 | 9.04 | 74.88 | 81.25 | 80.91 | 81.08 | 0.54 | 7.67 | 7.49 |
| Jaunpur | 61.87 | 95.86 | 84.73 | 90.29 | 0.43 | 6.9 | 9.72 | 94.42 | 85.54 | 93.07 | 89.3 | 0.53 | 7.39 | 9.22 | 117.30 | 80.66 | 78.76 | 79.71 | 0.55 | 7.44 | 7.01 |
| Ballia | 64.5 | 77.33 | 142.16 | 109.75 | 0.51 | 9.9 | 10.75 | 106.43 | 88.93 | 132.08 | 110.51 | 0.57 | 9.81 | 9.49 | 112.52 | 74.19 | 128.46 | 101.32 | 0.58 | 9.80 | 7.31 |
| Sant Ravidas Nagar | – | – | – | – | – | – | – | 123.88 | 122.47 | 84.6 | 103.54 | 0.55 | 12.8 | 8.59 | 159.65 | 117.80 | 67.30 | 92.55 | 0.57 | 11.87 | 6.43 |
| Varanasi | 302.34 | 142.19 | 76.02 | 109.11 | 0.51 | 27.2 | 11.08 | 192.13 | 114.86 | 92.54 | 103.7 | 0.58 | 40.31 | 14.67 | 218.54 | 128.12 | 101.31 | 114.72 | 0.61 | 41.93 | 10.78 |
| Ghazipur | 74.91 | 108.33 | 94.59 | 101.46 | 0.47 | 7.4 | 12.11 | 88.43 | 111.03 | 112.78 | 111.9 | 0.55 | 7.64 | 12.23 | 89.51 | 75.27 | 99.47 | 87.37 | 0.57 | 7.66 | 9.27 |
| Mirzapur | 101.82 | 128.84 | 110.99 | 119.92 | 0.44 | 13.8 | 9.75 | 114.16 | 140.99 | 92.77 | 116.88 | 0.53 | 13.57 | 8.89 | 117.86 | 95.26 | 96.55 | 95.90 | 0.55 | 13.55 | 8.39 |
| Sonbhadra | 101.82 | 100.88 | 111.85 | 106.36 | 0.47 | 13.4 | 14.61 | 187.59 | 123.84 | 105.09 | 114.47 | 0.54 | 18.87 | 11.65 | 283.95 | 81.36 | 84.71 | 83.04 | 0.56 | 19.53 | 10.43 |
| Kaushambi | – | – | – | – | – | – | – | 37.19 | 120.66 | 125.95 | 123.3 | 0.48 | 7.1 | 9.23 | 81.85 | 86.40 | 103.10 | 94.75 | 0.52 | 6.38 | 9.61 |
| Shrawasti | – | – | – | – | – | – | – | 21.23 | 94.92 | 83.95 | 89.43 | 0.40 | 2.81 | 5.34 | 49.43 | 68.93 | 70.43 | 69.68 | 0.41 | 2.54 | 4.39 |
| Balrampur | – | – | – | – | – | – | – | 55.71 | 74.36 | 75.5 | 74.93 | 0.42 | 8.07 | 14.24 | 211.43 | 63.02 | 59.36 | 61.19 | 0.45 | 8.14 | 24.77 |
| Sant Kabir Nagar | – | – | – | – | – | – | – | 52.77 | 136.23 | 92.08 | 114.15 | 0.45 | 7.15 | 8.98 | 185.00 | 96.11 | 75.06 | 85.59 | 0.48 | 7.23 | 7.26 |
| Chandauli | – | – | – | – | – | – | – | 95.02 | 130.41 | 128.86 | 129.64 | 0.56 | 10.61 | 5.59 | 100.24 | 137.83 | 78.05 | 107.94 | 0.59 | 9.66 | 3.72 |
| SD | 58.93 | 29.11 | 18.58 | 18.47 | 0.07 | 6.39 | 3.09 | 43.29 | 21.03 | 20.6 | 17.23 | 0.05 | 7.99 | 4.58 | 65.27 | 43.27 | 19.43 | 25.97 | 0.05 | 8.31 | 6.09 |
| AV | 98.63 | 96.55 | 102.14 | 99.34 | 0.42 | 10.59 | 10.47 | 93.96 | 105.93 | 102.39 | 104.16 | 0.50 | 10.95 | 10.45 | 133.56 | 96.87 | 94.77 | 95.82 | 0.53 | 10.98 | 10.23 |
| CV | 0.60 | 0.30 | 0.18 | 0.19 | 0.17 | 0.60 | 0.30 | 0.46 | 0.2 | 0.2 | 0.17 | 0.10 | 0.73 | 0.44 | 0.49 | 0.45 | 0.21 | 0.27 | 0.10 | 0.76 | 0.60 |
| Eastern Region | 100 | 100 | 100 | 100 | 0.42 | 11.6 | 10.5 | 100 | 100 | 100 | 100 | 0.50 | 11.78 | 10.44 | 100.00 | 100 | 100.00 | 100 | 0.53 | 11.8 | 10.27 |

# INDIAN BANKING INDUSTRY – BASICS TO BASEL

*M. GURUPRASAD*
*ASSOCIATE PROFESSOR*
*AICAR BUSINESS SCHOOL*
*MUMBAI*

**ABSTRACT**

*The globalisation of the world has dramatically impacted both the dynamics and the pace of global banking business India embarked on a strategy of economic reforms in the wake of a balance-of-payments crisis in 1991. The thrust of these reforms was to promote a diversified, efficient and competitive financial system; with the ultimate objective of improving the allocative efficiency of resources, through operational flexibility, improved financial viability and institutional strengthening. The policy approach to financial sector in India is that the ultimate goal should be to conform to the best international standards and in the process; the emphasis is on gradual harmonisation with the international best practices. Adopting our general approach of gradualism, India implemented the Basel I framework with effect from 1992-93. In this context, this paper makes an attempt to understand the Overview and evolution of BASEL II and BASEL III, India's preparedness and the probable impact of BASEL II.The analysis finds that Implementation of Basel norms is likely to improve the risk management systems of banks as the banks aim for adequate capitalisation to meet the underlying credit risks and strengthen the overall financial system of the country. In India, over the short term, commercial banks may need to augment their regulatory capitalisation levels in order to comply with Basel.However, over the long term, they would derive benefits from improved operational and credit risk management practices.*

## KEYWORDS
Banking, Balance of Payments, Financial reforms.

## INTRODUCTION
The globalisation of the world has dramatically impacted both the dynamics and the pace of global banking business. Mergers, acquisitions, consolidation, expansion, diversification of lines of business, shifting customer orientation and the changing regulatory environment are building up the pressure for banks to explore new possibilities by abandoning the familiar and embracing the unconventional. Competition is compelling banks to be agile and innovate everyday. In this milieu, what really enables banks to build a lasting competitive advantage is the ability to continuously innovate, achieve differentiation and respond quickly to dynamic business challenges.
Against this background of the current thinking in the country and reforms in other sectors, it is important to examine and understand the emerging trends in the banking industry.
The growth of Indian banking after nationalization, both in terms of sectoral coverage as well as geographical expansion, has been unparallel in the world. Yet, this growth has not been without a cost and certain weaknesses have emerged. The banking industry finds itself at the crossroads. India embarked on a strategy of economic reforms in the wake of a balance-of-payments crisis in 1991; a central plank of the reforms was reforms in the financial sector, and with banks being the mainstay of financial intermediation, the banking sector. At the same time, reforms were also undertaken in various segments of financial markets, to enable the banking sector to perform its intermediation role in an efficient manner. The thrust of these reforms was to promote a diversified, efficient and competitive financial system; with the ultimate objective of improving the allocative efficiency of resources, through operational flexibility, improved financial viability and institutional strengthening.

**BASEL NORMS**

Commercial banks in India were expected to start implementing Basel II. Available literature and interaction with the middle level executives of the industry in India by the author indicated that there is a gap exists in terms of Understanding BASEL (I, II, III) norms and practices.

## OBJECTIVE OF THE STUDY
In this context, this paper makes an attempt to understand the following aspects on BASEL II
- Overview and evolution of BASEL II and BASEL III
- Views of various stakeholders on the level of preparedness in India.
- Probable impact of BASEL II.
- Background of BASEL III.

## METHODOLOGY
The paper is based on the secondary data of various studies and experts views on this topic. Even though Basel norms are the most talked about and written about in the media. Available literature about the progress is not clear; since ther are variying views and risk perception in implementing Basel II.This article attempts to understand these differences which exist across the globe in terms of the views towards the preparedness for implementing Basel II norms.
The article is dived in to three sections. They are as follows:
**Section I: Evolution of Basel norms**
**Section-II: Preparedness in India**
**Section III: Background of Basel III Norms**
Section I: Evolution of Basel norms- This section traces the background and evolution of Basel norms to its present stage. This section also discusses the need for Basel and its percievd impact on the global commitments.
Section-II: Prpearedness in India- This section analyses the level of prepardenss in India. In this section the views of various stakeholders of Indian banking industy on the level of preparedness is being analysed.
Section III: Background of Basel III Norms – An outline of the key elements of the proposed Basel III guidelines are provided.

## SECTION I: EVOLUTION OF BASEL NORMS
## BACKGROUND
**BASEL ACCORD**

The Basel Accords) refer to the banking supervision Accords (recommendations on banking laws and regulations), Basel I and Basel II issued by the Basel Committee on Banking Supervision (BCBS).
The Basel Committee formulates broad supervisory standards and guidelines and recommends statements of best practice in banking supervision in the expectation that member authorities and other nation's authorities will take steps to implement them through their own national systems, whether in statutory

form or otherwise. The purpose of the committee is to encourage convergence toward common approaches and standards. The Basel Committee is named after the city of Basel, Switzerland.

The Basel Committee on Banking Supervision is an institution created by the central bank Governors of the Group of Ten nations. It was created in 1974 and meets regularly four times a year. The Committee usually meets at the Bank for International Settlements (BIS) in Basel, Switzerland, where its 12 member permanent Secretariat is located. The Committee is often referred to as the BIS Committee after its meeting location. However, the BIS and the Basel Committee remain two distinct entities.

The Bank for International Settlements (BIS) is an international organization of central banks which "fosters international monetary and financial cooperation and serves as a bank for central banks." It is not accountable to any national government. The BIS carries out its work through subcommittees, the secretariats it hosts, and through its annual General Meeting of all members. It also provides banking services, but only to central banks, or to international organizations like itself. Based in Basel, Switzerland, the BIS was established by the Hague agreements of 1930.

**THE BASEL I ACCORD**

On 26th June 1974, a number of banks had released Deutschmarks to Bank Herstatt in Frankfurt in exchange for dollar payments that were to be delivered in New York. Due to differences in time zones, there was a lag in dollar payments to counter-party banks during which Bank Herstatt was liquidated by German regulators, i.e. before the dollar payments could be affected.

**BASEL COMMITTEE ON BANKING SUPERVISION (BCBS)**

The Herstatt incident prompted the G-10 countries (the G-10 is today 13 countries: Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Spain, Sweden, Switzerland, United Kingdom and United States) to form, towards the end of 1974, the Basel Committee on Banking Supervision (BCBS), under the auspices of the Bank for International Settlements (BIS), comprising of Central Bank Governors from the participating countries.

BCBS has been instrumental in standardizing bank regulations across jurisdictions with special emphasis on defining the roles of regulators in cross-jurisdictional situations. The committee meets four times a year. It has around 30 technical working groups and task forces that meet regularly.

In 1988, the Basel Committee published a set of minimal capital requirements for banks, known as the 1988 Basel Accord. These were enforced by law in the G-10 countries in 1992, with Japanese banks permitted an extended transition period.

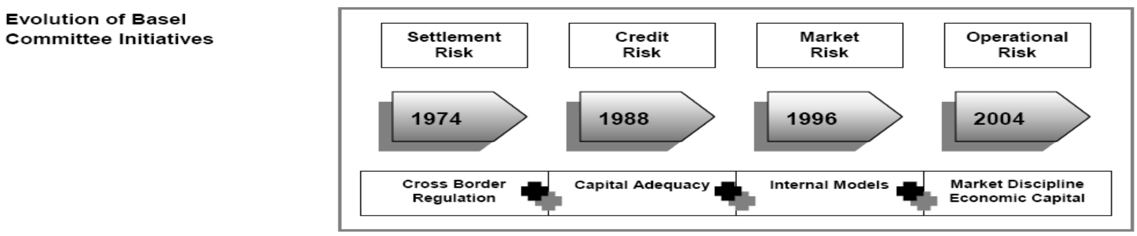
**1988 BASEL ACCORD**

The 1988 Basel Accord focused primarily on credit risk. Bank assets were classified into five risk buckets i.e. grouped under five categories according to credit risk carrying risk weights of zero, ten, twenty, fifty and one hundred per cent. Assets were to be classified into one of these risk buckets based on the parameters of counter-party (sovereign, banks, public sector enterprises or others), collateral (e.g. mortgages of residential property) and maturity. Generally, government debt was categorised at zero per cent, bank debt at twenty per cent, and other debt at one hundred per cent. 100%. OBS (off-balance sheet) exposure exposures such as performance guarantees and letters of credit were brought into the calculation of risk weighted assets using the mechanism of variable credit conversion factor. Banks were required to hold capital equal to 8% of the risk weighted value of assets. Since 1988, this framework has been progressively introduced not only in member countries but also in almost all other countries having active international banks.

The accord provided a detailed definition of capital. Tier 1 or core capital, which includes equity and disclosed reserves, and Tier 2 or supplementary capital, which could include undisclosed reserves, asset revaluation reserves, general provisions & loan–loss reserves, hybrid (debt/equity) capital instruments and subordinated debt.

In 1996, BCBS published an amendment to the 1988 Basel Accord to provide an explicit capital cushion for the price risks to which banks are exposed, particularly those arising from their trading activities. This amendment was brought into effect in 1998.

**FIG.1. EVOLUTION OF BASEL INITIATIVES**




**INDIA AND BASEL I**

The policy approach to financial sector in India is that the ultimate goal should be to conform to the best international standards and in the process; the emphasis is on gradual harmonisation with the international best practices.

Adopting our general approach of gradualism, India implemented the Basel I framework with effect from 1992-93 which was, however, spread over three years – banks with branches abroad were required to comply fully by end March 1994 while the other banks were required to comply by end March 1996. Further, India responded to the 1996 amendment to the Basel I framework, which required banks to maintain capital for market risk exposures, by initially prescribing various surrogate capital charges for these risks between 2000 and 2002. These were replaced with the capital charges as required under the Basel I framework in June 2004, which became effective from March 2005.

**INDIA AND BASEL II**

Consistent with this approach, for Basel II also, all commercial banks in India are implementing Basel II with effect from March 31, 2007.

**BASEL II - BACKGROUND**

Close on the heels of the 1996 amendment to the Basel I accord, in June 1999 BCBS issued a proposal for a New Capital Adequacy Framework to replace the 1988 Accord.

**AIM OF BASEL II**

Basel II aims to encourage the use of modern risk management techniques; and to encourage banks to ensure that their risk management capabilities are commensurate with the risks of their business. Previously, regulators' main focus was on credit risk and market risk. Basel II takes a more sophisticated approach to credit risk, in that it allows banks to make use of internal ratings based Approach -or "IRB Approach" as they have become known -to calculate their capital requirement for credit risk. It also introduces, in addition to the market risk capital charge, an explicit capital charge for operational risk. Together, these three risks -credit, market, and operational risk -are the so-called "Pillar 1" risks.

The proposed capital framework consists of three pillars: minimum capital requirements, which seek to refine the standardised rules set forth in the 1988 Accord; supervisory review of an institution's internal assessment process and capital adequacy; and effective use of disclosure to strengthen market discipline as a complement to supervisory efforts. The accord has been finalized recently on 11th May 2004 and the final draft is expected by the end of June 2004. For banks adopting advanced approaches for measuring credit and operational risk the deadline has been shifted to 2008, whereas for those opting for basic approaches it is retained at 2006.

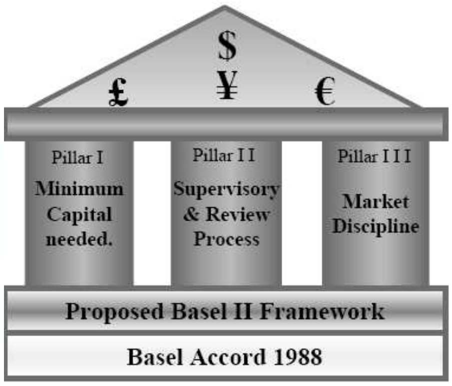
**THE NEED FOR BASEL II**

The 1988 Basel I Accord has very limited risk sensitivity and lacks risk differentiation (broad brush structure) for measuring credit risk. For example, all corporations carry the same risk weight of 100 per cent. It also gave rise to a significant gap between the regulatory measurement of the risk of a given transaction and its actual economic risk. The most troubling side effect of the gap between regulatory and actual economic risk has been the distortion of financial decision-making, including large amounts of regulatory arbitrage, or investments made on the basis of regulatory constraints rather than genuine economic opportunities. The strict rule based approach of the 1988 accord has also been criticised for its `one size fits all' prescription. In addition, it lacked proper recognition of credit risk mitigants such as credit derivatives, securitisation, and collaterals.

The frequent cases of frauds, acts of terrorism, hacking, have brought into focus the operational risk that the banks and financial institutions are exposed to.

The proposed new accord (Basel II) is claimed by BCBS to be `an improved capital adequacy framework intended to foster a strong emphasis on risk management and to encourage ongoing improvements in banks' risk assessment capabilities'. It also seeks to provide a `level playing field' for international competition and attempts to ensure that its implementation maintains the aggregate regulatory capital requirements as obtaining under the current accord. The new framework encouraged incentives for using more advanced and sophisticated approaches for risk measurement and attempts to align the regulatory capital with internal risk measurements of banks subject to supervisory review and market disclosure.

**FIG.2. THREE PILLARS OF BASEL II**




## SUMMARY OF THE THREE PILLARS OF BASEL II

**PILLAR I: MINIMUM CAPITAL REQUIREMENTS**

• Retains the 8% minimum capital adequacy ratio (CAR) from the 1988 Accord.

• Details more risk sensitive charges for credit risk, details treatments for securitisation exposures and introduces a new charge for operational risk.

• Provides for a range of approaches of increasing sophistication. Banks can adopt the most suitable approach from a range for their respective institutions. As banks become more sophisticated in their measurement systems and practices, they are encouraged to adopt the more risk sensitive approaches for which there are associated (capital reduction) incentives.

• Credit risk: financial institutions are allowed to choose from either the Standardised Approach which uses standardised risk weights and external ratings where available, or the Internal Ratings Based (IRB) Approach which uses data from internal risk management systems. A securitisation framework must be applied for banks involved in traditional and synthetic securitisations or similar structures.

• Market risk: addresses the risk involved in trading book positions and treatment of counterparty credit risk so as to adequately capture event and default risk for trade-debt and equity instruments.

• Operational risk: defined as 'the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events.'14 Banks are offered three methods for calculating operational risk capital charges including the Basic Indicator Approach, the Standardised Approach, and the Advanced Measurement Approach (AMA).

**PILLAR II SUPERVISORY REVIEW**

• Outlines bank management responsibility for establishing internal review processes to monitor and assess capital adequacy based on the risks to which a bank may be exposed.

• Outlines supervisor responsibilities in evaluating capital needs, managing associated risks and intervening when appropriate.

• Encourages active interaction between banks and their supervisors so that action can be taken promptly when issues arise.

• Focuses increased attention on 'home-host' supervisory cooperation within banking groups and the supervision of securities firms and insurers in financial institutions that offer financial products and services.

**PILLAR II MARKET DISCIPLINE**

• Encourages prudent management and transparency in financial reporting of banks through external market incentives.

• Focuses on effective disclosure of information and specifies the nature and type of information that should be reported to market participants.

**TABLE 1: COMPARISON BETWEEN THE 1988 CAPITAL ACCORD AND BASEL II**

| 1988 Capital Accord | Basel II |
|---|---|
| • Focus on a single risk measure to measure credit and market risk capital adequacy ratio<br>• A 'one size fits all' approach with no material gradation of risk<br>• A less detailed and definitive structure | • Provides a more comprehensive and flexible approach to measuring and managing risk, in the process increasing risk sensitivity<br>• Adds operational risk as a new charge<br>• Promotes banks' internal risk management methodologies<br>• Incorporates supervisory review and market discipline as part of risk assessment |

SOURCE: BIS

**PERCEIVED IMPACT**

1)Apart from banks and regulators, who are directly affected by Basel II, customers, rating agencies, capital markets and other financial companies (outside the scope of Basel II) will also be affected. Banks will have to implement an enterprise-wide risk management framework, which will entail establishing relevant

processes and gathering, integrating and analysing large amount of data. Using quantitative methods to manage risk - and to deploy capital based on risks - requires high quality and high frequency data.
2) Impact on various entities in financial markets.
3) Customers will find that they have to cope with increased demands for timely information from banks that are on IRB approaches. Risk-based pricing of credit products will become the norm as banks begin differentiating customers as per their risk profiles. Riskier borrowers are likely to find their borrowing costs going up and/or credit lines tightened up.
4) Rating agencies may face more competition as the market for them will expand and deepen, which will be a driver for them to be more transparent in their rating process.
5) Good quality rated corporates will prefer capital markets to banks for their funding. Securitisation and credit derivatives will increasingly be used as credit risk hedging tools.
6) Basel II is also likely to impact financial institutions that do not have to comply with it. Non-banking corporations such as credit card companies, leasing companies, auto manufacturers and financiers, or retailers' financing arms may not have to fulfill the potentially extensive disclosure requirements prescribed by Basel II nor make investments in managing operational risk, which will put them at a competitive advantage vis-à-vis banks.

**TABLE 2: STRENGTHENED CAPITAL FRAMEWORK: FROM BASEL II TO ENHANCED BASEL II**

| In percentage of risk-weighted assets | Capital requirements | | | | | | | Additional macro-prudential overlay |
|---|---|---|---|---|---|---|---|---|
| | Common equity | | | Tier 1 capital | | Total capital | | Counter-cyclical buffer |
| | Minimum | Conservation buffer | Required | Minimum | Required | Minimum | Required | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Basel II | 2 | | | 4 | | 8 | | |
| Enhanced Basel II definition and calibration | 4.5 | 2.5 | 7.0 | 6 | 8.5 | 8 | 10.5 | 0-2.5 |

Source: Bank for International Settlements.

The above data indicates a gradual increase inc CRAR and a reduction in the overall operating expenses over a period of time.
The vast majority of countries are adopting the 'better wait' and the gradual approaches, in face of the huge challenges posed by Basel II such as,
1) Capacity to validate models and monitor their use
2) Presence of Foreign Banks
3) Collaboration between home and host supervisors
4) Competitiveness issue
5) Credit portfolio concentration
6) Pro-cyclicality
7) Technical assistance

## SECTION II- PREPAREDNESS IN INDIA

Adopting the general approach of gradualism, India implemented the Basel I framework with effect from 1992-93 which was, however, spread over three years – banks with branches abroad were required to comply fully by end March 1994 while the other banks were required to comply by end March 1996. Further, India responded to the 1996 amendment to the Basel I framework, which required banks to maintain capital for market risk exposures, by initially prescribing various surrogate capital charges for these risks between 2000 and 2002. These were replaced with the capital charges as required under the Basel I framework in June 2004, which became effective from March 2005. We have gone a step further than the Basel I requirement and have required the banks in India to maintain capital charge for market risks on their 'Available for Sale' portfolio also with effect from March 2006.
An observation of the Indian banks reveals the following situation

**TABLE 3**

Select Financial Indicators of Public Sector Banks 1997 to 2002

| Period (end March) | CRAR | Other Income | Operating Expense | Net Profit |
|---|---|---|---|---|
| 1997 | 10.00 | 1.32 | 2.88 | 0.57 |
| 1998 | 11.53 | 1.33 | 2.66 | 0.77 |
| 1999 | 11.20 | 1.22 | 2.66 | 0.42 |
| 2000 | 10.66 | 1.29 | 2.53 | 0.57 |
| 2001 | 11.20 | 1.22 | 2.72 | 0.42 |
| 2002 | 11.80 | 1.43 | 2.29 | 0.72 |

All the indicators, except CRAR, are ratios to total assets
Source: RBI (2003)

Consistent with this approach, for Basel II also, currently all commercial banks in India have started implementing Basel II with effect from March 31, 2007 – though a marginal stretching beyond this date should not be ruled out in view of the latest indications on the state of preparedness. While considering implementation of Basel II, special attention was given to the differences in degrees of sophistication and development of the banking system and it was decided that they will initially adopt the Standardised Approach for credit risk and the Basic Indicator Approach for operational risk. After adequate skills are developed, both by the banks and also by the supervisors, some of the banks may be allowed to migrate to the Internal Rating Based (IRB) Approach. As per normal practice in regard to all changes in financial sector, and with a view to ensuring a particularly smooth migration to Basel II, a consultative and participative approach has been adopted for both - designing and implementing Basel II.
A recent RBI report observes that foreign banks operating in India and Indian banks with presence abroad migrated to the Basel II framework with effect from March 31, 2008. All other scheduled commercial banks (except regional rural banks and local area banks) are expected to migrate to the Revised Framework not later than by March 31, 2009.
The official position of the Reserve Bank of India (RBI), as emphasized in its response to BCBS, is as follows, `In its (Basel II) attempt to strive for more accurate measure of risks in banks, the simplicity of the present Capital Accord is proposed to be replaced, with a highly complex methodology which needs the support of highly sophisticated MIS / data processing capabilities. The complexity and sophistication essential for banks for implementing the new capital accord restricts its universal application in the emerging markets.' RBI had also suggested that a common definition of `internationally active banks' be provided by BCBS. Even the United States of America is not adopting the new accord for all of its banks. But, in the same response, RBI has also affirmed that it is `fully committed to implement the best international practices'.

**TABLE 4: BASEL PREPAREDNESS PROCESS-INDIA**

| | | |
|---|---|---|
| India | Reserve Bank of India (RBI) plans to, at a minimum, have all banks in India adopt the Standardised Approach for credit risk and the Basic Indicator Approach for operational risk with effect from March 31, 2007 | • RBI released guidelines on the CAR framework (Feb 2005)<br>– Under the Standardised Approach, Indian credit rating agencies recognised by the RBI will assign risk ratings. Depending on a bank's rating, a risk weight from 20% to 150% will be assigned to determine the capital requirements<br>– 15% of gross income is to be set aside as provision towards operational risk<br>• To meet Basel II requirements, banks are:<br>– Modernising their financial systems<br>– Preparing to enter the capital market in 2005 to raise funds |

**TABLE 5: BASEL PREPAREDNESS PROCESS- SELECTED REGIONS**

| Subject Matter | India | Asia | Africa | Middle East |
|---|---|---|---|---|
| Basel II implementation: Coverage of banking assets | 100% of banking assets in India by 2009 as per Regulatory instructions | 70% of banking assets in Asia by 2009 | 65% of banking assets by 2009 | 89% of banking assets by 2009 |

**BANKING INDUSTRY VIEW**

An analysis of the opinion by top bankers acroos the country point out to the following oppourtunities and challenges

**OPPORTUNITITES**

- For India, these norms provide massive opportunities in the form of software services, outsourcing and consultancy services.
- It provides an opportunity for global integration and ushering in international best practices.
- Basel II compliance will eventually result in banks acquiring a competitive edge, stating `Banks that move proactively in the broad direction outlined by the Basel Committee will have acquired a definite edge over their competitors when the new accord enters the implementation phase.'
- The new accord provides incentives to banks for improving their credit portfolio through risk management'. The banks will reap the benefits of improved systems and efficiency in the long term'.
- The cost of IT development is almost certainly less in India than elsewhere,' `there may be a faster payback for the more advanced method of internal ratings despite the greater level of investment required as the payback in terms of reduced capital utilisation at least on the credit side may be quicker depending of course on each banks cost of capital.'

**REGULATORS VIEW**

**APPROACH OF THE RESERVE BANK OF INDIA TO BASEL II ACCORD**

The Reserve Bank of India (RBI) has asked banks to move in the direction of implementing the Basel II norms, and in the process identify the areas that need strengthening. In implementing Basel II, the RBI is in favour of gradual convergence with the new standards and best practices. The aim is to reach the global best standards in a phased manner, taking a consultative approach rather than a directive one. In anticipation of Basel II, RBI has requested banks to examine the choices available to them and draw a roadmap for migrating to Basel II. The RBI has set up a steering committee to suggest migration methodology to Basel II. Based on recommendations of the Steering Committee, in February 2005, RBI has proposed the "Draft Guidelines for Implementing New Capital Adequacy Framework" covering the capital adequacy guidelines of the Basel II accord. RBI expects banks to adopt the Standardised Approach for the measurement of Credit Risk and the Basic Indicator Approach for the assessment of Operational Risk. RBI has also specified that the migration to Basel II will be effective March 31, 2007 and has suggested that banks should adopt the new capital adequacy guidelines and parallel run effective April 1, 2006. Over time, when adequate risk management skills have developed, some banks may be allowed to migrate to the Internal Ratings Based approach for credit risk measurement.

In the Standardised approach proposed by Basel II Accord, credit risk is measured on the basis of the risk ratings assigned by external credit assessment institutions, primarily international credit rating agencies like Moody's Investors Service This approach is different from the one under Basel I in the sense that the earlier norms had a "one size fits all" approach, i.e. 100% risk weight for all corporate exposures. Thus, the risk weighted corporate assets measured using the standardised approach of Basel II would get lower risk weights as compared with 100% risk weights under Basel I. Basel II gives a free hand to national regulators (in India's case, the RBI) to specify different risk weights for retail exposures, in case they think that to be more appropriate. To facilitate a move towards Basel II, the RBI has also come out with an indicative mapping of domestic corporate long term loans and bond credit ratings against corporate ratings by international agencies like Moody's Investor Services .Going by this mapping, the impact of the lower risk weights assigned to higher rated corporates would not be significant for the loans & advances portfolio of banks, as these portfolios mainly have unrated entities, which under the new draft guidelines continue to have a risk weight of 100%. However, given the investments into higher rated corporates in the bonds and debentures portfolio, the risk weighted corporate assets measured using the standardised approach may get marginally lower risk weights as compared with the 100% risk weights assigned under Basel I. For retail exposures—which banks in India are increasing focusing on for asset growth—RBI has proposed a lower 75% risk weights (in line with the Basel II norms) against the currently applicable risk weights of 125% and 100% for personal/credit card loans, and other retail loans respectively. For mortgage loans secured by residential property and occupied by the borrower, Basel II specifies a risk weight of 35%, which is significantly lower than the RBI's draft prescription of 75% (if margins are 25% or more) and 100% (if margins <25%).

**TABLE 6: BANK REGULATORY CAPITAL TO RISK-WEIGHTED ASSETS**

(per cent)

| Countries | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| US | 12.9 | 13.0 | 12.8 | 12.8 | 14.3 |
| UK | 12.8 | 12.9 | 12.6 | 12.9 | 14.8 |
| Japan | 12.2 | 13.1 | 12.3 | 12.4 | 15.8 |
| France | 11.3 | 10.9 | 10.2 | 10.5 | 12.4 |
| Germany | 12.2 | 12.5 | 12.9 | 13.6 | 14.8 |
| Portugal | 11.3 | 10.9 | 10.4 | 9.4 | 10.5 |
| Italy | 10.6 | 10.7 | 10.4 | 10.8 | 12.1 |
| Greece | 13.2 | 12.2 | 11.2 | 9.4 | 11.7 |
| Spain | 11.0 | 11.2 | 10.6 | 11.3 | 12.2 |
| Brazil | 17.9 | 18.9 | 18.7 | 18.3 | 18.8 |
| Russia | 16.0 | 14.9 | 15.5 | 16.8 | 20.9 |
| India | 12.8 | 12.3 | 12.3 | 13.0 | 13.2 |
| China | 2.5 | 4.9 | 8.4 | 12.0 | 11.4 |
| Indonesia | 19.9 | 20.6 | 19.2 | 17.0 | 17.6 |
| Malaysia | 13.7 | 13.5 | 13.2 | 12.6 | 15.4 |
| Philippines | 17.6 | 18.1 | 15.7 | 15.5 | 15.8 |
| Thailand | 13.2 | 13.6 | 14.8 | 13.9 | 15.8 |
| Mexico | 14.3 | 16.1 | 15.9 | 15.3 | 15.9 |

Source: IMF

In the case of India there is a gradual increase in terms of Bank Regulatory Capital to Risk-Weighted Assets.
Kishori J Udeshi, deputy governor, RBI, in her speech at the `World Bank/IMF/US Federal Reserve Board 4th Annual International Seminar on Policy Challenges for the Financial Sector: Basel II' at Washington on June 2, 2004, summed up the Indian response to Basel II.

- Understanding Basel II concepts is one step away from agreeing to it in principle. Implementing Basel II is another long step away from understanding it.
- RBI's approach to the institution of prudential norms has been one of gradual convergence with international standards and best practices with suitable country specific adaptations. Our aim has been to reach global best standards in a deliberately phased manner through a consultative process evolved within the country. RBI had in April 2003 itself accepted in principle to adopt the new capital accord'.
- RBI has announced, in its Annual Policy statement in May 2004 that banks in India should examine in depth the options available under Basel II and draw a road-map by end December 2004 for migration to Basel II and review the progress made thereof at quarterly intervals'.
- At a minimum all banks in India, to begin with, will adopt Standardized Approach for credit risk and Basic Indicator Approach for operational risk. After adequate skills are developed, both in banks and at supervisory levels, some banks may be allowed to migrate to IRB Approach'
- Banks adopting IRB Approach will be much more risk sensitive than the banks on Standardised Approach, (so) the banks on Standardised Approach could be inclined to assume exposures to high risk clients, which were not financed by IRB banks. Due to concentration of higher risks, Standardised Approach banks can become vulnerable at times of economic downturns.
- Keeping in view the cost of compliance for banks and supervisors, the regulatory challenge would be to migrate to Basel II in a non-disruptive manner. We would like to continue the process of interaction with other countries to learn from their experiences.

**CHALLENGES**

The challenges for the Indian Banking System under BASEL II:

1. Costly Database Creation and Maintenance Process
2. Additional Capital Requirement
3. Risk Management Architecture
4. Rating Requirement
5. Choice of Alternative Approaches
6. Supervisory Framework
7. Disclosure Regime
8. Disadvantage for Smaller Banks

Thus, the full implementation of the Basel II framework, even under the basic/standardized approaches, would remain a major challenge for some time to come, for both the banks and the Reserve Bank.
At the banks' level, the implementation would require, inter alia,

- Upgradation of the bank-wide information system through better branch-connectivity, which would entail cost
- Also raise some IT-security issues.
- The implementation of Basel II also raises several issues relating to development of
- Human resource skills
- Database management.
- Banks would require higher amount of capital under the Basel II framework.
- They would, therefore, need to explore various capital raising options.
- The new norms are a formidable challenge for the regulators and banks to understand and implement.
- These are expected to change the banking landscape and the way banks manage their risks.
- On the customer's side, there will be winners and losers depending on their risk profile.
- Banks in emerging markets would, therefore, face serious implementation challenges due to lack of adequate technical skills, under development of financial markets, structural rigidities and less robust legal systems.
- Besides banks, supervisors would be required to invest considerable resources in upgrading technology systems, and human resources to meet the minimum standards.
- On current indications, implementation of Basel II will require more capital for banks in India due to the fact that operational risk is not captured under Basel I, and the capital charge for market risk was not prescribed until recently.
- The additional capital charge on account of operational risk is considered `harsh' by bankers and software suppliers unanimously. But all of them agree that it will benefit banks in the long term by making them sensitive to operational risk.
- Some experts also feels that Basel II will favour, at least in the short term, the bigger banks who have the technology advantage, but considers this as an opportunity for domestic banks to catch up with the big league in the long term.
- The higher disclosure requirements in the banking sector might lead to a growing tendency towards structural changes in the form of mergers and acquisitions.' As more and more banks move towards the advanced approaches, the gap between the strong and weak banks will increase further, making the weaker banks potential takeover targets'.

**TABLE 7: CAPITAL TO RISK WEIGHTED ASSETS RATIO – BANK GROUP-WISE (AS AT END-MARCH)**

(Per cent)

| Bank group | Basel I | | Basel II | |
|---|---|---|---|---|
| | 2009 | 2010 | 2009 | 2010 |
| 1 | 2 | 3 | 4 | 5 |
| **Public sector banks** | **12.3** | **12.1** | **13.5** | **13.3** |
| Nationalised banks* | 12.1 | 12.1 | 13.2 | 13.2 |
| SBI group | 12.7 | 12.1 | 14.0 | 13.5 |
| **Private sector banks** | **15.0** | **16.7** | **15.2** | **17.4** |
| Old private sector banks | 14.3 | 13.8 | 14.8 | 14.9 |
| New private sector banks | 15.1 | 17.3 | 15.3 | 18.0 |
| **Foreign banks** | **15.0** | **18.1** | **14.3** | **17.3** |
| **Scheduled commercial banks** | **13.2** | **13.6** | **14.0** | **14.5** |

Source: Report on Trend and Progress of Banking in India 2009-10

The above table shows the gradual increase in the case of India in terms of Capital to Risk-Weighted Assets. The similar trend is evident in terms of the CRAR, capital funds and risk weighted assets.

**TABLE 8: COMPONENT-WISE CAPITAL ADEQUACY OF SCHEDULED COMMERCIAL BANKS (AS AT END-MARCH)**

(Amount in ₹ crore)

| Item | Basel I | | Basel II | |
|---|---|---|---|---|
| | 2009 | 2010 | 2009 | 2010 |
| A. Capital funds (i+ii) | 4,88,563 | 5,72,582 | 4,87,826 | 5,67,381 |
| i) Tier I capital | 3,31,422 | 3,97,665 | 3,33,810 | 3,95,100 |
| ii) Tier II capital | 1,57,141 | 1,74,916 | 1,54,016 | 1,72,281 |
| B. Risk-weighted assets | 37,04,372 | 42,16,565 | 34,88,303 | 39,01,396 |
| C. CRAR (A as % of B) | 13.2 | 13.6 | 14.0 | 14.5 |
| *of which:* Tier I | 9.0 | 9.4 | 9.6 | 10.1 |
| Tier II | 4.2 | 4.1 | 4.4 | 4.4 |

Source: Report on Trend and Progress of Banking in India 2009-10

**FICCI SURVEY ON PREPAREDNESS**

According to the study, the banking system has a long way to go for providing full market access to foreign players. More than half the respondents felt banks would require two years beyond 2006 to meet the Basel norms and an overwhelming 87 per cent of respondents maintained that the provision for capital changes to address operational risks would put pressure on capital adequacy requirements. Similarly, the provisioning would adversely affect the credit flow to industry, as banks would become more risk averse. The survey covered 216 key decision makers from foreign, private, public sector banks and corporates. The internal rating based on recommendations of Basel II norms would make Indian banks more resilient to risk and help them face competition better, the survey said. On access to foreign players to Indian banking market, the survey said the banking industry would need 2-3 years to gear up to meet challenges of full market access to overseas entities. The FICCI survey said about 56 per cent of respondents favoured lifting restrictions on branch expansion, while 52 per cent sought removal of discriminatory limitations on foreign equity. However, 82 per cent have welcomed the government's move to hike foreign direct investment limit in private sector banks, helping to consolidate the industry, it said.

A recent research paper draws attention to the possible pitfalls in way of the implementation of the Basel norms in India's banking industry. According to this study, while it is a bit early to pass judgment on the success of these new prudential regulations in terms of the long-term stability and growth of the country's banking sector in the context of the newly opened up financial sector, one can duly have some reservations regarding the possible contractionary effects with changing composition of the priority credit itself. The result has often been a drop in the proportion of bank credit reaching out to small and medium enterprises, which have potentials for repayment capacity as well as growth. Supplementary finance, as available from outlets like the SIDBI, cooperative banks or even the fiscal measures do not fill in the void as is left in terms of the unfulfilled demand for finance on the part of the SMEs. As for the poor, meeting the minimum target by banks may not deliver what is needed by those who are not even considered 'bankable' by banks themselves!

According to some studies, the progress of Basel II implementation varies among the regions reflecting mainly differences in their financial and technological readiness. Various studies done recently indicate that the ownership and structure of the banks do affect their performance. With increasing financial sector liberalization and emergence of financial conglomerates, financial sector stability has emerged as a key objective of the Central Bank in India.

**ADVANTAGES**

Adoption of Basel II has also improved the Indian banking system on various risk parameters, on the non performing assets and making adequate provisions on bad advances. Basel II implementation allows transparency, growth, strengthening the financial stability of the banks and improves the government standards. Also, the profitability of the banks would increase and stabilize over the years which will help the bank to consolidate itself so that the banks can go global. The Pillar 3 of Basel II enforces market discipline through stricter disclosure requirement. Such disclosure will be useful for supervisory authorities and rating agencies.

## SECTION III: BACKGROUND OF BASEL III NORMS

The proposed Basel III guidelines seek to improve the ability of banks to withstand periods of economic and financial stress by prescribing more stringent capital and liquidity requirements for them.

The key elements of the proposed Basel III guidelines include the following:

1. Definition of capital made more stringent, capital buffers introduced and Loss absorptive capacity of Tier 1 and Tier 2 Capital instrument of Internationally active banks proposed to be enhanced
2. Forward looking provisioning prescribed
3. Modifications made in counterparty credit risk weights
4. New parameter of leverage ratio introduced
5. Global liquidity standard prescribed

The Basel committee is finalization process started the Basel III guidelines by December 2010, following which a six year phase-in period beginning 2013 is likely to be prescribed. This note seeks to assess the impact of the proposed Basel III guidelines on Indian banks capitalisation profile and their liquidity position till 2018. The impact of the suggested norms relating to forward looking provisioning and counterparty risk weights are not captured in this note, since for that more granular data would be required and these are not available currently in the public domain.

The proposed Basel III guidelines seek to enhance the minimum core capital (after stringent deductions), introduce a capital conservation buffer (with defined triggers), and prescribe a countercyclical buffer (to be built up in times of excessive credit growth at the national level). The proposed Basel III guidelines suggest changes in the deductions made for the computation of the capital adequacy percentages.

The key features of the buffer include the following:

Credit-GDP gap could be used as a reference point
Buffer to be set at the national level every year
Buffer to be calculated at the same frequency as the normal capital requirement
Banks could be given one year to comply with the additional capital requirement
Reduction in buffer could take effect immediately
Banks not meeting the norm could be restrained from distributing the earnings (in the same manner as in the case of the capital conservation buffer)

TABLE 9: REGULATORY CAPITAL ADEQUACY LEVELS—PROPOSED VS. EXISTING RBI NORM

| | Proposed Basel III Norm | Existing RBI Norm |
|---|---|---|
| Common equity (after deductions) | 4.5% | 3.6% (9.2%) |
| Conservation buffer | 2.5% | Nil |
| Countercyclical buffer | 0-2.5% | Nil |
| Common equity + Conservation buffer + Countercyclical buffer | 7-9.5% | 3.6% (9.2%) |
| Tier I(including the buffer) | 8.5-11% | 6% (10%) |
| Total capital (including the buffers) | 10.5-13% | 9% (14.5%) |

Source: ICRA

TABLE 10: THE CAPITAL AND LIQUIDITY REFORM PACKAGE, JULY 2010 – MAJOR FEATURES

**(1) *Definition of Capital***

(i) Prudent recognition of the minority interest

(ii) Elimination of counterparty credit restriction on hedging of financial institutions investments.

(iii) Limited recognition of investments in the common shares, mortgage servicing rights, and deferred tax assets for calculating common equity component of Tier I capital.

**(2) *Counterparty Credit Risk***

(i) Modification of bond equivalent approach to address hedging.

(ii) Elimination of excessive calibration of credit valuation adjustment.

(iii) To subject banks' mark to market and collateral exposures to central counterparties (CCPs) to modest risk weights in the range of 1-3 per cent.

**(3) *Leverage Ratio***

(i) Uniform credit conversion factors (CCF) for off-balance sheet exposures.

(ii) Basel II netting plus a simple measure of potential future exposure based on the standardised factors of the current exposure method.

(iii) Testing the proposal of minimum Tier I leverage ratio of 3 per cent during the parallel run.

**(4) *Regulatory Buffers, Cyclicality of the Minimum and Provisioning***

(i) Capital conservation and countercyclical buffers to be finalised by end 2010.

(ii) Findings on cyclicality of the minimum requirement to be dovetailed with those from quantitative impact study to develop a set of supervisory tools to assess the adequacy of banks' capital buffers.

(iii) Dialogue with International Accounting Standards Board (IASB) to develop expected loss approach to provisioning.

**(5) *Global Liquidity Standard***

(i) Revision of definition of liquid assets so that they remain liquid in periods of stress.

(ii) Introduction of 25.0 per cent outflow bucket for custody of clearing and settlement activities, as well as selected cash management activities.

(iii) Treatment of all sovereigns, central banks and PSEs on par with corporates with 100 per cent roll-off rate for unsecured funding.

Source: Basel Committee on Banking Supervision.

**TABLE 11: PHASE-IN ARRANGEMENTS (FIGURES IN BOLD INDICATE TRANSITION PERIODS) (ALL DATES ARE AS OF 1 JANUARY)**

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | As on 1 January 2019 |
|---|---|---|---|---|---|---|---|---|---|
| Leverage Ratio | Supervisory monitoring | | Parallel run 1 Jan 2013 – 1 Jan 2017 Disclosure starts 1 Jan 2015 | | | | | Migration to Pillar 1 | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Minimum Common Equity Capital Ratio | | | **3.5%** | **4.0%** | **4.5%** | 4.5% | 4.5% | 4.5% | 4.5% |
| Capital Conservation Buffer | | | | | | **0.625%** | **1.25%** | **1.875%** | 2.50% |
| Minimum common equity plus capital conservation buffer | | | **3.5%** | **4.0%** | **4.5%** | **5.125%** | **5.75%** | **6.375%** | 7.0% |
| Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs and financials) | | | | **20%** | **40%** | **60%** | **80%** | 100% | 100% |
| Minimum Tier 1 Capital | | | **4.5%** | **5.5%** | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% |
| Minimum Total Capital | | | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% |
| Minimum Total Capital plus conservation buffer | | | 8.0% | 8.0% | 8.0% | **8.625%** | **9.25%** | **9.875%** | 10.5% |
| Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital | | | Phased out over 10 years horizon beginning 2013 | | | | | | |
| Liquidity coverage ratio | Observation period begins | | | | Introduce minimum standard | | | | |
| Net stable funding ratio | | Observation period begins | | | | | | Introduce minimum standard | |

Source: BIS

## CONCLUSION

From the above discussions, the following conclusions emerge,

Adapting to Basel norms has been demanding for some institutions than for others, based on factors including current risk management practices, business size, geographical spread, risk types, specific business, portfolio, and market conditions.

Banks' risk management functions need to look at a much wider range of risks than this -interest rate risk in the banking book, foreign exchange risk, liquidity risk, business cycle risk, reputation risk, strategic risk. The risk management role of helping identify, evaluate, monitor, man age and control or mitigate these risks has become a crucial role in modern-day banking. Indeed, it is probably not exaggerating the importance of this to say that the quality of a bank's risk management has become one of the key determinants of a success of a bank.

Implementation of Basel norms is likely to improve the risk management systems of banks as the banks aim for adequate capitalisation to meet the underlying credit risks and strengthen the overall financial system of the country. In India, over the short term, commercial banks may need to augment their regulatory capitalisation levels in order to comply with Basel. However, over the long term, they would derive benefits from improved operational and credit risk management practices. The suggested capital requirement as a positive for banks as it raises the minimum core capital stipulation, introduces countercyclical measures, and enhances banks ability to conserve core capital in the event of stress through a conservation of capital buffer. The prescribed liquidity requirements, on the other hand, are aimed at bringing in uniformity in the liquidity standards followed by banks globally. This would help banks better manage pressures on liquidity in a stress scenario.

Undoubtedly the discipline of risk management has significantly altered the ethos of the banking as an economic activity. Banks should view the opportunities opened up by these complex financial instruments in the perspective of larger systemic interest.

Today internationally, when market discipline is being considered an integral part of the regulatory framework, it is imperative for banks to realize that they are equal partners in ensuring financial stability; and this involves helping build up a risk management culture across all stakeholders. Any distortions brought about by misalignment of risk needs and the product being offered to address the risk can only harm and arrest the development of a healthy market.

## REFERENCE


1. Akhtar Shamshad (2006) Demystifying Basel II,Governor, State Bank of Pakistan,Keynote Address delivered at FICCI-IBA Conference on “Global Banking: Paradigm Shift” at Mumbai, India on 26th September 2006
2. Amaresh Samantaraya (2007) AN EMPIRICAL ANALYSIS OF PRO-CYCLICALITY OF BANK CREDIT IN INDIA: ROLE OF BASEL PRUDENTIAL NORMS, RBI Staff Studies, Annual Conference of the Indian Econometric Society, held at IIT, Mumbai during January 5-7.
3. Bank for International Settlements (BIS)
4. BASEL II ACCORD(*2005)*) IMPACT ON INDIAN BANKS,ICRA Rating Feature, *March*
5. Chakrabarti Ahindra (2006) Indian Banking: Adopting Basel Norms.
6. Chaudhary Dinesh, Singh Paramdeep, Prabhat Pawan (2005) Basel II: The Duckworth-Lewis of banking, The Hindu Business line.
7. DR.G.RAMATHILAGAM AND MS S PREETHI, EFFICIENCY OF INDIAN COMMERCIAL BANKS IN THE POST REFORM PERIOD, FACTS FOR YOU.
8. D. M. NACHANE, SAIBAL GHOSH CREDIT RATING AND BANK BEHAVIOUR IN INDIA: POSSIBLE IMPLICATIONS OF THE NEW BASEL ACCORD └, Reserve Bank of India.
9. FICCI SURVEY (2006) 'Indian banks not ready for Basel-II norms'
10. INTERNATIONAL MONETARY FUND, (2001),Financial Soundness Indicators: Policy Paper,Prepared by the Monetary and Exchange Affairs Department and the Statistics Department,Approved by Carol S. Carson and Stefan IngvesJune 4, 2001,Executive Summary.
11. Indian Banks Association- Basel II framework and India – Compliance Vs Ooportunity, a single point primer for practicing bankers.
12. Jaydeep K. Thaker (2004), CRISIL: Young Though Leader Implementing Basel II: Impact on Emerging Economies, NMIMS, 21st September.
13. Kumaraswamy .V (2006) Basel norms — No guarantee of financial stability, The Hindu Business line.
14. M.GURUPRASAD (2005) BANKING IN THE NEW MILLENIUM, INDIAINFOLINE
15. M.Guruprasad (2010), Economics For Everyone: Banking and Basel, Indiainfoline. 19th July.

16. Neelam Dhanda and Shalu Rani,(2010) Proposed Basel III Guidelines: A Credit Positive for Indian Banks, ICRA Comment Basel I and Basel II Norms: Some Empirical Evidence for the Banks in India,PP21-35.
17. Paolo Nalin,(2005) Home-Host Issues in Basel II,Singapore,December 2nd 2005,– McGill University
18. Rahul Ranjan, Rahul Nallari(1992-2004),Study of Asset Liability Management in Indian Banks Canonical Correlation Analysis Period.
19. REPORT ON TREND AND PROGRESS OF BANKING IN INDIA 2009-10,RBI
20. Ricardo Gottschalk and Stephany Griffith-Jones, Review of Basel II Implementation in Low-Income Countries,Institute of Development Studies,University of Sussex
21. RUPA REGE NITSURE, (2005), March 19, Economic and Political Weekly. Basel II Norms Emerging Market Perspective with Indian Focus.
22. Sarans Harlalka (2007),A STUDY ON AN ANALYSIS OF IMPACT OF BASEL II IN INDIA: A QUALITATIVE APPROACH.
23. Sathye M. (2005), Privatisation, Performanace, and Efficiency: A study of Indian Banks. VIKALPA.VOLUME 30, NO1, JANUARY, MARCH 2005.
24. Shyamala Gopinath,(2006),Approach to Basel II. Keynote address delivered by the Deputy Governor at the IBA briefing session on "Emerging Paradigms in Risk Management" at Bangalore on May 12, 2006. The assistance of Shri K.Damodaran in preparing this address is gratefully acknowledged.
25. SUNANDA SEN, SOUMYA KANTI GHOSH, (2005), Basel Norms, Indian Banking Sector and Impact on Credit to SMEs and the Poor, Economic and Political Weekly. March 19-25, Vol XL, No.12, pp.1167-1180.
26. Usha Janakiraman (2008), OPERATIONAL RISK MANAGEMENT IN INDIAN BANKS IN THE CONTEXT OF BASEL II: A SURVEY OF THE STATE OF PREPAREDNESS AND CHALLENGES IN DEVELOPING THE FRAMEWORK, *Reserve Bank of India, Global Journal of Finance and Banking Issues Vol. 2. No. 2.*
27. Y V Reddy(2006), Challenges and implications of Basel II for Asia, Remarks by Dr Y V Reddy, Governor of the Reserve Bank of India, at the Seminar on “Challenges and implications of Basel II for Asia” as a part of the Asian Development Bank's 39th Annual Meeting of the Board of Governors, Hyderabad, 3rd May.

# QUALITY OF WORK LIFE AMONG BANK PROFESSIONALS: A STUDY UNDERTAKEN AT INDIAN BANK, CHENNAI

*PREMA MANOHARAN*
*ASSOCIATE PROFESSOR*
*ASAN MEMORIAL INSTITUTE OF MANAGEMENT*
*JALADAMPET*

**ABSTRACT**

*The aim of this study is to find whether employees of banking sector are satisfied from the QWL factors. The factors of QWL chosen for the study are from the definition of Jerome M Rosow, President of the Work in America Institute. He specifies pay, employee benefits, job security, alternative work schedules, occupational stress, participation and democracy in the workplace as the seven factors of quality of work life. The study was conducted by collecting the data from a sample size of 120, comprising of 49 male and 71 female employees of Indian Bank. Questionnaires were used to collect the primary data and the statistical analysis of the data revealed that six of the said factors were satisfactory to both male and female employees but it was found that they experienced occupational stress. Also there was an attempt to find the difference in opinion regarding quality of work life on the basis of sex, experience and age of the respondents and it was found that there was significant difference. Suggestions were made to overcome occupational stress.*

## KEYWORDS
Alternative work schedules, democracy in the workplace, occupational stress, Quality of work life.

## INTRODUCTION
**BANKING INDUSTRY**

Banking in India originated during the 1790s. Currently, India has 88 scheduled commercial banks, 27 public sector banks which have the Government stake holding, 31 private banks which do not have government stake and publicly listed and traded on stock exchanges and 38 foreign banks. According to a report by ICRA Limited, the public sector banks hold over 75 percent of total assets of the banking industry, with the private and foreign banks holding 18.2% and 6.5% respectively.

## INDIAN BANK – A NATIONALISED BANK
It is a premier bank owned by the Government of India which was established on 15th August 1907 as a part of the swadeshi movement. The total number of branches spreading all over India is 1923 at the end of Q1 of 2011. The overseas branches are in Singapore and Colombo. There are also 240 overseas correspondent banks in 70 countries. Indbank Merchant Banking Services Ltd , IndBank Housing Ltd., and IndFund Management Ltd are the three subsidiaries of Indian Bank with diversified business activities. Indian bank is a front runner in specialized banking with 90 Forex Authorized branches inclusive of 1 Specialized Overseas Branch at Chennai exclusively for handling Forex transactions arising out of Export, Import, Remittances and Non Resident Indian business. It also has a Small Scale Industries Branch extending finance exclusively to SSI units. Indian Bank is a pioneer in introducing the latest technology in Banking such as computerization, CBS etc

## PROBLEM FOCUS
Banks were evergreen attraction to the job-seekers till recently, mainly because of the pay and employee benefits provided by the banking industry. In today's scenario, software companies dealing with information technology services, consultancy services and BPOs give attractive packages and the pleasure of employment in banks started to fade. Recently, the salary structure of Central and State Government employees too had increased at least forty percent after the sixth-pay commission recommendations and the bank employees feel dissatisfied about their pay which was hitherto treated as the best by comparing with the said industries. This necessitated finding the satisfaction from QWL among the bank employees and to review the seven critical factors of quality of work life.

## REVIEW OF LITERATURE
**QUALITY OF WORKING LIFE**

QWL can be defined as "the quality of relationship between employees and the total working environment." According to **J. Lloyd Suttle**, (1974) Quality of work life is the degree to which members of a work organization are able to satisfy important personal needs through their experiences in the organization. **Walton**(1974) lists adequate and fair compensation, safe and healthy environment, jobs which are aimed at development using employee's skills and abilities, growth and security, an environment in which employees develop self-esteem and a sense of identity, protection and respect for employees' right to privacy, dissent, equity etc, a sensible integration of job career & family life and leisure time as the important aspects of QWL Robbins (1989) defined QWL as "a process by which an organization responds to employees needs by developing mechanisms to allow them to share fully in making the decisions their design their lives at work". **Jerome M Rosow** (1975) President of the Work in American Institute has identified seven critical factors which will affect the quality of work life during the years ahead. These are pay, employee benefits, job security, alternative work schedules, occupational stress, participation and democracy in the workplace

**FACTORS RELATED TO QWL**

According to Roopali Johri (2005) causes affecting QWL are economic adversity/employment difficulties, management practices (ways of treating employees and giving them opportunities to use their abilities) and job nature (work load, work hours and pay). The results of the study by Sinha (1980), indicate that higher QWL leads to greater job satisfaction. QWL is positively related to performance and negatively correlated to absenteeism. But no relationship exists between perceived QWL and workers' age, education and job experience (Guna Seelan Rethinam, Maimunah Ismail, 2008). According to a study by Waheeda Khan, Meena Osmany & M. Waseem, Jamia Millia Islamia (2002), QWL was significantly higher among the private sector women employees than their counterparts in the public sector. It also showed that younger group and higher experienced groups had significantly higher perception of QWL than the older and the lower experienced groups. Quality of work life carries different interpretations for different employees in an organization. The relationship between working time (fewer working hours) and job satisfaction is ambiguous, though job satisfaction is positively related to working time flexibility for maintaining a reasonable work-life balance (Robbins, 2005). QWL dimensions are broadly divided into: Classical dimensions and Contemporary dimensions. Classical dimensions include physical working conditions, employees' welfare, employee assistance, job factors and financial factors whereas, Contemporary dimensions include collective bargaining, industrial safety and health, grievance redressal procedure, quality circles, work-life balance, workers' participation in management etc(Padala, Shanmukha Rao & Dr.N.V.S. Suryanarayan,2011). The quality of work that Canadians want rests on four pillars. These are the opportunity to engage in tasks that are fulfilling and meaningful to workers personally; a decent standard of living; health, well-being and support for family life or life outside work generally; and rights including worker participation in decision making (Roopali Johri, 2005) One side sees QWL as a way to improve working conditions, morale and productivity by providing a more congenial workplace where everybody "works together" (Grenier, Guillermo and Banks Andy, 1987) QWL is a process by which an organization responds to employee needs by developing mechanisms to allow members to share fully in making decisions that design their lives at work (Robbins, 1998).

## JUSTIFICATION OF THE STUDY

Extensive review of literature suggested that research on quality of work life was done among employees of various organizations but not particularly among Indian Bank employees. Hence the need was felt for undertaking such study.

## OBJECTIVES OF THE STUDY

1. To know the demographic characteristics, particularly, sex, age and experience variables of the respondents
2. To find out whether the respondents are satisfied with the seven QWL factors provided by the bank.
3. To find whether the satisfaction level differs on the basis of sex, age and experience

## RESEARCH METHODOLOGY

### SAMPLING AND DATA COLLECTION

The study is descriptive in nature. Indian Bank was selected as a representative for banking industry. Convenience sampling was used. Field survey was undertaken using structured questionnaires to collect primary data. Secondary data sources were Internet, articles, books and journals. Out of the 1000 clerical employees in Chennai, 158 were approached and 120 questionnaires were obtained fully filled. Five point likert scale was used in the questionnaire. Points given for strongly agree to strongly disagree were 5 to 1 point respectively. For each of the seven factors several questions were asked to find the satisfaction level. The various hypotheses were tested using percentage Analysis, ANOVA, Chi-Square Test with the use of SPSS.

## DATA ANALYSIS AND INTERPRETATION

### OBJECTIVE 1: TO KNOW THE DEMOGRAPHIC CHARACTERISTICS, PARTICULARLY, SEX, AGE AND EXPERIENCE VARIABLES OF THE RESPONDENTS:

**TABLE 1: FREQUENCY DISTRIBUTION OF SEX OF RESPONDENTS**

| Sex | Frequency | Percentage |
|---|---|---|
| Male | 49 | 40.8 |
| Female | 71 | 59.2 |
| Total | 120 | 100.0 |

From percentage analysis it was found that 40.8% of the respondents were male and 59.2% were female.

**TABLE 2: FREQUENCY DISTRIBUTION OF AGE OF RESPONDENTS**

| Age Group in years | Frequency | Percentage |
|---|---|---|
| Below 40 | 24 | 20.0 |
| 40-50 | 67 | 55.8 |
| Above 50 | 29 | 24.2 |
| Total | 120 | 100.0 |

2O% of respondents belonged to the age group below 40 years, 55.8% were in between 40 to 50 and 24.2% belonged to the age group above 50 years.

**TABLE 3: FREQUENCY DISTRIBUTION OF EXPERIENCE OF RESPONDENTS**

| Experiencein years | Frequency | Percentage |
|---|---|---|
| Below 20 | 21 | 17.5 |
| 20-25 | 59 | 49.2 |
| Above 25 | 40 | 33.3 |
| Total | 120 | 100.0 |

The experiences of employees were in the category below 20 years for 17.5% of the respondents; between 20 to 25 years for 49.2% of them and above 25 years for the rest 33.3%.

### OBJECTIVE 2: TO FIND OUT WHETHER THE RESPONDENTS ARE SATISFIED WITH THE SEVEN QWL FACTORS PROVIDED BY THE BANK:

**TABLE 4: OPINION ABOUT JOB SECURITY**

| Job Security | Frequency | Percentage |
|---|---|---|
| Yes | 113 | 94.2 |
| No | 7 | 5.8 |
| Total | 120 | 100.0 |

It was found out that 94.2% of the employees agreed about job security.

**TABLE 5: SATISFACTION FROM PAY**

| pay | Mean | SD |
|---|---|---|
| Basic pay | 2.32 | 0.80 |
| Annual increment | 2.32 | 0.71 |
| Wage policy | 2.08 | 0.77 |
| Incentives | 2.11 | 0.79 |
| Other allowances | 2.19 | 0.84 |

From the above table it was found that, among the 5 criteria of pay, the degree of satisfaction is almost the same and it is less than average level

**TABLE 6: SATISFACTION FROM EMPLOYEE BENEFITS**

| Employee Benefits | Mean | SD |
|---|---|---|
| Medical reimbursement | 3.06 | 1.05 |
| Transport facilities | 2.35 | 1.24 |
| Safety measures | 3.06 | 0.82 |
| Promotion policy | 3.14 | 0.71 |
| Holiday Home | 3.30 | 0.71 |
| LFC | 3.28 | 0.86 |
| crèche | 2.38 | 1.01 |
| Canteen | 3.13 | 0.90 |
| Pension schemes | 2.84 | 1.15 |
| ESI | 2.53 | 0.94 |
| Compassionate job | 2.94 | 1.06 |
| Gratuity | 3.51 | 0.72 |
| WC benefits | 3.28 | 0.84 |
| Other Schemes | 3.06 | 0.71 |

Among the 14 criteria of employee benefits asked in the questionnaire medical reimbursement, transport, crèche, pension schemes and compassionate job opportunities are found to be less satisfactory.

**TABLE 7: SATISFACTION FROM ALTERNATIVE WORK SCHEDULE**

| Alternate work schedule | Mean | SD |
|---|---|---|
| Total working hours | 3.71 | 0.57 |
| Daily starting time | 3.69 | 0.62 |
| Daily closing time | 3.52 | 0.70 |
| Lunch break | 3.40 | 0.69 |
| Leave days | 3.50 | 0.65 |
| Work from home | 3.43 | 0.84 |
| Shift timings | 3.57 | 0.72 |
| Flexi time | 3.59 | 0.70 |
| Total working hours | 3.71 | 0.57 |

All the nine criteria are found to have same degree of satisfaction.

**TABLE 8: SATISFACTION FROM DEMOCRACY IN WORK PLACE**

| Democracy in work place | Mean | SD |
|---|---|---|
| Freedom to use skills | 3.01 | 1.15 |
| Freedom of expression of difficulties | 3.03 | 0.88 |
| Freedom to suggest | 3.55 | 0.71 |
| Freedom to get information | 3.54 | 0.72 |
| Freedom to follow own methods of doing | 3.32 | 0.61 |

From the table it is understood that the respondents have agreed that they have democracy in work place (mean is >3)

**TABLE 9: SATISFACTION FROM PARTICIPATION IN MANAGEMENT**

| Participation in management | Mean | SD |
|---|---|---|
| Management encourages info sharing | 3.68 | 0.61 |
| Encourages suggestions | 3.40 | 0.64 |
| Shares profits | 3.12 | 0.86 |
| Employee reps. are allowed to participate in decision making | 2.74 | 0.82 |
| Awards and recognitions are satisfactory | 3.59 | 0.73 |
| Trade unions are allowed to give suggestions in all levels | 2.72 | 0.76 |
| Every employee feels as a part of the organization | 3.71 | 0.63 |

From the table it is understood that the respondents have agreed that they are allowed to participate in management(mean is >3) It was also found the trade union participation in giving suggestions at all levels and participation in decision-making are not lie the other 5 criteria.

**TABLE 10: OPINION ABOUT OCCUPATIONAL STRESS**

| Occupational stress | Mean | SD |
|---|---|---|
| Not Encouraging | 3.52 | 0.94 |
| No Interpersonal relationship | 3.55 | 0.92 |
| Not Friendly | 3.53 | 0.96 |
| Leadership style is not good | 3.43 | 1.01 |
| Manager is not having skill | 3.53 | 0.88 |
| Attitude of superior is not good | 3.24 | 1.24 |
| Not easy to approach for solutions | 3.43 | 1.12 |
| Grievance redressal not available | 3.31 | 1.22 |
| Motivation is not given | 3.28 | 1.15 |
| Overload of work | 3.35 | 1.14 |
| No training is provided | 3.42 | 1.03 |
| Job is Boring | 3.40 | 0.84 |
| Job enrichment is required | 3.37 | 0.83 |
| Job enlargement is required | 3.03 | 0.89 |
| Demands more than my ability | 2.64 | 0.87 |
| No career growth | 3.27 | 0.94 |
| Job rotation is required | 3.44 | 0.90 |
| Work environment is not satisfactory | 3.33 | 0.71 |
| Training is required | 3.15 | 0.74 |
| Time consuming | 3.16 | 0.72 |
| Job is monotonous | 3.79 | 0.72 |
| No chances to utilize my skill fully | 3.74 | 0.72 |

The respondents had agreed to the fact that they experienced stress (mean is >3). Of the 22 criteria, the opinion about the monotony of the job and no chance to utilize the skill fully were agreed by many respondents (mean is > 3.7)

**OBJECTIVE 3: TO FIND WHETHER THE SATISFACTION LEVEL DIFFERS ON THE BASIS OF SEX, AGE AND EXPERIENCE:**

Hypothesis 1 Difference in sex:

H0: There is no significant difference between male and female with respect to satisfaction from dimensions of QWL

H1: There is significant difference between male and female with respect to satisfaction from dimensions of QWL

**TABLE 11: COMPARISON OF MALE AND FEMALE EMPLOYEES REGARDING THE SATISFACTION FROM QWL FACTORS**

| Dimensions of QWL | Male | | Female | | t value | P value |
|---|---|---|---|---|---|---|
| | Mean | S.D | Mean | S.D | | |
| Pay | 12.55 | 12.55 | 9.99 | 3.45 | 4.300 | 0.000** |
| Employee benefit | 43.24 | 6.86 | 40.90 | 7.33 | 1.766 | 0.080 |
| Alternate Work Schedules | 16.84 | 2.37 | 18.51 | 2.69 | 3.511 | 0.001** |
| Occupational Stress | 69.20 | 11.69 | 77.20 | 12.78 | 3.485 | 0.001** |
| Democracy in work place | 15.53 | 3.36 | 17.08 | 2.98 | 2.667 | 0.009** |
| Participation in management | 26.49 | 2.74 | 26.76 | 3.77 | 0.431 | 0.668 |

Note: **Denotes significance at 1% level; *Denotes significance at 5% level

Since P value is less than 0.01 for pay, alternative work schedules, occupational stress and democracy in work place the null hypothesis is rejected at 1 percent level of significance. So there is difference between male and female respondents with respect to satisfaction of these factors. Since P value is more than 0.05 for employee benefit and participation in management factors, the null hypothesis is accepted and it is concluded that there is no significant difference between male and female respondents. The occupational stress (V=69.20) was more for both male(V=69.20) and female(V=77.20) respondents.

**DIFFERENCE IN AGE**

Hypothesis 2:

H0: There is no significant difference among the respondents of various age groups with respect to satisfaction from dimensions of QWL

H1: There is significant difference among the respondents of various age groups with respect to satisfaction from dimensions of QWL

**TABLE 12: COMPARISON OF SATISFACTION FROM QWL AMONG EMPLOYEES OF DIFFERENCE AGE LEVELS** Age (in years)

| Dimensions of QWL | below 40 | | 40 -50 | | above 50 | | F value | P value |
|---|---|---|---|---|---|---|---|---|
| | Mean | S.D | Mean | S.D | Mean | S.D | | |
| Pay | 10.88 | 3.85 | 11.03 | 2.94 | 11.17 | 4.21 | 0.048 | 0.953 |
| Employee benefit | 41.33 | 6.72 | 41.54 | 7.79 | 43.03 | 6.23 | 0.512 | 0.601 |
| Alternate Work Schedules | 18.46[b] | 3.26 | 17.28[a] | 2.52 | 18.55[b] | 2.31 | 3.217 | 0.044* |
| Occupational Stress | 76.75 | 7.88 | 73.97 | 12.99 | 71.52 | 15.72 | 1.080 | 0.343 |
| Democracy in work place | 15.46 | 3.48 | 16.96 | 3.15 | 16.10 | 3.02 | 2.177 | 0.118 |
| Participation in management | 26.50 | 4.33 | 26.66 | 3.11 | 26.76 | 3.19 | 0.038 | 0.963 |

Note: **Denotes significance at 1% level; *Denotes significance at 5% level

Since P value is less than 0.05 for alternative work schedules the null hypothesis is rejected at 5 percent level of significance. So there is difference between the different aged respondents with respect to satisfaction of alternative work schedules.

Since P value is more than 0.05 for all the other factors namely pay, occupational stress, democracy in work place, employee benefit and participation in management, the null hypothesis is accepted and it is concluded that there is no significant difference between the different aged respondents.

**DIFFERENCE IN EXPERIENCE**

Hypothesis 3:

H0: There is no significant difference among the respondents of different experience level with respect to satisfaction from dimensions of QWL

H1: There is significant difference among the respondents of different experience level with respect to satisfaction from dimensions of QWL

**TABLE 13: COMPARISON OF SATISFACTION FROM QWL AMONG EMPLOYEES WITH DIFFERENT EXPERIENCE LEVELS** Experience (in years)

| Dimensions of QWL | below 20 | | 20-25 | | above 25 | | F value | P value |
|---|---|---|---|---|---|---|---|---|
| | Mean | S.D | Mean | S.D | Mean | S.D | | |
| Pay | 8.90[a] | 2.34 | 12.08[b] | 3.09 | 10.60[b] | 3.84 | 7.920 | 0.001** |
| Employee benefit | 40.05 | 7.70 | 42.41 | 7.06 | 42.00 | 7.19 | 0.839 | 0.435 |
| Alternate Work Schedules | 18.00 | 3.30 | 17.49 | 2.37 | 18.23 | 2.76 | 0.946 | 0.391 |
| Occupational Stress | 77.10 | 8.32 | 73.29 | 14.64 | 73.22 | 12.16 | 0.760 | 0.470 |
| Democracy in work place | 16.10 | 3.63 | 16.58 | 3.16 | 16.45 | 3.15 | 0.171 | 0.843 |
| Participation in management | 26.00 | 4.41 | 26.68 | 3.00 | 26.95 | 3.34 | 0.545 | 0.581 |

Note: **Denotes significance at 1% level; *Denotes significance at 5% level

Since P value is less than 0.01 for pay the null hypothesis is rejected at 1 percent level of significance. So there is difference based on experience of respondents with respect to satisfaction of pay.

Since P value is more than 0.05 for all the other factors namely employee benefits, occupational stress, democracy in work place, alternative work schedules and participation in management, the null hypothesis is accepted and it is concluded that there is no significant difference based on experience of respondents.

Hypothesis 4:

H0: There is no association between male and female with respect to satisfaction from job security

H1: There is association between male and female with respect to satisfaction from job security

**TABLE 14: SEX * JOB SECURITY**

| Sex | Job security | | Total | Chi square | P value |
|---|---|---|---|---|---|
| | No | yes | | | |
| Male | 1 (2.0%) [14.3%] | 48 (98.0%) [42.5%] | 49 | 2.169[b] | 0.141 |
| Female | 6 (8.5%) [85.7%] | 65 (91.5%) [57.5%] | 71 | | |
| Total | 7[100%] | 113[100%] | 120(100%) | | |

a Computed only for a 2x2 table 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.86.
Note: 1. The value within ( ) refers to Row Percentage;2. The value within [ ] refers to Column Percentage
Since P value is more than .05 the null hypothesis is rejected and there is association between sex of respondents and satisfaction from job security

**Hypothesis 5:**

H0: There is no association among different age groups with respect to satisfaction from job security
H1: There is association among different age groups with respect to satisfaction from job security

**TABLE 15: AGE IN YEARS * OPINION ABOUT JOB SECURITY**

| Age Group | Job security | | Total | Chi square | P value |
|---|---|---|---|---|---|
| | No | yes | | | |
| Below 40 | 2 (8.3%) [28.6%] | 22 (91.7%) [19.5%] | 24 | 2.337[a] | 0.311 |
| 40-50 | 2 (3.0%) [28.6%] | 65 (97.0%) [57.5%] | 67 | | |
| Above 50 | 3 (10.3%) [42.9%] | 26 (89.7%) [23.0%] | 29 | | |
| Total | 7[100%] | 113[100%] | 120[100%] | | |

[a] 3 cells (50.0%) have expected count less than 5. The minimum expected count is 1.40.
Note: 1. The value within ( ) refers to Row Percentage; 2. The value within [ ] refers to Column Percentage
Since P value is more than .05 the null hypothesis is rejected at 95% confidence level and there is association between age group and satisfaction from job security

**Hypothesis 6:**

H0: There is no association among the respondents of different experience level with respect to satisfaction from job security
H1: There is association among the respondents of different experience level with respect to satisfaction from job security

**TABLE 16: EXPERIENCE IN THE PRESENT ORGANIZATION * OPINION ABOUT JOB SECURITY**

| Experience (in years) | Job security | | Chi square | P value |
|---|---|---|---|---|
| | No | yes | | |
| Below 20 | 4 (19.0%) [57.1%] | 17 (81.0%) [15.0%] | 10.533 | 0.005** |
| 20-25 | 0 (0.0%) [0.0%] | 59 (100.0%) [52.2%] | | |
| Above 25 | 3 (7.5%) [42.9%] | 37 (92.5%) [32.7%] | | |
| Total | 7 | 113 | | |

[a] 3 cells (50.0%) have expected count less than 5. The minimum expected count is 1.40.Note: 1. The value within ( ) refers to Row %; 2. The value within [ ] refers to Column %.
Since P value is less than .01 the null hypothesis is rejected and there is no association between experience of respondents and satisfaction from job security.

## LIMITATIONS OF THE STUDY

- The banking sector as a whole is represented by the employees of Indian Bank in Chennai alone which forms the main limitation of the study.
- Since the analysis is based on the survey where the data is subjective, it may not represent the idea of the whole population
- The area of study is restricted to Chennai district which is a metropolitan city and it may not wholly exhibit the views and the satisfaction level of employees in the rural and semi urban branches.
- The data collected being subjective, may not be useful for further study as the views may change after the implementation of the next bipartite settlement

## FINDINGS

Majority (59.2%) of the respondents were female employees. Majority (55.8%) of the respondents belonged to the age group of 40-50 years. The maximum number of respondents (49.2%) was in the category between 20 to 25 years.
It was found out that 94.2% of the employees agreed that about job security. Satisfaction from pay was less than average level. Employee benefits such as medical reimbursement, transport, crèche, pension schemes and compassionate job opportunities are found to be less satisfactory. They were satisfied about alternate work schedule and democracy in work place. Trade union participation and participation in decision making was found to be not much satisfactory. Most of them agreed that they experienced stress in occupation.
There is difference between male and female respondents with respect to satisfaction of pay, alternative work schedules, occupational stress and democracy in work place. For employee benefit and participation in management factors, there is no significant difference between male and female respondents. The occupational stress (V=69.20) was more for both male (V=69.20) and female (V=77.20) respondents.
There is difference between the different aged respondents with respect to satisfaction of alternative work schedules and for all the other factors namely pay, occupational stress, democracy in work place, employee benefit and participation in management there is no significant difference in the satisfaction among the different aged respondents.
There is difference based on experience of respondents with respect to satisfaction of pay and for all the other factors namely employee benefits, occupational stress, democracy in work place, alternative work schedules and participation in management, the null hypothesis is accepted and it is concluded that there is no significant difference in the satisfaction based on experience of respondents.
There is association between sex and age group of respondents and satisfaction from job security but there is no association between experience of respondents and satisfaction from job security.

## SUGGESTIONS

Since the general awareness is less among the Indian bank employees regarding the welfare measures in the organization, the trade union and the management must take steps to educate them about the availability of several facilities to reduce stress and keep them motivated. Though hand book which elaborates on the employee benefits is available in the trade union office, most of the employees are found to be less aware of them. It is suggested to give copies of hand books to all the branches. A comparative statement of the quality of work life factors which highlights the benefits available to the bank employees can be used to improve the satisfaction level. The crèche and the transport facility can be provided at least where number of employees working is more as in central office or zonal office. By sending them for training and refresher courses, stress can be minimized among the employees. Management may also arrange for yoga classes, social get together, etc to improve interpersonal relationship.

## CONCLUSION

The study portrays the present scenario in the national banks and the dissatisfaction just after the central government's pay revision and the global banks pay scale. Of the seven factors taken for the study, only the pay is said to be the most unsatisfactory issue. The situation may change after the next bi-partite settlement which is expected in near future. Other factors such as job satisfaction, occupational stress, alternative work schedules etc are at the satisfactory level for the bank professional.

## REFERENCES

**BOOKS**

- S.K.Chakraborthy.,(1990)," Managerial Effectiveness and Quality of Work Life: Indian Insights." Tata MCGraw Hill, New Delhi.
- Robbins. SP., (2005), "Organisational Behaviour."Prentice-Hall of India Private Limited, New Delhi
- AIBEA,(2009),'Welfare schemes in Indian Bank', A hand book published by AIBEA, Indian Bank Employees' Trade Union, A.P., Hyderabad.

**JOURNAL AND OTHER ARTICLES**

- Roopali Johri (2005), "Work Values and the quality of employment: literature review", Department of Labour, New zealand
- Sinha P. & Sayeed O. B. (1980), "Measuring QWL in relation to job satisfaction & performance in two organization, "Managerial Psychology, 2, 15-30
- Guna Seelan Rethinam, Maimunah Ismail(2008): 'Constructs of Quality of Work Life: A Perspective of Information and Technology Professionals'. European Journal of Social Sciences – Volume 7, Number 1
- Waheeda Khan, Meena Osmany & M. Waseem, Jamia Millia Islamia, (2002) 'Quality work life and job involvement in bank employees.' journal of the Indian academy of applied psychology,New Delhi. Jan - Jul 28(1-2), 63-68
- Haque, ABMZ (1992): "QWL & Job satisfaction of industrial workers in relation to size of the organization", Bangladesh journal of psychological studies, 2,1, 43-45
- Grenier, Guillermo and Banks. Andy,(1987): "Quality of work life as a weapon against mismanagement" labor research review: vol.1:No.10, Article 10.
- Rishu Roy,2006: "Impact of Quality of work life on Job performance: A study of Print Media Employees" ICFAI journal of organizational behavior- Vol V No.1 January 2006 page 30

**WEBSITES**

- www.thefreelibrary.com
- www.articlesbase.com
- www.wikipedia.org
- www.workforce.com
- www.hr.upenn.edu
- www.indian-bank.com

# INDIAN PATENT (AMENDMENT) ACT 2005 BOON OR BANE TO SMALL SCALE DRUG INDUSTRY IN INDIA

*DR. G. SHANMUGASUNDARAM*
*ASSOCIATE PROFESSOR*
*SCHOOL OF MANAGEMENT*
*PONDICHERRY UNIVERSITY*
*PUDUCHERRY*

## ABSTRACT
*The main objective behind of this study is to analyze, whether the growth of Small Scale Drug industry, employment opportunities in the rural areas has been affected or improved by the introduction of new patent regime 2005.This study is concerned with the small scale pharmaceutical sector. The study used primary data collected through a structured questionnaire assessing the behavior of the small-scale drug entrepreneurs during the period 2005-2010. This study found out that most of the industrial population comes under very positive ATTITUDE, stating that they are favorable to the Indian patent (amendment) act 2005. Some of the small scale drug entrepreneurs are not in favor of IPA 2005 because it restricts the SSDI business. Some of the Non industrial respondents argue that this law is in favor of monopoly.*

## KEYWORDS
Small Scale Drug Industry, Indian Patent Act, primary data, Entrepreneur.

## PRE- INDEPENDENCE PERIOD
In 1911, the Indian Patents and Designs Act, 1911, (Act II of 1911) was brought in replacing all the previous legislations on patents and designs. This Act brought patent administration under the management of Controller of Patents for the first time. This Act was amended in 1920 to provide for entering into reciprocal arrangements with UK and other countries for securing priority. In 1930, further amendments were made to incorporate, inter-alia, provisions relating to grant of secret patents, patent of addition, use of invention by Government, powers of the Controller to rectify register of patent and increase of term of the patent from 14 years to 16 years. In 1945, another amendment was made to provide for filing of provisional specification and submission of complete specification within nine months.

## PERIOD FROM 1947 TO 1970
After Independence, it was felt that the Indian Patents & Designs Act, 1911 was not fulfilling its objective. It was found desirable to enact comprehensive patent law owing to substantial changes in political and economic conditions in the country. Accordingly, the Government of India constituted a committee under the chairmanship of Justice (Dr.) Bakshi Tek Chand, a retired Judge of Lahore High Court, in 1949, to review the patent law in India in order to ensure that the patent system is conducive to the national interest.

The Committee submitted its interim report on 4th August, 1949 with recommendations for prevention of misuse or abuse of patent right in India and for amendments to sections 22, 23 & 23A of the Patents & Designs Act, 1911 on the United Kingdom Acts of 1919 and 1949.

The time period prescribed for making the applications was “at any time after expiration of three years from the date of sealing.” The application could also be made by the licencee the term, ‘patented article’ the application could also be made by a patented process. insecticide, germicide or fungicide and a process for producing substance or any invention relating to surgical or curative devices, through Act LXX of 1952.. The compulsory licence was also available on notification by the Central Government. Based on the recommendations of the Committee, a bill was introduced in the Parliament in 1953 (Bill No.59 of 1953). However, the bill lapsed on dissolution of the Lok Sabha.

In 1957, the Government of India appointed Justice N. Rajagopala Ayyangar Committee to examine the question of revision of the Patent Law and advise government accordingly. The report of the Committee, which comprised of two parts, was submitted in September, 1959. The first part dealt with general aspects of the patent law and the second part gave detailed note on the several clauses of the lapsed bill of 1953. The first part also dealt with evils of the patent system and solution with recommendations in regard to the law. The committee recommended retention of the patent system, despite its shortcomings. This report recommended major changes in the law which formed the basis of the introduction of the Patents Bill, 1965. This bill was introduced in the Lok Sabha on 21st September, 1965, which, however, lapsed. In 1967, an amended bill was introduced which was referred to a Joint Parliamentary Committee and on the final recommendation of the Committee, the Patents Act, 1970 was passed. This Act repealed and replaced the 1911 Act so far as the patents law was concerned. However, the 1911 Act continued to be applicable to designs. Most of the provisions of the 1970 Act were brought into force on 20th April, 1972 with the publication of the Patents Rules, 1972.

In 1970, concerned about the dominance of foreign pharmaceutical firms and the high price of medicines, India changed course, passing a patent law prohibiting product patents on medicines. At the time, foreign firms controlled about 70 percent of the Indian market, and Indian drug prices were among the highest in the world. Colonial era patent laws were an important factor: foreign firms used them to their advantage, winning victories in court that helped suppress competition from local companies.

The 1970 Act served as a substantial driver of three decades of growth in the domestic pharmaceutical industry. In the years that followed it, the number of patents granted in India dropped precipitously. Although the law permitted process patents related to medicines, they were very limited in scope and rarely sought. The law thus created significant space for the entry of local pharmaceutical firms, and they rapidly increased their share of the Indian market.

This Act remained in force for about 24 years till December 1994 without any change. An ordinance effecting certain changes in the Act was issued on 31st December 1994, which ceased to operate after six months. Subsequently, another ordinance was issued in 1999. This ordinance was later replaced by the Patents (Amendment) act, 1999 that was brought into force retrospectively from 1st January, 1995. The amended Act provided for filing of applications for product patents in the areas of drugs, pharmaceuticals and agro chemicals through such patents were not allowed. However, such applications were to be examined only after 31st December, 2004. Meanwhile, the applicants could be allowed Exclusive Marketing Rights (EMRs) to sell or distribute these products in India, subject to fulfillment of certain conditions.

The second amendment to the 1970 Act was made through the Patents (Amendment Act, 2002 (Act 38 of 2002). This act came into force on 20 th May, 2003 with the introduction of the new Patents Rules, 2003 by replacing the earlier Patents Rules, 1972.

The third amendment to the Patents Act, 1970 was introduced through the Patents (Amendment) Ordinance, 2004 w.e.f. 1st January, 2005 (Act 15 of 2005) on 4th April, 2005 which was brought into force from 1st January, 2005.

After introduction patent ordinance, large scale drug industry has been geared up to new environment to the domestic market and as well as international market. Their revenue has been increased in the domestic market as well as international market since 2005. When large scale drug industry are joining with patent regime, what about feelings, thoughts, their perception of the small scale drug industry who actually contributing 30% of the market share to the Indian pharmaceutical market in connection with acceptance of product patent, as a result of new patent regime whether the growth of SSDI, employment opportunities in the rural areas has been affected or Improved. This is the main objective of the study.

## REVIEW OF LITERATURE

**Alkachanda (National University, Singapore) and Zhiliang Ying (Columbia University)** studied on TRIPs, Innovation and Survival of Indian pharmaceutical firms. In their study they examined survival of Indian pharmaceutical industry in the light of TRIPSs requiring a shift towards a stronger patent regime. They found that the survival of firms has been adversely affected due to TRIPs after controlling for other firm characteristics like size, experience, ownership, group membership and innovation.

**Hemant N Joshi PhD (2003)** (Associate Director of pharmaceutical research and development at Bar Laboratories, Pomona, New York) analyzed the Indian Pharmaceutical industry with emphasis on opportunities in 2005. In his article he found when many countries will start honoring patent law from 1sr January 2005, and India is among the countries that will be affected. The study also found that the second largest population in the world, a highly educated population that is fluent in English, and well developed buying power, India has great potential for industrial growth.

**Sing Surrendar (2003)** in their article have focused up on the strategies used by the small and medium scale pharma companies to meet the challenges of the patent regime. The larger companies like Ranbaxy and Cipla etc, were preparing for the new patent regime since 1995 onwards, however the small and medium scale pharma companies did not make much of an effort and now realizing that their top lines and bottom lines are going to be impacted because of product patent they have devised few strategies: Toll Manufacturing, Bottom fishing, In-licensing. Niche plays, and Contract Manufacturing. This article is based on the interviews with top executives of small and medium pharma companies who have implemented with success the above mentioned strategies.

**Sampath (2005),** in her research paper analysis his survey of 103 Indian pharmaceutical firms. The scope of his study was limited to analyzing emerging firm strategies of Indian firms as a response to gradual transitions protect patent protection. The survey found that Indian firms are adopting a combination of cooperative and competitive strategies, in order to adapt and as well as capitalize an opportunities created by new patent regime. The Indian domestic pharma companies have faced the international competition and although protect patent has thrown up lot of opportunities, still consolidation will happen in the industry in coming years. The study also finds a high correlation between export intensity and R&D investments in the Indian pharma sector. Firms that had greater revenues from export were able to invest a larger amount on R&D.

**Jaya Prakash Pradhan (2007)** in his study, "New Policy Regime and Small Pharmaceutical Firms in India" pointed out the factors that contributed to the growth of pharmaceutical firms prior to new industrial policy and what are unfavorable condition like a long-term product patent regime, withdrawal of exemption from price controls, implementation of good manufacturing practices etc. based by the SSDI due to new policy regime. These new policies have number of implications for the survival and growth of small pharmaceutical firms today.

## METHODOLOGY OF THE STUDY

### SAMPLING FRAME

The Indian pharmaceutical industry is highly fragmented and can be grouped into two main sectors namely organized and unorganized. This study is concerned with the small scale sector (unorganized sector) in Tamilnadu and the Union territory of Puducherry. There are 205 small-scale drug industrial units in Tamil Nadu and Puducherry (136 in Tamil Nadu and 69 in Puducherry). Stratified convenient sampling was used. A sample of 100 small-scale industries (63 from Tamil Nadu and 37 from Puducherry) was included in the study. Though respondents are only from Tamil Nadu and Puducherry, the main issue of the study is the dilution of the drug price control order and its effect on the small scale drug industry, which is having an the nation as a whole. Hence the perception of the respondents is likely to be the same irrespective of the state chosen.

The study is purely based on the primary data collected from the 200 samples on Rensis Likert Scale 1932. To obtain the primary data, questionnaire method has been adopted. Out of the total 200 samples, 100 samples have been collected from the proprietors of the small-scale industry. In order to avoid the bias, another 100 samples has been collected from the non-industrial respondents who are mostly connected with the drug industry and familiar with IPA-2005 & drug policies. The non industrial respondents are further classified into four categories each represents 25 members. The non industrial respondents are further classified into four categories each represents 25 members. They are: 1) Wholesale drug distributors 2) Industrial workers (production managers, Quality control managers, Quality assurance managers) 3) Association/ academicians 4) Sales Representatives.

### PERIOD OF STUDY

The study used primary data collected through a structured questionnaire assessing the behavior of the small-scale drug industry during the period 2005-2010. Since the study based on after the introduction of IPA 2005, some of the information relevant for the study are also collected from the secondary sources from the year 2005 to 2010 .

### ORGANIZING DATA

**SCALING TECHNIQUE:** A five-point **Likert scale** has been used. Letters indicating choices such as 'SD' (Strongly Disagree), 'D' (Disagree), 'N' (No comment), 'A' (Agree), 'SA' (Strongly Agree), rather than numbers, were used.

### SCORING RENSIS LIKERT SCALE

In order to avoid bias there are two statements having the same concepts, one positive and another negative, used in this study, the points given for each response depends on whether the statement is positive or negative. The person who 'strongly agrees' with a positive statement gets maximum points (5). One who 'strongly disagrees' with a positive statement gets the minimum points (1). For a five-point scale, the scoring would be as follows for positive statement: SD=1, D=2, N=3, A=4, SA=5.

The person who 'strongly agrees' with a negative statement gets minimum points (1), while the one who 'strongly disagrees' with a negative statement gets the maximum points (5). For a five- point scale, the scoring would be as follows for a negative statement: SD=5, D=4, N=3, A=2, SA=1.

## STATEMENTS IN THE QUESTIONNAIRE

## GENERAL STATEMENT

Indian government was compelled to introduce the Indian patent act on the basis of the WTO agreement, are you favor of this Indian Patent Act 2005?

**TABLE-1**

| Are you in favor of Indian Patent Act | | |
|---|---|---|
| Response | Frequency | |
| | Industrial respondents | Non-industrial respondents |
| Yes | 86 | 90 |
| No | 14 | 10 |
| Total | 100 | 100 |

**Table-1** shows the response of both industrial and non industrial respondents about the general question, "Are you in favor of this Indian Patent Act 2005?" 86 percent of industrial population said they are favor to Indian patent(Amendment) act 2005 in pharmaceutical industry .The rest of population(14%) not supporting new patent act. More or less similar opinion found in non industrial respondent also.

| | Positive Statement |
|---|---|
| Statement 1(S1) | The growth of small scale industry in India is in an increasing trend after Indian Patent Act 2005. |
| Statement 2(S2) | Employment opportunities have been increasing in rural and urban areas after introduction of Indian Patent Act 2005 |
| Statement 3(S3) | The Product Patent Act 2005 has helped the small scale pharmaceutical industry to compete in the market. |
| Statement 4(S4) | After 2005, contribution of the Small Scale Drug Industry (SSDI) towards research in the clinical and pre-clinical field has increased. |

**TABLE 2: INDUSTRIAL AND NON-INDUSTRIAL RESPONDENTS IN RELATION WITH POSITIVE STATEMENT SCORE**

| Respondents | Frequency | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Industrial Respondents | | | | Non-Industrial Respondents | | | |
| | S1 | S2 | S3 | S4 | S1 | S2 | S3 | S4 |
| Strongly Disagree | 2 | 6 | 3 | 7 | 1 | 3 | 4 | 7 |
| Disagree | 9 | 11 | 12 | 11 | 8 | 8 | 6 | 12 |
| No Comment | 2 | 0 | 6 | 17 | 7 | 4 | 5 | 18 |
| Agree | 49 | 47 | 48 | 44 | 34 | 53 | 38 | 41 |
| Strongly Agree | 38 | 36 | 31 | 21 | 48 | 32 | 47 | 22 |
| Mean Value | 4.12 | 4.13 | 3.92 | 3.61 | 4.16 | 4.03 | 4.18 | 3.59 |
| Std Deviation | .967 | .837 | 1.061 | 1.145 | 1.061 | .979 | 1.048 | 1.164 |
| Coefficient of Vari | .235 | .203 | .271 | .317 | .2555 | .243 | .251 | .324 |
| Minimum Score | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Actual Score | 412 | 396 | 392 | 361 | 414 | 401 | 418 | 359 |
| Total Score | 1561 | | | | 1592 | | | |
| | 2000 | | | | 2000 | | | |

**Table2:** shows the response of both industrial and non-industrial respondents about the positive statements: Each statement is valued on a five point Likert scale and scored.

Each statement attitude score ranges from 100 to 500, which is arrived by the formula Minimum score/maximum score × number of questions × number of respondents. Here there are only one question and 100 respondents; so a low score of 100 (1×1×100) and a high score of 500 (5×1×100). Altogether for industrial respondents there are four statements hence the score ranges from 400 (1x4x100=400) to 2000(5x4x100=2000).

First we computed total score of each statement for industry and non industry respondents separately and then we computed the score of all statements (2000 possible), and respondents together to see the overall points on this scale (4000 possible).

In this process the industrial respondents, the total aggregate score of each statement ranging from 361 to 412 points on this scale (500 possible); Where as in the case of non industrial respondent ranging from 359 to 418 points on this scale (500 possible), Hence we conclude that most of the industrial population come under very positive ATTITUDE, that means they are favorable to the Indian patent (amendment) act 2005. By taking both industry and non-industrial respondents the total scores comes 3153 points on this scale (4000 possible). Coefficient of variation is ranging from .203 to .317, and .243 to.324 for industrial respondent and non-industrial respondents respectively.

## NEGATIVE STATEMENT

| | Negative Statement |
|---|---|
| Statement 1 | Despite the growth of Pharma industry, the market share of the small scale pharma industry has not increased significantly |
| Statement 2 | The Product Patent Act 2005 does not provide enough incentives for R&D towards the progress of small scale pharmaceutical industry. |
| Statement 3 | Since the introduction of Indian Patent Act 2005, the local human resources are not being utilized to the expected level. |
| Statement 4 | Uncertain climate prevails after 2005 due to implementation of IPA 2005 |

**TABLE 3: INDUSTRIAL AND NON-INDUSTRIAL RESPONDENTS IN RELATION WITH NEGATIVE STATEMENTS SCORE**

| **Respondents** | **Frequency** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Industrial Respondents** | | | | **Non-Industrial Respondents** | | | |
| | **S1** | **S2** | **S3** | **S4** | **S1** | **S2** | **S3** | **S4** |
| Strongly Agree | 4 | 15 | 3 | 6 | 7 | 15 | 4 | 4 |
| Agree | 13 | 25 | 12 | 13 | 17 | 31 | 10 | 13 |
| No Comment | 30 | 25 | 11 | 18 | 31 | 19 | 15 | 11 |
| Disagree | 41 | 16 | 51 | 35 | 34 | 14 | 43 | 37 |
| Strongly Disagree | 12 | 19 | 23 | 28 | 11 | 21 | 28 | 35 |
| Mean Value | 3.44 | 2.99 | 3.79 | 3.66 | 3.25 | 2.95 | 3.81 | 3.86 |
| Std Deviation | .998 | 1.337 | 1.028 | 1.191 | 1.086 | 1.381 | 1.080 | 1.155 |
| Coefficient of variation | .290 | .447 | .271 | .325 | .334 | .468 | .283 | .299 |
| Minimum Score | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Actual Score | 344 | 299 | 379 | 366 | 325 | 295 | 281 | 386 |
| Maximum Score | 1388 | | | | 1287 | | | |
| | 2000 | | | | 2000 | | | |

**Table3:** shows the response of both industrial and non-industrial respondents about the negative statement: Each statement is valued on a five point Likert scale and scored.

Each statement attitude score will range from 100 to 500, which is arrived by the formula Minimum score/maximum score × number of questions × number of respondents. Here there are only one question and 100 respondents; so we get a low score of 100 (1×1×100) and a high score of 500 (5×1×100). In total there are four negative statements the scores ranges from 400 (1x4x100=400) to 2000(5x4x100=2000). First we computed total score of each statement for industry and non industry respondents separately and then added both industrial and non industrial respondent together to see the overall points on the scale (4000 possible).

In the case of industrial respondents the total aggregate score for each statement ranging from 299 to 379 and for non-industrial respondents from 281 to 386 for negative statements (500 possible); here the total scores lies just above to no comment level. We conclude that both industrial non industrial respondents are mediocre situation. By considering both positive statement score (3153/4000) and negative statement score (2675/4000) the total score comes 5828 points on this scale (8000 possible). This clearly shows most of the population favor to Implementation of Indian Patent (Amendment) Act 2005. Coefficient of variation was ranging from .271 to .447 and .283 to.468 for industrial respondent and non-industrial respondents respectively. This was higher than the positive statements.

## REASONS WHY THE ENTREPRENEURS FAVOR INDIAN PATENT ACT 2005

General views collected from the small scale entrepreneurs during interaction towards the acceptance of product patent Act 2005, their growth in terms of production, competitiveness and providing employment opportunities in the rural areas. During this period we visited small Scale Drug Industries situated in Tamilnadu and Puducherry with a questionnaire. The interaction with SSDI for collecting the data was encouraging. Salient information collected on the basis of the questionnaire from industrial and non-industrial people regarding Indian Patent Act 2005 is given below.

Fifty five percent of the industrial population depends upon large scale domestic industries and MNCs in the form of contract manufacturing and loan licensing. Only 42 percent of the industries depend neither on large scale domestic industries nor MNCs. They advocate the Indian patent act helps the SSDIs for the creation of employment opportunities to the public and also helpful for the nation to improve infrastructural facilities. Majority of the population favor Indian product patent act 2005. The patent law recognizes the exclusive right of a patentee to gain commercial advantage out of his invention. This has to encourage inventors to invest more on the new drug for their creative facilities, knowing that their inventions would be protected by law and accordingly no one else would be able to copy their inventions for a certain period. On the other hand some of the entrepreneurs have said that the patent act 2005 allows producer to produce quality and new innovative drugs. Patent helps SSDI to take their products to the global market because SSDI's give quality drugs. The growth of the small scale drug industry is in an increasing trend and it has reflected that the human capital is the key competitive factor in pharmaceutical sector. After implementation of IPA 2005, SSDI have progressed towards a positive route and the government is also supporting the SSDI's for R&D. Although India has constituted patent enforcement in every technological field since 2005, Indian SSDI has been positively benefited. This is good for our country in future.

## NEGATIVE STATEMENTS OF INDUSTRIAL RESPONDENTS

Small number of population is not in favor of the Small Scale Drug Industry. They said that after IPA was enacted most of the SSDI were affected. In their view, only the foreign companies and large scale Companies are benefited under IPA.

SSDI could not compete with big companies. Indian SSDI is aware of its ability to provide very low cost drugs with the old format, but the introduction of Patent Act 2005 restrictions has totally affected the SSDI. This IPA 2005 was a heavy dose for the SSDI. Government should understand the SSDI's ability whether it can sustain or not and accordingly do something in favor of SSDI.

Some of the small scale industries are not in favor of IPA 2005, because it restricts the SSDI business. Before IPA they have manufactured many drugs without getting permission from the owner of the innovation. Now they all come under royalty. After IPA many innovator's get royalty for their products hence, it is difficult for the SSDI to get royalty and as a result profit has reduced. Further, it is bad news for the small scale manufactures. Patent period is also long and patent holders have a possibility to earn more money. So the low income public's life has become questionable.

## POSITIVE STATEMENTS OF NON INDUSTRIAL RESPONDENTS

We believe that human capital is the key competitive factor in pharmaceutical as well as other sector. But after implementation of IPA 2005 Indian SSDI has faced some positive trend towards contribution of human capital in pharmaceutical manufacturing especially in knowledge base. The skilled human capital produces quality innovational drugs and also gets patent for that product. This will create good image about India in the international market.

We strongly argue that as an invention involves a great deal of time, money and effort and includes a large element of risk, the exclusive use of the invention must be reserved for a period of time so that it could be benefited by the inventor and thereafter the same drugs can be coming under the category of generic drugs and can be manufactured by SSDI.

Although India has constituted patent enforcement in every technological field since 2005, it is the only member country in the World Trade Organization which excludes incremental innovation from patent protection scope. Indian SSDI is aware of its ability to provide very low cost drugs, during old format, but after introduction of Patent Act 2005 restrictions totally encourage the SSDI. Government should understand the SSDI's ability whether it can sustain or not. This IPA restriction is good for the Pharma Industries.

## NEGATIVE STATEMENTS OF NON INDUSTRIAL RESPONDENTS

This Act will seriously affect the availability of new life saving drugs at affordable costs. The reason is the drug manufacturer is monopoly for that product so they are ready to fix their own price for that drug. Another bad news is the fixation of royalty by one agency can be easily violated and made in favor to the monopoly holder. This law is in favor of the monopoly.

The act has been created in favor of the multinational companies. They want to secure their product and do not care for the public. If once got the royalty for a particular product they became the monopoly for that product, No one can manufacture the medicine due to higher royalty. We understand that they have spent huge amount for R & D but we feel the royalty is high and finally public will suffer.

After implementation of IPA 2005 the local human resource has not been utilized to the expected level in the form of new innovation. It has been created because of high restriction made by the government. This has imposed a negative trend in the Indian pharmaceutical Industry.

Indian Patent Act created unfavorable situation to the SSDI. Previously we have done all type of new manufacturing activities, but now it is not possible. Some innovators don't have fund to get patent for their product.

## ACKNOWLEDGEMENT

I wish to thank the Director, Indian Council of Social Science Research **(ICSSR),** Ministry of Human Resource Development, New Delhi for giving opportunity and financial assistance to do project entitled "Drug policies and their Impact on small scale drug industry in India" – An empirical study with reference to Tamil Nadu and Puducherry.

## REFERENCES

1. Chaudhuri, S., 1999 "Growth and Structural changes in the Pharmaceutical Industry in India", Working paper series, Indian Institute of Management, Calcutta.
2. Dubey, D.P., (2003) "globalization and its impact on the Indian Pharmaceutical industry", Indian Pharma Industry Issues and Options, P213-220.
3. Gary A. Luoma Earl A Spiller Jr., (2002) "Financial accounting return on investment and financial leverage", Journal of Accounting Education 20, P 131-138.
4. Lalitha.N. "Indian Pharmaceutical Industry in the WTO Regime: A SWOT Analysis", Working paper No. 131, Gujarat Institute of Developmental Research.
5. Manish Nivsarkar, Harish Padh, (2003), "Pulse of Indian pharma sector: Issues and opportunities", Indian Pharma Industry Issues and Options, P 37-52.
6. Martinussen, J., 1988, "Transnational Corporations in a Developing Country – The Indian Experience", SAGE Publications, New Delhi.
7. M.J. Ahn, "Developing a Profitable Market-Share Strategy for Multinational Pharmaceutical Companies in China," *J. Pharm. Marketing and Management* **13** (1), p. 29, (2000).
8. Nalini V Dave, 1998 "MNC's threat's and opportunities", Yojna, July 1998:25
9. Phuntsok Wangyal, 2000, "Pharmaceutical industry – A sector study submitted to export import bank of India", Banglore.
10. Vikram0 Chandra. "Financing the Modernization of Small Industries in India", Southern Economist, May 5, 1999.

# A COMPARATIVE STUDY OF RETURN ON INVESTMENT OF SELECTED PUBLIC SECTOR AND PRIVATE SECTOR COMPANIES IN INDIA

*DR. SANTIMOY PATRA*
*READER*
*DEPARTMENT OF COMMERCE*
*GARHBETA COLLEGE*
*GARHBETA*

## ABSTRACT

*Out of two fields – public sector and private sector in the Indian economic structure, public sector units were considered to be the main engine of growth and accordingly many areas were reserved for public sector with few exceptions. But after a long period of operation, the functioning of public sector units in the matter of utilization of public money began to be questioned. As a result, in the new industrial policy of 1991, the thrust of industrialization has been shifted from nationalization to privatization and many areas were opened to the private sector with a view to initiating healthy competition between the public sector and private sector which, in turn, might lead to the economic progress of the country. In this backdrop the author has found it necessary to judge the capacity of earning reasonable return by effective investment and optimum utilization of procured funds on the part of selected public sector and private sector units. Hence an attempt has been made in this paper to make a comparative study of financial performance based on ROI of some selected public sector and private sector companies belonging to the steel industry in India being one of the pillar sectors of Indian economy. The study has found that on average the private sector companies achieved relatively better performance from the view point of earning return and maintaining consistency than the public sector companies. Some measures have also been suggested in this paper to uplift the performance of public sector companies.*

## KEYWORDS

Financial Performance, Public Sector and Private Sector units, ROI.

## INTRODUCTION

The growing pace of industrialization, world-wide intense competition in liberal economic scenario, fiscal and monetary policies of the government have placed a number of challenges on the survival and growth of Indian corporate sector. One such challenge, perhaps the most important one, is effective investment of procured funds and earning reasonable return by their optimum utilization. How far a corporate enterprise is successful in combating this inevitable challenge can be judged by the rate of return earned on its investment. Hence the present researcher makes here a humble attempt to judge the return on investment of some selected public sector and private sector companies on a comparative basis. Out of two fields-public sector and private sector in the Indian economic structure, public sector units were expected to be the main engine of growth. But the questions have raised among various corners about their style of functioning and achievements over the years. The past controversy over the issue of privatization of IISCO a few years back is a testimony to the fact. There has been a considerable criticism about the performance of public sector units over the years. Misuse of funds, under-utilization of capacity, poor financial management, managerial problems etc. are only a few among a large number of complaints raised over time against the public sector undertakings leading to their privatization in some inevitable cases. All these have an adverse effect on the earning capacity of the companies. It is the intention of the present researcher to judge the validity of the objections raised against the public sector companies on the basis of facts rather than pre-conceived notions. Such judgement is done on the basis of return on investment as it is one of the most important criteria of judging the overall performance of a firm. In this backdrop, a comparative study of return on investment of public sector and private sector companies on the basis of empirical evidences finds importance to judge their relative performance. For the purpose of present study, Indian steel industry has been selected as it is one of the pillar sectors of the Indian economy.

In fact iron and steel sector is the backbone of an economy. It is one of the primary vehicles of economic development of a country. The per capita production and consumption of steel is considered to be the index of development of a country's economic infrastructure. Increase in the use of iron and steel leads to infrastructural development and rapid industrialization of the country. Steel is considered as a symbol of strength of the economy and a portent of the glory of India of the future.

In the early years, after independence, growth in steel industry was accepted by the national leaders as a pre-requisite for rapid industrialization. This industry was identified as one of the core sectors of the economy and accordingly Government reserved setting up of new integrated steel plants for the public sector only. It was stated in the Industrial Policy Resolution of 1956 that iron and steel industry had been reserved for the public sector only. In 1986 the private sector was allowed to open new units for producing steel using Electric Arc Furnace (EAF) technology. Thereafter in the new industrial policy of 1991, the Government removed iron and steel industry from the list of industries reserved for the public sector and this industry was opened to the private sector. The trade policy has been liberalized for this industry with the exemption of compulsory licensing and with the abolition of pricing and distribution controls.

In fact, the process of globalization has changed the basic focus of business and industrial activities all over the world. Indian iron and steel industry is not an exception to that. Since liberalization of economic and industrial policy of the country, the scenario of Indian iron and steel industry has been changed through a radical departure from the earlier public sector dominated controlled economy to the present private sector dominated market economy. A large number of private corporates have joined the iron and steel sector in various parts of the country. Thus the industry responded magnificently to the opportunities provided by the new policy regime and it has successfully made a transition from a controlled economy to a market-driven economy.

Hence steel is a sector which may be an area suitable for the present study to examine the return on investment of public sector and private sector companies on comparative basis.

## REVIEW OF LITERATURE

Over the years, a lot of research works has been done on various aspects of profitability of Indian corporate sector; some of those are briefly reviewed below :

**Banerjee, B.** (1982) opined in a research article that corporate profitability is influenced by its liquidity in three different manners. Up to a certain level increase in liquidity leads to an increase in profitability, beyond that profitability remains constant with the increase in liquidity up to a certain point and thereafter increase in liquidity leads to decline in profitability.

**Das** (1998) attempted in his research study to estimate the influence of various factors, endogenous to banks, on return on equity of the Indian public sector banks for which the return on equity has emerged as a significant performance indicator.

A research study has been conducted by **Bose, Santanu Kumar** (2000) to evaluate the financial performance of Indian ports. He used five standard financial ratios viz. (i) operating ratio (ii) return on capital employed (iii) net surplus margin (iv) capital employed turnover and (v) fixed assets turnover ratio to judge the performance of the ports. Performance of the ports was found to be not satisfactory.

**Yadav, Jain and Rastogi** (2001) found in their research study based on three public sector oil companies that a sound financial performance assumes great importance for public sector undertakings because of their own existence, growth and stability on the one hand and the overall economic development of the country on the other. They mentioned that public sector undertakings have the social objectives along with other multiple objectives, but to serve the society does not mean running into losses. Absence of profit and prudent financial management practices may bring down the growth rate and reduce their capacity to serve the society. So a sound financial position should exist for growth, stability and fulfillment of social obligations.

The evaluation of profitability performance of public sector banks and non financial non – govt. public limited companies has attracted the attention of some researchers like **Desai, Bhairav H.** and **Farmer, Mayuri J.** (2001) and **Sahu, R.K.** (2000) who have considered various profitability ratios in a single index assigning weights to the selected ratios on some appropriate basis.

A firm level study of the sugar industry of Tamil Nadu was conducted by **Vijaya Kumar** (2002) to find out the determinants of profitability and he found that there were various determinants of profitability viz., growth rate of sales, vertical integration and leverages. Apart from these three variables, he selected current ratio, operating expenses to sales ratio and inventory turnover ratio. The researcher noted in his conclusion that efficiency in inventory management and other current assets were important to improve profitability.

The Information Technology (IT) industry in India is among the fastest growing segments of the Indian industry at present. An attempt has been made by **Hamsalakshmi, R and Manicham, M** (2005) to analyse the financial performance of software companies in India taking a sample size of thirty four covering a period of five years from 1997-98 to 2001-2002. The study examines the structure of liquidity position, leverage position and profitability position on the basis of their average result over the years. The study revealed that liquidity position and working capital were favourable during the period of study. The companies under study relied more upon internal financing than on debt financing i.e. the companies followed a conservative financing policy. Return on investment and return on equity proved that overall profitability position of selected software companies had been increasing at a moderate rate.

An attempt has been made by **Khatik, S.K.** and **Singh, P.K.** (2005) to evaluate the profitability and financial health of IDBI through the application of the technique of ratio analysis. Capital adequacy ratio, non-performing assets, priority sector advances, statutory liquidity ratio, cash reserve ratio and credit deposit ratio have been used in the study and results have been interpreted based on the norms selected by RBI. The study revealed that the bank emphasized on lowering the cost of deposits, improving fee-based income, operational efficiency and managing cost. The challenges facing the bank were massive but not insurmountable. The study findings indicated that IDBI bank has made commendable progress during the last few years.

These are only a few among a large number of research studies undertaken on the subjects. But there is hardly any research work done regarding evaluation of profitability of public sector and private sector on comparative basis. Moreover the same study in steel industry is perhaps untouched by the researchers particularly in the post-liberalization period. This paper is a humble effort to make a comparative study of profitability based on ROI of some selected of public sector and private sector companies belonging to steel industry in India.

## OBJECTIVES OF THE STUDY

The present study is conducted to achieve the following objectives:

1. To measure the Return on Investment (ROI) of selected public sector companies individually and as a group by combining their results together
2. To measure the ROI of selected private sector companies in the same way as for public sector companies
3. To make a comparative study of ROI of selected public sector and private sector companies with a view to identifying the sector having better earning capacity.

## RESEARCH DESIGN AND METHODOLOGY

### SELECTION OF COMPANIES

The above objectives have been pursued considering the case of some public sector and private sector companies belonging to the steel industry in India. According to the Public Enterprise Survey, there are seven public sector units operating in the Indian steel industry. But a large number of private corporates are operating in the steel industry at present. Total eight companies, four each from public sector and private sector, have been selected for the purpose of present study through a screening process based on capital employed in the base year (i.e.1997-98) of the research study. The list of companies so selected in the two sectors are presented below:

**LIST OF SELECTED PUBLIC SECTOR COMPANIES**

| Sl.No. | Names of the Public Sector Companies | Abbreviated Form |
|---|---|---|
| 1 | Sponge Iron India Ltd. | SIIL |
| 2 | Ferro Scrap Nigam Ltd. | FSNL |
| 3 | Indian Iron & Steel Co. Ltd. | IISCOL |
| 4 | Rastriaya Ispat Nigam Ltd. | RINL |

**LIST OF SELECTED PRIVATE SECTOR COMPANIES**

| Sl.No. | Names of the Public Sector Companies | Abbreviated Form |
|---|---|---|
| 1 | Arati Steels Ltd. | ASL |
| 2 | Isibars Ltd. | IL |
| 3 | Bhusan Steel and Strips Ltd. | BSSL |
| 4 | Tata Steel Ltd. | TSL |

### COLLECTION OF DATA

The detailed financial data of the selected companies in the iron and steel industry have been collected from PROWESS, one of the most reliable database software package released by the CMIE. The researcher has also visited the websites of individual companies and other relevant websites for collection of data in some cases.

### PERIOD OF STUDY

The data for a moderately lengthy period of ten years 1997-98 to 2006-07 during post-liberalization period is available to the present researcher from PROWESS database. Hence this period has been considered for the purpose of present study.

### TECHNIQUES OF ANALYSIS

For analyzing the data simple mathematical tools like ratios, percentages, etc. have been used. Financial ratio analysis is the important and powerful technique of evaluation. Hence Return on Investment (ROI) ratio has been used in the study to compute ROI of selected companies. Moreover statistical techniques like measures of central tendency, measures of dispersion etc. have been used to analyse the consistency, stability and overall trend in return on investment of the selected companies.

### LIMITATIONS OF THE STUDY

The present study suffers from the following limitations:

1. The study is based on secondary data collected from published sources. It was not possible to collect primary data from the company's office. So it is subject to all limitations those are inherent in the published financial data.
2. The present study is limited to ten years only.
3. The sample companies considered out of a large population may not be the proper representative of the entire public sector and private sector. So the results derived from this study may not necessarily reflect the picture of entire public sector and private sector.

**RETURN ON INVESTMENT RATIO**

This ratio has been used in the study to derive results of the selected companies from their empirical data. This ratio expresses the relationship between earnings before interest and tax (EBIT) and total tangible assets of the firm. In calculating total tangible assets, intangible and fictitious assets are excluded. This ratio is alternatively known as return on asset ratio. EBIT is the operating profit belonging to all sources of finance. This ratio throws light about how efficiently owner's fund and creditors' fund are being used. These funds are invested in the total assets of a firm. So in other words, it reflects the efficiency with which total asset of the firm is employed. This ratio helps to measure earning power of total assets, overall profitability and managerial efficiency of the business. Higher the ratio greater is the efficiency in utilizing total assets, higher is the profitability, and better is the management efficiency. A firm having higher return than that of other similar firms can attract more funds even at a lower rate.

## RESULTS AND DISCUSSION

It is now aimed at examining the performance of selected companies by the Return on Investment (ROI) Ratio as depicted in Tables 1 and 2 below. Company-wise ROIs of selected public sector and private sector companies over the period of ten years have been presented in Table 1 and Table 2 respectively. The average, standard deviation and co-efficient of variation relating to ROIs of individual companies over a period of ten years have been calculated and also presented in last three columns of these tables.

**TABLE 1: RETURN ON INVESTMENT RATIOS OF SELECTED PUBLIC SECTOR COMPANIES OVER TEN YEARS FROM 1997-98 TO 2006-07(IN %AGE)**

| Name of the Companies | 1997-98 | 1998-99 | 1999-2000 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | Average | S.D. | C.V. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sponge Iron India Ltd. | 5.55 | 3.58 | 1.48 | -5.95 | -13.99 | NA | NA | 10.43 | 26.24 | 17.59 | **5.62** | **12.71** | **2.26** |
| Ferro Scrap Nigam Ltd. | 16.43 | 14.31 | 14.88 | 14.96 | 15.40 | 12.17 | 9.62 | 5.44 | 5.61 | 5.23 | **11.41** | **4.54** | **0.40** |
| Indian Iron & Steel Co. Ltd. | -3.03 | -6.23 | -20.27 | -12.40 | -22.66 | -22.26 | -26.34 | -25.17 | 6.19 | 9.36 | **-12.28** | **13.19** | **-1.07** |
| Rastriaya Ispat Nigam Ltd. | 2.58 | NA | 2.99 | -1.30 | -2.56 | 1.02 | 3.72 | 12.53 | 26.20 | 26.55 | **7.97** | **11.26** | **1.41** |

Source: Computed from PROWESS Database

S.D. means Standard Deviation

C.V.means Co-efficient of Variation

N.A.indicates Not Available

**TABLE 2 : RETURN ON INVESTMENT RATIOS OF SELECTED PRIVATE SECTOR COMPANIES OVER TEN YEARS FROM 1997-98 TO 2006-07(IN %AGE)**

| Name of the Companies | 1997-98 | 1998-99 | 1999-2000 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | Average | S.D. | C.V. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arati Steels Ltd. | 12.14 | 12.26 | 12.40 | 10.89 | 13.42 | 9.38 | 13.14 | 10.35 | 12.00 | 15.31 | **12.13** | **1.67** | **0.14** |
| Isibars Ltd. | 15.26 | 6.24 | 5.05 | 1.45 | -0.48 | 1.24 | -4.61 | -6.65 | -3.37 | 16.96 | **3.11** | **7.95** | **2.56** |
| Bhusan Steel and Strips Ltd. | 12.50 | 5.50 | 6.60 | 10.15 | 10.60 | 9.50 | 9.65 | 6.27 | 8.81 | 9.75 | **8.93** | **2.18** | **0.24** |
| Tata Steel Ltd. | 10.12 | 9.68 | 6.62 | 6.22 | 7.66 | 8.73 | 5.53 | 12.35 | 21.20 | 33.66 | **12.18** | **8.79** | **0.72** |

Source: Computed from PROWESS Database

S.D. means Standard Deviation

C.V.means Co-efficient of Variation

N.A.indicates Not Available

It is observed from Table 1 that ROIs of Sponge Iron India Ltd. (SIIL) deteriorated gradually from 5.55% to 1.48% during the first three years, then it came down to (-) 5.95% and (-) 13.99% in the next two years but an improvement is noticed for the last three years in which the ratio lay between 10.43% and 26.24%. The company showed an average ROI of 5.62% during the whole period of study. Ferro Scrap Nigam Ltd. (FSNL) registered a declining trend and the ratio declined significantly from 16.43% in 1997-98 to 5.23% in 2006-07 recording an average of 11.41% during the period of study. Indian Iron & Steel Co. Ltd. (IISCOL) showed negative ratio from the base year of study and continued with high negative ratio upto the eighth year of study. The situation was improved for the last two years yielding positive return to the extent of 6.19% and 9.36%. The average ratio was, however, (-) 12.28% during the period of study. The ROIs in case of Rashtriya Ispat Nigam Ltd. (RINL) were negative for two successive years from 2000-01 to 2001-02 to the extent of (-) 1.30% and (-) 2.56% respectively. Then the company recorded an improvement in succession from 1.02% in 2002-03 to the highest at 26.55% in 2006-07 yielding an average of 7.97% throughout the entire period of study.

The above analysis reveals that the highest average ROI was recorded by FSNL with 11.41% followed by RINL with 7.97% and SIIL with 5.62%. The lowest average ROI was (-) 12.28% for IISCOL. So in terms of average ROI, FSNL achieved the highest performance followed by RINL and SIIL, whereas IISCOL showed the worst performance. An effort has also been made to measure the consistency of these companies in maintaining ROI by considering the co-efficient of variation. The variables for which the co-efficient of variation is greater are said to be less consistent i.e. more fluctuating and vice-versa. The last column of Table 1 reveals that the highest variability was recorded by SIIL with a co-efficient of variation (C.V.) of 2.26, followed by RINL with 1.41, IISCOL with 1.07 (ignoring the negative sign) and FSNL with 0.40.

After examining the performance of selected public sector companies, it is now the time to judge the performance of selected public sector companies in terms of ROIs computed and shown in Table 2. It is observed from the table that the ROI in case of Aarti Steels Ltd. (ASL) increased marginally for the first three years; it also increased steadily for the last two years but recorded a fluctuation during the rest five years of the study. The ratio was minimum at 9.38% in 2002-03 and maximum at 15.31% in 2006-07 and strokes an average of 12.13% for the entire period under study. Isibars Ltd. (IL) witnessed a downward trend during the first five years of study. The ratio gradually deteriorated from 15.26% to (-) 0.48% during this period, then in the next year it shoot up to 1.24% but again turned to be negative over the next three years and ultimately recovered at the end in the last year reaching the highest level at 16.96%. On average the ratio was 3.11% during the period under study. In case of Bhusan Steel & Strips Ltd. (BSSL), the highest ratio of 12.50% in the year 1997-98 sharply declined to the lowest at 5.50% in the following year i.e., in 1998-99 then improved in succession for the next three years from 6.60% in 1999-2000 to 10.60% in 2001-02 but thereafter it fluctuated for the last five years with an average of 8.93% during the referred period. Tata Steel Ltd. (TSL) witnessed a downward trend during the first four years of study but marked an upward trend during the last seven years. The ratio deteriorated from 10.12% in 1997-98 to 6.22% in 2000-01, then except in 2003-04, the ratio improved remarkably over the years reaching the highest at 33.66% in 2006-07. The company recorded an average of 12.28% during the study period.

From the above discussion it appears that the highest average ROI was recorded by TSL with 12.18% followed by ASL with 12.13%, BSSL with 8.93% and IL with 3.11%. So in terms of average, TSL recorded the highest performance followed by ASL, BSSL and IL. Now if we have a look at the consistency performance of the individual private sector companies, we find that ASL recorded the highest consistency with a C.V. of 0.14 followed by BSSL with 0.24, TSL with 0.72 and IL with 2.56.

## COMPARATIVE STUDY

This section examines the comparative performance in ROI between selected public sector and private sector companies in Tables 3 and 4. The average ROI of all selected public sector companies (taken together) over the years have been presented in Table 3. The standard deviation and co-efficient of variation of ROI among the public sector companies over the years have also been presented in the table. Similar computation in respect of private sector companies has been done and presented in Table 4.

**TABLE 3: AVERAGE, S.D. AND C.V. OF RETURN ON INVESTMENT RATIO OF ALL SELECTED PUBLIC SECTOR COMPANIES OVER TEN YEARS FROM 1997-98 TO 2006-07**

| | 1997-98 | 1998-99 | 1999-2000 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 |
|---|---|---|---|---|---|---|---|---|---|---|
| Average | 5.38 | 3.89 | -0.23 | -1.17 | -5.95 | -3.03 | -4.33 | 0.80 | 16.06 | 14.68 |
| Standard Deviation | 8.18 | 10.27 | 14.64 | 11.68 | 16.45 | 17.56 | 19.29 | 17.57 | 11.74 | 9.43 |
| Co-efficient of Variation | 1.52 | 2.64 | -64.24 | -9.97 | -2.76 | -5.81 | -4.45 | 21.83 | 0.73 | 0.64 |

Source: Computed from Table - 1

**TABLE 4: AVERAGE, S.D. AND C.V. OF RETURN ON INVESTMENT RATIO OF ALL SELECTED PRIVATE SECTOR COMPANIES OVER TEN YEARS FROM 1997-98 TO 2006-07**

| | 1997-98 | 1998-99 | 1999-2000 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 |
|---|---|---|---|---|---|---|---|---|---|---|
| Average | 12.5 | 8.42 | 7.67 | 7.18 | 7.80 | 7.21 | 5.93 | 5.58 | 9.66 | 18.92 |
| Standard Deviation | 2.12 | 3.14 | 3.24 | 4.33 | 6.00 | 4.00 | 7.68 | 8.54 | 10.15 | 10.30 |
| Co-efficient of Variation | 0.17 | 0.37 | 0.42 | 0.60 | 0.77 | 0.55 | 1.30 | 1.53 | 1.05 | 0.54 |

Source: Computed from Table - 2

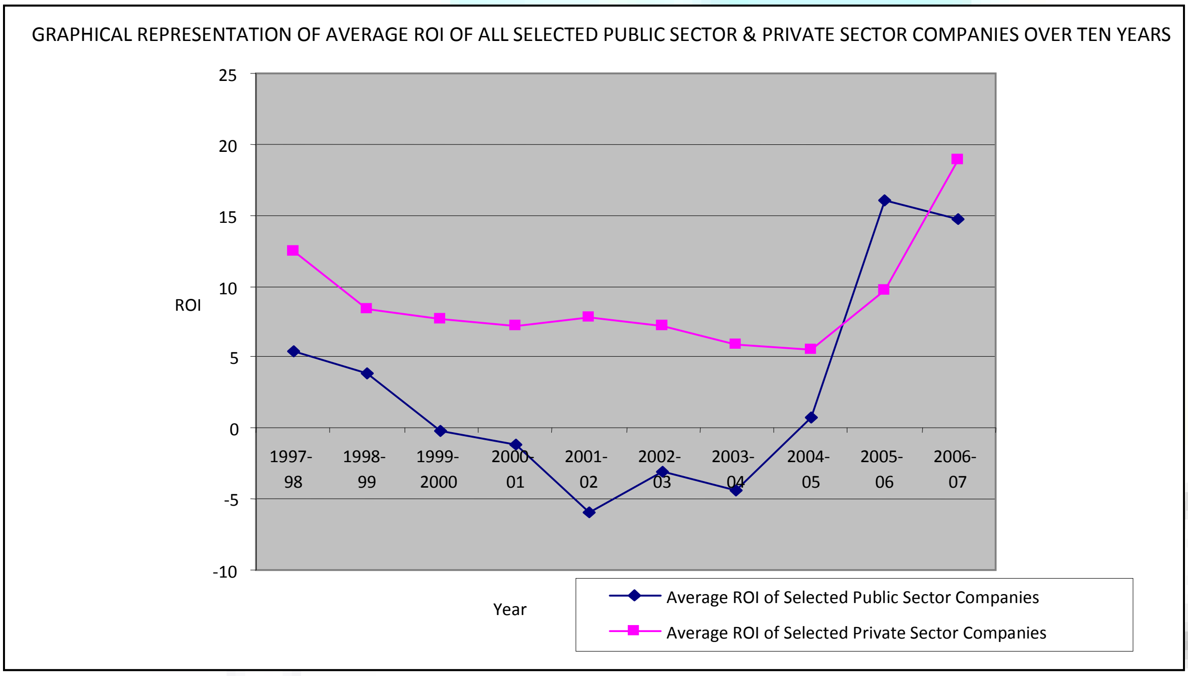
It is clear from the table 3 that the average ROI of all selected public sector companies deteriorated from 5.38% in 1997-98 to 3.89% in 1998-99, then it turned negative for the next five years ranging from (-) 0.23% to (-) 5.95%, thereafter recovering from the negative trend in the year 2004-05 it marked an impressive performance for the last two years reaching the highest at 16.06% in the year 2005-06. Thus public sector companies recorded a declining trend in terms of average ROI during the first seven years of study and the trend was increasing for the last three years. Except during the first two years and last two years of study, the companies under reference were very inconsistent in maintaining the ratio during the mid-six years of study as reflected by their co-efficient of variation (C.V.).

On the other hand, the average ROI of all selected private sector companies as shown in Table 4 reflects that the ratio deteriorated gradually from 12.50% in 1997-98 to 7.18% in 2000-01, then improved to reach 7.80% in 2001-02 but again deteriorated from 7.21% in 2002-03 to 5.58% in 2004-2005 and finally improved from 9.66% in 2005-06 to the highest at 18.92% in 2006-07. The overall trend was declining during the first eight years of study, and after that there was a signal of increasing trend for the future. The data relating to C.V. reflect that the private sector companies were more inconsistent during three years from 2003-04 to 2005-06 having relatively higher co-efficient of variation.

Now if we make a comparison between the two sectors based on the data reflected in Tables 3 and 4, we find that the public sector companies showed negative average ROI for five years whereas the private sector companies earned positive average return for the entire study period of ten years. We also find that except in 2005-06, the private sector companies on average earned higher rate of return than the public sector companies for the entire period of consideration. So in terms of average ROI, the private sector companies achieved better performance as compared to the public sector companies. Further if we compare the consistency pattern between these two sectors, we find that the values of C.V. in respect of private sector companies were always lower than the absolute values of C.V. relating to the public sector companies for the entire study period except in the year 2005-06. It indicates that higher consistency was observed among the private sector companies as compared to the public sector companies over the period of study except in the year 2005-06. Thus in aggregate, consistency performance of private sector companies was also better than that of public sector companies.

A graphical presentation has been made below in Figure 1 to have a clear picture about the profitability trend of public sector and private sector companies in terms of average ROI over the study period. The average ROIs of all selected public sector and private sector companies have been plotted in a line chart over the period of ten years. It is found from the graph that the ROI line of the private sector always lies above that of the public sector excepting in only one year i.e. 2005-06. So it can be said that in terms of average ROI, the performance of private sector is better than that of public sector.

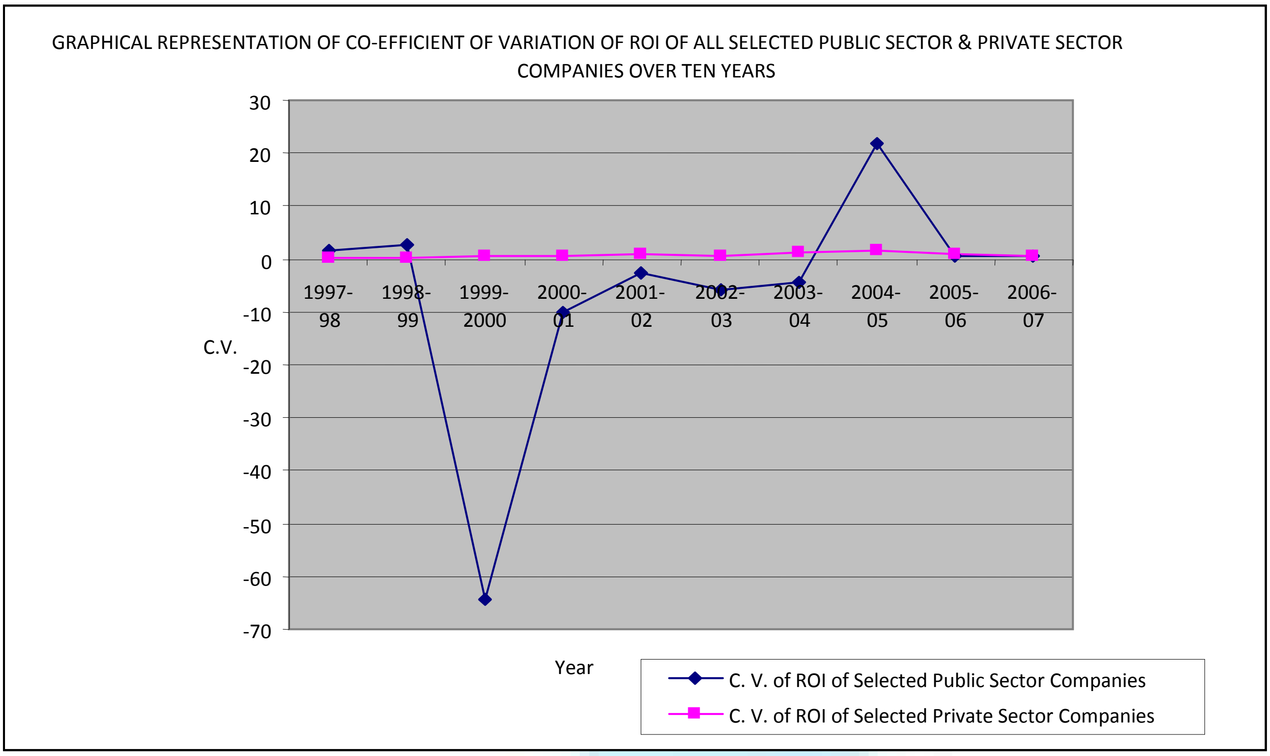
**FIGURE-1**




Source: Table 3 & Table 4

In Figure 2 as presented below an attempt has been made to have a picture of consistency in maintaining ROI among the companies in public sector and private sector over the years. The co-efficients of variation of public sector companies and private sector companies have been plotted in the line diagram over the period of ten years. The co-efficient of variation line of private sector companies was closer to the line at zero level and appears to be a straight line for the whole period of study. But the co-efficient of variation line of public sector companies was fluctuating over the years. It indicates that more consistency was found in maintaining the levels of ROI among the private sector companies as compared to the public sector companies.

FIGURE-2




Source: Table 3 & Table 4

## SUMMARY OF THE FINDINGS

On the basis of the foregoing analysis relating to the **return on investment ratio (ROI)** of the companies under study the following observations may be presented in summarized form:

1. The study findings reflect that average ROI was negative for a public sector company viz. IISCOL indicating its worst profitability position.
2. Out of four public sector companies, only one viz. FSNL contributed positive return, whereas out of four private sector companies considered in this study, three viz. ASL, BSSL, and TSL contributed positive return for all the years of study. The remaining three public sector companies and one private sector company experienced operating losses in one or more years of study. Operating inefficiency was prominent in case of one public sector company viz. IISCOL.
3. A close observation at the data series reveals that in a particular year highest achievement was recorded by TSL with 33.66% return in 2006-07 among all the companies under study over the years.
4. On average the private sector companies achieved relatively better performance both in earning return and maintaining consistency than the public sector companies over the study period.

## CONCLUSION AND SUGGESTIONS

The study of ROI portrays that the rate of return was not satisfactory for the majority of sample companies during the review period. This apart, as per trend, both public sector and private sector companies when jointly considered in two groups recorded gradual deterioration in performance over the years. But the performance of private sector companies was far better than that of public sector companies. It is also significant to note that public sector companies registered higher volatility amongst them for the six midyears of the study. So a clear distinction was observed in earning return on investment between the two sectors. Thus there is a ground for objections raised against the public sector companies over time.

After an enquiry into the state of profitability position of the companies under reference, it was found that high cost of production, increase in operating cost, defective investment policy, under-utilization of capacity etc. were responsible for their negative / inadequate earning capacity. Study findings also indicate that operating revenues were insufficient to cover interest on debt and tax obligation after meeting the operating expenses for the companies like SIIL, IISCOL and IL. Higher operating cost coupled with decline in sales volume has put some companies in an unhealthy situation.

There is thus an urgent need to adopt necessary measures to increase operating income and reduce operating cost to improve return on investment of the companies under sufferance. These companies are suggested to adopt different cost control and profit planning techniques such as cost-volume-profit analysis, marginal costing, standard costing, activity based costing, budgetary control etc. for their effective cost and profitability management. Utilization of full capacity, strengthening marketing functionaries and adoption of modernization programme with latest technology are some of the measures to improve the return on investment of the companies suffering from inadequate / negative return earning capacity. The public sector companies should take more care on these aspects.

## ACKNOWLEDGEMENT

This paper is a portion of Minor Research Project sponsored by the University Grants Commission (UGC) and the author is grateful to the UGC for providing financial assistance for carrying out the project.

## REFERENCES


1. Banerjee, B.,(1982), " Corporate Liquidity and Profitability in India," *Research Bulletin*, ICWAI, pp. 225-234
2. Bose, Santanu Kumar,(2000), "Financial Performance in Indian Ports : A Case Study", *Indian Journal of Accounting*, Vol. XXXI, pp. 16 – 27.
3. Banerjee, B.,(2007), *Financial Policy and Management Accounting*, World Press Private Ltd., Calcutta.
4. Banerjee, S.K.,(2000), *Financial Management*, S. Chand & Co., New Delhi.
5. Bhattacharjee, Kalyan,(1996), "Issues Relating to Steel Industry", *The Management Accountant,* Vol. 31, No. 5, pp. 353 – 355.
6. Brown, J.L. and Howard, L.R.,(1982), *Managerial Accounting and Finance*, Macdonald and Evans Ltd., London.
7. Chandra, Prasanna,(1999), *Financial Management – Theory & Practice*, Tata Mc Graw-Hill Publishing company Ltd., New Delhi.
8. Chandrasekaran, N.,(1999), "Financial Performance of Indian Sugar Industry", *The Management Accountant*, Kolkata, Vol. 34, No. 4, pp. 293-298.

9. Das, M.R.,(1998), "Determinants of Return on Equity of Indian Public Sector Banks: Some Empirical Results Based on Cross– sectional Data," *Vinimaya*, Vol. 19, pp. 5 – 12.
10. Desai, Bhairav H. and Farmer, Mayuri J.,(2001), "Taxonomic Evaluation of Banks Profitability Performance: A Case Study of Public Sector Banks in India", *The management Accountant*, Vol- 36, No. 12, pp. 885 – 891
11. Dholakia, Bakul H.,(1980), *The Changing Efficiency of Public Enterprises in India*, Somaiya Publications, Bombay.
12. Gangadhar, V.,(1998), "Financial Analyses of Companies in Eriteria : A Profitability and Efficiency Focus," *The Management Accountant*, Vol. 33, No. 11, pp.810-817.
13. Hamsalakshmi, R. and Manicham, M.,(2005), "Financial Performance Analysis of Selected Software Companies", *Finance India*, Vol. XIX, No. 3, pp. 915 – 935.
14. Khatik, S.K., and Singh P.K.,(2005), "Financial Appraisal of IDBI Bank Ltd.", *Finance India*, Vol. XIX No. 3, pp. 969 – 982.
15. Khan, M.Y. and Jain, P.K.,(1995), *Financial Management – Text and Problems,* Tata Mc Graw Hill Publishing Company Ltd., New Delhi.
16. Narain, Laxmi,(2005), *Public Enterprise Management and Privatisation*, S. Chand & Company Ltd., New Delhi.
17. Neumann, Bobel and Haid,(1979), "Profitability, Risk and Market structure in West German Industries", *The Journal of Industrial Economics*, Volume 27, pp. 227 – 242.
18. Vijayakumar, A. and Kadirvelu, S.,(2004), "Determinants of Profitability: The case of Indian Public Sector Power Industries", *The Management Accountant*, Vol. 39, No. 2, pp.118- 123.
19. Yadav, S.S., Jain, P.K. and Rastogi, A.K.,(2001), "Working Capital Management in Oil Industry in India", *The Management Accountant*, Vol. 36, No. 7, pp. 511-516.

# TOY PURCHASES THROUGH ORGANISED RETAIL OUTLETS IN KERALA-AN EMPIRICAL STUDY

*DR. ANDEZ GEORGE*
*SR. ASST. PROFESSOR*
*NEHRU SCHOOL OF MANAGEMENT*
*NEHRU COLLEGE OF ENGINEERING&RESEARCH CENTRE*
*PAMPADY*

## ABSTRACT
*There is emerging opportunities in toy selection through organized retail outlets in Kerala. Due to significant shift in the customer's needs and technology globally. This leads to a growth in retail industry in India as well as Kerala. Number of organised retail outlets has entered in kerala market for fulfilling the customer's needs. The increase in middle income groups, nuclear families in urban areas and increasing working women population has been changed the life style of people in Kerala. The traditional toys market is facing the competition from the new emerging computer field. This study helps to know the purchase habit of the parents in the field. The present paper analyse the frequency of visits of the parents and purchase of toys through organized retail outlets. Difference between the usual visits and visits for purchasing of toys is also analysed in the study. The Study found that influence of income is one of the important factors for buying the toys .Retail sector is important for selecting the branded and unbranded toys.*

## KEYWORDS
Retailing, Toys, Purchase Habit.

## INTRODUCTION
Retail industry is the most important industry presently. It is fast faced industry in the competitive environment. Modern retailing is busy shopping centers, multi-stored malls and the huge complexes that offer shopping, entertainment and food all under one roof. It has been a huge potential market. According to the BMI India Retail report for the third quarter of 2011, total retail sales in India will grow from US$ 395.96 billion in 2011 to US$ 785.12 billion by 2015. Fast economic growth in India and high disposable income with the end-consumer are key factors behind the forecast growth. It is changing from traditional markets to new formats such as Convenience stores, hypermarkets, super markets and specialty stores. Kerala is a consumer state rather than a product state. Margin free market is the largest retail chain in the state of Kerala, which was started from 1994.However, organized retail outlets such as Big Bazar, Super Markets, and Department stores entered Kerala and play significantly role in the economy.

Orgnised retail stores are showing different types of toys in the shops and help the customers for identifying the toys before purchase. Kerala have high literacy rate in country, highest life expectancy and least population growth state in India.People are very much eager about fulfilling the needs of the customers likes as toys. Toys are playing a significant role of children's life, including support for learning through play, reinforcement to modify behavior, and engaging in play with other. Children can recognise the toys and influence the parents for purchasing the toys. Many toys are linked to latest popular movie and increase the desirability of the toy. There are large number of toy products and types around the world. Many companies sell new items of toys every year. Buying behavior in toys market are changing due to availability of organized and unorganized toys manufactures. Merchandising of the toys in the showroom and variety of toys availability are the important factors in persuading the parents and children in the organized retail outlets. Product availability, Atmosphere, Convenience and Visual merchandising are major factors that makes the customer feel comfortable in organized retail outlets and create eagerness to buy toys.

## REVIEW OF LITERATURE
Product selection (or assortment) is defined as "the number of different items in a merchandise category" .As a major retailer descriptor, product selection contributes significantly to the explanation of patronage of alternative retail centers (Arnold et al. 1983; Craig et al. 1984). The breadth (number of brands) and depth (number of stockkeeping units) of an assortment offered in a shopping center helps retailers cater to the heterogeneous tastes of their patrons (Dhar et al. 2001). Not only the greater variety can help a retailer attract more consumers, it also can entice them to make purchases while in the retail center. A wide selection of products also can minimize the perceived costs (e.g., travel time, effort) associated with each shopping trip and ease the shopping task (e.g., by enhancing comparison shopping); in other words, a retailer that offers greater variety in product categories can improve shopping convenience and make it easier for consumers to combine their visits to different stores (Dellaert et al. 1998). Convenience is the key word for India's modern day shopper, and the location of a store is a priority for them. The Nielsen Shopper Trends survey reveals that ease of accessing a store tops the list of attributes driving store choice among Supermarket/ Hypermarket shoppers. While more than half the shoppers are accustomed to visiting their regular store, almost an equal proportion of shoppers claim to have shopped at a store because of its sheer proximity. A wide array of products is another factor driving store selection, addressing a basic need of *'everything I need in one shop'.* The Nielsen survey also found it important to avoid stock-out situations and carry an assortment of product categories and brands. In this sense, consumers' perceptions of convenience (e.g., opening hours, location, parking) will have a positive influence on their satisfaction with the service (Berry et al. 2002).Finn and Louviere (1990) found that different apparel shopper segments tend to choose shopping centers that they associate with different combinations of features. Shopping centers that provide good service and a wide selection, but less emphasis on low prices, are more likely to fall into shoppers' consideration set (i.e., retail alternatives a consumer is aware of and evaluates positively). In Malhotra (1983) threshold model of store choice, service is one of the five identified salient characteristics (along with variety and selection, acceptable prices, convenience of location, and physical facilities).Store atmospherics is the physical store attributes. Individual elements of the store, such as music, lighting and aroma influence customer mood, satisfaction and patronage intentions.Research on mall shopping has revealed that many consumers are prone to make a decision about where to shop on the basis of their attitude toward the shopping center environment (Finn and Louviere 1990, 1996; Gentry and Bums 1977).Bawa and Ghosh, (1999) found that higher income households tend to shop more frequently.Thus, higher incomes should be positively related to a patronage of supercenters (and away from convenience stores).

Children's actual toy preferences are in home environments. There are a number of studies examining toy preference by sex in constrain-ed or experimental settings from which it has been suggested that boys and girls select different toys to play with (e.g., Clarke, Wyon, & Richards, 1969; Parten, 1933; Pederson & Bell, 1970; & Schwartz, 1972). Rheingold and Cook (1975) found that boys' bedrooms contained signifi-cantly more vehicles, spatial-temporal toys, educational-art toys, sports equipment, toy animals, depots, fauna, machines, and military toys. Girl's rooms were found to contain significantly more dolls, dollhouses, domestic items, and their rooms tended to be decorated with more floral motifs, lace, fringe, and ruffles. Boys of all ages were found to have more vehicles, and fewer dolls. Other significant age differences also were found. Younger children's rooms tended to contain more animal furnishings and floral furnishings whereas older children's rooms contained more books, dolls, and educational-art materials. Rheingold and Cook did not suggest that given this stereotype in toy availability, boys and girls differentially attend to and play with these toys. In one of the few studies conducted in the home, Fagot (1975) found that boys tended to play with blocks more frequently, to manipulate objects more often, and to play with transportation toys more than girls. Girls were found to play with soft toys and dolls more often, and to dance and to dress-up more frequently.

## STATEMENT OF THE PROBLEM

According to psychologists, toys are not just playthings but are supposed for mental growth, development and fulfillment of the need of the children. People buy toys randomly and choose toys which are available in the market. Most of the orgnised retail outlets, toys assortments are low. Much of the sales in retail shops depend on impulsive buying. When customers enter a shop, become attracted by the merchandise on display and make a purchase. Sales executives in retail outlets are unaware about the instructions of the toys and their own company. Most of the toys are available in the outlets without quality checking by the retailers. People are giving least importance to the toys in the retail outlets.

## OBJECTIVE OF THE STUDY

The purpose of the study is to examine the toys purchase habit of customers in the organized retail outlets. Objective of the study is given below:
To analyse the toy purchase habit of parents in organized retail outlets in Kerala

## HYPOTHESES

Ho1: There is no significant difference between the frequency of visits in the retail outlets and gender of parents
Ho2: There is no significant difference between the visits for purchasing the toys in the retail outlets and gender of parents
Ho3: There is no significant difference between the usual visits and visits for purchasing of toys
Ho4: There is no significant relationship between the retail outlets and type of toys such as branded and unbranded
Ho5: There is no significant influence of monthly income of parents on spending for toys purchase

## METHODOLOGY

### SAMPLING DESIGN

In the first stage, organized retail outlets were selected from the various districts of Kerala by convenience method. Districts were Thiruvanathapuram, Ernakulam, Thrissur and Kozhikode. Organized retail outlets were Big Bazaar, Margin free shops, Super Markets and Department stores and Convenience store.521 parents having children below 10years of age were selected from the various malls by judgment sampling method.

### COLLECTION OF DATA

Primary and secondary data were used for the study. The primary data was collected by mall intercept interview and observation method. Secondary data obtained from internet, newspaper, books and magazines.

### DATA ANALYSIS

The collected primary data has been statistically processed, classified and tabulated by using the appropriate methods. The computer software called SPSS (Statistical Package for Social Science) has been used in the study. Two hypotheses were used for the study, which are null hypothesis and alternative hypothesis. Chi-square and Multiple regression was used for analysis the primary data.

### PERSONAL PROFILE OF THE PARENTS

Demographic variables of the respondents were analysed in the study such as age of parents, Income and gender. Buyer habit of the parents for the toys purchases was examined which is shown below:

### GENDER

Men and women also shop different products. Men have different attitude about shopping than women. Gender traits influence the purchase of toys. Here, Parents are classified on the basis of male and female.

**TABLE 1: GENDER OF PARENTS**

| Gender | Frequency | Percentage |
|---|---|---|
| Male | 276 | 53 |
| Female | 245 | 47 |
| **Total** | **521** | **100** |

*Source: Primary Data*

Table 1 shows, 276(53 percent) parents selected for the study was Male and rest of the 245 (47 percent) was females.

**TABLE 2: CLASSIFICATION OF THE GENDER OF PARENTS WITH RESPECT TO THEIR AGE -CROSS-TABULATION**

| Age of Parents | | Gender | | Total |
|---|---|---|---|---|
| | | Male | Female | |
| 20-30 | Frequency | 11 | 65 | 76 |
| | Percentage | 2.1% | 12.5% | 14.6% |
| 30-40 | Frequency | 119 | 150 | 269 |
| | Percentage | 22.8% | 28.8% | 51.6% |
| 40-50 | Frequency | 131 | 28 | 159 |
| | Percentage | 25.1% | 5.4% | 30.5% |
| Above 50 | Frequency | 15 | 2 | 17 |
| | Percentage | 2.9% | .4% | 3.3% |
| Total | | 276 | 245 | 521 |
| Percentage | | 53% | 47% | 100% |

*Source: Primary Data*

In the above table is classified according to the age group of parents by gender which selected from the malls.269(51.6 percent) parents are among the 30-40 age groups followed by 159(30.5 percent) parents are 40-50 age groups and 76(14.6 percent) parents are 20-30 age groups and rest of 17(3.3 percent) parents are above 50 age groups. Coloum shows that 276(53 percent) parents was male and 245(47 percent) was female.

### MONTHLY INCOME

Income is the important factor which influences the purchase decision for the buyer. It is only the important Independent variable for the parent's decision about the visits of the organised retail outlets for shopping.

**TABLE 3: MONTHLY INCOME OF PARENTS**

| Income | Frequency | Percentage |
|---|---|---|
| Less than 5000 | 94 | 18.0 |
| 5000-15,000 | 241 | 46.3 |
| 15,000-25,000 | 107 | 20.5 |
| 25,000-35,000 | 31 | 6.0 |
| 35,000-50,000 | 21 | 4.0 |
| 50,000-70,000 | 12 | 2.3 |
| Above 70,000 | 15 | 2.9 |
| **Total** | **521** | **100** |

Source: Primary Data

241(46.3 percent) parents are in between the monthly income of Rs.5000-15,000 followed by 107(20.5 percent) parents are in between 15,000-25,000 monthly income groups but 94(18 percent) is below 5000 income groups. 31(6 percent) parents are in between 25,000-35,000 income groups and 21(4 percent) parents are in between 35,000-50,000 income groups.12(2.3 percent) are in between 50,000-70,000 income groups and rest of 15(2.9 percent) parents are above 70,000.

**BUYING HABIT OF PARENTS FOR PURCHASING TOYS**

Retail outlets are the place where buyers buy products whether it is planned or unplanned purchase. These organized retail stores sell different types of company's toys. Parents are buying the toys on the basis of various internal and external factors. Income is one of the important factor that decides that how much and how many times of parent's visits for shopping stores to buy the toys.

**TABLE 4: USUAL VISITS FOR THE SHOPPING**

| Visits | Frequency | Percentage |
|---|---|---|
| Regular | 21 | 4.0 |
| Once in a week | 50 | 9.6 |
| Twice in a week | 42 | 8.1 |
| Once in two week | 73 | 14.0 |
| Once in a month | 335 | 64.3 |
| **Total** | **521** | **100** |

Source: Primary Data

Table 4 shows that 335 (64.3 percent) parents are visiting the shops once in a month followed by 73 (14 percent) parents visiting the shops once in two weeks.50 (9.6 percent) parents are visiting once in week and 42(8.1 percent) are visiting Twice in a week, but 21 (4 percent) are regular visitors of the shops.

**Ho1: There is no significant difference between the frequency of visits in the retail outlets and gender of parents.**

**TABLE 5: FREQUENCY OF VISITS IN THE RETAIL OUTLETS AND GENDER OF PARENTS**

| Gender | N | Mean | Std. Deviation | t value | Sig.(2-tail) |
|---|---|---|---|---|---|
| Male | 276 | 4.1630 | 1.26443 | 1.767 | .078* |
| Female | 245 | 4.3469 | 1.08927 | | |

*P<.1

In table 5, the output of the statistics of the two groups with the mean and standard deviations are given. For 276 males, the mean score is 4.1630(sd=1.26443), while for 245 females, the mean score is 4.3469(sd=1.08927).Hence the t value is 1.767, which is statistically significant at 10 percent level of significance. So the null hypothesis rejected. It means that there is a significant difference in the frequency of visits in the retail outlets and gender of parents. Females are more visiting organized retail outlets than males.

**TABLE 6: VISITS FOR PURCHASING TOYS**

| Visits | Frequency | Percentage |
|---|---|---|
| Once in two week | 15 | 2.9 |
| Once a month | 158 | 30.3 |
| Once in 3 month | 161 | 30.9 |
| Once in 6 month | 91 | 17.5 |
| Once in a year | 96 | 18.4 |
| **Total** | **521** | **100** |

Source: Primary Visits

The above table shows that 161(30.9 percent) parents are purchasing the toys once in 3 month followed by 158(30.3 percent) parents are purchasing the toys once a month.91(17.5 percent) parents are purchasing once in 6 months and 96 (18.4 percent) are purchasing the toys once in a year.

**Ho2: There is no significant difference between the visits for purchasing the toys in the retail outlets and gender of parents**

**TABLE 7: VISITS FOR PURCHASING THE TOYS IN THE RETAIL OUTLETS AND GENDER OF PARENTS**

| Gender | N | Mean | Std. Deviation | t value | Sig. (2-tail) |
|---|---|---|---|---|---|
| Male | 276 | 3.1051 | 1.09868 | 1.645 | 0.101 |
| Female | 245 | 3.2694 | 1.18082 | | |

In table 7, the output of the statistics of the two groups with the mean and standard deviations are given. For 276 males, the mean score is 3.1051(sd=1.09868), while for 245 females, the mean score is 3.2694(sd=1.18082).Hence the t value is 1.645, which is statistically not significant at 10 percent level of significance. So the null hypothesis accepted. It means that There is no significant difference between the visits for purchasing the toys in the retail outlets and gender of parents

**Ho3: There is no significant difference between the usual visits and visits for purchasing of toys**

**TABLE 8: USUAL VISITS AND VISITS FOR PURCHASING OF TOYS**

| | Sum of Squares | df | Mean Square | F | Significance |
|---|---|---|---|---|---|
| Between Groups | 31.157 | 4 | 7.789 | 6.236 | .000*** |
| Within Groups | 644.520 | 516 | 1.249 | | |
| Total | 675.678 | 520 | | | |

*** *P<.01*

As per table, F value of 6.236 is significant at 1 percent level of significance. So the null hypothesis is rejected. It means there is a significant difference between the usual visit and visits for purchasing the toys.

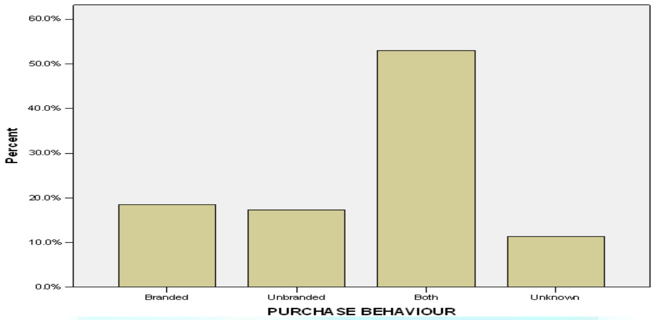
**TABLE 9: RETAIL OUTLETS FOR PURCHASING TOYS**

| Outlets | Frequency | Percentage |
|---|---|---|
| Margin free | 38 | 7.3 |
| Big Bazar | 92 | 17.7 |
| Dept.Store | 48 | 9.2 |
| Supermarket | 209 | 40.1 |
| Convenience Stores | 134 | 25.7 |
| **Total** | **521** | **100** |

Source: Primary Data

The above table shows that 209 (40.1 percent) parents were purchasing toys from Supermarket followed by 134(25.7 percent) parents are purchasing from Convenience Stores, 92(17.7 percent) parents from Big Bazaar and 48 (9.2 percent) were from Dept. stores but 38(7.3 percent) from margin free shops.

**TABLE 10: PURCHASE OF BRANDED/UNBRANDED TOYS**




53 percent of parents are purchasing both such as branded and unbranded and 18.4 percent purchasing branded toys but 17.3 percent of parents are purchasing unbranded toys. However 11.3 percent are unknown about the brands.

**Ho4: There is no significant relationship between the retail outlets and type of toys such as branded and unbranded**

**TABLE 11: RETAIL OUTLETS AND TYPE OF TOYS**

| Chi-Square | Value | df | Significance |
|---|---|---|---|
| Pearson Chi-Square | 35.878 | 12 | 0.000 |
| Likelihood Ratio | 36.427 | 12 | 0.000 |
| Linear-by-Liner Association | 0.058 | 1 | 0.810 |

*** P<.01

Chi-square test is to examine the relationship between the retail outlets and type of toys.In the above table Chi-square value is 35.878 which is statistically significant at 1 percent level of significance. So the null hypothesis is rejected. It means that there is a significant relationship between the selection of retail outlets and type of toys purchase such as branded and unbranded.

**Ho5: There is no significant influence of monthly income of parents on spending for toys purchase**

**TABLE 12: MONTHLY INCOME OF PARENTS ON SPENDING FOR TOYS PURCHASE**

Dependent Variable: Spend Money for Toys

| Independent Variable | Coefficient | t-value | Significance |
|---|---|---|---|
| (Constant) | 1.470 | 17.123 | 0.000 |
| Monthly Income | 0.244 | 8.081 | 0.000 |

R Square 0.112 F Statistics 65.306 Sig 0.000

***P<0.01

The F value reveals that (F=65.306, P<.001) the regression model applied is valid and accuracy of the regression model is 0.000.Analysis of the influence of the monthly income on toy purchase is statistically significant at .01 percent level of significance. So the null hypothesis rejected and alternative hypothesis is accepted. That means there is a significant influence of monthly income on spending for toy purchases

## FINDINGS OF THE STUDY

Parents were selected for the study having children belonging the age groups of below 10. 53 percent for the study was Male and rest of the47 percent was females.

51.6 percent parents are among the 30-40 age groups followed by 30.5 percent parents are 40-50 age groups and 14.6 percent parents are 20-30 age groups and rest of 3.3 percent parents are above 50 age groups with the cross-tabulation understood that more than 50 percent of parents are belonging to 30-40 years of age groups.

Frequency of visits are playing a significant role in the purchase habit.64.3 percent parents are visiting the shops once in a month and 14 percent parents visit to the retail shop once in two weeks.

There is a significant difference in the frequency of visits in the retail outlets and gender of parents. Females are more visiting organized retail outlets than males.

30.9 percent parents are purchasing the toys once in 3 month and 30.3 percent parents are purchasing the toys once in a month but 29 percent parents are purchasing once in two weeks.

There is no significant difference between the visits for purchasing the toys in the retail outlets and gender of parents. Male and female are conscious about the purchasing of toys for the children. Children are persuading the parents such as father and mother for purchasing the toys.

There is a significant difference between the usual visit and visits for purchasing the toys. That means toys have wide opportunity. Wide variety of toys in the retail outlet can attract the customers.

40.1 percent parents were purchasing toys from Supermarket and 25.7 percent parents are purchasing from convenience stores. It means, visibility plays a significant role in purchase.

53 percent of parents are purchasing both such as branded and unbranded and 18.4 percent purchasing branded toys but 17.3 percent of parents are purchasing unbranded toys and11.3 percent are unknown about the brands. That means, 28.6 percent are not conscious about the toy brands. Major number of parents are purchasing both brands. Brand awareness among the parents about the quality brands is helpful for making retail image.

There is a significant relationship between the selection of retail outlets and type of toys purchase such as branded and unbranded. That means organised retail outlets are playing a significant role in the purchase decision of toys.

There is a significant influence of monthly income and spending for toy purchases. Parents are buying the toys on the basis of their monthly income. Attracting the highly income groups to the retail outlets is helpful for making the sales of quality toys as well as other products.

## DISCUSSION

Global financial crisis attacked all the industries in the world. However toy industry will overcome the issues because toys are mostly consumed by children. Toys help children to have fun and to transform to creator, masters, emulators, nurturers, friends, collectors, story lovers, and experience seekers (Del Vecchio, 2003).Toy play a big part in a child's life. It influences properly in child's life. Toys are such an important part of children's early lives (Kline, 1993).In Kerala, Toys are being purchased from the retail outlets such as organised and unorganised outlets. Organised retailing could be classified into various formats such as departmental stores, Super Markets, Convenience stores and Margin free market. These formats are used for the study because life style of people in Kerala has been changed. They are frequently visiting the shops with children for purchasing the various products. Toys selling in these retail outlets can make a good impact on the market. Wide variety of merchandising is important in the retail outlets. Visual merchandising is a major factor which is persuading the customers for purchasing toys. Well designed display of toys attracts the parents as well as children for selecting the toys from the retail outlets. Interior display is to develop desire for the merchandise in the shop and it encourages both impulse and planned buying. Branded and unbranded toys are flooded in the market. Most of the parents are purchasing both branded and unbranded toys for their children. Parents are unaware about the quality toys. They are purchasing the unbranded toys which are available in the market.Retailers would be very conscious about the quality of toys before selling through the retail outlets. It makes a good impact in the market about the organized retail outlets. Innovation and creativity is important in the toys production. Most of them do not like repeat purchase of toys because various types of toys are available in the market. All information available in the internet about the price, quality, name of the retail outlet helps the customers to identify the appropriate toys easily. Innovation is key in the toy industry. Importance given to the customers opinion and preferences is helpful for strategic decision. Retailers attempt to satisfy consumer needs by having the right merchandise at the right price. Retailers can reduce the cost of the toys with bulk purchase. It helps the retailers sell the toys at lowest cost. It is a strategy to attract the customers.Loyal customers have an emotional connection with the retailer.Toys given as a Gift in the retail outlets is one of the strategy for attracting the children in the retail outlets. Conducting training programmes for the salespeople on retail outlets is important which in turn will be helpful in handling the children and parents in the retail outlets before the purchase of innovative toys.

## CONCLUSION

The Indian population is witnessing a significant change in its demographics due to robust economic growth and high disposable income with the end-consumer. It is a new opportunity to enter the organized retail outlets in India. Decision process varies based on the buyers needs and also explores factors influencing consumer's decisions to shop from a particular retailer. Effective implementation of strategy into retail outlets is only way of sustain in the competitive environment. Toy industry will make an impact on economy of Kerala in coming years. With the innovative ideas, retail sector can tap the opportunity in Kerala especially in toy market.

## REFERENCES


Arnold, Stephen J., Tae H. Oum and Douglas J. Tigert (1983). "Determining attributes in retail patronage: seasonal, temporal, regional, and international comparisons," Journal of Marketing Research, Vol.20, pp.149-157.

Bawa, K. and Ghosh, A. (1999), A Model of Household Grocery Shopping Behavior. Marketing Letters, Vol.10, No.2, pp. 149-160.

Berry, Leonard, Kathleen Seiders and Dhruv Grewal (2002). "Understanding service convenience;' Journal of Marketing, Vol.66, pp. 1-17.

Clarke, A. H., Wyon, S. M., and Richards, M. P. M.(1969). "Free play in nursery school children". Journal of Child Psychology and Psychiatry, Vol. 10, pp.205-216.

Craig, S., A. Ghosh and S. McLafferty (1984). "Models of retail location process: a review," Journal of Retailing, Vol. 60, No.1, pp. 5-36.

Dellaert, Benedict, Theo Arentze and Michel Bierlaire (1998). "Investigating consumers' tendency to combine multiple shopping purposes and destinations" Journal of Marketing Research, Vol. 3 No. 2, pp.77-188.

Del Vecchio, G.(2003),The Blockbuster Toy: How to Invent the Next Big Thin, Pelican Publishing Company, Gretna, LA.

Dhar, S.K., SJ. Hoch and Nirmalya Kumar (2001). "Effective category management depends on the role of the category," Journal of Retailing, Vol.77, No.2, pp. 165-184.

Fagot, B. I. (1975). Sex differences in toddlers behavior and parental reaction. Developmental Psychology, Vol.11,pp. 830-836.

Finn, A. and J. Louviere (1990). "Shopping center patronage models: fashioning a consideration set segmentation solution," Journal of Business Research, Vol.21, No.3,pp. 159-175.

George, A.(2011).Modern Trends in Indian Retail Industry, edited by Thiruvenkadam.T and Panchanatham.N,An Overview of Organised Retail Store Selection Behaviour,Chapter16,pp.138-150

Kline, S.( 1993). Out of the garden – Toys and children's culture in the age of television marketing. London, Verso.

Levy,M. and Weitz,B.A(2003). "Retailing Management", Tata McGraw Hill, New Delhi

Malhotra, N.K. (1983). "A threshold model of store choice:", Journal of Retailing, Vol.59 ,No.2, pp.3-21.

Pugh,T.( 2001). Groups pushing for more testing of fast-food toys. Messenger-inquirer:Viewed on September10,2011Online:http:// www.messenger-inquirer.com/news/usworld/3458844,htm

Rheingold, H. L., & Cook, K. V.(1975). The content of boys' and girls' rooms as an index of parents' behavior. Child Development, 1975, Vol.46, pp.459-463.

# WOMEN EMPOWERMENT THROUGH MICRO ENTERPRISES DEVELOPMENT IN TAMIL NADU

*BALU. A*
*ASST. PROFESSOR IN ECONOMICS*
*VELS UNIVERSITY*
*CHENNAI*

*DR. M. CHANDRAN*
*HEAD*
*DEPARTMENT OF COMMERCE*
*VELS UNIVERSITY*
*CHENNAI*

*S. VENNILAASHREE*
*ASST. PROFESSOR*
*DEPARTMENT OF COMMERCE*
*VELS UNIVERSITY*
*CHENNAI*

**ABSTRACT**

*Micro enterprises aim at developing and utilising the entrepreneurial talent and potential of rural women below poverty line to meet the local needs. Survival and growth of these enterprises are essential for the beneficiaries/entrepreneurs as they ensure better standards of living and thereby their individual, family and social empowerment. This study, beyond any shadow of doubt, has revealed that these enterprises have succeeded in the socio-economic empowerment of rural poor. The findings of the study supports the hypothesis of the development of micro enterprises has had an impact on women empowerment.*

## KEYWORDS
Women Empowerment, Micro enterprises, Economic empowerment, Tamil Nadu.

## INTRODUCTION
In India, plans and policies as well as the constitution have laid stress on women empowerment. Empowerment provides legitimacy and social justice for human development. Empowerment of women means creating economic independence, self reliance, political, social and legal awareness, self confidence and positive attitude among women. It enables women to face any situation and to participate in the development activities of the nation. The development of micro entrepreneurs women are seen as appropriate way to assault poverty at the grass-root level by generating employment and income (Ghosh, 1998). Though nearly half of Indian population consists of women, their participation rate in the economic activities is only 34%. During the 1970's efforts to promote self-employment among women started receiving greater attention from the government and private agencies. The result has been the emergence of women entrepreneurs on the economic scene in recent years. Even then, less than 5% of business units are owned and operated by them. Several studies have shown that women have proved to be good at business. Some studies have identified the problems of women entrepreneurs, among them Choudhary and Sharma (2008), revealed that nearly 90 percent of the rural enterprises faced problem of lack of capital. Mathew (1998) expressed that the women entrepreneurs failed to get appropriate support from banking system in Kerala. Balasubramanya (1995) observed that irrespective of size, purchasing raw material is the major bottleneck.

This paper is an attempt to examine the role of micro enterprises in empowering the women of Tamil Nadu. For this, the rest of the paper is divided into two. The first part briefly explains the concept of micro enterprises and the methodology. The second part analyses the socio economic background of entrepreneurs and measures the extent of women empowerment achieved through the formation of micro enterprises in Tamil Nadu.

## MICRO ENTERPRISES
The origin and growth of micro enterprises can be tracked to lack of employment opportunities and inadequate income generation. To address the issue of poverty reduction, create employment and income opportunities, government has initiated micro enterprise development opportunities.

Micro enterprises are small undertakings run by individuals or groups who take up the responsibility of managing the business and the family. These enterprises are based on certain characteristics like low capital, low technology, low risk, and a few workers. They are coming into existence out of either market driven or non market driven forces. Market driven enterprises are managed and controlled by the entrepreneurs themselves. Government agency or NGOs play an active pole in promotion of non market driven enterprises. Self help groups (SHGs), Swarnjayanti Gram Swarozgar Yojana (SGSY) etc. fall under this category. This study considers non market driven micro enterprises promoted by government agencies as they dominate the micro enterprise sector in Tamil Nadu.

The main objectives of initialing non market driven micro enterprises fostered by government is to help the beneficiaries to take up and manage their own business activities which could bring about economic awareness and empowerment among the women members. The idea of starting micro enterprises has raised lot of hopes and expectations, particularly among women below poverty line.

The SGHs have emerged as a vibrant micro finance movement in India with active support from government, voluntary agencies and banks. With the launching of SGSY scheme and other similar schemes of state governments, the flow of credit to the SHGs has significantly increased. The main aim of these schemes is to assure sustainable income to the poor through self employment by promoting micro enterprises. This paper is an attempt to assess the extent of empowerment achieved by women beneficiaries of micro enterprises linked with SHGs.

As majority of the micro enterprises linked with SHGs are formed as group enterprise. Micro enterprises formed as group enterprises are taken for the study. Data were collected from a total of 20 group micro enterprises in Tamil Nadu and their 150 beneficiaries at random. The methodology adopted comprises simple techniques/tools like: percentage, paired't' test and empowerment index.

## MEASURING EMPOWERMENT
An attempt is made to measure empowerment in the following aspects:
- Economic empowerment

- Social empowerment
- Family empowerment
- Individual empowerment

## ECONOMIC EMPOWERMENT

All the sample entrepreneurs are first generation entrepreneurs and only 40 (26.7%) entrepreneurs have previous experience in the same line of business activity. It is found that maximum of entrepreneurs (46 %) fall under the age group of 35-55.

**TABLE 1: INCOME OF THE FAMILY BEFORE AND AFTER BECOMING A BENEFICIARY/ENTREPRENEUR**

| Monthly income of the family (in Rs.) | Number of Beneficiaries/Entrepreneur | |
|---|---|---|
| | Before becoming a member | After becoming a member |
| 1. Nil | 46 (30.7) | -- |
| 2. Less than 500 | 73 (48.7) | -- |
| 3. 500-1000 | 23 (15.3) | 32 (21.3) |
| 4. 1000-2000 | 8 (5.3) | 55 (36.7) |
| 5. Above 2000 | -- | 63 (42.0) |
| Total | 150 (100.0) | 150 (100.0) |

Figures within brackets are percentages of total

## MONTHLY INCOME OF THE FAMILY

Monthly income and expenditure are the two important factors, which decide the standard of living and saving behaviour of the people. A comparison was made between the monthly income before and after becoming a member of the unit. Table 1 presents the monthly income of the family before and after becoming beneficiary of the unit. The table shows that before becoming a member of the unit, 30.7% families had no income, 48.7% had less than Rs.500, 15.3% had between Rs.500 to Rs.1000 and 5.3% had between Rs.1000 to Rs.2000. This implies that majority of the families had income below Rs.500 and the lowest number of families had income above Rs.1000. no family had income above Rs.2000. After becoming a member of the unit, all the families are earning more than Rs. 500 per month. 21.3% have income between Rs.500 to Rs.1000 and 36.7% have between Rs.1000 to Rs.2000 percentage of families having income above Rs.2000 has increased from zero to 42%. After becoming the member of the unit highest percentage of the families are in the income group of above Rs.2000 whereas before becoming a member of the unit the highest percentage of families was in the income group of less than Rs.500.

## VALUE OF HOUSEHOLD ASSETS

**TABLE 2: VALUE OF HOUSEHOLD ASSETS OWNED BY ENTREPRENEURS**

| Value of household assets (in Rs.) | Number of Beneficiaries/Entrepreneur | |
|---|---|---|
| | Before becoming a member | After becoming a member |
| 1. Less than 25,000 | 71 (47.3) | 50 (33.3) |
| 2. 25,000-75000 | 75 (50.0) | 91 (60.7) |
| 3. 75,000-1,25,000 | 4 (2.7) | 9 (6.0) |
| Total | 150 (100.0) | 150 (100.0) |

Figures within brackets are percentages of total

Table 2 presents the assets owned by entrepreneurs before and after becoming a member of micro enterprise. Assets include radio, tape-recorders, T. V., fridge, sewing machines, telephones etc. Before becoming a member, 50.0% of beneficiaries possessed assets worth Rs.25, 000 to Rs.75, 000. 47.3% owned assets worth less than Rs.25,000 and only 2.7% owned above Rs.75,000. After becoming entrepreneurs, considerable change occurred in the value of assets owned by the members. Majority of beneficiaries own assets worth Rs.25,000 to Rs.75000 (60.7%) followed by assets worth less than Rs.25000 (33.3%) and by assets worth Rs.75000. None of the beneficiaries own assets above Rs.125000 before and after becoming a member.

## SOCIAL EMPOWERMENT

The ability to speak in public, the courage to raise voice against social injustice, knowledgeable about the laws to protect and defend women etc., influence the position of women in the society. An attempt is made to analyze the extent of social of social empowerment achieved by entrepreneurs of micro enterprises. In order to measure the degree of empowerment, 7 variables were identified (Table 3). The analysis reveals that for all variables the average score ranging from 0.95 to 1.30. Since the average score for the entire group was 1.09 one can infer that the degree of social empowerment achieved by beneficiaries was moderate. Since the average score for all the variables was moderate, the highest average score (1.30) was earned by the variable 'express your opinion in a meeting or 'discussion' and the lowest (0.95) by two variables, viz, 'utilize the opportunity to contest in elections' and travel alone even at night'.

**TABLE 3: LEVEL OF SOCIAL EMPOWERMENT**

| Variables | No. of beneficiaries | | | Scores | |
|---|---|---|---|---|---|
| | 'Yes' | 'To some extent' | 'No' | Total | Average |
| 1.Public speaking ability | 44 | 72 | 34 | 160 | 1.07 |
| 2.Participation in election campaigning | 60 | 57 | 33 | 177 | 1.18 |
| 3.Utilise the opportunity to contest in elections | 37 | 69 | 44 | 143 | 0.95 |
| 4. Express your own opinion in a meeting | 69 | 57 | 24 | 195 | 1.30 |
| 5. Raise voice against in justice | 48 | 78 | 24 | 174 | 1.16 |
| 6. Knowledge about the laws to protect and defend women | 39 | 75 | 36 | 153 | 1.02 |
| 7. Travel alone even at night | 40 | 63 | 47 | 143 | 0.95 |
| Total | | | | 1145 | 1.09 |

## FAMILY EMPOWERMENT

Extent of power of decision making in the family, freedom in spending, freedom to attend social functions etc. determine the position of women in the family. From this point of view, it is realistic to take a look at some selected variables. These variables include areas related to freedom to spend, decide mode of savings, operate bank accounts, and attend social functions and power to make important decisions in the family. Table 5 sheds light on the result of analysis.

**TABLE 4: FAMILY EMPOWERMENT**

| Variables | No. of beneficiaries | | | Scores | |
|---|---|---|---|---|---|
| | 'Yes' | 'To some extent' | 'No' | Total | Average |
| 1.Freedom to spend earnings | 61 | 60 | 29 | 182 | 1.21 |
| 2.Freedom to decide mode of savings | 69 | 53 | 28 | 191 | 1.27 |
| 3.Freedom to operate Bank Accounts | 65 | 33 | 52 | 163 | 1.08 |
| 4. Freedom to attend social functions | 95 | 41 | 14 | 231 | 1.54 |
| 5. Freedom to take decisions relating to education of children | 62 | 60 | 28 | 184 | 1.22 |
| 6. Decisions relating to the purchase of costly capital assests | 60 | 57 | 33 | 177 | 1.18 |
| Total | | | | 1128 | 1.07 |

There is wide variation in the average score registered in 6 variables ranging from 1.08 to 1.54. Hence the degree of empowerment was moderate for all variables except one. 'Freedom to attend social functions' is the area of variables in respect of which degree of empowerment was high. The average score of all the variables taken together was only 1.07 and therefore the extent of empowerment achieved by the beneficiaries in their family was moderate.

## INDIVIDUAL EMPOWERMENT

Individual empowerment means achieving self confidence, better self-awareness, leadership quality; exercising decision making power etc. micro enterprises provide an opportunity to their beneficiaries to develop these qualities. In order to assess how far the beneficiaries are empowered personally by becoming a member in micro enterprises, 7 variables were selected and analyzed (Table 5).

**TABLE 5: INDIVIDUAL EMPOWERMENT**

| Variables | No. of beneficiaries | | | Scores | |
|---|---|---|---|---|---|
| | 'Yes' | 'To some extent' | 'No' | Total | Average |
| 1.Enhanced knowledge of enterprises | 90 | 23 | 37 | 203 | 1.35 |
| 2. Confidence to start own enterprises | 54 | 40 | 56 | 148 | 0.99 |
| 3.Helped in personality development | 109 | 26 | 15 | 244 | 1.63 |
| 4.Better self awareness | 103 | 38 | 9 | 244 | 1.63 |
| 5. Leaderships Quality | 96 | 39 | 15 | 231 | 1.54 |
| 6. Ability to face problems | 105 | 31 | 14 | 241 | 1.61 |
| 7.Decision making ability | 88 | 43 | 19 | 219 | 1.46 |
| Total | | | | 1530 | 1.46 |

The table shows that average score of five variables are more than the average score of all the variables taken together (1.46). Among the seven variables the degree of empowerment was low for the variable 'confidence to start own enterprises'. Discussion with the respondents reveals that before becoming a member, they had no knowledge about how to conduct a business. Similarly, since the respondents are from below poverty line (BPL) families, they are not financially sound and therefore many of them have no confidence to start their own enterprises. The average score among the variables varies between 0.99 and 1.63. The total average score or the entire variables was 1.5 and hence it can be concluded that individual empowerment through micro enterprises was high.

## CONCLUSION

Micro enterprises aim at developing and utilizing the entrepreneurial talent and potential of rural women below poverty line to meet the local needs. Survivor and growth of these enterprises are essential for the beneficiaries/entrepreneurs as they ensure better standards of living and thereby their individuals, family and their social empowerment. This study beyond any shadow of doubt has revealed that the enterprises have succeeded in the socio economic empowerment of rural poor. But the basic objective of eradicating poverty is yet to be realized. Despite impressive contributions micro enterprises face problems. As the survival and growth of these enterprises are essential, commercial efficacy should be accorded priority. The findings of the study supports the hypothesis of the development of micro enterprises has had an impact on women empowerment.

## REFERENCES

1. Balasubramania (1995), "Reservation Policy for Small Scale Industry: Has It Delivered The Good?", Economic and Political Weekly, Vol. XXVI, May, 2.
2. Choudhary and Sharma (2008), "Rural Women Entrepreneurs: Problems and Prospects", Prabhakara Rao (ed) Entrepreneurship and Economic Development, Kanishka Publishers, New Delhi.
3. Ghosh (1998), "Women and Entrepreneurship in India", Rabubdra Kanungo (ed), Entrepreneurship and Innovation. Sage Publication, New Delhi.
4. Mathew (1998), "Towards an Alternative Methodology for Identifying Entrepreneurial Potential in a Regional Seting", National Seminar on Current Trends in Entrepreneurship Research, Conducted by Entrepreneurship Development Institute, Ahmedabad.

# STRUCTURED CANOPY OF US RECESSION: PERCECEPTING POSITIVITY

*DR. MANJU KHOSLA*
*ASST. PROFESSOR*
*DEPARTMENT OF COMMERCE*
*GARGI COLLEGE*
*DELHI UNIVERSITY*
*DELHI*

**ABSTRACT**

*Recessions are the result of reduction in the demand of products in the global market. Recession can also be associated with falling prices known as deflation due to lack of demand of products. A popular view among economic forecasters and market bulls is that "the deeper the recession, the quicker the recovery". The ripples of crumbling USA market can be witnessed all over the world. Whatever happens in America, its impact can be felt way beyond the United States. Indian economy is no exception to this rule. World over, companies are biting dust including lions of financial world like, Lehman Brothers, Bear Sterns, AIG, Merill Lynch etc. It has been an unprecedented collapse of financial giants of American economy. The effects of American crisis can be seen in European and Japanese companies. Many banks are almost on the verge of collapse and frantic steps are undertaken by respective governments to prop them up. India, on the other hand, is far more fortunate. Many factors are responsible for relatively less negative impact on Indian economy. The slow pace of financial reforms taking place in India, cautious approach towards permitting foreign investments in Indian business sectors, numerous bureaucratic hurdles and regulatory constraints have turned out to be advantageous for India. India has always been criticized for its slow speed in economic growth but in hindsight it's that very turtle speed has proved to be a blessing in disguise. The government has focused on new reforms and development schemes that concentrate on energy, security, infrastructure development, agriculture, transportation, science and technology, and education. The industries most affected by weakening demand were airlines, hotels, real estate. Besides this, Indian exports suffered a setback and there was a setback in the production of export-oriented sectors. A weakening of demand in the US affected our IT and Business Process Outsourcing (BPO) sector and the loss of opportunities for young persons seeking employment at lucrative salaries abroad. India's famous IT sector, which earned about $ 50 billion as annual revenue, is expected to fall by 50 per cent of its total revenues. This would reduce the cushion to set off the deficit in balance of trade and thus enlarge our balance of payments deficit. It has now been estimated that sluggish demand for exports would result in a loss of 10 million jobs in the export sector alone.*

**KEYWORDS**

Recession, deflation, constraints, foreign investments, sluggish demand.

## INTRODUCTION

Recession are the result of reduction in the demand of products in the global market. Recession can also be associated with falling prices known as deflation due to lack of demand of products. A popular view among economic forecasters and market bulls is that ' the deeper the recession, the quicker the recovery". The ripples of crumbling USA market can be witnessed all over the world. Whatever happens in America, its impact can be felt way beyond the United States. Indian economy is no exception to this rule. World over, companies are biting dust including lions of financial world like, Lehman Brothers, Bear Sterns, AIG, Merill Lynch etc. It has been an unprecedented collapse of financial giants of American economy. The effects of American crisis can be seen in European and Japanese companies. Many banks are almost on the verge of collapse and frantic steps are undertaken by respective governments to prop them up. They are right-up to a point immediately after a normal recession, economics do, over the ensuing 12 months. Unfortunately, the Great Recession of 2008- 09 is far from being a normal global recession. A US depression is on anvil. Though not confirmed but in a hush hush way it is becoming the talk of the town. According to many experts the Depression in US Economy has already arrived. The mess of subprime mortgage has become somewhat unmanageable and is slowly taking the US towards an economic recession. The federal Bank of America is trying hard to keep this situation under control. The recent reduction in interest rates and announcement of relief package are some of the steps taken in this direction. However, this US depression is affecting the world economy in a big way. US investors, in fear of a deep recession, want to liquefy their assets and, therefore, are making heavy selling of their stocks. This has affected the stock markets of entire Globe. The Indian stock market is no exception. The market is very uncertain and nobody knows exactly where it will head in the days to come. Owing to such fluctuations in the market, millions of small investors in India have lost their money and sleep.

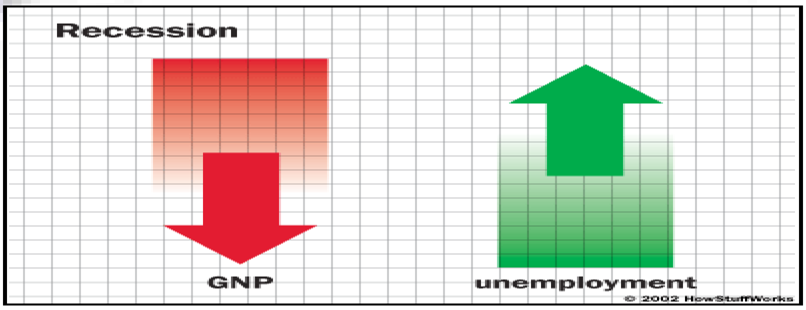
## REASONS OF RECESSION 2008/09

- Credit crunch - shortage of finance
- Falling house prices - related to shortage of mortgages and credit crunch
- Cost push inflation squeezing incomes and reducing disposable income
- Collapse in confidence of finance sector causing lower confidence amongst 'real economy'

*The credit crunch refers to a sudden shortage of funds for lending, leading to a resulting decline in loans available. A Credit Crunch can occur for various reasons:*

- Sudden increase in interest rates (e.g. in 1992, UK government increased rates to 15)
- Direct money controls by the government (rarely used by Western Government's these days)
- A Drying up of funds in the capital markets

The recent credit crunch was driven by a sharp rise in defaults on subprime mortgages. These mortgages were mainly in America but the resulting shortage of funds spread throughout the rest of the world.



## NEGATIVE EFFECT OF A US DEPRESSION ON INDIA

Recession in the West, specially the United States, is a very bad news for our country. Our companies in India have most outsourcing deals from the US. Even our exports to US have increased over the years. Exports for January have declined by 22 per cent. There is a decline in the employment market due to the recession in the West. There has been a significant drop in the new hiring which is a cause of great concern for us. Some companies have laid off their employees and there have been cut in promotions, compensation and perks of the employees. Companies in the private sector and government sector are hesitant to take up new projects. And they are working on existing projects only. Projections indicate that up to one crore persons could lose their jobs in the correct fiscal ending March. The one crore figure has been compiled by Federation of Indian Export Organisations (FIEO), which says that it has carried out an intensive survey. The textile, garment and handicraft industry are worse effected. Together, they are going to lose four million jobs by April 2009, according to the FIEO survey. There has also been a decline in the tourist inflow lately. The real estate has also a problem of tight liquidity situations, where the developers are finding it hard to raise finances. IT industries, financial sectors, real estate owners, car industry, investment banking and other industries as well are confronting heavy loss due to the fall down of global economy. Federation of Indian chambers of Commerce and Industry (FICCI) found that faced with the global recession, inventories industries like garment, gems, textiles, chemicals and jewellery had cut production by 10 per cent to 50 per cent.

The industries most affected by weakening demand were airlines, hotels, real estate. Besides this, Indian exports suffered a setback and there was a setback in the production of export-oriented sectors. The government advised the sectors of weakening demand to reduce prices. It provided some relief by cutting down excise duties, but such simplistic solutions were doomed to failure. Weakening demand led to producers cutting production. To reduce the impact of the crisis, firms reduced their workforce, to reduce costs. This led to increase in unemployment but the total impact on the economy was not very large. Industrial production and manufacturing output declined to five per cent in the last quarter of 2008-09. Consequently, a vicious cycle of weak demand and falling output developed in the Indian economy. A weakening of demand in the US affected our IT and Business Process Outsourcing (BPO) sector and the loss of opportunities for young persons seeking employment at lucrative salaries abroad. India's famous IT sector, which earned about $ 50 billion as annual revenue, is expected to fall by 50 per cent of its total revenues. This would reduce the cushion to set off the deficit in balance of trade and thus enlarge our balance of payments deficit. It has now been estimated that sluggish demand for exports would result in a loss of 10 million jobs in the export sector alone.

## POSITIVE EFFECT OF A US DEPRESSION ON INDIA

***Every dark cloud has a silver lining***

The ripples of crumbling USA market can be witnessed all over the world. Whatever happens in America, its impact can be felt way beyond the United States. Indian economy is no exception to this rule. World over, companies are biting dust including lions of financial world like, Lehman Brothers, Bear Sterns, AIG, Merill Lynch etc. It has been an unprecedented collapse of financial giants of American economy. The effects of American crisis can be seen in European and Japanese companies. Many banks are almost on the verge of collapse and frantic steps are undertaken by respective governments to prop them up. India, on the other hand is far more fortunate. Many factors are responsible for relatively less negative impact on Indian economy. The slow pace of financial reforms taking place of financial reforms taking place in India, cautious approach towards permitting foreign investments in Indian business sectors, numerous bureaucratic hurdles and regulatory contraints have turned out to be advantageous for India. India has always been criticized for its slow speed in economic growth but in hindsight it's that very turtle speed has proved to be a blessing in disguise.

The current global recession has affected businesses in nearly every industry and geographical region It has also had a wide impact on societies around the world. Taking decisive action to reprioritize during any slowdown is a key focus for companies and countries, and we are all in the process of taking necessary measures that will enable us to adjust to today's reality. It is fundamental, however, that we do not allow short-term challenges to distract us from planning for long-term opportunities to achieve sustainable growth. Over the last decade, India has emerged as a significant economic force, and with a projected GDP growth of seven percent for 2010 we are still one of the fastest growing economies globally. In keeing with this optimism. India's 2009- 10. Budget focuses on moving towards a faster and more inclusive growth -- a plan that seeks to low poverty by 10%, generate 70 million new jobs, and reduce unemployment by 2.5%. At this point, India is faced with unique opportunity to nurture economic prosperity, and ubiquitous broadband access is a key part of the solution. By investing in the development and acceleration of a national broadband infrastructure, we can provide Internet access to all citizens. By extension, this would mean that we can create jobs, provide better access to health care and education, connect small business owners to new customers, and even create a middle class that will raise the standard of living and the national GDP. The government has focused on new reforms and development schemes that concentrate on energy, security, infrastructure development, agriculture, transportation, science and technology, and education. In addition, an increase in government expenditure is set to create infrastructure assets and boost rural prosperity. These steps take us towards empowering rural India with economic zeal, by augmenting demand though spending on infrastructure and inclusive schemes like the National Rural Employment Guarantee Scheme (NREGA) and the Universal Service Obligation Fund that could help connect every district with fiberoptic pipes. To lift the economy out of the recession the Government announced a package of Rs 35,000 crores in the first instance on December 7, 2008. The main areas to benefit were the following:---

**(a) Housing--**A refinance facility of Rs 4000 crores was provided to the National Housing Bank. Following this, public sector banks announced to provide small home loans seekers loans at reduced rates to step up demand in retail housing sector-

1. Loans up to Rs 5 lakhs: Maximum interest rate fixed at 8.5 per cent.
2. Loans from Rs 5-20 lakhs: Maximum interest rate at 9.25 per cent.
3. No processing charges to be levied on borrowers.
4. No penalty to be charged in case of pre-payment.
5. Free life insurance cover for the entire outstanding amount.

This means a borrower can get a loan up to 90 per cent of the value of the house. The government hopes to disburse Rs 15,000 to 20,000 crores under the new package. The housing package is the core of the government's new fiscal policy. It will give a fillip to other sectors such as steel, cement, brick kilns etc. Besides, the small and medium industries (SMEs) too get a boost by manufacturing all kinds of fittings and furnishings. The success of the housing package will, however, depend on the State governments efforts to free up surplus l and so that land prices come down and the cost of housing becomes reasonable.

**(b) Textiles--**Due to declining orders from the world's largest market the United States, the textile sector has been seriously affected. An allocation of Rs 1400 crores has been made to clear the entire backlog in the Technology Upgradation Fund (TUF) scheme.The Apparel Export Promotion Council (AEPC) Chairman, however, said: "It is a disappointing package. The allocation of Rs. 1,400 crores has been pending for many years and thus, it is the payment of arrears only. There is nothing new in it. It would have been much better if more concrete measures have been taken to reverse the downturn in the exports of readymade garments and avoid further job losses in the textile sector."

**(c) Infrastructure--**The government has been proclaiming that infrastructure is the engine of growth. To boost the infrastructure, the India Infrastructure Finance Company Ltd. (IIFCL) has been authorised to raise Rs 14,000 crores through tax-free bonds. These funds will be used to finance infrastructure, more especially highways and ports. It may be mentioned that 'refinance' refers to the replacement of an existing debt obligation with a debt obligation bearing better terms, meaning thereby at lower rates or a changed repayment schedule. The IIFCL will be permitted to raise further resources by the issue of such bonds so that a public-private partnership (PPP) programme of Rs 1,00,000 crores in the highway sector is promoted.

**(d) Exports--**Exports which accounted for 22 per cent of the GDP are expected to fall by 12 per cent. The government's fiscal package provides an interest rate subsidy of two per cent on exports for the labour-intensive sectors such as textiles, handicrafts, leather, gems and jewellery, but the Federation of Indian Export Organization (FIEO) felt the measures are not enough as they will not make the exports price-competitive and, therefore, will not boost exports. G.K. Pillai, the Commerce Secretary, has estimated a loss of 1.5 million jobs in the export sector alone during 2008-09 on account of the $15 billion decline in the expected exports.

**(e) Small and Medium Enterprises (SMEs)--**The government has announced a guarantee cover of 50 per cent for loans between Rs 50 lakhs to Rs 1 crore for SMEs. The lockin period for loans covered under the existing schemes will be reduced from 24 months to 18 months to encourage banks to cover more loans under the scheme. Besides, the government will instruct state-owned companies to ensure prompt payment of bills of SMEs so that they do not suffer on account of delay in the payment of their bills. In short, the fiscal package is aimed at boosting growth in exports, real estate, auto, textiles and small and medium enterprises. The aim is to encourage growth and boost employment which have been threatened by the recession in the world economy, more especially in the United States.Just within a month, the government announced another package to bail out the Indian economy. Dr Montek Singh Ahluwalia said: "We should expect, from all global projections that the next year (2009) is going to be a very difficult year for the global economy."The purpose of the new package announced on January 1, 2009 was to minimise the pain. With this end in view, the new package included the following measures:-

1. To boost investment and spending to revive growth, the RBI cut the repo rate, which it charges on short- term loans to banks from 6.5 per cent to 5.5 per cent and also reduced the Cash Reserve Ratio (CRR)--the share of deposits which has to be kept with the RBI from 5.5 per cent to five per cent.
2. To revive exports which have resulted in a contraction of industrial output, drawback benefits have been enhanced for some exporters. Export-Import Bank also gets Rs. 5000 crores as credit from the RBI.
3. To help the realty sector, realty companies have been allowed to borrow from overseas to develop “integrated townships".
4. To boost infrastructure, the India Infrastructure Finance Company Ltd. (IIFCL) has been allowed to raise Rs 30,000 crores from tax-free bonds. Besides, Non-Banking Finance Companies (NBFCs) need no government approval to borrow from overseas for infrastructure projects. This will sustain the growth momentum on infrastructure.
5. To make more funds available, ceiling on foreign institutional investments (FIIs) in corporate bonds has been increased to $ 15 billion from $ 6 billion. The purpose is to seek much bigger FII investment.
6. To stimulate the Commercial Vehicles (CVs) sector, depreciation benefit on commercial vehicles has been increased form 15 per cent to 50 per cent on purchases. Besides, the States will get one-time funding from the Centre to buy buses for urban transport. In addition, public sector banks would provide finance firms funds for commercial vehicles. It is hoped that Tata Motors and Ashok Leyland's sales would revive.

On February 24, 2009, the government announced a slashing down of excise duty from 10 per cent to eight per cent--a reduction by two per cent. Since 90 per cent of the manufactured goods attract 10 per cent excise duty, this measure is designed to reduce the prices of colour TV sets, washing machines, refrigerators, soap, detergents, colas, cars and commercial vehicles. Cement prices are likely to drop Rs 4-5 per bag of 50 kg while steel prices may cost Rs 500-600 per tonne less. In addition to this, the government decided to cut service tax form 12 per cent to 10 per cent--a reduction by two per cent. As a consequence, phone bills, airline tickets, credit card charges, tour packages etc. would cost less. A two per cent reduction in service tax will directly touch the lives of over 500 million persons by reducing monthly expenses. The entire stimulus package of Rs 30,000 crores to boost demand in the economy and thus reduce the impact of recession. Commerce and Industry Minister Kamal Nath announced a small relief package of Rs 325 crores for leather, textiles, gems and jewellery on February 26, 2009.

However, such initiatives cannot translate into poverty alleviation unless the government and private organization's work together to bridge the divide between rural and urban India. To succeed, we need a collaborative partnership businesses working alongside health-care providers, educators, governments, and nongovernmental organizations. Only by providing the means for people the means for people everywhere to access broadband-from the most remote villages to the denset urban centers, can we have the potential to experience a truly connected economy. For this transformation to happen, we need to shape our population towards a knowledge based society. By using technologies to facilitate access to basic amenities, we can accelerate towards inclusive, equitable and sustainable growth. Just imagine the positve transformations that can take place if we connect villages with broadband technologies, and use Information and Communication Technologies (ICT) to make people more information inclusive! Several IT majors along with the State Government of Rajasthan have already come together through the Rajasthan Education Initiative (REI) to accelerate IT education for both teachers and students like State Bank of India, Union bank of India and Bank of India have also made a significant difference to lives in rural India by setting up Internet kiosks as banking outlets in villages, thereby encouraging banking habits among the rural masses. In the area of health, telemedice has made available video and high speed data transfers that allow patients to consult a specialist doctor who is miles away. Such initiatives have proven instrumental for enabling developing and middle income economies to leapfrog to higher stages of development by fostering economic and social transformation. Yet it is clearly in traditional sectors like agriculture that the maximum difference needs to be made. Agro-industry and small rural industries are leveraging ICT to trade etter as well as for knowledge and training. One such example is Dr. Reddy's Foundation's Livelihood Advancement Business School (LABS) initiative in various states. This project, in partnership with Cisco, creates a sustainable livelihood and growth for the underprivileged and marginalized youth. Looking ahead, as the government focuses on development initiatives, we also need to track emerging technologies, strengthen current investments, adopt best practices and look to further build strong public-private partnerships. ICT is hailed as a vital component of the “new economy" and the information revolution can transform the way we work, live, play and learn. let's rise to the challenge, and in doing so, raise the quality of life- and our economic prosperity, for generations to come conflicting signals on fiscal consolidation, signals on fiscal consolidation, especially given the potential impact of the drought," says Deepali Bhargava, economist, financial markets, at ING Vysya Bank in Mumbai. "And you can see the impact on the exchange rate-the Indian rupee is the worst-hit currency among Asian markets."

## CONCLUSION

Global Recession was the result of large scale defaults in the US housing market as the banks went on providing risky loans without adequate security and the repaying capacity of the borrower. The principal source of transmission of the crisis has been the real sector, generally referred to as the 'Main Street'. This crisis engulfed the United States in the form of creeping recession and this worsened the situation. As a consequence, US demand for imports from other countries indicated a decline. The basic cause of the crisis was largely an unregulated environment, mortgage lending to subprime borrowers. Since the borrowers did not have adequate repaying capacity and also because subprime borrowing had to pay two-to-three percentage points higher rate of interest and they have a history of default, the situation became worse. But once the housing market collapsed, the lender institutions saw their balance-sheets go into red. Although at one time it was thought that this crisis would not affect the Indian economy, later it was found that the Foreign Direct Investment (FDI) started drying up and this affected investment in the Indian economy. It was; therefore, felt that the Indian economy will grow at about seven per cent in 2008-09 and at six per cent in 2009-10. The lesson of this experience is that India must exercise caution while liberalising its financial sector. The following measures can be adopted to tackle the recession:

- Tax cuts are generally the first step any government takes during slump.
- Government should hike its spending to create more jobs and boost the manufacturing sectors in the country.
- Government should try to increase the export against the initial export.
- The way out for builders is to reduce the unrealistic prices of property to bring back the buyers into the market. And thus raise finances for the incomplete projects that they are developing.
- The falling rupees against the dollar will bring a boost in the export industry. Though the buyers in the west might become scarce.
- The oil prices decline will also have a positive impact on the porters.

## REFERENCES

1. Annual Report 2008-09 RBI.
2. Bank Quest Vol.80 Jan-March 09, IIIBF
3. Economic Survey Govt. Of India
4. Micro Economic & monetary development 1st Quarter Review 2009-10, RBI.
5. Business World (pg.22, Sep. 2009)
6. Business World (pg. 44, Nov. 2009)
7. www.finmin.noc.in
8. www.rbi.org.in

# ACCESS TO MICRO-HEALTH INSURANCE SERVICES FOR THE RURAL POOR: AN EXPLORATORY STUDY IN ANDHRA PRADESH

*G. A. NARASIMHAM*
*ASST. PROFESSOR*
*SCHOOL OF MANAGEMENT STUDIES*
*VIGNAN UNIVERSITY*
*VADLAMUDI*

*DR. D. NAGAYYA*
*CONSULTANT MICRO, SMALL AND MEDIUM ENTERPRISES*
*GUNTUR*

## ABSTRACT
*There is a large potential market to micro health insurance of rural poor. The demand is strong and is indicating a potential market beyond lending loans and savings micro insurance helps is risk management of the poor in their lives. The formal linkages between insurance companies and informal agencies like MFIs and NGOs will bring greater innovation in design and delivery of micro insurance services and benefits the poor at large. For this understanding of the critical gaps in managing risks is a starting point for identifying micro insurance products for the poor. From here, the challenge becomes how to zero in on insurable risks and design products that are feasible, acceptable, and affordable. The analysis of the study revealed that the poor are vulnerable to various health related risks and they are unable to meet their high cost of health related expenditure with limited savings in their hands. The affordability analysis of premium reveals that the poor can afford to pay low premiums for their health insurance cover. The quantitive analysis on the overall satisfaction of health insurance services in rural areas reveals that majority of the poor are very much dissatisfied with the micro insurance services in rural areas. With 95 percent of the Indian population outside the non-life insurance safety net, insurers have a huge challenge and a big opportunity. Though India has experimented a lot with micro insurance, the sector is still driven by supply-led interventions. Hence, a strategic perspective towards micro insurance together with innovations in technology and assessment of client demand probably holds the key to the future of micro insurance in India.*

## KEYWORDS
Insurance services, Rural Poor, Andhra Pradesh.

## INTRODUCTION
Microfinance in India has largely been driven by credit products of microfinance institutions (MFIs), and micro insurance has remained a secondary choice for financial inclusion. However, recently, many important developments have taken place in the Indian Micro Insurance sector. Micro-insurance is a term increasingly used to refer to '*insurance*' characterized by low premium and low caps or low coverage limits, sold as part of a typical risk-pooling and marketing arrangements, and designed to serve low-income people and businesses not served by typical social or commercial insurance schemes. The institutions or set of institutions implementing micro-insurance are commonly referred to as '*micro insurance scheme*'. With the rapid growth trajectory in recent years, India has achieved an insurance density of US$46.61* (144% over 2003) and an insurance penetration of 4.7% (36% over 2003) in 2008. However, 90%** of the Indian population, and 88%*** of the Indian workforce, the majority of whom in the unorganized sector are still excluded from any kind of insurance cover. Hence, the importance of micro insurance, both from social security and business opportunity points of view can hardly be over-emphasized.

According to Michael McCord "Micro insurance is a system of protecting poor people against specific shocks using risk pooling for regular affordable premiums proportionate to the likelihood and costs of the risk involved", He says that "appropriate delivery mechanisms, procedures, premiums and the coverage define micro insurance". The IRDA Concept Paper that preceded the publication of Micro Insurance Regulations 2005 explained that "Micro insurance refers to the protection of assets and lives against the insurable risks of the target population". The salient features are "Health insurance is sold under General Insurance Product or Life Micro Insurance Product. The Micro Insurance Regulation of 2005 was a pioneering approach by the Insurance Regulatory Development Authority (IRDA). India is among the few countries to draft and implement specific Micro Insurance Regulations. In 2002 IRDA developed rural and social sector obligation norms that mandated every insurance company to achieve percentage of polices to be sold in rural areas; and the number of lives to be covered in the social sector. A consultative group on micro insurance was set up in 2003 to look into the issues which highlighted the: non-viability of standalone micro insurance programme; apathy of insurance companies towards micro insurance; and the potential of alternative channels. In 2004, RRBs were allowed to sell insurance as "Corporate Agent", and in 2005, IRDA came up with the Micro Insurance Regulations which suggested**:**

1. SHGs, MFIs and NGOs were allowed to become Micro insurance Agents (MIA), a status that has simple agency clearance process and sustainable long term earning potential;
2. Stipulation of product boundaries in terms of minimum and maximum sum assured, the term of product, the allowable age group and the maximum commission to agents; and
3. Fulfillment of both rural and social sector obligation through micro insurance products.

The definition of micro insurance products according to IRDA is shown in the table below:

| Type | Sum Assured (Rs. '000) | Term (Years) | Age (Years) |
|---|---|---|---|
| Term Life | 5-50 | 5-15 | 18-60 |
| Endowment | 5-30 | 5-15 | 18-60 |
| Health (individual) | 5-30 | 1-7 | Insurers' discretion |
| Health (family) | 10-30 1-7 | | Insurers' discretion |
| Accident rider | 10-50 | 5-15 | 18-60 |
| Livestock/assets | 5-30 | 1 | NA |
| Accident (non-life) | 10-30 | 1 | 5-70 |

Source: IRDA Annual Reports

* Sigma Report, Swiss Re, March 2008
** Mare Socquetl, October 2005, ILO/STEP, Microinsurance workshop, India
*** *"Pension Reforms for Unorganised Sector", ADB, TA IND-4226, 2006*

The regulation was an important accelerator for the Indian micro insurance industry. By 31st March, 2009, 7,250 MIAs were registered with IRDA. However, the regulation has certain restrictive aspects, for example exclusion of Non Banking Financial Companies and Section 25 companies from acting as MIAs; service tax on all commissions earned; lack of clarity about MIA status of Regional Rural Banks and cooperatives; and restriction of one life and one non-life partner for each MIA.

## EVOLUTION OF CONCEPT OF MICRO HEALTH INSURANCE

Micro insurance has many other names. In francophone, Africa, they are usually called as "*mutuelles*" while in Anglophone Africa, they are named as "*Community Health Insurance*". The International Labor Organization prefers to call them as "*Micro Health Insurance (MHI)"*. MHI is not a new phenomenon. Way back in the 19th Century, at the peak of the industrial revolution in Europe, laborers had no social security measures to protect themselves from the hardships of illness and death, these laborers instituted local *"sickness funds*" that collected money for future contingencies. Over the years, these sickness funds have federated and merged to form the large health insurance companies that exist today in European Countries. This is not limited to Europe alone, in Asia the "jyorei Scheme" in Japan has a similar history. Then there is the famous Chinese Rural Cooperative Medical System, where the farmers contributed annually to a common health fund that was used to finance the health services in the region. Many poor families in Africa, South East Asia and now in India are protected by such schemes; and a phenomenal increase particularly during the last 5 years. As per ILO estimates there are 85 such schemes covering at least 8 million people. Today in the light of governments not being able to provide adequate health care services, coupled with escalating costs in the private health sector, globally the poor have been denied access to health care. And when they do have access, the costs are so high that the family is pushed into poverty. 25-40% of the people in India have to borrow money to meet the hospitalization expenses; this is the main reason why micro-health insurance has been growing as a movement.

## LIFE MICRO INSURANCE

Due to the ease of linking claim assessment, resistance to moral hazard and comfort in cross-selling, life micro insurance has been dominant worldwide. Though life, accident and disability benefits and savings and annuity liked products fall into the realm of life micro insurance, in India, credit-life insurance is dominant among life products. LIC of India, the market leader, in 2008-09 covered 14.71 million lives with a cumulative micro insurance premium of Rs.2.43 billion Though, life insurance, is a very popular savings medium in India, most of the insurance companies have not taken initiative for developing market driven and scalable savings linked micro insurance products.

## POTENTIAL MARKET SIZE OF MICRO INSURANCE IN INDIA

| | |
|---|---|
| **Life** | Rs.15.39 to 20.14 billion per year |
| **Health** | Rs.13.42 to 17.89 billion per year |
| **Crop** | Rs.9.76 to 13.01 billion per year |
| **Livestock** | Rs.5.86 to 8.2 billion per year |
| **Total Microinsurance market** | Rs.62.30 to 84.27 billion per year |
| **Pension for unorganized workforce** | Rs.201.3 billion (US$2.5billion) per year |

*Source: "Potential and Prospects of Micro insurance in India; UNDP Regional Centre of Human Development Unit 2009, "Pension Reforms for Unorganized Sector; ADB, 2006 and IIMS Data Works Survey 2008*

## HEALTH MICRO INSURANCE

In India health micro insurance is dominated by government subsidized schemes and localized Community Based Health Insurance (CBHI). The best known CBHI is the Yeshaswini Trust, which uses the cooperative network of Karnataka (Karnataka Milk Federation) and has reached nearly 3 million farmers. The Karuna Trust (also in Karnataka), another CBHI, has adopted Partner-Agent Model. *Uplift Mutuals* is another experiment, which aims at community managed, self sustaining health insurance across states. Government of India has conceived the "Rashtriya Swasthya Bima Yojana" (RSBY) in April, 2008, to reach 300 million poor (Below Poverty Line) by 2012*****. As on 31st May, 2010, approximately 15.729 million people have been enrolled in the programme across 21states of India**.****

## RASHTRIYA SWASTHYA BIMA YOJANA

RSBY is targeted at the Below Poverty Line market. Features of the scheme include:

1. Contribution by central and state government is 75:25 and clients pay only Rs.30 for registration.
2. GTZ10 is helping governments in implementation and monitoring of the scheme.
3. It covers annual health expense up to Rs.30,000 for a family in 3,717 enrolled hospitals.
4. Biometric health cards are issued on enrolment.
5. 21 states and 11 insurance companies have enrolled

Though it has been realized that most of the low income people are willing to pay (on an average 1.35% of their annual income) for health insurance, much of this need is not converted into demand due to poor health service coverage and imperfect implementation plans. For example, the 2010 review of the National Rural Health Mission shows that only 53.1% of primary health clinics are active. The development of client centric, need based and innovative micro health insurance product is still not common.

## AGRICULTURE INSURANCE

The National Agriculture Insurance Scheme, the most prominent crop insurance scheme has reached approximately 135 million farmers covering 17% of Indian farm holdings. However, high geographical concentration (7 States constitutes 80% of coverage) and a high claim ratio of 3:1 has necessitated index-based crop insurance products. Some of the new trends in crop insurance in India are:

1. A combination of weather index and remote sensing based Normalized Difference Vegetative Index (NDVI) is being developed to address the issue of basis risk,
2. Re-insurers (e.g., SwissRe) are directly partnering with MFIs and banks to provide satellite and NDVI based crop insurance.
3. Crop insurance is getting bundled with agri-inputs (e.g., Pioneer seeds) and agro advisory services (e.g. BASIX and WRMS) to create demand from farmers.
4. Index-based insurance is implemented in alternate livelihood insurance, e.g. in lac (a type of natural resin) farming, Tsar (a kind of silk) farming.

## NEED OF THE STUDY

Micro health insurance is discussed after the advent of Self Help Groups (SHG) and micro finance movement in India. Lack of regulation in health care delivery, accreditation and development of clinical skills, patient informatics and standard code sets have discouraged insurers from aggressively marketing health insurance in rural areas, often resorting to short sighted strategies to fulfill mandatory norms stipulated by the Insurance Regulation and Development Authority of India (IRDA). Health insurance is not only a mechanism for financial protection of the poor to meet the high cost of health care, but also has the potential to influence the provider in various ways.

---

* Working Paper 2, Global Development Network, September 2009.

**Nagpal, Dr. Somi, "Micro Health Insurance in India"' 2009.

Most of the poor do not have awareness of insurance as a concept; some of them dismissing it as one of the myriad schemes with a motive to grab their hard earnings; and often get confused between the various types of insurance. The benefit of financial protection to the poor itself helps in increased access to insurance, and to overcome cost barriers for those who would not able to afford it. The health insurance mechanism thus influences accessibility, cost and affordability of quality health care. It is in this context that the need for study on Micro Insurance is identified to assess the various health related risks of the poor people. The study also made to identify the role of formal and informal institutions designing the mechanisms of delivering health insurance services.

## SIGNIFICANCE

Providing insurance services to the poor who live in rural areas will be a major challenge for both public and private institutions concerned with delivering insurance services. This challenge is even more difficult because of the poor infrastructure and a nascent state of urban centric insurance industry at this point of time. This sector poses more challenges that are to be encountered and opportunities for partnership between public, private and Non-Government institutions to expand the reach and depth of rural insurance market in India. The rural market distribution and servicing are the key areas in developing rural health insurance business. The IRDA mandate on obligations of insurers to the rural and social sector, and its concept paper on micro-insurance are aimed at encouraging micro-insurance for the rural sector in India.

## ACCESS TO HEALTH INSURANCE

Healthcare for the poor seems to have three central challenges: affordability, availability and quality. Effective, viable solutions will need to address all the three issues. A scalable and sustainable micro health insurance model will probably rank as the highest value intervention in addressing the issue of affordability, especially in a country like India where, according to India's National Health Accounts, an estimated 72 percent of healthcare expenditures are out-of-pocket. But the industry quickly learned that this left a large gap between what was offered and what the poor actually needed. Rural insurance can play a significant role in providing access to credit that enhances the income earning opportunities and deliver the savings that build up resources for utilization in case of emergencies.

Currently a number of private sector insurance players are working towards increasing their coverage in rural areas involving NGOs and MFIs. Till recently Indian health sector has been managed mainly by government health care facilities and other public health care systems in the traditional model of health funding and provision. But it was unable to justify the demand of over 200 million health insurable population in India mainly due to service cost and low reach to the rural population. It is estimated that people spend about 4.5% of the GDP on health care needs and this is about three-fourth of the health care expenditure. Most of it is out-of-pocket expenditure. Of all the risks facing the households of the poor, health risks pose the greatest threat to lives and livelihoods. The informal sector and the other socially challenged sections spread over the rural and urban areas of the economy and people from economically weaker sections as well as those from the backward and scheduled caste and scheduled tribe communities' account for a sizable portion of SHG membership.

## MICRO INSURANCE – A MECHANISM TO COMBAT VULNERABILITY

Insurance helps the poor combat the vulnerability caused by exposure to such risks. By pooling into a risk fund to cover stipulated risks – such as illness, loss of assets, death and widowhood–poor can protect themselves from unexpected losses. Insurance of lives and livelihoods is important to the risk-prone economic life of the poor. "Like employment, health, child care, poor also need insurance to fall back on in times of financial crisis or unprecedented calamities". Micro insurance services in Andhra Pradesh largely focused on delivering insurance to the poor were found to be partnering with MFIs. This approach may not be sufficient as millions of poor people in rural and other areas live far from MFIs. There is a need for formal financial institutions like commercial banks, public and private insurance companies, NGOs, community based organizations to deliver insurance services effectively and profitably. This is not an easy task of bringing together in providing micro insurance services with right kind of products to suit to the rural population.

## ROLE OF NON-GOVERNMENT ORGANISATIONS

Non Government Organizations are the most important intermediaries for rural insurance marketing. Though they are not experts in the field of insurance selling yet they play a major role in promoting "insurance" concept by educating the rural masses about what the micro insurance buying can do in their lives. They can organize public meetings by creating a movement and to encourage the habit of making insurance to protect the properties and health among the families and also to protect their future income prospects. The thinking and strategic habits of the rural poor must be changed by conducting such programs by the insurers in association with NGOs. They should jointly own the responsibility for taking care of health care initiatives in rural areas. The Confederation of NGOs of Rural India(CNRI) had extend its full cooperation and support to LIC of India with regard to implementation of the Micro Insurance – Jeevan Madhur Scheme designed to provide social security to the vast masses of rural India and also in the process provide a framework for income earning by the NGOs for strengthening their activities. On the same lines CNRI will also extend its cooperation to other public sector general insurance companies in the area of non-life products. The rural insurance market as a segment has particular system of needs, values and benefits and a particular way of responding to the stimuli that insurers provide the micro health insurance services. The values and belief systems of the rural poor who are the target market for micro health insurance products should be understood by evaluating their needs of insurance and how they are able to meet their needs with limited means. Accordingly products have to be designed keeping in mind the affordability and the benefits and costs in mind.

## ROLE OF MFIs

The current state of micro-insurance identifies emerging lessons for Microfinance Institution (MFI) practitioners interested in developing their own insurance products. For insurers wishing to partner with MFIs, a clear understanding of the role of MFIs is necessary. MFIs offer risk management services in the form of loans and savings which can act as effective tools. They often work with a different business processes compared to insurers because the risk structure of credit is different from that of insurance. MFI life insurers had several thousand clients, strong information-tracking, and a stable credit or savings portfolio before they developed insurance on their own. MFIs and other local institutions are well equipped to act as agents, leveraging their existing, low-cost distribution channels and trusting relationships with low-income clients.This makes it possible to offer the benefits of insurance to low-income clients. All parties – the insurer, the MFI, and their clients - can benefit from the potential power of insurance, without destabilizing the MFI or distracting it from its core business. Insurance is a different business for MFIs, not just a different product. Those who already provide risk management savings and loan products, and still identify an effective demand from clients for insurance products, should look towards an insurance provision partnership with formal insurers. In such a relationship the insurer maintains the insurance risks and the MFI provides sales and basic servicing for the products – both doing what they do best.

## CAPACITY BUILDING BY MFIs

Savings accounts are a more effective foundation for delivering insurance services than loans, because the credit-insurance link only provides coverage when the client has an outstanding loan. A savings-insurance link increases the likelihood that low-income clients with irregular income flows can access insurance. There are three groups of activities involved in providing these products they are designing the product, sale of the product and services to the beneficiaries. Increased coverage means increased complexity and increased protection generally requires greater expertise and investment to succeed. For health insurers, co-payments and mandatory reference systems are widely used. To reduce transactions costs of providing insurance, it is useful to layer insurance transactions on top of the delivery of other financial services. As the provision of insurance products gains further publicity, more MFIs will inevitably try to enter this market. There are relatively few MFIs that have reached financial sustainability, and there are even fewer that have successfully integrated a savings component into their product line. Institutions that have identified client demand for insurance products should focus on creating partnerships in which an MFI works with a regulated insurer to provide clients with an insurance product adapted for the micro market. Such partnerships facilitate MFI provision of insurance products to clients while virtually eliminating risk to the MFI, dramatically minimizing their administrative burden, and requiring very little capacity building on the part of the MFI.

## LINKAGES BETWEEN FORMAL AND INFORMAL AGENCIES

Microfinance institutions are perhaps in a unique position to provide micro insurance as they have extensive networks and are already offering financial services to poor clients. In some cases, MFIs link with formal insurance companies and act as agents for the formal insurer, although the insurer retains all of the risk. MFIs can also form joint ventures with formal insurers and share both risk and management. Some MFIs feel that while they have the networks among the poor, they are not technically proficient to provide insurance services. So, they team up with professional insurance providers who have the technical expertise in the area. Micro Finance Institutions like SEWA in India with their health and property insurance products, act as direct providers of insurance services. Credit and savings services are inadequate when households are exposed to risks which cause losses that are beyond their means. Insurance can serve as a promising response to such client needs. Today micro insurers are providing different forms of insurance for life, health, property, disability, agriculture (crop), etc. Poor households pay a small premium for limited coverage in the event of loss.

## REVIEW OF LITERATURE

Several studies have been conducted previously in the area of micro insurance services. But in India it is emerging as an important area of research because access to insurance by the people living below the poverty line is the main cause of concern. In order to achieve the objective of financial inclusion by providing financial services to the poor, micro insurance is considered as one of the important services which protect the poor people from various risks like health and property. Despite regulatory bodies taking measures, the results at the ground level are not upto the mark. The literature review provides an overview of the current state of research on micro insurance. It identifies key knowledge gaps and develops a conceptual framework to inform the research agenda of the micro insurance facilities and evaluating the impact on demand and supply issues. The review also covers the supply side challenges such as product development and innovation, institutional models and delivery channels as well as technology options.

Based on their extensive survey of the literature, the authors Preker A.S. and Carrin (2004)[1] show that the main strengths of *community-financing schemes* are the extent of outreach penetration achieved through community participation, the contribution to financial protection against illness, and the increase in access to health care by low-income rural and informal sector workers. The provision of insurance to the poor has mainly been via mutual / cooperatives or *microfinance organizations using the "Partner-Agent" model.* The author R. kannan (2008)[2] says that Micro Insurance products should be designed to factor in the risks of low income households and also be as inclusive as possible with an affordable premium, and the premium payments should correspond with their cash-flow position. These products should also have clearly defined simple rules with transparent exclusions. The documentation, including claim forms, should be available in vernacular languages. The distribution channel also needs to be made more effective and banc assurance could be one route. The author also stressed the need to examine the feasibility of selling Micro Insurance products through the wide network of post offices.

The study conducted by Naveen K Shetty and Veerashekarappa (2009)[3] examines the *innovation of the MFIs in scaling up and accessing micro health insurance (Partner-Agent Model)* for the poor in India. The primary survey was conducted in 10 villages covering 106 self help groups and 318 member households in the state of Karnataka, India. The results showed that MFIs are playing a crucial role in delivering the Micro Insurance products at the door steps of the rural poor. The study also finds that the accessibility of the Micro health Insurance scheme is the poor centered and covers multi risks of the poor in rural areas.

Sneha Shukla (2008)[4] in her article "Insuring Bottom of the Pyramid" says that rural insurance can play a significant role in providing access to credit that enhances income earning opportunities, and deliver savings that build up resources for utilization in case of emergencies. While discussing the norms of rural insurance, she tries to identify various rural insurance needs like *policy holders' preferences and ability to make premium payments* taking into account the operational changes as well. It also tells about the practicing initiatives taken by the private players namely tailor made low cost term insurance products; creation of new distribution channel links and tie-ups to tap this potential rural market. The author N.Jayaseelan (2007)[5] says, that 3.19% of the total premium is accounted for by the health insurance premium. Out of the many Non-life insurance products launched during the year 2005-06, only one product was under *Micro Health Insurance* that too by a stand-alone health insurance company has been in operation. Many proactive measures like creating a database, *capacity building of stakeholders* and customized product/process designing have been suggested to take forward the sector to benefit a large number of poor households.

The authors Craig F. Churchill et., all (2003)[6] specified in their book the extensive how-to manually guide managers of microfinance institutions (MFIs) through the complexities of offering basic insurance products, either on their own or in partnership with an insurance company. The bulk of the manual is dedicated to four aspects: the fundamentals of the insurance business; the design of five recommended short-term, *credit-linked insurance policies*; outsourcing part or most of the insurance responsibilities to a formal insurance company or to skilled consultants; and the financial management and operational integration of an insurance business into a microfinance institution. A review of the existing health insurance schemes in India and select Asian and Latin American countries, such as China, Thailand, Sri Lanka, Chile, Uruguay, Colombia, Brazil, and Argentina, is undertaken with a view to drawing lessons for India.

Anil Gumber (2002)[7] in their paper examines the feasibility of providing health insurance to poor people in terms of both *willingness and capacity to pay* for such services. The paper also suggests various options available to introduce an *affordable health insurance plan* for workers in the informal sector. The authors Ramesh Bhat and Nishanth Jain (2006)[8] analyzed the *factors affecting the purchase decision of insurance* and the amount of insurance purchase in Anand district of Gujarat. The results show that the income and the *healthcare expenditure, age, coverage and knowledge about the product are the major factors in purchase decisions.* The study covered the implications of the above factors.

The author Mr.Srabanti Chakravarthi (2006)[9] attempts to highlight the possible hindrances in the *delivery system of health insurance* in India. The article raises issues of improper claim settlements, adverse selections, and information lag. Strengthening public funded facilities, improving their efficiency, quality, improved *claim settlement system*, increased promotional measures will have positive impact on the health insurance. The author also states that there is an increased need to some special health insurance policies especially for the vulnerable poor in rural areas.

The author Vinay Varma (2006)[10] says that the poor in the unorganized sector are hit on two fronts once they meet with an accident or fallen ill. The range of crisis the poor are vulnerable to include sudden accidents and hospitalization of the bread earner of the family, loss of crops and assets and live stock and above all natural calamities like floods, earthquake and draughts. This paper provides an overview of micro insurance scene in India and analyzing global practices in this area. The paper also discusses the *role of government and the regulator to improve the risk management of the poor* and suggests best marketing strategies for the poor to facilitate them with micro insurance services.

The author P.S. Gunaranjan (2007)[11] states in his article that gives an insight into the regulatory and capacity building challenges faced by micro-insurance intermediaries. Their constant interactions with insurance companies is also highlighted to further draw out these constrains and its adverse effect on scalable delivery of micro insurance. Samuel B Sekar(2009)[12] states in his research paper nearly 1.3 billion people around the world lack access to affordable healthcare, including people from India. The affordability problem has been addressed to a certain extent by the introduction of affordable insurance schemes. These schemes refute the government's assumption that impoverished families of rural India are not capable of availing healthcare services through payment of health insurance premiums. Affordable health insurance schemes have made healthcare services affordable and accessible.

A study by David Dror et., all.,(2007)[13] conducted in India in 2005, provides evidence on Willingness to pay (WTP), gathered through a unidirectional (descending) bidding game among 3024 households (HH) in seven locations where micro health insurance units are in operation. Insured persons reported slightly higher willingness to pay values than uninsured. About two-thirds of the sample agreed to pay at least 1%; about half the sample was willing to pay at least 1.35%; 30% was willing to pay about 2.0% of annual house hold income as health insurance premium. Nominal willingness to pay correlates positively with income but relative willingness to pay (expressed as percent of HH income) correlates negatively. The correlation between willingness to pay and education is secondary to that of willingness to pay with HH income. Household composition did not affect WTP. However, HHs that experienced a high-cost health event and male respondents reported slightly higher willingness to pay. The observed nominal levels of WTP are higher than has been estimated hitherto. This paper aims to understand the role of *micro-insurance as an element of social protection.* It outlines the current status of micro-insurance provision in Ghana and Sri Lanka, two countries with very different socio-cultural backgrounds. It concludes that both countries are unlikely to extend their social security systems to the entire population in the short to medium term, making private micro-insurance initiatives essential mechanisms to help people reduce their vulnerability. In India, the out-of-pocket health expenditure by households accounts for around 70 percent of the total expenditure on health and has limited coverage.

Dilip Mavalankar and Ramesh Bhat (2000)[14] followed the areas of Economic policy context, Health financing in India, Health insurance scenario in India, Health insurance for the poor, Consumer perspective on health insurance, Models of health insurance in other countries. A number of insurance experiments are being tried out for low-income people in India. Some of these have indeed been successful while others are still struggling to become so. These experiments cover only a small percentage of the low-income population. There are several gaps in Government policies that either hinder or do not positively encourage reaching insurance to low-income people. The policy gaps can be easily identified as we discuss the various choices available to policy-makers.

James Roth et.all.,(2005)[15] looks at micro insurance from the perspective of microfinance institutions (MFIs), which are important micro insurance delivery channels. By reviewing the experiences of three Indian MFIs—SPANDANA in Andhra Pradesh, and SHEPHERD and ASA in Tamil Nadu—it seeks to answer questions about what products to offer, and how to design and deliver them. Even though these organizations operate in similar environments, they have adopted very different approaches, which presumably make sense given their experiences, degree of maturity, and intentions. Insights into the choices they made, and the reasons for making those choices, may benefit others.

Gunita Arun Chandok (2009)[16] the study is based on 3,531 households (representing 17,323 persons) and 4,316 illness episodes. The findings are that the median cost of one illness episode was INR 340. When costs were calculated as % of monthly income per person, the median value was 73% of that monthly income, and could reach as much as 780% among the 10% most exposed households. The estimated median per-capita cost of illness was 6% of annual per-capita income. The ratio of direct costs to indirect costs was 67:33. The cost of illness was lower among females in all age groups, due to lower indirect costs. 61% of total illnesses, costing 37.4% of total OOPS, were due to acute illnesses; chronic diseases represented 17.7% of illnesses but 32% of costs.

## OBJECTIVES OF THE STUDY

- To study the role of the formal and informal institutions in providing rural health insurance services to the poor in Andhra Pradesh;
- To highlight the need for micro-insurance as an integral component of financial services for the poor, and
- To examine the scope for extending micro insurance services to the poor in rural health sector.

## LIMITATIONS OF THE STUDY

A comprehensive study was made in order to arrive at a better understanding of Micro health insurance services for the poor in Andhra Pradesh and also to draw some generalizations. Participants to this research were chosen on random basis and according to their willingness to answer the questionnaire. The study covers the population who are living in rural areas of Andhra Pradesh is a limitation to the statistical relevance of this research. However data collected are believed to be reasonable representative of population universe in general towards the topic.

## DATA SOURCES AND RESEARCH METHODOLOGY

The methodology adopted for conducting research involves the following:

**PRIMARY DATA**

Collection of data has been done by conducting a survey through a structured questionnaire which is administered on respondents chosen from three districts of the state of Andhra Pradesh, namely Coastal Andhra, Rayalaseema, and Telangana areas.

**SECONDARY DATA**

The secondary data collected is based on various journals, magazines and research studies conducted on micro insurance. An extensive review of literature on the research topic has to be done as part of collection of data from the secondary sources.

**SAMPLING TECHNIQUE**

Stratified Random sampling technique is used to collect the data and computer based statistical techniques will be applied for the purpose of analysis and tabulation of data. The sample design consists of respondents from the districts of Srikakulam, Chittore, and Mahabubnagar covering Coastal Andhra, Telangana and Rayalaseema regions.

**SAMPLE DESIGN**

In order to test the above hypothesis sampling measures are taken up. Different sampling methods are available, out of which questionnaire method is appropriate and easy to the present context of my research hypothesis. The sample design consists of respondents from various districts of Andhra Pradesh. The study is confined to population of state of Andhra Pradesh. According to 2011 census the population of Andhra Pradesh is 8.20 crores out of which rural population is about 5.0 crores. The sample so selected consists of 1500 respondents comprising 500 samples from 10 villages in each mandal in the three districts namely Srikakulam, Chittore, and Mahabubnagar with different social backgrounds The data collected is then subjected to statistical analysis using chi-square test to test the hypothesis.

**RESEARCH HYPOTHESIS FOR TESTING**

1. **$H_0$**-There is no relationship between monthly income and domiciliary health expenditure.
   **$H_1$**-There is a relationship between monthly income and domiciliary health expenditure.

2. **$H_0$** - There is no relationship between monthly income and monthly savings.
   **$H_1$** - There is a relationship between monthly income and monthly savings.
3. **$H_0$** -There is no relationship between monthly income and affordability of premium on micro health insurance to meet high cost of health expenditure.
   **$H_1$** - There is a relationship between monthly income and affordability of premium on micro health insurance to meet high cost of health expenditure.
4. **$H_0$** - Majority of rural poor are not satisfied with the micro health insurance services provided in rural areas.
   **$H_1$** - Majority of rural poor are satisfied with the micro health insurance services provided in rural areas.

**TABLE NO. 1: AGE OF THE RESPONDENTS**

| AGE (in Years) | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| 25-30 | 480 | 32 |
| 30-35 | 525 | 35 |
| 35-40 | 335 | 22 |
| 40-50 | 160 | 11 |
| 50 AND ABOVE | 0 | 0 |
| **TOTAL** | **1500** | **100** |

*Source: Primary Data*

The above table shows the age distribution of the respondents that were identified as poor. Majority of them are in the age group of 30 – 35 years which accounts for 35 percent. 32 percent of them belong to the age group of 25–30. 22 percent of the respondents belong to the age group of 35 – 40 and 11 percent of them belong to the age group of 40 – 50. A majority of the respondents are women and this provides the ample scope for insuring them at a very young age and can be easily brought under the umbrella of micro health insurance.

**TABLE NO. 2: RESPONSE REGARDING LITERACY LEVEL**

| LITERACY LEVEL | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| YES | 945 | 63 |
| NO | 555 | 37 |
| **TOTAL** | **1500** | **100** |

*Source*: Primary Data

The above table analyses another personal factor considered is the educational factor of the respondents. It is identified that 63 percent said that they are literate and studied up to 5th standard and some of them told they studied up to 7th standard.37 percent of the respondents are not literate and not even have basic education. This shows wider gaps in education of the rural poor in understanding their needs for availing various benefits offered by government and other institutions providing micro insurance services. The education has helped them in understanding various schemes of micro insurance services offered by MFIs and Government.

**TABLE NO. 3: RESPONSE REGARDING POSSESSION OF RAJIV AAROGYASRI CARD**

| RESPONSE | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| **YES** | 1434 | 95.60 |
| **NO** | 66 | 4.40 |
| **TOTAL** | **1500** | **100** |

*Source*: Primary Data

Responding to a question regarding possession of Rajiv Aarogyasri Card a 96 percent majority of the respondents said that they possess the card which is used to minimize the health related expenditure to a nominal amount by the entire family members. The study revealed that 4 percent of the respondents do not possess the card. This card is useful for the poor to avoid heavy health related costs when any of the family member(s) are hospitalized.

**TABLE NO. 4: RESPONSE REGARDING MONTHLY INCOME**

| MONTHLY INCOME | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| **Rs.3000** | 843 | 56.20 |
| **Rs.4000** | 409 | 27.27 |
| **Rs.6000** | 248 | 16.53 |
| **TOTAL** | **1500** | **100** |

*Source*: Primary Data

To estimate the affordability of micro health insurance services the respondent's income has been analyzed. The respondent's monthly income reveals that 56 percent of the respondents are earning Rs.3,000 a month. 27 percent of the respondents are earning an income of Rs.4000. 17 percent of the respondents said that they are earning Rs.6000 per month by depending on the agriculture in the rural areas. It is observed that income level determines the status of the member in the family. Majority of the cases the male head of the family is the only earning member. A very few families have both women and men are the earning members in the family.

**TABLE NO. 5: RESPONSE REGARDING MONTHLY SAVINGS**

| MONTHLY SAVINGS | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| **Rs. 500 – 800** | 636 | 42.40 |
| **Rs.800 - Rs.1000** | 519 | 34.60 |
| **Rs.1000 - Rs.1200** | 345 | 23.00 |
| **TOTAL** | **1500** | **100** |

*Source*: Primary Data

In response regarding how much do the respondents save in a month, the response received was that a mere 23 percent of them save Rs.1000 – Rs.1200 a month for meeting the future requirements of their family. 35 percent of the respondents said they save Rs.800- Rs.1000 a month. 42 percent of the respondents said they save only Rs.500 – Rs.800 a month. This clearly shows that the poor people are not in a position to meet their ends with limited means of earning and to save for the future.

**TABLE NO. 6: RESPONSE REGARDING VARIOUS SOURCES OF INCOME**

| SOURCES OF INCOME | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| **EMPLOYMENT** | 139 | 9.26 |
| **BUSINESS** | 20 | 1.34 |
| **AGRICULTURE** | 791 | 52.73 |
| **LABOUR** | 550 | 36.67 |
| **TOTAL** | **1500** | **100** |

*Source*: Primary Data

The respondents in the rural areas are mainly dependent on agriculture and a majority of them are agriculture labor. The above table represents the various sources of income of the respondents. 53 percent of the poor people are dependent on agriculture with small land holdings at their disposal. 37 percent of the respondents are daily agriculture labour working on daily wage basis. 9 percent of the respondents are employees in village and cottage industries in rural area. A mere 1 percent of the respondents are having small business at home to sustain their living in rural areas.

**TABLE NO.7: RESPONSE REGARDING EXPENDITURE ON HEALTH**

| EXPENDITURE ON HEALTH | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| **Rs.500-Rs.1000** | 807 | 53.80 |
| **Rs.1000 - Rs.5000** | 396 | 26.40 |
| **Rs.5000 - Rs.10000** | 201 | 13.40 |
| **Above Rs.10000** | 96 | 6.40 |
| **TOTAL** | **1500** | **100** |

*Source*: Primary Data

In responding to the question on health expenditure by the respondents, 54 percent of the respondents said that they spend Rs.500 – Rs.1,000 on health related problems. 26 percent of the respondents reacted and said they use to spend Rs.1000 – Rs.5000 on their health. 14 percent of the respondents said they spend Rs. 5000 – Rs.10000 on their health. 7 percent of the respondents said that they spent Rs. 10000 towards protecting them from health related problems. The general perception of the respondents is that they are unable to meet the growing cost of the health and facing lot of problems in meeting the expenditure towards health.

**TABLE NO. 8: SOURCES OF FUNDS FOR MEETING HEALTH EXPENSES**

| SOURCE OF FUNDS | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| **Own Sources** | 882 | 58.80 |
| **Mortgage of Assets** | 348 | 23.20 |
| **Loan from Money Lenders** | 57 | 3.80 |
| **Loan from Relatives** | 213 | 14.20 |
| **TOTAL** | **1500** | **100** |

*Source*: Primary Data

The above table shows the various sources of funds available to the respondents in meeting their health related costs. 59 per cent of the majority said that they are meeting the health expenses from their own savings as a major source. Whereas 23 percent of the respondents said they mortgage their personal assets for meeting the health related expenses. 4 percent of the respondents said they depend on village money lenders for meeting health related expenses in case of urgency and 14 percent of the respondents said they take loan from their relatives and friends for meeting emergency health related expenses.

**TABLE NO. 9: AFFORDABILITY OF PREMIUM PER MONTH TOWARDS MICRO HEALTH INSURANCE**

| PREMIUM PER MONTH | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| **Rs.10 - Rs.25** | 76 | 5.06 |
| **Rs.25 - Rs.50** | 80 | 5.34 |
| **Rs.50 - Rs.75** | 597 | 39.80 |
| **Rs.75 - Rs.100** | 747 | 49.80 |
| **TOTAL** | **1500** | **100** |

*Source*: Primary Data

The above table shows the affordability of premium of health insurance by the poor people in rural areas. The lower level of income of the respondents is not able to support them for affording health insurance premium. 5% of the respondents said they can afford Rs10 – Rs.25 where as another 5% of the poor said they can afford Rs.25 – Rs. 50 per month. 40 percent of the respondents are affordable to pay Rs.50 – Rs.75 and 50 percent of the respondents said their income levels are just sufficient to afford Rs. 75 – Rs 100 per month towards health insurance premium.

**TABLE NO. 10: RESPONSE REGARDING OVERALL SATISFACTION ON MICRO INSURANCE SERVICES FOR THE POOR IN RURAL AREAS**

| DEGREE OF SATISFACTION | NUMBER OF RESPONDENTS | PERCENTAGE |
|---|---|---|
| **HIGHLY SATISFIED** | 66 | 4.40 |
| **MODERATELY SATISFIED** | 45 | 3.00 |
| **LOW SATISFACTION** | 423 | 28.20 |
| **NOT SATISFIED** | 966 | 64.40 |
| **TOTAL** | **1500** | **100.00** |

*Source*: Primary Data

On an analysis of overall satisfaction of respondents on various parameters like access and affordability of micro insurance services, 66 respondents said that they are highly satisfied. 45 respondents said they are moderately satisfied with the micro insurance schemes.423 respondents have low satisfaction due to the fact that they did not derive any benefit from the scheme. 966 respondents have replied that they are not satisfied with regard to access to insurance for the poor by the government and criticized the government for not taking steps to provide insurance to them to improve their well being and to protect their health.

## HYPOTHESIS TESTING – CHI-SQUARE TEST

**1. RELATIONSHIP BETWEEN MONTHLY INCOME AND MONTHLY SAVINGS**

**OBSERVED FREQUENCIES**

| | | | | | |
|---|---|---|---|---|---|
| | **Monthly Savings** | | | | |
| **Monthly Income** | | Rs. 500 – 800 | Rs. 800 - 1000 | Rs.1000 - 1200 | **Total** |
| | 3000/- | 406 | 233 | 204 | 843 |
| | 4000/- | 129 | 217 | 63 | 409 |
| | 6000/- | 101 | 69 | 78 | 248 |
| | **Total** | **636** | **519** | **345** | **1500** |

**HYPOTHESIS:**

**$H_0$:** There is no relation between monthly income and monthly savings

**$H_1$:** There is a relation between monthly income and monthly savings

**Therefore $\chi^2$ = 92.1823**

**Tabulated value of $\chi^2$ for 4 degrees of freedom at 5% level of significance is 9.49**

There is no relationship between monthly income and monthly savings. Since the calculated value of $\chi^2$ is greater than the tabulated value of $\chi^2$ for 6 degrees of freedom at 5% level of significance, hypothesis is rejected. Hence we can conclude that there is a relationship between monthly income and monthly savings.

## HYPOTHESIS TESTING – ANOVA

**ANOVA: TWO-FACTOR WITHOUT REPLICATION**

| *SUMMARY* | *Count* | *Sum* | *Average* | *Variance* |
|---|---|---|---|---|
| 3000/- | 3 | 843 | 281 | 11929 |
| 4000/- | 3 | 409 | 136.3333 | 5969.333 |
| 6000/- | 3 | 248 | 82.66667 | 272.3333 |
| | | | | |
| Rs. 500-800 | 3 | 636 | 212 | 28423 |
| Rs.800-1000 | 3 | 519 | 173 | 8176 |
| Rs.1000-1200 | 3 | 345 | 115 | 5997 |

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| *Source of Variation* | *SS* | *df* | *MS* | *F* | *P-value* | *F crit* |
| **Rows** | 63144.67 | 2 | 31572.33 | 5.7281 | 0.066975 | 6.944272 |
| **Columns** | 14294 | 2 | 7147 | 1.296665 | 0.368053 | 6.944272 |
| **Error** | 22047.33 | 4 | 5511.833 | | | |
| **Total** | 99486 | 8 | | | | |

Since p > 0.05 the monthly savings of the respondents is **not** significant. We accept the Null hypothesis. Hence It can be concluded that the savings are homogeneous among the respondents

**2. RELATION BETWEEN MONTHLY INCOME AND DOMICILIARY EXPENDITURE ON HEALTH**

**OBSERVED FREQUENCIES**

| | Domiciliary Expenses on Health | | | | | |
|---|---|---|---|---|---|---|
| **Monthly Income** | | Rs.500-1000 | Rs.1000-5000 | Rs5000-10000 | More than Rs.10000 | **Total** |
| | 3000/- | 458 | 221 | 113 | 51 | 843 |
| | 4000/- | 222 | 101 | 59 | 27 | 409 |
| | 6000/- | 127 | 74 | 29 | 18 | 248 |
| | **Total** | **807** | **396** | **201** | **96** | **1500** |

**HYPOTHESIS:**

**$H_0$**: There is no relation between monthly income and domiciliary expenses on health.

**$H_1$**: There is a relation between monthly income and spent on domiciliary expenses on health during last year.

**Therefore $\chi^2$ = 3.2753**

**Tabulated value of $\chi^2$ for 6 degrees of freedom at 5% level of significance is 12.6**

There is no relationship between monthly income and domiciliary expenditure on health. Since the calculated value of $\chi^2$ is less the tabulated value of $\chi^2$ for 6 degrees of freedom at 5% level of significance, hypothesis is accepted. Hence we can conclude that there is a relationship between monthly income and domiciliary expenditure on health.

## HYPOTHESIS TESTING – ANOVA

**ANOVA: TWO-FACTOR WITHOUT REPLICATION**

| *SUMMARY* | *Count* | *Sum* | *Average* | *Variance* |
|---|---|---|---|---|
| Monthly Income | 4 | 843 | 210.75 | 32104.25 |
| Monthly Income | 4 | 409 | 102.25 | 7291.583 |
| Monthly Income | 4 | 248 | 62 | 2464.667 |
| | | | | |
| Health Expenses | 3 | 807 | 269 | 29047 |
| Health Expenses | 3 | 396 | 132 | 6123 |
| Health Expenses | 3 | 201 | 67 | 1812 |
| Health Expenses | 3 | 96 | 32 | 291 |

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| *Source of Variation* | *SS* | *Df* | *MS* | *F* | *P-value* | *F crit* |
| Monthly Income | 47358.5 | 2 | 23679.25 | 5.225766 | 0.04851 | 5.143253 |
| Health Expenses | 98394 | 3 | 32798 | 7.238179 | 0.020308 | 4.757063 |
| Error | 27187.5 | 6 | 4531.25 | | | |
| **Total** | 172940 | 11 | | | | |

Since P < 0.05 the domestic health expenditure is significant. We reject the Null hypothesis. Hence it can be concluded that the domestic health expenditure is NOT homogeneous among the respondents

**3. RELATIONSHIP BETWEEN MONTHLY INCOME AND AMOUNT OF PREMIUM AFFORDABLE TO PAY FOR MICRO HEALTH INSURANCE**

**OBSERVED FREQUENCIES**

| | Amount of premium affordable to pay for health insurance to meet high cost of health related expenses | | | | | |
|---|---|---|---|---|---|---|
| **Monthly Income** | **Rs.** | **Rs. 10 - 25** | **Rs. 25-50** | **Rs.50-75** | **Rs. 75-100** | **Total** |
| | 3000/- | 33 | 38 | 328 | 444 | 843 |
| | 4000/- | 30 | 29 | 170 | 180 | 409 |
| | 6000/- | 13 | 13 | 99 | 123 | 248 |
| | **Total** | **76** | **80** | **597** | **747** | **1500** |

**HYPOTHESIS**

**$H_0$**: There is no a relation between monthly income and amount of premium affordable to pay for health insurance to meet high cost of health related expenses.

**$H_1$**: There is a relation between monthly income and amount of premium affordable to pay for health insurance to meet high cost of health related expenses.

**Therefore $\chi^2$=14.4633, Tabulated value of $\chi^2$ for 6 degrees of freedom at 5% level of significance is 12.6**

There is no relationship between monthly income and affordability of premium on micro health insurance to meet high cost of health expenditure. Since the calculated value of $\chi^2$ is greater than the tabulated value of $\chi^2$ for 6 degrees of freedom at 5% level of significance, the hypothesis is rejected. Hence we can conclude that there is a relationship between monthly income and amount of premium the poor can afford to pay for health insurance to meet high cost of health related expenses.

## HYPOTHESIS TESTING – ANOVA

**ANOVA: TWO-FACTOR WITHOUT REPLICATION**

| *SUMMARY* | *Count* | *Sum* | *Average* | *Variance* |
|---|---|---|---|---|
| Monthly Income | 4 | 843 | 210.75 | 43196.92 |
| Monthly Income | 4 | 409 | 102.25 | 7073.583 |
| Monthly Income | 4 | 248 | 62 | 3297.333 |
| | | | | |
| Premium | 3 | 76 | 25.33333 | 116.3333 |
| Premium | 3 | 80 | 26.66667 | 160.3333 |
| Premium | 3 | 597 | 199 | 13741 |
| Premium | 3 | 747 | 249 | 29331 |

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| *Source of Variation* | *SS* | *df* | *MS* | *F* | *P-value* | *F crit* |
| Rows | 47358.5 | 2 | 23679.25 | 3.611584 | 0.093422 | 5.143253 |
| Columns | 121364.7 | 3 | 40454.89 | 6.170222 | 0.028981 | 4.757063 |
| Error | 39338.83 | 6 | 6556.472 | | | |
| **Total** | 208062 | 11 | | | | |

Since p < 0.05, the premium affordable to pay for the health insurance is significant. We reject the Null hypothesis Hence it can be concluded that the amoaunt of affordable premium paid by the respondents is NOT homogeneous

**4. RELATION BETWEEN AMOUNT OF SUM ASSURED FOR HEALTH INSURANCE AND OPINION ON MICRO HEALTH INSURANCE SERVICES FOR THE POOR**

**OBSERVED FREQUENCIES**

| | Opinion on Micro Health Insurance Services | | | | | |
|---|---|---|---|---|---|---|
| | Sum Assured | High Satisfied | Moderately Satisfied | Low Satisfaction | No Satisfaction | Total |
| The amount of Sum assured for health insurance | 30000 | 60 | 147 | 42 | 30 | 279 |
| | 50000 | 597 | 474 | 15 | 15 | 1101 |
| | 75000 | 48 | 12 | 0 | 0 | 60 |
| | 100000 | 45 | 15 | 0 | 0 | 60 |
| | 150000 | 0 | 0 | 0 | 0 | 0 |
| | **Total** | **750** | **648** | **57** | **45** | **1500** |

**HYPOTHESIS**

**$H_0$**: There is no relation between amount of sum assured and opinion on micro health insurance services for the poor.

**$H_1$**: There is a relation between amount of sum assured and opinion on micro health insurance services for the poor.

**Therefore $\chi^2$=269.5299**

**Tabulated value of $\chi^2$ for 9 degrees of freedom at 5% level of significance is 16.9**

Majority of the rural poor are not satisfied with the micro insurance services provided in rural areas. Since the calculated value of $\chi^2$ is greater than the tabulated value of $\chi^2$ and found significant at 5% level of significance, the hypothesis is rejected. Hence we can conclude that there is a relationship between the amount of sum assured and opinion on micro health insurance services for the poor.

**TABLE NO. 10: RESPONSE REGARDING OVERALL SATISFACTION ON MICRO INSURANCE SERVICES FOR THE POOR IN RURAL AREAS**

| DEGREE OF SATISFACTION | NO. OF RESPONDENTS (f) | WEIGHT (W) | WEIGHTED SCORE (W*f) | x-x¯ | (x-x¯)² | f(x-x¯)² |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| HIGHLY SATISFIED | 66 | 5 | 330 | 5 – 2.09 = **2.91** | 8.4681 | **558.89** |
| MODERATELY SATISFIED | 45 | 4 | 180 | 4 – 2.09 = **1.91** | 3.6481 | **164.16** |
| LOW SATISFACTION | 423 | 3 | 1269 | 3 – 2.09 = **0.91** | 0.8281 | **350.29** |
| NOT SATISFIED | 387 | 2 | 774 | 2 – 2.09 = **- 0.09** | 0.0081 | **3.130** |
| HIGHLY DISSATISFIED | 579 | 1 | 579 | 1. – 2.09 = **- 1.09** | 1.1881 | **687.91** |
| TOTAL | f=1500 | | 3132 | | | 1764.38 |

The weighted mean score = 2.09 ; f = 1500 ; mid point = 3.0 ∑ w. f = 3132

∑ = √ f(x-x¯)²/N = √1764.38/1500 = √1.1763 = 1.085

x¯ +/- ∑ = 2.09 +/- 1.085 = 3.175 and 1.005 with mid point = 3.0 deviations from the midpoint 1.175 and -1.995

Sum of the deviations = -0.82 hence the conclusion is negative.

## CONCLUSION

There is a large potential market to micro health insurance of rural poor. The demand is strong and is indicating a potential market beyond lending loans and savings micro insurance helps is risk management of the poor in their lives. The formal linkages between insurance companies and informal agencies like MFIs and NGOs will bring greater innovation in design and delivery of micro insurance services and benefits the poor at large. For this understanding of the critical gaps in managing risks is a starting point for identifying micro insurance products for the poor. From here, the challenge becomes how to zero in on insurable risks and design products that are feasible, acceptable, and affordable. The analysis of the study revealed that the poor are vulnerable to various health related risks and they are unable to meet their high cost of health related expenditure with limited savings in their hands. The affordability analysis of premium reveals that the poor can afford to pay low premiums for their health insurance cover. The quantitive analysis on the overall satisfaction of health insurance services in rural areas reveals that majority of the poor are very much dissatisfied with the micro insurance services in rural areas. With 95 percent of the Indian population outside the non-life insurance safety net, insurers have a huge challenge and a big opportunity. Though India has experimented a lot with micro insurance, the sector is still driven by supply-led interventions. Hence, a strategic perspective towards micro insurance together with innovations in technology and assessment of client demand probably holds the key to the future of micro insurance in India.

## SUGGESTIONS

The study analyzed various factors contributing to the growth of micro health insurance services. A clear understanding of the micro insurance scenario in India in terms of access, affordability and quality in terms of satisfaction of the poor requires lot of efforts from the formal and informal agencies contributing to the social goals besides profit making. An important alternative option to fulfill the economic as well as the social goals can be by offering subsidies in risk coverage rather than premium through some form of risk adjustment within the insurance industry. There is a need to provide after sale service for extension of insurance market to serve the large number of poor population living in rural areas.

## REFERENCES

1. Preker A.S., Carrin G., (2004), 'Health *Financing For Poor People: Resource Mobilization And Risk Sharing'*, eds., pp. 3-51, World Bank.
2. R Kannan (2008) "*Micro Insurance: Agenda for the future of underprivileged*", Insurance Regulatory & Development Authority Report.
3. Naveen K. Shetty and Veerashekharappa, (2009) Research scholar and Associate Professor –*"Institutional innovation and access to micro health Insurance for the poor: Evidence from Karnataka*" Journal of Risk and Insurance, Icfai Press Vol.VI No.1.
4. Sneha Shukla (2008) "*Insuring Bottom of the Pyramid*" The Insurance Chronicle, Icfai University Press.
5. N. Jayaseelan (2007) "*Micro Health Insurance - A way of ensuring financial security to the poor*". IRDA Journal.
6. Craig F. Churchill; et.al (2003) "*Making Insurance Work for Microfinance Institutions: A Technical Guide to Developing and Delivering Micro insurance*. Book Review, International Labour Organization.
7. Anil Gumber, (2002) "*Health Insurance for the informal sector - Problems and prospects*", Indian Council for Research on International Economic Relations, Working Paper.
8. Ramesh Bhat and Nishanth Jain (2006) "*factors affecting demand for insurance in a micro health insurance scheme*", Research and Publications, IIM (Ahmedabad).
9. Mr.Srabanti Chakravarti,(2006) "*Reasons behind low penetration of health insurance schemes in India with special reference to Kolkata*", Icfai University Press,.
10. Sri.Vinay Verma, (2006) "*Micro Insurance Solutions to improve Risk Management for Poor*", The Journal of Insurance Institute of India Vol. NO. XXXII.
11. P.S.Gunaranjan,(2007) "*Mitigating risks for the poor Focus on Micro insurance*", Microfinance Insights, Vol. 5, December.
12. Samuel B Sekar (2009) "*A Study on the Present Condition of Affordable Health Insurance Schemes in India*", The Insurance Chronicle.
13. David M. Dror,Ralf Radermacher , Ruth Koren, (2007)"*Willingness to Pay for Health Insurance among Rural and Poor Persons: Field Evidence from Seven Micro Health Insurance Units in India*" Health Policy, Vol.82, No.1
14. Dileep Mavalankar & Ramesh Bhat (2000) "*Health Insurance in India Opportunities, Challenges and Concerns*" Indian Institute of Management Ahmedabad.
15. James Roth, et.al, (2005) "*Micro insurance and Microfinance Institutions Evidence from India*", CGAP Working Group on Micro insurance Good and Bad Practices.
16. Gunita Arun Chandhok, (2009) "*Insurance – A Tool to Eradicate and a Vehicle to Economic Development"*, International Research Journal of Finance and Economics, Issue 24, Euro Journals Publishing, Inc.

## ANNEXURE

**LIST OF MICRO INSURANCE PRODUCTS WITH UIN'S**

| Financial Year | Name of the Product | Product UIN No. | From (opening date) |
|---|---|---|---|
| 2007-08 | Bajaj Allianz Jana Vikas Yojana | 116N047V01 | 4-Apr-07 |
| 2007-08 | Bajaj Allianz Saral Suraksha Yojana | 116N048V01 | 4-Apr-07 |
| 2007-08 | Bajaj Allianz Alp Nivesh Yojana | 116N049V01 | 4-Apr-07 |
| 2007-08 | Grameen Suraksha | 122N039V01 | 16-Mar-07 |
| 2007-08 | Birla Sun Life Insurance Bima Suraksha Super | 109N032V01 | 13-Aug-07 |
| 2007-08 | Birla Sun Life Insurance Bima Dhan Sanchay | 109N033V01 | 13-Aug-07 |
| 2008-09 | ICICI Pru Sarv Jana Suraksha | 105N081V01 | 2-Jun-08 |
| 2007-08 | ING Vysya Saral Suraksha | 114N032V01 | 3-Sep-07 |
| 2006-07 | LIC's Jeevan Madhur | 512N240V01 | 14-Sep-06 |
| 2009-10 | LIC's Jeevan Mangal | 512N257V01 | 4-May-09 |
| 2008-09 | Met Vishwas | 117N042V01 | 2-Jun-08 |
| 2007-08 | SBI Life Grameen Shakti | 111N038V01 | 6-Sep-07 |
| 2007-08 | SBI Life Grameen Super Suraksha | 111N039V01 | 6-Sep-07 |
| 2006-07 | Ayushman Yojana | 110N042V01 | 30-May-06 |
| 2006-07 | Navkalyan Yojana | 110N043V01 | 30-May-06 |
| 2006-07 | Sampoorn Bima Yojana | 110N044V01 | 2-Jun-06 |
| 2008-09 | Tata AIG Sumangal Bima Yojana | 110N061V01 | 3-Jun-08 |
| 2006-07 | Sahara Sahayog (Micro Endowment Insurance without profit plan) | 127N010V01 | 21-Apr-2006 |
| 2007-08 | Shri Sahay | 128N011V01 | 7-Feb-07 |
| 2007-08 | Sri Sahay (AP) | 128N012V01 | 24-Apr-07 |
| 2008-09 | IDBI Fortis Group Microsurance Plan | 135N004V01 | 5-Nov-08 |
| 2008-09 | DLF Pramerica Sarv Suraksha | 140N007V01 | 16-Mar-09 |
| 2008-09 | SUD Life Paraspar Suraksha Plan | 142N009V01 | 17-Mar-09 |

# REVISED CONSOLIDATED FDI POLICY 2011: BRIDGING THE GAP BETWEEN DOMESTIC PARTICIPANTS AND FOREIGN PLAYERS

*NITI SAXENA*
*ASST. PROFESSOR*
*DEPARTMENT OF COMMERCE*
*JAGANNATH INTERNATIONAL MANAGEMENT SCHOOL*
*NEW DELHI*

## ABSTRACT
*Foreign direct investment (FDI) in India has played a stellar role in the development of the Indian economy. FDI is a key driving force enabling India to achieve a certain degree of financial stability, growth and in attracting sustained foreign investment into the country. The objective of the Government is to promote FDI through a policy framework which is transparent, predictable, simple and clear and reduces regulatory burden. To simplify the rules and regulations pertaining to the foreign direct investment policy, the system of periodic consolidation and updation is introduced as an investor friendly measure. The present paper seeks to appraise the major revised policy initiatives (FDI policy 2011, circular 2) announced by the government on 31st September 2011 to encourage FDI inflows into the economy and its impact on the domestic participants. The revised consolidated FDI policy appears to be investor friendly with liberal norms and regulations directed towards attracting more capital inflow into the country thus strengthening the orbit of the Indian economy in the current global economic scenario. However, there is a call for a more liberal FDI policy framework especially needed in the context of declining FDI flows during the quarter ending September 2011.*

## KEYWORDS
FDI, Industrial Policy, Economy.

## INTRODUCTION
Although the present worldwide economic environment is going through a phase of turbulence, the Indian economy has slowly and gradually emerged as a global economic power. In the post-liberalization era, the foreign direct investment (FDI) has been strategically acknowledged as the life-blood of Indian economy uplifting and accelerating the pace of economic reforms in major sectors of the country. As a normal entry mode, the FDIs in India are permitted through financial collaborations, through private equity or preferential allotments, by way of capital markets through euro issues, and in joint ventures. The Foreign direct investment scheme and strategy depends on the respective FDI norms and policies in India. The FDI policy of India has imposed certain foreign direct investment regulations as per the FDI theory of the Government of India. Foreign investments into India are subject to the industrial policy established by the Department of Industrial Policy and Promotion (DIPP) under the Ministry of Commerce and Industry which is the apex agency. The policy framework on FDI serves as a 'ready reckoner' for the domestic as well as foreign participants on foreign investment related norms and regulations. FDI norms and regulations are governed by the Foreign Exchange Management Act, 1999 (FEMA). Besides, there are other regulations made under the various press notes, press releases and clarifications etc. issued on any of the important subjects from time to time. The Department of Industrial Policy and Promotion, in line with semi-annual consolidation of the FDI policy framework, issued Circular 2 of 2011 on 30 September 2011 to notify the updated FDI policy. The new policy document introduces certain important changes in the extant FDI policy framework and integrates Press Notes/ Press Releases/ Clarifications / Circulars issued by the Department since the previously notified consolidated FDI policy. The FDI Policy issued by DIPP vide circular 1 of 2011 dated March 31, 2011 (Circular 1 of 2011) has been replaced by Circular 2. The revised FDI policy seeks to regulate the foreign direct investment into India in the various manufacturing and service sectors. FDI policy is reviewed on an ongoing basis and measures for its further liberalization are taken. Change in sectoral policy/sectoral equity cap is notified from time to time through Press Notes by the Secretariat for Industrial Assistance (SIA) in the Department of Industrial Policy. Announcements by SIA are subsequently notified by RBI under FEMA. **The major question to be analyzed is whether the revised policy norms issued by Government of India will provide a level playing field for the domestic participant's vis-à-vis the foreign investors.**

## FDI SCENARIO IN INDIA- AN OVERVIEW
The foreign direct investment policy has significantly contributed in injecting the foreign capital funds into the country. The FDI statistics and data pertaining to FDI inflows coming to India during the period 2000 to 2010 is presented in Table 1, that gives an indication of the emergence of India as both a potential investment market and investing country. The FDI inflow has continuously increased over the period expect during 2002-2004 where it decreased by nearly 14%. From a mere 4029 millions USD in 2000-01, the FDI has helped the Indian economy grow, and the government continues to encourage more investments of this sort. The Inflow of FDI during 2009-10 was 16232 million dollars.

**TABLE 1: AN OVERVIEW OF FDI INFLOW IN INDIA (Amounts in Millions USD)**

| Sl. No. | Financial Year | Total FDI Inflows | % Growth Over Previous Year |
|---|---|---|---|
| 1. | 2000-2001 | 4029 | ---- |
| 2. | 2001-2002 | 6130 | (+)52 |
| 3. | 2002-2003 | 5035 | (-)18 |
| 4. | 2003-2004 | 4322 | (-)14 |
| 5. | 2004-2005 | 6051 | (+)40 |
| 6. | 2005-2006 | 8961 | (+)48 |
| 7. | 2006-2007 | 22826 | (+)146 |
| 8. | 2007-2008 | 34362 | (+)51 |
| 9. | 2008-2009 | 35168 | (+)02 |
| 10. | 2009-2010 | 16232 | ---- |

Source: FDI statistics, Ministry of Commerce and Industry, Government of India

The United Nations Conference on Trade and Development (UNCTAD) in its report titled, 'World Investment Prospects Survey 2009-2012' has ranked India at second place in global foreign direct investments (FDI) in 2010. The report has predicted India to be among the top five attractive destinations for international investors during 2010-12. As per the data of the report, the sectors which attracted higher inflows were services, telecommunication, construction activities and computer software and hardware. Mauritius, Singapore, the US and the UK were among the leading sources of FDI. While the FDI approvals witnessed a major appreciation since the liberalization of policy in 1991, the actual inflows have been much less than half of the approvals. The issue of concern is that a substantial part of these resources have gone into mergers and acquisitions and not in the formation of fresh capital. During 2009-2010 FDI in India showed a enormous increase mainly due to severe recession in other parts of the globe. FDI inflow in the country was USD 18.3 billion during April-February 2010-11, down 25 per cent from USD 24.6 billion in 2009-10. According to the latest data released by the Department of Industrial Policy and Promotion (DIPP), the FDI inflow rose by more than 100 per cent to US$ 4.66 billion in May 2011, which was the highest monthly inflow of previous 39 months, while the cumulative amount of FDI equity inflows from April 2000 to May 2011 stood at US$ 205.96 billion. The sector-wise analysis shows that the service sectors (including financial and non-financial) attracted highest FDI equity inflows during April-May 2011-12 at US$ 910 million.

**TABLE 2: SECTORS ATTRACTING HIGHEST FDI EQUITY INFLOWS (FROM APRIL 2000 TO MARCH 2010) (Amounts in Millions USD)**

| Sl. No. | Sector | Amount of FDI Inflows | % As To Total FDI Inflow |
|---|---|---|---|
| 1. | Service Sector(Financial & Non- Financial) | 9,65,210.77 | 22.14 |
| 2. | Computer Software & Hardware | 4,13,419.03 | 9.48 |
| 3. | Telecommunication | 3,68,899.62 | 8.46 |
| 4. | Housing & Real Estate | 3,25,021.36 | 7.46 |
| 5. | Construction Activities | 2,65,492.96 | 6.09 |
| 6. | Automobile Industry | 1,90,172.22 | 4.36 |
| 7. | Power | 1,79,849.92 | 4.13 |
| 8. | Metallurgical Industries | 1,25,785.57 | 2.89 |
| 9. | Petroleum & Natural Gas | 1,11,957.00 | 2.57 |
| 10. | Chemical | 1,01,680.18 | 2.33 |

Source: DIPP, Ministry of Commerce and Industry, Govt. of India

India received maximum FDI from countries like Mauritius, Singapore, and the US at US$ 56.31 billion, US$ 13.25 billion and US$ 9.71 billion, respectively, during April 2000-May 2011. As exhibited in Table 2, the sectors receiving the largest shares of total FDI inflows up to march 2010 were the service sector and computer software and hardware sector, each accounting for 22.14 and 9.48 percent respectively. These were followed by the telecommunications, real estate, construction and automobile sectors. The top sectors attracting FDI into India via mergers and acquisitions were manufacturing; information; and professional, scientific, and technical services. These sectors correspond closely with the sectors identified by the Indian government as attracting the largest shares of FDI inflows overall. As per ASSOCHAM's press release, FDI in Chemicals sector (other than fertilizers) registered maximum growth of 227 per cent during April 2008 – March 2009 as compared to 11.71 per cent during the 2007-08. The sector attracted USD 749 million FDI in financial year '09 as compared to USD 229 million in financial year '08. During the year 2009 government had raised the FDI limit in telecom sector from 49 per cent to 74 per, which has contributed to the robust growth of FDI. The FDI inflow in automobile sector has increased from USD 675 million to 1,152 million in year 2009 over financial year 2008.

The above discussion reveals that post liberalization there is definitely a shift in favor of service sector and a steep fall in the share of manufacturing sector. However, this trend matches the trend of change in the structure of FDI inflows to the developing countries and even the world.

## FDI POLICY 2011-MAJOR AMENDMENTS (AS PER CIRCULAR 2)

Some key changes made to the old FDI policy vide the New FDI Policy concerning various sectors/issues and its implications are as follows:

**1. CONVERSION OF IMPORTED CAPITAL GOODS/MACHINERY INTO EQUITY**

Conversion of imported capital goods/machinery and pre-operative/pre-incorporation expenses to equity instruments had been permitted in the last circular on FDI policy, effective 1April, 2011. It was stipulated that such conversions must be made within a period of 180 days of the date of shipment of capital goods/machinery or retention of advance against equity and that payments made through third parties would not be allowed. This conveyed the sense that the onus of conversion is on the investor with no allowance for the FIPB process involved. This has been clarified through the present amendment (circular 2), under which the time limit for making applications for such conversions will be 180 days. The New FDI Policy further permits pre-incorporation/pre-operative expenses to be paid by the foreign investor to the Indian company directly into the bank account of the Indian company – which leaves one guessing how would such Indian company come to have a bank account even before its incorporation. The procedure would need to be further corrected to remove such gaps in the next consolidated FDI Policy.

**2. FDI IN SINGLE BRAND RETAIL**

As per the old policy provisions, FDI in single brand retail was allowed up to 51% subject to the approval from FIPB and other conditions as imposed under FDI Policy. Vide the Master Circular No.2 of 2011 DIPP has imposed an additional condition that "the foreign investor should be the owner of brand". Hence, only foreign investor who owns a brand can enter into single brand retail segment in India.

**3. PLEDGE OF SHARES FOR ECB**

The New FDI Policy now allows promoters of an Indian Company to pledge their shares in an Indian company against external commercial borrowings (ECB) raised by such company from foreign lenders. Further a NRI holding shares in the Indian company may pledge such shares to (i) secure credit facilities given to such Indian company by an Indian bank, and (ii) secure credit faculties given to such NRI/ non-resident promoter of the Indian company or its overseas group company by overseas bank. The pledge of shares is also subject to applicable terms and conditions as contained in the New FDI policy. This relaxation should enable making inflow of funds via ECBs more attractive to financial institutions and should give a boost to access of overseas/ECB funds to Indian Companies. Typically any foreign / domestic investment will have an exit option for the investor. Normally after 3 to 5 years from the date of investment, the investor exit from the Company either through IPO / buyback by the promoters / selling to third party. Now, vide Master Circular No.2 of 2011 DIPP has clarified that any of above said instruments with in-built options of any type (i.e exit by way of buy back or selling to third party) will not be considered as FDI and it will be treated as ECB and subject to compliance with ECB Policy.

**4. RELAXATIONS CONCERNING ESCROW ACCOUNTS**

The New FDI Policy permits foreign investors to open escrow accounts in India towards payment of share purchase consideration or for keeping securities. The approval earlier required from RBI can now be obtained from the authorized dealer bank.

**5. OPENING OF NON-INTEREST BEARING ACCOUNT BY NON-RESIDENT**

As per the revised policy initiative, only authorized dealers are now permitted to open and maintain non-interest bearing Escrow accounts in Indian Rupees in India under automatic route, on behalf of the non-residents, towards payment of share purchase consideration and/or for keeping securities to facilitate FDI transactions, subject to the terms and conditions as specified by RBI.

**6. INCREASING FDI LIMIT IN TERRESTRIAL BROADCASTING/ FM RADIO**

The New FDI Policy has increased the permitted FDI in terrestrial broadcasting/FM Radio to 26%. The Old FDI Policy provided a cap of 20%. The increase of the cap from 20% to 26%, although falling short of the wish of the industry, will further help the cash-strapped FM radio sector to leverage funds through FDI to meet the expansion and roll out plans in tier-2 and tier-3 cities.

**7. INDUSTRIAL PARKS**

The New FDI Policy has now included 'basic and applied R&D on bio-technology, pharmaceutical sciences/ life sciences' as an industrial activity for setting up industrial parks under the 100% holding vide automatic route. This would thus open the gates for automatic route investments in projects in which quality infrastructure exists in the form of plots of developed land or built up space or a combination with common facilities for the said activities. This move comes alongside the proposed bio-technology bill and shows the steadfastness of the government to keep the focus for developing new emerging sunrise industries.

**8. EDUCATION SECTOR AND OLD-AGE HOMES**

As per the old exiting policy, 100% FDI was permitted in construction development under the automatic route subject to conditions like minimum build up area, minimum capital requirement, lock-in period, etc. Vide Master 2 of 2011 DIPP clarified that the conditions imposed for construction development activities shall not be applicable for construction in the education sector like construction of schools, college, university, etc and in respect of old-age homes. Hence, the construction development companies can utilize this effectively to get more FDI without any conditionality.

**9. REAL ESTATE SECTOR**

The New FDI Policy has delinked construction developments concerning education sector and old-age homes from the real estate construction and thus has set the construction and development activity for these two purposes free from the conditions otherwise applicable on real estate construction. These conditions include minimum built-up area, minimum capitalization of $5 million to $10 million and lock-in period of three years. Hotels and tourism, hospitals, SEZs and investment by NRIs were already kept outside these conditions in the Old FDI Policy.

**10. AGRICULTURE SECTOR**

Under the New FDI Policy apiculture (bee-keeping) has been allowed under the category of permitted agricultural activities under controlled conditions with 100% holding under automatic route. The Old FDI Policy permitted investments in floriculture, horticulture and cultivation of vegetables and mushrooms in a similar manner under controlled conditions with 100% holding under automatic route. This move is a step forward in rationalising the controls and restrictions on FDI in agriculture sector on the one hand and to necessity to bring home the needed technology and expertise to keep afloat the agricultural activities not doing well.

All the above initiatives by the Government of India outline the Government's focus on enhancing the FDI inflows, besides creating a conducive investor-friendly environment for the foreign players.

## FINDINGS AND IMPLICATIONS

The new revised policy document facilitates better comprehension and readability of the FDI policy framework by re-organizing similar subjects under common chapters. Although, as compared to the previous modified policy in April 2011, the new policy appears to be jaded with largely incremental advancements and clarifications. It is devoid of any material changes in any sector that is of significance in the overall development of the economy. The revised policy initiatives in issuance of equity shares is a sigh of relief for domestic firms as it has brought in its forth greater flexibility and ease to get an investment dose of the foreign capital. The companies operating in automobile components, telecom and power have been benefitted from the amendments related to the conversion of imported capital goods into equity. Some of the changes introduced in the FDI policy related to exempting education and old-age homes from minimum area, minimum capitalization norms and enlargement in scope of FDI in Industrial Park and Apiculture are welcome move.

Though the 2011 consolidated FDI policy has liberalized rules to a greater extent yet some concerns still remain to be sorted out and pondered over seriously in order to fully reap the benefits of enhanced FDI in our much volatile economy.The DIPP in its consolidated FDI policy issued on 30th September 2011, had laid down that equity instruments, rather having inbuilt options or supported by options, sold by third parties, would lose their equity character and such instruments would have to comply with the ECB guidelines. ECB guidelines are governed by the RBI and are rather strict and have specific end use restrictions. Now, since call and put options are ever-present in most share purchase agreements, the inclusion of this clause threatened several existing and future investments. Based on the enormous negative feedback, the DIPP in an important move on 31st Oct 2011 has deleted this clause. The additional condition as to ownership of the brand for permitting FDI in single-brand retail trade is likely to hurt investment and expansion plans for foreign as well as Indian retailers. Some of the other much anticipated reforms, for instance enhancing of FDI limits for multi-brand retail sector, defense sector, relaxation of conditionalities for FDI into construction-development sector, remain unaddressed. The amendment relating to Real estate sector requires more clarity in terms of its applicability and scope as the same is likely to have far reaching impact on flow of foreign investments in India and flexibility to foreign investors in structuring their investments. With 100 percent FDI in agriculture sector, the new policy can lead to increasing dependency on foreign companies and shut down of small domestic firms not in a position to keep up with the foreign players.

In the era of globalization, the basic objective of a sustained foreign investment policy is to provide equal opportunities and comfort to both domestic as well as foreign players in order to utilize the growth momentum to the fullest. The revised foreign investment policy of government of India is a welcome step as it conveys a positive gesture towards the progress and advancement of Indian economy. To ensure steady flow of FDI there has been always a demand from the investor circles that legal framework should be so simplified and slackened that investors have an ease in investing. But the investor destinations inherently and specifically the emerging economies like India; many times have to face contradictions and paradoxes with its domestic demands i.e. protecting the interests of the domestic producers and in parallel to promote scales of FDI as well. The domestic participants and International firms can look forward to the measures announced in Circular 2 as a crucial tool to promote the competitiveness of India as an investment destination, instrumental in attracting higher levels of FDI and technology inflows into the country. **Thus it can be concluded that the revised policy norms issued by Government of India will definitely provide a level playing field for the domestic participants to uphold the thrust of the foreign players and together they can promote Indian economy to new dimensions.**

## CONCLUSION

On the whole the revised FDI policy will surely carry forward the process of liberalization which further would assist in enhancing of the FDI into the Country. However, In order to reap the actual benefits of the foreign capital investment, there is a need for a more liberal FDI policy framework to attract larger foreign investments, especially in the context of declining FDI flows in the last quarter ending 30th September 2011.

## REFERENCES


1. Misra, S.K. (2000), "*Indian Economy*", Himalaya Publishing House, 18th Edition, p. 739 New Delhi
2. Press Release on Circular 2 of 2011, Department of Industrial and Policy and Promotion, Ministry of Commerce and Industry Government of India.
3. *"Report of the Committee on Liberalization of Foreign Institutional Investment";* Government of India, Ministry of Finance, Department of Economic Affairs (June, 2004)
4. *"Which Foreigners are Worth Wooing? A Meta-Analysis of Vertical Spillovers from FDI"* William Davidson Institute Working Paper, 996.
5. *"Assessing the impact of the current financial and economic crisis on global FDI flow",* UNCTAD, January 2009
6. www.business.mapsofindia.com/india-gdp/sectorwise/services-sectorgrowth-rate.html
7. *"New consolidated FDI policy, keeping the course in testing times"*, Manoj Kumar, Accessed on October 10 2011, www. hammurabisoloman.com
8. *"News Flash - Consolidated FDI policy"* dated September 30, 2011, Available on www.mdppartners.com (Last accessed on 4th October 2011)
9. *"Foreign direct investment in India"*, www.moneycontrol.com, Accessed on 30th June 2010
10. *"Is 'The Optionator' Now Dead? Weighing the Options"*, www.vccircle.com, Accessed on 1st November, 2011
11. *"Breather for India Inc, call-put options come alive"*, www.moneycontrol.com, Accessed on 31st October, 2011

# MAPPING MOTIVATIONAL ORIENTATION: APPROACH-AVOIDANCE MOTIVE & PERSONALITY

*DR. EKTA SHARMA*
*ASST. PROFESSOR*
*AMRUT MODY SCHOOL OF MANAGEMENT*
*AHMEDABAD UNIVERSITY*
*GUJARAT*

## ABSTRACT

*Personality and motives – Approach & avoidance might be associated. Extraversion, for instance, is associated with a tendency to be optimistic and having a positive attitude towards problems. Extraverted individuals may be motivated to keep their optimism and confidence in themselves. The objective of the article is to map the motivational orientation of the individuals in reference to the personality traits and to find out if there is any difference on any of these variables as per the gender. The type of motivators required for people with different personality and motives are different. So, it would be beneficial for the organizations to map the motivational orientation of their employees as per their personality and motive to put in an effort. The result of the study shows approach and avoidance motive are not gender dependent but is dependent on personality traits.*

## KEYWORDS

Personality, Approach, avoidance, Five factor model, achievement motivation.

## INTRODUCTION

In recent years, a great deal of research on personality characteristics has suggested that five basic personality factors account for most of the variance in personality (Allik & McCrae, 2004; Barrick & Mount, 1991; Hurtz & Donovan, 2000; McCrae & Costa, 1997, 1999, 2008; Scott & Colquitt, 2007). The Big Five Factors are generally labeled Extraversion, Agreeableness, Conscientiousness, Emotional Stability or Neuroticism, and Openness to Experience (Barrick & Mount, 1991; Costa & McCrae, 1992; McCrae & Costa, 2008). Extraversion is frequently associated with being sociable, gregarious, assertive, talkative, and active. Agreeableness is associated with being courteous, flexible, trusting, good-natured, cooperative, forgiving, soft-hearted, and tolerant. Conscientiousness incorporates volitional characteristics, such as hardworking, achievement-oriented, and persevering. Neuroticism is associated with being anxious, depressed, angry, embarrassed, emotional, worried, and insecure. Finally, Openness to Experience is associated with being imaginative, cultured, curious, original, broad-minded, intelligent, and artistically sensitive (Barrick & Mount, 1991; McCrae & Costa, 2008).

Although concerns about the number of factors, theoretical underpinnings, and empirical evidence supporting the FFM have been expressed by a number of scholars (Block, 1995; Carroll, 2002; Merenda, 2008), a general consensus has emerged that the FFM provides a useful framework for describing the emotional, interpersonal, experiential, and motivational styles of individuals (Allik & McCrae, 2004; Barrick & Mount, 1991; Costa & McCrae, 1988; Goldberg & Saucier, 1995; McCrae & Costa, 1997, 1999, 2008; McCrae, Jang, Livesley, Riemann, & Angleitner, 2001; Scott & Colquitt, 2007). Moreover, as noted above, strong claims have been made about the universality of personality traits and the FFM. McCrae and Costa (1997) argue that the personality structure of the FFM is a human universal that can be found in all cultures. Nonetheless, the way in which these characteristics are expressed is shaped by culture and experience (McCrae, 2001, 2002; McCrae & Costa, 2008).

Personality and motives – Approach & avoidance might be associated. Extraversion, for instance, is associated with a tendency to be optimistic and having a positive attitude towards problems. Extraverted individuals may be motivated to keep their optimism and confidence in themselves.

The five-factor model (FFM) includes motivational aspects of personality (McCrae & Costa, 1997), and previous research has shown a relationship between personality traits and motive dispositions (Piedmont, McCrae, & Costa, 1991). In particular, dispositional achievement motives are considered to be useful for research on job performance and academic achievement (Heggestad & Kanfer, 2000; Judge & Ilies, 2002). But the theoretical relationship between traits and motives has been debated (e.g. Pervin, 1994), and attempts to empirically relate personality with motivational variables have produced inconsistent results (Gellatly, 1996).

In recent decades, the five factor model (FFM) of personality traits, as measured by means of the NEO PI-R (Costa & McCrae, 1992), has proven to be the most widely accepted structure of personality. This model has been replicated in many studies (Goldberg, 1990) across cultures and measures (John & Srivastava, 1999), and there is evidence of substantial heritability of these traits (Loehlin, 1992).

Mitchell & Daniels (2003) claimed that research on personality is now the fastest growing area in the motivation literature. After the influence of situational factors on motivation dominated the 1970s and early 1980s, there has been a renewed interest in stable motive disposition. Heggestad and Kanfer (2000) identified two main sources of this renewed interest: first, research on the underlying structure of personality has examined the effects of traits as predictors of academic achievement and job performance/motivation, in particular the positive motivational effect of conscientiousness and the negative effect of neuroticism. Second, goal theories of motivation assume that stable motive dispositions are rooted in personality and affect more proximal motivational processes through their influences on particular goals that individuals adopt in an achievement situation (e.g. Elliott & Church, 1997).

Motivation may be defined as the energization (i.e., instigation) and direction of behavior. Approach and avoidance motivation differ as a function of *valence*: In approach motivation, behavior is instigated or directed by a positive/desirable event or possibility; in avoidance motivation, behavior is instigated or directed by a negative/undesirable event or possibility (Elliot, 1999). We contend that approach–avoidance is not just an important motivational distinction, but that it is fundamental and basic, and should be construed as the foundation on which other motivational distinctions rest.

The approach–avoidance distinction has a long and rich history in intellectual thought. The origin of the approach–avoidance distinction may be traced back to the ancient Greek philosophers Democritus (460–370 B.C.) and Aristippus (435–356 B.C.), who espoused an ethical hedonism that proscribed the pursuit of pleasure and the avoidance of pain as the central guide for human behavior. The first thinker to straightforwardly articulate a psychological hedonism, in which the pursuit of pleasure and the avoidance of pain not only represented an ethical proscription but also a description of how humans actually tend to behave, was the British philosopher Jeremy Bentham (1748–1832). Bentham (1779/1879) offered the following strong dictum in his *Introduction to the Principles and Morals of Legislation*: "Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we should do: they govern us in all we do, in all we say, in all we think" (p. 1). In his classic *Principles of Psychology (vol. 2)*, James (1890) discussed pleasure and pain as the "springs of action," noting that pleasure is a "tremendous reinforcer" and pain a "tremendous inhibitor" of behavior (pp. 549–559). Freud (1915) presumed that humans, like lower animals, continuously seek pleasure and avoid pain, and viewed this hedonistic tendency as the motivational foundation of psychodynamics. Jung (1921) noted that the fundamental difference between extroverts and introverts is that in the former there is a movement of interest toward social objects, whereas in the latter there is a movement of interest away from social objects. Pavlov (1927) identified two types of reflexive responses in his work on classical conditioning, an orienting response toward the stimulus and a defensive response away from the stimulus. Thorndike (1911) laid the groundwork for reinforcement theory by proposing the "law of effect" which states that a response leading to "satisfaction" is strengthened, whereas a response leading to "discomfort" is weakened. Skinner (1938) sought to extricate "mentalism" from the law of effect, opting to declare that observable reinforcers increase the likelihood of subsequent behavior and observable punishers decrease the likelihood of subsequent behavior. In his purposive behaviorism, Tolman (1925) posited that a complete description of behavior must include reference to the end (i.e., goal) toward which or away from which the organism is moving. In his field theory, Lewin (1935) stated that goal-objects in the life space possess positive valences that attract and negative valences that repel. Miller (1944) drew on Freudian and Lewinian concepts in detailing the various dynamic conflicts that can result from incompatible valences (e.g., being attracted to and repelled by the same goal-object). Hull (1943) posited two distinct types of conditioned drives, conditioned appetitive drives that develop through association with states such as hunger for food or thirst for water, and conditioned aversive drives that develop through association with unpleasant events such as shock or loud noise. Murray (1938) differentiated positive or "adient" needs that "force the organism in a positive way toward other objects" from negative or "abient" needs that "force the organism to separate itself from objects" (pp. 79–80). In his social learning theory, Rotter (1954) proposed that the nature of an individual's expectancies and values is largely a function of his or her prior rewards and punishments. Maslow (1955) identified two distinct types of needs in his humanistic conceptualization of the person: deficit needs which seek to reduce a negative state of tension, and growth needs which seek to increase positive stimulation. In his biologically based analysis of basic traits, Eysenck (1967) posited that introverts are "stimulus shy" because of high baseline levels of cortical arousal, whereas extroverts are "stimulus hungry" because of low baseline levels of cortical arousal. Bowlby (1969) proposed two primary styles of attachment: a secure type that promotes exploration and challenge seeking, and an insecure type that impels caution and a concern with safety and protection. Cognitive theorists have utilized approach–avoidance concepts, albeit often at the periphery of their conceptualizations. Heider (1958), for example, summarized the difference between his concepts of "can" and "may" by stating that the former implies that if a person tries, he or she will succeed, whereas the latter implies that if a person tries, he or she will not be punished. From this overview of thinkers and theorists, it is clear that the approach–avoidance distinction has deep intellectual roots, has been utilized from the advent of psychology as a scientific discipline, and is present in each of the major theoretical traditions in psychology (psychoanalytic, behaviorist, humanistic, cognitive, biological, etc.).

In particular, Jeffrey Gray's work (1970; 1987; 1994) has generated considerable attention. Gray posited distinct appetitive and aversive motivational systems, referred to as the Behavioral Activation System (BAS) and the Behavioral Inhibition System (BIS), respectively. Gray's model outlines personality as a function of individual differences in the two systems which have neuroanatomical and neuro-physiological correlates. Specifically Gray (1987) describes BAS as a function of the limbic circuits and dopaminergic pathways; and the BIS system as rooted in circuits in the hippocampus and the septum and related structures. The appetitive system (BAS) activates behavior in response to signals of reward and non-punishment, whereas the aversive system (BIS) inhibits behavior in response to signals of punishment, no reward, and novel stimuli. Gray's (1994) theory also links motivation to emotion: BAS is associated with feelings of hope and approach behaviors, whereas activation of the BIS is associated with feelings of anxiety and avoidance behaviors (Gray, 1990).

In the domain of achievement, Elliot (1997) has made the distinction between approach and avoidance, describing approach motives as those consisting of the need for achievement and avoidance motives as those focused on a fear of failure.

One reason the approach and avoidance distinction has been so prevalent throughout the years is because it has important implications for understanding perception, cognition, emotion, behavior, health, and well-being (e.g., Derryberry & Reed, 1994; Elliot & Sheldon, 1998; Higgins, Shah & Friedman, 1997). For example, Derryberry and Reed (1994) found that individuals with strong approach motives were biased toward cues indicating gain, and those with strong avoidance motives were biased toward negative cues indicating loss in a basic visual target detection task. Higgins and colleagues (1997) have shown that promotion-focused goals produce cheerfulness-dejection responses (success = cheerful; failure = dejection) and prevention-focused goals produce quiescence-agitation responses (success = quiescence; failure = agitation). And, Elliot and Sheldon (1998) found that higher numbers of avoidance personal goals predicted lower well-being and greater physical symptom reports, both prospectively and retrospectively.

The objective of the study is to map the motivational orientation of the individuals in reference to the personality traits and to find out if there is any difference on any of these variables as per the gender.

## LITERATURE REVIEW

In the article titled, "Personality Traits and achievement motives:Theoretical and Empirical Relations between the NEO Personality Inventory- Revised and the achievement motives scale," Age Diseth and Oyvind Martinsen (2009) have investigated theoretical and empirical relations between personality traits and motive dispositions by comparing scores of 315 undergraduate psychology students on the NEO Personality Inventory-Revised and the Achievement Motives Scale. Analysis showed all NEO Personality Inventory-Revised factors except agreeableness were significantly correlated with the motive for success and the motive to avoid failure. A structural equation model showed that motive for success was predicted by Extraversion, Openness, Conscientiousness, and Neuroticism (negative relation), and motive to avoid failure was predicted by Neuroticism and Openness (negative relation). Although both achievement motives were predicted by several personality factors, motive for success was most strongly predicted by Openness, and motive to avoid failure was most strongly predicted by neuroticism. These findings extended previous research on the relations of personality traits and achievement motives and provided a basis for the discussion of motive dispositions in personality. The results also added to the construct validity of the Achievement Motives Scale.

Andrew J. Elliot and Martin V. Covington (2001), in the research paper "Approach and Avoidance Motivation," published in Educational Psychology Review, have introduced a conceptual foundation for the distinction between approach and avoidance motivation. They have primarily explicated several reasons why the approach–avoidance distinction should be viewed as fundamental and basic to the study of human behavior. In addition, they have compared and contrasted the "approach–avoidance" designation with other designations that have been used in the motivational literature to cover the same or similar conceptual ground.

*In the study* Associations of Culture and Personality With McClelland's Motives: A Cross-Cultural Study of Managers in 24 countries" by Hetty van Emmerik, William L. Gardner, Hein Wendt, and Dawn Fischer(2010), authors explored the interrelationships between McClelland's motives and specific aggregate-level cultural dimensions and personality factors. The results reveal significant relationships between the Achievement, Affiliation, and Power Motives, and the cultural dimensions of Performance Orientation, Humane Orientation, and Power Distance, respectively. Support for posited relationships between the managers' motives and aggregate-level personality, as measured by the Big Five factors, was also obtained. Finally, the results demonstrate that the relationships between McClelland's motives and managers' aggregate-level Big Five factors are moderated by the cultural dimensions of Performance Orientation, Humane Orientation, and Power Distance.

## MEASURES

**PERSONALITY:** The revised NEO Personality Inventory (Costa & McCrae, 1992) is a 240 item inventory measuring the five major personality dimensions of neuroticism (anxiety, angry hostility, depression, self-consciousness, impulsivity, vulnerability to stress), extraversion (warmth, gregariousness, assertiveness, activity, excitement seeking, positive emotions), openness (fantasy, aesthetics, feelings, activity, ideas, values), agreeableness (trust, straightforwardness, altruism, compliance, modesty, tender-mindedness) and conscientiousness (competence, order, dutifulness, achievement, self-discipline, deliberation) by means of statements. Studies have shown that internal consistency estimates for the five domains of the NEO PI-R have ranged from 0.86 to 0.95, and it has been shown to have good content, criterion-related, and construct validity (McCrae and Costa, 1996). The present Norwegian version of this inventory has replicated the factor structure and it has shown good internal consistency (alpha) as compared to international research (Martinsen, Nordvik, & Østbø, 2003). The participants indicate their relative agreement with statements by setting a mark along a 5-point scale with anchors of 1: Strongly Disagree and 5: Strongly Agree. A principal component analysis (Varimax rotation) of data in the present study produced the expected five factor solution (Eigenvalue > 1) accounting for 58.3 % of the variance.

**APPROACH-AVOIDANCE MOTIVES:** The approach and avoidance motives are assessed on the basis of Motivational Analysis of Organizations- Behavior (MAO-B), developed by Udai Pareek. It contains 60 items, 5 for each dimension (approach & avoidance) o f each of the sub motives: affiliation, achievement, extension, influence, control and dependency. (Udai Pareek and Surabhi Purohit, 2010

**SAMPLE:** The sample comprises of people in the age group of 20-40 years. The total sample size is 388, out of which, 285 are males and 103 are females.

## HYPOTHESIS

1. Extraversion and achievement motive are positively related. Because Extraversion is described as the extent to which people are assertive, dominant, and energetic (Costa & McCrae, 1992; McCrae & Costa, 2008), it appears to be linked to the Achievement Motive. Support for this prediction is provided by Costa and McCrae's (1988) finding that the assertiveness and activity facets of the Big five extraversion scale are significantly correlated with Murray's (1938) need for achievement as measured by the Personality Research Form (PRF; Jackson, 1984).
2. Neuroticism and achievement motive are negatively related. The anxiety and insecurity embodied by Neuroticism appears to be inconsistent with Achievement Motives (Zhao & Seibert, 2006), suggesting a negative relationship. This assertion is supported by Costa and McCrae's (1988) finding that Neuroticism correlates negatively with Murray's Need for Achievement as measured by the Personality Research Form.
3. Influence motive is positively related to the extraversion. As Extraversion is described as the extent to which people are assertive, dominant, and energetic (Costa & McCrae, 1992; McCrae & Costa, 2008), it appears to be linked to the Influence Motive.
4. Control motive is positively related to neuroticism. The anxiety and insecurity embodied by Neuroticism suggests a negative relationship with the control Motive.
5. Control motive is positively related to Extraversion. Individuals who have a high Need for Power tend to be extravert (Thomas, Dickson, & Bliese, 2001), as suggested by the facet scales of assertiveness and activity (McCrae & Costa, 2008).
6. Affiliation motive is positively related to Extraversion. The description of Affiliation appears relevant to predict the relationship between each of the Big Five factors and the Affiliation Motive. One of the most obvious aspects of Extraversion is sociability (Judge & Cable, 1997). This may signify a positive relationship between Extraversion and Affiliation Motive.
7. Males are higher on extraversion than females. Schmitt et al. (2008) discovered sexual differentiation in the extraversion dimension in the manner that women scored significantly higher than men. Other studies then again revealed the reverse result with men being more extravert than women. These opposing results can be attributed to the combination of feminine and masculine aspects in the extraversion dimension, namely dominance and nurturance facets (Costa et al., 2001).
8. Females are higher on neuroticism than males. Repeatedly, research had demonstrated a clear distinction between the sexes on this particular dimension, with women scoring significantly higher than their counterpart (Costa et al., 2001; Schmitt et al., 2008). As previously depicted, women tend to suffer from a lower self-esteem in relation to men when assessing features critical to one's self-identity (Schmitt, 2008). This stereotype threat fear could explain why females continually consider themselves as more neurotic than men. Therefore, the present study believes the following hypothesis would hold:
9. Approach & avoidance motive of females and males are significantly different. It is generally stated that the behavior and motives differ across the gender. So, it seems that approach and avoidance motive might differ too.
10. Females are high on affiliation motive than males. Female students had a higher need for affiliation and a higher need for power than male students. Consistent with Turner's (1996) study, females are more concerned with relationships and influence than are males. However, there was not a significant difference in the need for achievement between male and female students

## RESULTS

### HYPOTHESIS TESTING

**Hypothesis1: Extraversion and Achievement motivation are positively related.**

As Per Table 1, the hypothesis is accepted. There is a significant positive correlation between Extraversion and achievement motivation (0.132)

**Hypothesis 2: Neuroticism & Achievement motivation are negatively related.**

Neuroticism and achievement motivation are significantly negatively correlated.(-0.159)(Refer Table 1). So, the hypothesis is accepted.

**Hypothesis 3: Extraversion and influence motive are positively related.**

Although the hypothesis is accepted, but there is no significant correlation. (0.077) (Table 1)

**Hypothesis 4: Control motive is positively related to neuroticism.**

The hypothesis is accepted at 0.335 significant correlations between control motive & neuroticism.

**Hypothesis 5: Control motive is positively correlated to extraversion.**

The hypothesis is accepted. The correlation between the control motive and extraversion is 0.147. (Table 1)

**Hypothesis 6: Affiliation motive is positively related to Extraversion**

The null hypothesis is rejected as Table 1 shows negative but not significant correlation between Affiliation and Extraversion.

**Hypothesis 7: Males are higher on extraversion than females.**

Table 4 shows that the mean of extraversion for males (25.75) is lower than the mean of females (26.21). Although the difference is not significant as we can see Table 5, significance for t-test is 0.378 which is more than 0.05. Still, null hypothesis stand rejected.

**Hypothesis 8: Females are higher on neuroticism than males.**

The mean of neuroticism for males (21.79) is lower than the mean of females (22.24) (Table 4). Although the difference is not significant as we can see Table 5, significance for t-test is 0.437 which is more than 0.05. So, null hypothesis is accepted.

**Hypothesis 9: Approach & avoidance motive of females and males are significantly different.**

The hypothesis is rejected. From Table 4, it's evident that the mean of approach motive for males (78.97) is lower than the mean of females (79.35) (Table 4). Although the difference is not significant as we can see Table 5, significance for t-test is 0.648 which is more than 0.05.

The mean of avoidance motive for males (80.86) is lower than the mean of females (80.93) (Table 4). Although the difference is not significant as we can see Table 5, significance for t-test is 0.940 which is more than 0.05.

**Hypothesis 10: Females are high on affiliation motive than males.**

The mean of affiliation for males (26.47) is lower than the mean of females (26.71) (Table 4). Although the difference is not significant as we can see Table 5, significance for t-test is 0.544 which is more than 0.05. So, null hypothesis is accepted.

## CONCLUSION

One and All can not be motivated by the same motivator. The type of motivators required for people with different personality and motives are different. The result of the study shows approach and avoidance motive are not gender dependent but is dependent on personality traits. So, it would be beneficial for the organizations to map the motivational orientation of their employees as per their personality and motive to put in an effort.

## APPENDICES

**TABLE 1**

**Correlations**

| | | extraversion | agreeabl eness | conscient iousness | neuroticism | openess | Achievement | Influence | Extension | Control | Affiliation | Dependence |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| extraversion | Pearson Correlatio | 1 | .316** | .206** | .168** | .042 | .132** | .077 | .004 | .147** | -.053 | .001 |
| | Sig. (2-tailed) | | .000 | .000 | .001 | .409 | .009 | .132 | .931 | .004 | .302 | .977 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| agreeableness | Pearson Correlatio | .316** | 1 | .454** | .197** | .200** | .034 | .053 | .046 | .078 | -.003 | -.007 |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 | .505 | .299 | .365 | .127 | .957 | .895 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| conscientiousness | Pearson Correlatio | .206** | .454** | 1 | .169** | .274** | .035 | -.160** | .018 | -.024 | -.179** | -.017 |
| | Sig. (2-tailed) | .000 | .000 | | .001 | .000 | .496 | .002 | .719 | .635 | .000 | .733 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| neuroticism | Pearson Correlatio | .168** | .197** | .169** | 1 | .072 | -.159** | .095 | .026 | .335** | -.026 | -.139** |
| | Sig. (2-tailed) | .001 | .000 | .001 | | .154 | .002 | .060 | .612 | .000 | .610 | .006 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| openess | Pearson Correlatio | .042 | .200** | .274** | .072 | 1 | -.006 | -.093 | .034 | .137** | -.011 | .063 |
| | Sig. (2-tailed) | .409 | .000 | .000 | .154 | | .914 | .066 | .509 | .007 | .831 | .217 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| Achievement | Pearson Correlatio | .132** | .034 | .035 | -.159** | -.006 | 1 | .220** | .457** | .345** | .240** | .492** |
| | Sig. (2-tailed) | .009 | .505 | .496 | .002 | .914 | | .000 | .000 | .000 | .000 | .000 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| Influence | Pearson Correlatio | .077 | .053 | -.160** | .095 | -.093 | .220** | 1 | .378** | .333** | .317** | .380** |
| | Sig. (2-tailed) | .132 | .299 | .002 | .060 | .066 | .000 | | .000 | .000 | .000 | .000 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| Extension | Pearson Correlatio | .004 | .046 | .018 | .026 | .034 | .457** | .378** | 1 | .198** | .320** | .428** |
| | Sig. (2-tailed) | .931 | .365 | .719 | .612 | .509 | .000 | .000 | | .000 | .000 | .000 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| Control | Pearson Correlatio | .147** | .078 | -.024 | .335** | .137** | .345** | .333** | .198** | 1 | .094 | .369** |
| | Sig. (2-tailed) | .004 | .127 | .635 | .000 | .007 | .000 | .000 | .000 | | .065 | .000 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| Affiliation | Pearson Correlatio | -.053 | -.003 | -.179** | -.026 | -.011 | .240** | .317** | .320** | .094 | 1 | .418** |
| | Sig. (2-tailed) | .302 | .957 | .000 | .610 | .831 | .000 | .000 | .000 | .065 | | .000 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| Dependence | Pearson Correlatio | .001 | -.007 | -.017 | -.139** | .063 | .492** | .380** | .428** | .369** | .418** | 1 |
| | Sig. (2-tailed) | .977 | .895 | .733 | .006 | .217 | .000 | .000 | .000 | .000 | .000 | |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 | 388 |

**. Correlation is significant at the 0.01 level (2-tailed).

**TABLE 2**

**Correlations**

| | | extraversion | agreeabl eness | conscient iousness | neuroticism | openess | Approach | Avoidance |
|---|---|---|---|---|---|---|---|---|
| extraversion | Pearson Correlation | 1 | .316** | .206** | .168** | .042 | .047 | .086 |
| | Sig. (2-tailed) | | .000 | .000 | .001 | .409 | .358 | .090 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| agreeableness | Pearson Correlation | .316** | 1 | .454** | .197** | .200** | -.039 | .109* |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 | .444 | .031 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| conscientiousness | Pearson Correlation | .206** | .454** | 1 | .169** | .274** | .008 | -.133** |
| | Sig. (2-tailed) | .000 | .000 | | .001 | .000 | .872 | .009 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| neuroticism | Pearson Correlation | .168** | .197** | .169** | 1 | .072 | .074 | -.024 |
| | Sig. (2-tailed) | .001 | .000 | .001 | | .154 | .143 | .639 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| openess | Pearson Correlation | .042 | .200** | .274** | .072 | 1 | .053 | .008 |
| | Sig. (2-tailed) | .409 | .000 | .000 | .154 | | .297 | .880 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| Approach | Pearson Correlation | .047 | -.039 | .008 | .074 | .053 | 1 | .590** |
| | Sig. (2-tailed) | .358 | .444 | .872 | .143 | .297 | | .000 |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 |
| Avoidance | Pearson Correlation | .086 | .109* | -.133** | -.024 | .008 | .590** | 1 |
| | Sig. (2-tailed) | .090 | .031 | .009 | .639 | .880 | .000 | |
| | N | 388 | 388 | 388 | 388 | 388 | 388 | 388 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

TABLE 3

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| extraversion | 388 | 11 | 37 | 25.87 | 4.557 |
| agreeableness | 388 | 19 | 40 | 29.45 | 4.013 |
| conscientiousness | 388 | 14 | 38 | 28.38 | 4.845 |
| neuroticism | 388 | 12 | 33 | 21.91 | 5.106 |
| openess | 388 | 17 | 42 | 30.98 | 3.935 |
| Achievement | 388 | 19 | 34 | 26.62 | 3.701 |
| Influence | 388 | 17 | 34 | 26.47 | 3.463 |
| Extension | 388 | 19 | 35 | 26.41 | 3.346 |
| Control | 388 | 17 | 33 | 25.33 | 3.371 |
| Affiliation | 388 | 18 | 34 | 26.54 | 3.363 |
| Dependence | 388 | 19 | 37 | 28.58 | 3.979 |
| Approach | 388 | 64 | 98 | 79.07 | 7.091 |
| Avoidance | 388 | 56 | 99 | 80.88 | 8.826 |
| Valid N (listwise) | 388 | | | | |

TABLE 4

**Group Statistics**

| | Gender | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| extraversion | 0 | 285 | 25.75 | 4.554 | .270 |
| | 1 | 103 | 26.21 | 4.571 | .450 |
| agreeableness | 0 | 285 | 29.33 | 3.905 | .231 |
| | 1 | 103 | 29.80 | 4.299 | .424 |
| conscientiousness | 0 | 285 | 27.91 | 4.735 | .280 |
| | 1 | 103 | 29.68 | 4.931 | .486 |
| neuroticism | 0 | 285 | 21.79 | 5.143 | .305 |
| | 1 | 103 | 22.24 | 5.011 | .494 |
| openess | 0 | 285 | 30.88 | 3.813 | .226 |
| | 1 | 103 | 31.24 | 4.262 | .420 |
| Achievement | 0 | 285 | 26.58 | 3.642 | .216 |
| | 1 | 103 | 26.74 | 3.873 | .382 |
| Influence | 0 | 285 | 26.59 | 3.407 | .202 |
| | 1 | 103 | 26.16 | 3.610 | .356 |
| Extension | 0 | 285 | 26.41 | 3.277 | .194 |
| | 1 | 103 | 26.41 | 3.549 | .350 |
| Control | 0 | 285 | 25.29 | 3.370 | .200 |
| | 1 | 103 | 25.43 | 3.389 | .334 |
| Affiliation | 0 | 285 | 26.47 | 3.431 | .203 |
| | 1 | 103 | 26.71 | 3.177 | .313 |
| Dependence | 0 | 285 | 28.48 | 4.043 | .239 |
| | 1 | 103 | 28.84 | 3.803 | .375 |
| Approach | 0 | 285 | 78.97 | 7.053 | .418 |
| | 1 | 103 | 79.35 | 7.222 | .712 |
| Avoidance | 0 | 285 | 80.86 | 9.015 | .534 |
| | 1 | 103 | 80.93 | 8.321 | .820 |

**TABLE 5**

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| extraversion | Equal variances assumed | .356 | .551 | -.883 | 386 | .378 | -.463 | .524 | -1.493 | .568 |
| | Equal variances not assumed | | | -.881 | 179.975 | .379 | -.463 | .525 | -1.499 | .573 |
| agreeableness | Equal variances assumed | 1.669 | .197 | -1.011 | 386 | .313 | -.466 | .461 | -1.373 | .441 |
| | Equal variances not assumed | | | -.966 | 166.599 | .335 | -.466 | .483 | -1.419 | .487 |
| conscientiousness | Equal variances assumed | 1.506 | .220 | -3.211 | 386 | .001 | -1.767 | .550 | -2.850 | -.685 |
| | Equal variances not assumed | | | -3.150 | 174.339 | .002 | -1.767 | .561 | -2.875 | -.660 |
| neuroticism | Equal variances assumed | .659 | .418 | -.778 | 386 | .437 | -.457 | .587 | -1.611 | .698 |
| | Equal variances not assumed | | | -.787 | 184.834 | .432 | -.457 | .580 | -1.601 | .688 |
| openess | Equal variances assumed | .757 | .385 | -.792 | 386 | .429 | -.359 | .453 | -1.248 | .531 |
| | Equal variances not assumed | | | -.752 | 164.596 | .453 | -.359 | .477 | -1.300 | .583 |
| Achievement | Equal variances assumed | .469 | .494 | -.381 | 386 | .703 | -.162 | .426 | -1.000 | .675 |
| | Equal variances not assumed | | | -.371 | 171.342 | .711 | -.162 | .438 | -1.028 | .703 |
| Influence | Equal variances assumed | .369 | .544 | 1.091 | 386 | .276 | .434 | .398 | -.348 | 1.217 |
| | Equal variances not assumed | | | 1.061 | 171.838 | .290 | .434 | .409 | -.373 | 1.241 |
| Extension | Equal variances assumed | .862 | .354 | .016 | 386 | .987 | .006 | .385 | -.751 | .764 |
| | Equal variances not assumed | | | .016 | 168.765 | .988 | .006 | .400 | -.783 | .796 |
| Control | Equal variances assumed | .109 | .742 | -.341 | 386 | .733 | -.132 | .388 | -.895 | .630 |
| | Equal variances not assumed | | | -.340 | 179.704 | .734 | -.132 | .389 | -.900 | .635 |
| Affiliation | Equal variances assumed | .277 | .599 | -.607 | 386 | .544 | -.235 | .387 | -.996 | .526 |
| | Equal variances not assumed | | | -.630 | 193.765 | .530 | -.235 | .373 | -.971 | .501 |
| Dependence | Equal variances assumed | .339 | .561 | -.795 | 386 | .427 | -.364 | .458 | -1.264 | .536 |
| | Equal variances not assumed | | | -.818 | 190.864 | .414 | -.364 | .445 | -1.241 | .513 |
| Approach | Equal variances assumed | .001 | .969 | -.463 | 386 | .644 | -.378 | .816 | -1.982 | 1.227 |
| | Equal variances not assumed | | | -.458 | 176.897 | .648 | -.378 | .825 | -2.006 | 1.251 |
| Avoidance | Equal variances assumed | .488 | .485 | -.075 | 386 | .940 | -.076 | 1.016 | -2.073 | 1.922 |
| | Equal variances not assumed | | | -.078 | 194.340 | .938 | -.076 | .978 | -2.006 | 1.854 |

## REFERENCES


Allik, J., & McCrae, R. R. (2004). Toward a geography of personality traits: Patterns of profiles across 36 cultures *Journal of Cross-Cultural Psychology, 35*, 13-28.

Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. Personnel Psychology, 44, 1-26.

Bentham, J. (1779/1879). *Introduction to the Principles of Morals and Legislation*, Clarendon Press, Oxford.

Block, J. (1995). A contrarian view of the Five-Factor approach to pesonality description. Psychological Bulletin, 117, 187-215.

Bowlby, J. (1969). *Attachment*, Basic Books, New York.

Carroll, J. B. (2002). The Five-Factor Personality Model: How complete and satisfactory is it? In H. I. Braum, D. N. Jackson & D. E. Wiley (Eds.), The role of constructs in psychological and educational measurement (pp. 97-126). Mahwah, NJ: Lawrence Erlbaum.

Costa, P. T., Jr., & McCrae, R. R. (1988). From catalog to classification: Murray's needs and the Five-Factor Model. Journal of Personality and Social Psychology, 55, 258-265.

Costa, P. T., Jr., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. Psychological Assessment, 4, 5-13.

Costa, P. T., Jr., Terracciano, A., & McCrae, R. R. (2001). Gender differences in personality traits across cultures: Robust and surprising findings. Journal of Personality and Social Psychology, 81, 322-331.

Derryberry, D., & Reed, M. A. (1994). Temperament and attention: Orienting toward and away from positive and negative signals. Journal of Personality and Social Psychology, 66, 1128-1139.

Diseth A, Martinsen (2009). Personality traits and achievement motives: theoretical and empirical relations between the NEO Personality Inventory-Revised and the Achievement Motives Scale. Psychological Reports. 2009 Apr;104(2):579-92.

Elliot, A. (1999). Approach and avoidance motivation and achievement goals. *Educ. Psychol.*34: 169–189.

Elliot, A. J., & Church, M. A. (1997) A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 72, 218-232.

Elliot,A & Covington. (2001). Approach and Avoidance Motivation. *Educational Psychology Review, Vol. 13, No. 2.*

Elliot, A. J., & Sheldon, K. M. (1998). Avoidance personal goals and the personality-illness relationship. Journal of Personality & Social Psychology, 75,

1282–1299.
Emmerik,H, Gardner, Wendt and Fischer.(2010). Associations of Culture and Personality with McClelland's Motives: A Cross-Cultural Study of Managers in 24 Countries. Group & Organization Management 35(3) 329–367
Eysenck, H. (1967). The Biological Basis of Personality, Charles Thomas, Springfield, IL.
Freud, S. (1915). Repression. In the standard edition of Complete Psychological Works of Sigmund Freud, Vol. XIV, Hogarth, London, 1957.
Gellatly, I. R. (1996) Conscientiousness and task performance: Test of cognitive process model. Journal of Applied Psychology, 81, 474-482.
Goldberg, L. R. (1990) An alternative "Description of Personality": The Big-Five Factor Structure. Journal of Personality and Social Psychology, 59, 1216-1229.
Goldberg, L. R. (1990) An alternative "Description of Personality": The Big-Five Factor Structure. Journal of Personality and Social Psychology, 59, 1216-1229.
Goldberg, L. R., & Saucier, G. (1995). What do you propose we use instead? A reply to Block. Psychological Bulletin, 117, 221-225.
Gray, J. A. (1970). The psychophysiological basis of introversion-extraversion. Behaviour Research and Therapy, 8, 249–266. Gray, J. A. (1987). The psychology of fear and stress (2nd ed.). New York: Cambridge University Press.
Gray, J. A. (1990). Brain systems that mediate both emotion and cognition. Cognition and Emotion, 4, 269–288.
Gray, J. A. (1994). Framework for a taxonomy of psychiatric disorder. In S. H. M. van Goozen, N. E. van de Poll, & J. A. Sergeant (Eds.), Emotions: essays on emotion theory (pp. 29–59). Hove: Lawrence Erlbaum.
Heggestad, E. D. & Kanfer, R. (2000) Individual diferences in trait motivation: development of the Motivational Trait Questionnaire. International Journal of Educational Research, 33, 751-776.
Heider, F. (1958). The Psychology of Interpersonal Relations, JohnWiley & Sons, New York.
Higgins, E. T., Shah, J., & Friedman, R. (1997). Emotional responses to goal attainment: Strength of regulatory focus as moderator. Journal of Personality and Social Psychology, 72, 515–525.
Hull, C. (1943). Principles of Behavior, Appleton-Century-Crofts, New York.
Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. Journal of Applied Psychology, 85, 869-879.
Jackson, D. N. (1984). Personality Research Form manual (3rd ed.). Port Huron, MI: Research Psychologists Press.
James,W. (1890). The Principles of Psychology (Vol. II), Henry Holt & Co., New York.
John, O. P., & Srivastava, S. (1999) The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory and research (2nd ed.). New York: Guilford. Pp. 102-138.
Jung, C. (1921). Psychological types. In The Collected Works of C. G. Jung, Vol. 6, Princeton University Press, 1971, Princeton, NJ.
Judge, T. A., & Cable, D. M. (1997). Applicant personality, organizational culture, and organization attraction. Personnel Psychology, 50, 359-394.
Judge, T. A., & Ilies, R. (2002) Relationship of personality to performance motivation: a meta-analytic review. Journal of Applied Psychology, 87, 797-807.
Lewin, K. (1935). A Dynamic Theory of Personality, McGraw-Hill, New York.
Loehlin, J. C. (1992) Genes and environment in personality development. Newbury Park, CA: Sage.
Martinsen, Nordvik, H., & stb, L. E. (2003) Norske versjoner av NEO-PI-R og NEO FFI [Norwegian versions of NEO-PI-R and NEO FFI]. Tidsskrift for Norsk Psykologforening [Journal of the Norwegian Psychological Association], 42, 421-422.
Maslow, A. (1955). Deficiency motivation and growth motivation. In Jones,M. (ed.), Nebraska
Symposium on Motivation, University of Nebraska Press, Lincoln.
McCrae, R. R., & Costa, P. T., Jr. (1996). Conceptions and correlates of openness to experience. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), Handbook of personality psychology (pp. 825–847). New York: Academic Press.
McCrae, R. R., & Costa, P. T., Jr. (1997). Personality trait structure as a human uni¬versal. The American Psychologist, 52, 509-516.
McCrae, R. R., & Costa, P. T., Jr. (1999). A Five-Factor Theory of personality. In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory and research (2nd ed., pp. 139-153). New York: Guilford Press.
McCrae, R. R. (2001). Trait psychology and culture: Exploring intercultural compari¬sons. Journal of Personality, 69, 819-846.
McCrae, R. R. (2002). NEO-PI-R data from 36 countries: Further intercultural com¬parisons. In R. R. McCrae & J. Allik (Eds.), The Five-Factor Model of Personality across cultures (pp. 105-125). New York, NY: Kluwer
McCrae, R. R., & Costa, P. T., Jr. (2008). Empirical and theoretical status of the Five-Factor Model of personality traits. In G. J. Boyle, G. Matthews, & D. H. Saklofske (Eds.), The SAGE handbook of personality theory and assessment: Vol. 1. Person¬ality theories and models (pp. 273-294). Thousand Oaks, CA: SAGE.
McCrae, R. R., Jang, K. L., Livesley, W. J., Riemann, R., & Angleitner, A. (2001). Sources of structure: Genetic, environmental, and artifactual influences on the covariation of personality traits. Journal of Personality, 69, 511-535.
Merenda, P. (2008). Update on the debate about the existence and utility of the Big Five: A ten-year follow-up on Carroll's "The Five-Factor Personality Model: How complete and satisfactory is it?" Psychological Reports, 103, 931-942.
Miller, N. (1944). Experimental studies of conflict. In McV. Hunt, J. (ed.), Personality and the Behavioral Disorders, Vol. 1, Ronald Press, New York, pp. 431–465.
Mitchell T. R., & Daniels D. (2003) Motivation. In W.C. Borman, D.R. Ilgen, & R.J. Klimoski (Eds.),Handbook of Psychology, Vol. 12: Industrial Organizational Psychology, New York: Wiley. Pp. 225–254.
Murray, H. (1938). Explorations in Personality, Oxford University Press, New York.
Pareek,U and Purohit. (2010).Training Instruments in HRD and OD. Third Edition.Tata Mc Graw hill publishing House.Pp.269-273.
Pavlov, I. (1927). Conditioned Reflexes: An Investigation into the Physiological Activity of the Cortex (G. Anrep, trans.), Dover, New York.
Pervin, L. A. (1994) A critical analysis of current trait theory. Psychological Inquiry, 5, 103-113.
Rotter, J. (1954). Social Learning and Clinical Psychology, Prentice-Hall, Englewood Cliffs,NJ.
Piedmont, R. L., McCrae, R. R., & Costa, P. T. Jr. (1991) Adjective check list scales and the five-factor model. Journal of Personality and Social Psychology, 60, 630-637.
Scott, B. A., & Colquitt, J. A. (2007). Are organizational justice effects bounded by individual differences? An examination of equity sensitivity, exchange ideology, and the Big Five. Group & Organizational Management, 32, 290-325.
Schmitt, D., Realo, A., Voracek, M., & Allik, J. (2008). Why can‟t a man be more like a women? Sex differences in big five personality traits across 55 cultures. Journal of Personality and Social Psychology, 94 (1), 168-182
Skinner, B. F. (1938). The Behavior of Organisms: An Experimental Analysis, Prentice-Hall, Englewood Cliffs, NJ.
Thomas, J. L., Dickson, M. W., & Bliese, P. D. (2001). Values predicting leader performance in the U.S. Army Reserve Officer Training Corps Assessment Center: evidence for a personality-mediated model. The Leadership Quarterly, 12, 181-196.
Thorndike, E. (1911). Animal Intelligence, Macmillan, New York.
Tolman, E. (1925). Behaviorism and purpose. J. Philosophy 22: 35–41.
Turner, J.P. (1996). The motivational needs of students enrolled in agricultural education programs in Georgia. (Doctoral Dissertation, University of Georgia's 1996).
Zhao, H., & Seibert, S. E. (2006). The Big Five personality dimensions and entre¬preneurial status: A meta-analytical review. Journal of Applied Psychology, 91, 259-271.

# ROLE OF CONSUMERS FORUM IN CONSUMERS EMPOWERMENT: AN EXPLORATORY STUDY OF BASRUR CONSUMERS FORUM IN UDUPI DISTRICT OF KARNATAKA

*MUSTHAF*
*LECTURER IN ECONOMICS*
*GOVERNMENT P.U COLLEGE*
*MUDARANGADI*

## ABSTRACT

*The Consumer Forum at Basrur endeavor to build capacities amongst citizens and empower them to demand elevated accountability from both the government and private players. Through effective communication, particularly through letter-writing, wherein the forum guides the consumers in establishing contact with suppliers and officials and finding solutions to their problems in a cost effective and transparent manner. This paper being exploratory in nature, investigates the role played and methodology adopted by consumer's forum in the empowerment of consumers by taking Basrur Consumers Forum as case study*

## KEYWORDS

Consumer's empowerment, issue oriented, non-political, self-supporting.

## INTRODUCTION

Consumer's forums being voluntary association are among the agencies which help in redressal of the consumers' grievances and are playing a very decisive role in redressal of the grievances of the consumers and spreading awareness about consumers' rights, etc. They are defending the consumers' rights related to both consumers' goods and users' services. Some people argue that producers and sellers can themselves protect consumers' rights by developing voluntary code of conduct to defend consumers' rights. But general view is that it is not possible for the buyers and sellers to develop a code of conduct. The traders and manufacturers are more bothered about the profit than the welfare of the consumers.

Besides, it is also a fact that since the consumers is mostly uneducated and unaware of their rights, the legislation alone cannot become the instruments of positive action. The most effective method, therefore, for safeguarding the consumers' interest is not only the state intervention, but active participation of the consumer's forums, voluntary consumer agencies and consumers themselves in the free market.

## METHODOLOGY

The inherent limitations of the market, coupled with the inability of the State to effectively govern the market has created the need for alternative solutions to protect the interests of consumers. The desire and competence amongst groups of ordinary people to act collectively to achieve the greater good has led to the rise of consumers forums in providing alternative solutions where the market and the state have failed to deliver. The present study being exploratory in nature mainly based on secondary sources of information.

## OBJECTIVES

1. To examine the role of consumers forums in consumers empowerment.
2. To examine the methodology followed and to suggest measures to strengthen such efforts.

Thus the present study explores role of consumer's forums in consumer's empowerment by taking Basrur Consumers Forum as a case study.

## PROFILE OF THE FORUM

In the 1980s group of youth in Basrur gathered to deliberate on possible strategies to solve the problems that were plaguing the people of the area. They identified the main problems faced by the people of Basrur: irregular or inefficient distribution of essential commodities, lack of information on facilities extended by the government, lack of proper service from public service departments and harassment from officers at the lower level. Their discussions culminated in the decision to start with the simplest issues and gradually move on to the more complex ones. Taking pointers from a Consumer Forum in Udupi, the Consumer's Forum at Basrur (CFB) was set up in 1981 by the youth group and was headed by Dr Ravindranath Shanbagh.

The fundamental objectives of the CFB are to:

a) Educate the consumers about the need for protecting their rights and interests.
b) Cultivate a sense of responsibility among consumers and suppliers.
c) Support and guide the consumers in any disputes.

## ROLE OF BASRUR CONSUMERS FORUM - AN ASSESSMENT

Consumerism is a process through which the consumers seek redress, restitution and remedy for their dissatisfaction and frustration with the help of their all organised or unorganised efforts and activities. Self-protection by consumers and voluntary consumer organizations engaged in organizing consumers and encouraging them to safeguard their interests are major element of the consumer movement. The role played by the Basrur Consumers Forum can be analyzed by looking into the ideology and methodology followed by it.

1. **FINANCIALLY SELF - SUPPORTING**

The CFB is financially self-supporting and has not received or accepted aid from the government or foreign donors and thus does not have to deal with external pressures. The work is carried out using usually consisting of small donations amounts made by people who believe in the Forum and its cause.

2. **WORK WITH MINIMUM EXPENSES**

The CFB is emphatic that that the work should proceed with minimum expenditure. Financial independence coupled with minimal expenses ensures that the CFB is free from external influences that often plague other voluntary organisations that tend to be heavily funded by donors.

3. **NON POLITICAL**

Further, the CFB has steered clear from engaging in any personal vendetta, politics, elections, and has never linked up with any political group or party.

4. **ISSUE ORIENTED AND NOT PERSON ORIENTED**

The CFB has also been against accepting any form of awards or recognition since they feel that those involved in the movement should work without claiming personal credit; and awards would most likely induce personal ambition thereby quenching the actual purpose. The CFB strongly advocates that the focus of all actions should be on issues and not on persons, and those working in the organisation should be disciplined and responsible since they should practice what they preach.

5. **METHODOLOGY FOLLOWED**

The methods adopted consist of guidance, letter-writing, publishing of articles in the newspapers, holding seminars and contact meetings for consumers and activists as well as public officials of various departments and police officers.

- **GUIDANCE**: The policy of the CFB is that having given appropriate advice after carefully analysing the problem, the forum should leave the rest to the consumer as long as he or she is instilled with enough confidence to be capable of solving the problem or fighting the injustice.

- **LETTER WRITING:** When people approaches the forum with a specific problem, are advised to write a letter to the concerned supplier or official, stating the nature of the problem along with the action expected from the authority. If after a specific period, as mentioned in the letter, the person does not receive any reply, then (in cases involving government officials) a letter is sent to the official next in the hierarchy and so on, and if need be even to the concerned minister. In certain cases, the CFB writes the letter on behalf of the consumer but usually the citizens are encouraged and assisted to do so by themselves.
- **PUBLISHING OF ARTICLES**: The movement has received a lot of support due to the weekly articles entitled **Bahujana Hithaya Bahujana Sukhaya ("In the Benefit of All, Lies the Happiness of All")** published in the Kannada paper Udayavani, which highlights the ongoing cases and issues involved therein. Many of the publications are not authored and there are no copyright restrictions on the material since the CFB believes that it is the issue and not the organisation that needs to be highlighted.
- **SEMINARS AND CONTACT MEETINGS:** The CFB also conducts consumers and suppliers contact meetings with regard to the cases brought before it. In such cases where a particular official of the local governmental authority is found to be absolutely unresponsive to the letters received from the consumer concerned, the CFB, through its newsletter, encourages citizens to flood that official with letters repeating the issue and their concern over the lack of action. This serves as a reminder to the officials, indicating the gravity of the problem and the seriousness of the people willing to voice their opinion and hence, these officials often relent and make attempts to take the required action.
- **LAST RESORT:** If and when all the above mentioned methods fail in a particular case, then the CFB guides the consumer to a lawyer in the field who will then take up the case in court. The statistics provided by the CFB show that only around 1per cent of the cases fall into this category. As per the booklet published by the CFB, an alternative is to take up peaceful satyagraha protests if the situation is appropriate for the same. However, there are no known cases where the need for this extreme measure was called for.

6. **TOWARDS EMPOWERMENT**

Two decades later, the success of the organisation saw the creation of an offshoot called the Human Rights Protection Foundation which concerned itself with human rights issues. This forum sought to empower the weaker sections of society, namely women, children and the backward classes so that they can stand up to fight for themselves. This move necessitated improvisation of the strategies that were developed and learned from the two decades of experience handling consumers, suppliers, employers and government officials.

## MAJOR FINDINGS

The in-depth analysis of functioning of the Basrur consumer's forum helps to derive following findings:

1. The Consumer Forum at Basrur seeks to build capacities amongst citizens and empower them to demand greater accountability from both the government and private players.
2. Its key tool is effective communication, particularly through letter-writing, wherein the Forum guides the consumers in establishing contact with suppliers and officials and finding solutions to their problems in a cost effective and transparent manner.
3. It has sought to carry on its goal as the empowerment of the members of the community and hence is not associated with any particular issue but rather with a methodology that can be adopted across a range of problems faced by the citizens
4. The CFB's approach overall was characterized by non-political, financially self-supporting, issue oriented and not person oriented and work with minimum expenses.
5. The methods adopted consist of guidance, letter-writing, publishing of articles in the newspapers, holding seminars and contact meetings for consumers and activists as well as public officials of various departments and police officers.
6. The movement has received a lot of support, due in no small part to the weekly articles entitled Bahujana Hithaya Bahujana Sukhaya ("In the Benefit of All, Lies the Happiness of All") published in the Kannada paper Udayavani, which highlights the ongoing cases and issues involved therein.
7. This forum sought to empower the weaker sections of society, namely women, children and the backward classes so that they can stand up to fight for themselves.

## POLICY SUGGESTIONS

The following suggestions can be made to strengthen the role of consumer's forum in consumer's empowerment.

1. The CFB may maintain formal links with national level voluntary organizations.
2. The network of such forums can be established at village level.
3. Since people lack awareness about consumer's forum, publicity can be provided through mass media.
4. The financial sources may be strengthened for further increased involvement of the forum.
5. There is need of study on whether Basrur Model' of consumer forum is replicable in similar situations elsewhere in the country.

## SUMMARY AND CONCLUSION

In the first year following its formation, the CFB received only 8 cases since the people in the area were not yet ready to trust a new organisation with their complaints and were not sure how their problems would be handled. This was probably because the CFB did not present itself as a legal aid organisation, but rather a forum for empowerment of the citizens through dissemination of information and spreading of awareness about the kinds of problems faced, and the means to tackle them. The reputation and effectiveness of the CFB grew gradually and within a decade the number rose to 412 and by the end of 1997, the total number of cases solved since inception was over 7000.

There are two uniqueness of the CFB that are useful pointers for all civil society initiatives. There are greater chances of success and sustainability of a pattern that favors a model which mobilizes ordinary citizens rather than depending upon the few trained professionals available and the problem-solving strategy must be put directly into the hands of the families and community members. It is also essential that such private organizations keep away from the traps of formalistic institutionalization and instead seek to improve their professionalism by learning from previous mistakes. One aspect that must be factored in is the fact that the CFB and the social entrepreneur behind it, Dr. Ravindranath Shanbag, have developed such a reputation that in certain cases that arise in and around the area, suppliers and officials alike respond favorably with just one letter from the CFB.

The initiators of the CFB did not intend the Forum to be a permanent organization since its purpose was to empower the citizens to take charge and hold the state and the market accountable. The role of the forum a understood clearly by referring to the words of its convener, "When we are convinced that consumers can take care of themselves and solve problems on their own without the help of our forum, then we will wind up the forum" .Thus the 'Basrur Model' of consumer forum proved to be a success story in empowering the consumers and hence the consumers protection.

## BIBLIOGRAPHY

1. Arun Kumar Sharma & Shailendra Kumar Dwivedi, (2003).Voluntary Development Organisations: Mission, Vision and Reality, 25(1) Gandhi Marg 5
2. Basrur Consumer Forum, Public Interest Movement: Handbook For Activists 8 (2002)
3. Aggarwal Anju, (1989) A Practical handbook consumers, India Book House Pvt, Bombay
4. Rajesh Tandon & Ranjita Mohanty, (2003).Introduction: Issues and Problematics, in Does Civil Society Matter? Governance in Contemporary India (Rajesh Tandon & Ranjita Mohanty eds).
5. RavindranathShanbhag (1997) Bahujana Hitaya Bahujana Sukhaya Basrur Consumer Forum, Udupi, Karnatka.
6. RavindranathShanbhag (1998) Bekitte Ee Pariya Swatantrya? (Did We Deserve the Freedom of This Kind?) Basrur Consumer Forum
7. RavindranathShanbhag (2002) Jana Jagrutiya Maha Yajna (The Mega Mission of Public Awareness) Basrur Consumer Forum, Udupi, Karnatka.
8. RavindranathShanbhag (2005) Janabhipraayada Mahapoora (The Torrent of Public Opinion) Udupi, Karnatka.

# ECONOMIC IMPACT OF MICRO FINANCE ON RURAL POOR IN ANDHRA PRADESH

*DR. NANU LUNAVATH*
*JACT- ACCOUNTS*
*NATIONAL INSTITUTE OF TECHNOLOGY*
*WARANGAL*

## ABSTRACT

*This paper outlines economic impact of microfinance. Micro finance treated as a key strategy in addressing development issues across nations since the last three decades. This study attempts to explore on the much debated question impact of microfinance? The studies suggest that microfinance has a profound influence on the economic status, decision making power, and knowledge and self-worthiness. The microfinance related loan and its productive utilization found to be causing significant differences empowerment levels, measured empowerment of the loan availed participants. Impact assessment is kind of structured study, which measures the impact on employment, income generation, education, health, consumption, business development. Impact assessment refers to the assessment of "how financial products and services affected of the poor". Impact assessment is the measurement of the income growth, assets growth and vulnerability. The indicators for impact assessment are not limited to economic development but extended to development growth like health, education, empowerment etc., Moreover, impact assessment help MFIs to better understand their organization and improving the products and services and accountability to clients. The indicators of economic empowerment included here are the variables like economic self-sufficiency. The positive changes in these indicators reflect economic empowerment. The study interprets and discussed impact of microfinance on economic conditions of rural poor in Andhra Pradesh. An attempt has been made to analyse the economic impact of micro finance respondent. In this regard an analysis has been made with the help of the following parameters i.e Occupation, Land holding size, Employment, Annual Income, Saving patterns¸ Loan amount, Credit utilization*

## KEYWORDS

Macro finance, Rural Poor, Andhra Pradesh, Economy.

## INTRODUCTION

The biggest challenge to any civilized society is the economic deprivation of a major population. The most potent tool against human deprivation could be building human capital among the deprived, through sustainable development, initiative which is taken up by the deprived themselves " Self – realization and self – initiative" are the two most powerful weapons to eradicate poverty from the world map.

India has the biggest micro finance market of the world. Micro finance is powerful instrument for enhancing production and productivity and also for alleviating poverty. In order to build the capacities of poor and facilitate the process of empowering them many organization are working in India Micro finance play a vital role to bridge the gap between demand and supply of financial services among the rural poor.

Micro finance covers a wide range of financial services that include savings, credit, insurance and remittance. Micro finance target those people who are denied credit from formal financial and banking institutions because of lack of awareness as well as formal rules which they have to follow to get a credit from these institutions. Micro finance can be considered as a tool for empowerment as well as for social protection (saving, Insurance and remittances). Microfinance can also be used to develop new generation entrepreneurs among the rural poor by providing other necessary skills required.

The Indian Microfinance Sector is a museum of several approaches found across the world. Indian microfinance has lapped up the Grameen blueprint; it has replicated some aspects of the Indonesian and the Bolivian model. In addition to the imported artefacts of microfinance, we also have the home-grown model of self-help groups (SHGs).

## DEFINITIONS

Micro finance may be defined by the as "provision of thrift, credit and other financial services and products of very small amounts to the poor in rural, semi-urban or urban areas for enabling them to raise their income levels and improve living standards" — NABARD.

A definition of microfinance as provided by Robinson is, 'Microfinance refers to small-scale financial services for both credits and deposits- that are provided to people who farm or fish or herd; operate small or micro enterprises where goods are produced, recycled, repaired, or traded; provide services; work for wages or commissions; gain income from renting out small amounts of land, vehicles, draft animals, or machinery and tools; and to other individuals and local groups in developing countries, in both rural and urban areas'.—Robinson (2001)

In the International Years of Micro-credit 2005, "Microfinance was referred to as loan, savings, insurance, transfer services and other financial product targeted at low-income clients".

Poor section of people living in poverty, like everyone else, need a diverse range of financial products and services to sustain their livelihood, productive finance to run their business, build assets positions for both production and consumption, and to protect themselves against risks and uncertainties. Financial services needed by the poor include working capital loan, consumption credit, and savings, pension, insurance, provident funds, money transfer services etc.,

Microfinance products include micro savings, micro credit, micro insurance, remittance and other products like pension, provident fund etc., Microfinance refers to providing a gamut of high quality financial products and service to the poor section of the society.

## NEED FOR THE STUDY

It is true that the concept of micro financing was in existence for more than a century. However the micro financing, which has been introduced recently is different, free from exploitation, based on the principle of co-operation and group approach. As ahead mentioned even in the 1980s several micro credit programmes including Integrated Rural Development Programme **(**IRDP**),** Development of Women and Children in Rural Areas **(**DWCRA**),** Training of Rural Youth for Self-Employment (TRYSEM) etc., were prevalent, but the approach and methodology followed were entirely different. Further it is observed that the formal sector credit was very limited and hardly available for small borrowers. MFIs have broken this trend and it has seen that only small borrowers are members of MFIs. The question that remains still to be answered is that how these MFIs could succeed in capturing the bulk of population, which were hitherto denied access to credit? How could they succeed in attracting the bankers to volunteer in their doorsteps to extend credit, which was a Herculean task prior to MFI? How could the MFIs handle the micro financing, which resulted in good recovery rate, which was a dream for formal sector? Would this success sustain or would it vanish after a temporary existence? What needs to be done to sustain in future? Given the merits of MFIs, all these questions necessitated this study to emerge in the present form. Development experience has shown that the policies favouring government have failed and market was supported to rule with minimum intervention of the state. In both these policy frameworks, poor had continued to be neglected as their focus was on the rich and believed that the benefit would trickle down. But in the later period the market also failed due to various reasons. It was observed that the poor had failed to benefit through any intervention, as the access to formal Credit was absent. As a result, the informal credit continued to dominant and exploits the poor. The failure of formal credit reaching the poor, due to high risk involved owing to the imperfect knowledge of other borrowers and the associated transaction costs for the banks, informal sector with the virtue of perfect information on the poor borrowers, established a good credit market. It is felt that the poor cannot be helped by formal credit for the paper work, asymmetry of information and the transaction cost associated. On the other hand the informal credit sources should not be allowed to exploit the poor. It is good if the former as the first best reaches the poor. In the absence of this occurring, the second best alternative has been conceived, incorporating certain features of both the characteristics of formal and informal credit in the name of micro financing through MFIs with organized efforts of the participants. This micro financing has the characteristics of group lending, peer monitoring, peer pressure etc., through which it is able to get the full information about that borrowers and extend credit with minimum transaction cost with less paper work, but greater recovery performance. This has been widely recognized as the alternative form of credit and resource mobilization for the poor, credit and thrift management etc., but there are certain issues, which may be research questions to be analysed by future researchers in addition to this study. The MFIs associated micro financing is targeted to mostly women. The experience has shown that the economic activities have not been crossed beyond the micro scale. The women who have been taken up economic activities, hardly promoted to produce products of global importance.

In the above back drop an attempt is made in this study to examine the role and impact of microfinance in empowering rural poor and problem encountered by respondents/ beneficiaries and suggest remedial measures to overcome these problem in order to encourage and promote empowerment which has got great potential in Indian environment in general and the state of Andhra Pradesh particular. The specific objectives of the study are as follows:

## OBJECTIVE OF THE STUDY

Micro finance is currently growing at a very fast rate. Micro finance is no doubt providing facilities for the rural poor but to what extent is not clearly mentioned anywhere. Hence that is a for an in-depth impact studies with the following objective:-

To Examine the Impact of microfinance on economic conditions of rural poor in Andhra Pradesh

## METHODOLOGY

The present study has been conducted in Andhra Pradesh with the objective of studying the impact of microfinance on rural poor. The sample constituted 100 beneficiaries selected across the state of Andhra Pradesh. The study was based on primary data collected through structured questionnaire schedule as well as secondary data. The following parameter was broadly studies to promoted microfinance beneficiaries. The information was also collected through discussion with development functionaries. Impacts on socio-economic conditions,

**SAMPLING METHODOLOGY**

Microfinance has been recognized and accepted as one of the new development paradigms for alleviating poverty through social and economic empowerment of the poor, with special emphasis on empowering rural poor. Before explaining the methodology employed for this impact study, it is worth reviewing the different methodologies for assessing impact within the world of microfinance today.

**PERIOD OF THE STUDY**

The present study cover a period of five years from 2002-2007 ( Tenth Five year plan) in order to draw trend to empowering rural poor through microfinance in the state of A.P.

**DATA ANALYSIS**

The data collected from the field was processed using two software package viz. excel and SPSS (Statistical package for Social Science) quantitative information was cross tabulated to know social and economic dimension of each variable and its association with other factors a qualitative information was used in the interpretation of the quantitative data. The Study provides analysis of data and results of the study area. The study interprets and discussed the results of the investigation focused on the impact of microfinance on rural poor in Andhra Pradesh state the results pertaining to the hypotheses and their detailed discussions were presented in this study. Finally the comprehensive discussion is presented.

**LIMITATION & PROBLEM OF DATA COLLECTIONS**

During the research several problems faced several problems were related to lack of availability of data and of persons concerned such as these include:-

Non availability of official is other serious problems. Secondary data up to date was not available and hence no cross checking could be done comparing the primary and secondary data

The books of accounts mention were not up to date. Some of the microfinance did not have even basic records. Many MFI had written their accounts in rough books, rather than prescribed books.

The microfinance stakeholder / MFI who misused funds were not willing to show their records with the excuse that their leaders was not in the village or that the books were in a relative's house and the key were not available etc.,

The study interprets and discusses the results of the investigation focused on the impact of micro-finance on rural poor in A.P and the results pertaining to the hypotheses were presented in this study.

**IMPACT ASSESSMENT**

Impact assessment is a kind of structured study, which measures the impact on employment, income generation, nutrition, education, health, consumption, business development ( micro entrepreneurship) and gender equity of MFIs clients. Impact assessment refers to the assessment of "how financial products and services affect the lives of the poor". Impact assessment is the measurement of the income growth, assets growth and vulnerability reduction of the poor by the micro-finance programmes. The economic category includes accumulation of wealth, changes in income, reducing vulnerability, income level of enterprises etc.,

Specific indicators are developed to explain the impact within each domain. The indicators of economic empowerment included here are the variables like economic self-sufficiency, consumption of nutrition foods, purchase of consumer durables and awareness regarding the use of utensils. The positive changes in these indicators reflect economic empowerment of the poor. The study interprets and discussed the results of the investigation focused on the impact of microfinance on economic conditions of rural poor in Andhra Pradesh.

## ECONOMIC EMPOWEMENT

Economic empowerment essentially deals with economic independence of women in the society. To ensure provision of training employment and income generation activities with both forward and backward linkages with the ultimate objective of making all potential women economically independent and self-relevant. In this section, an attempt has been made to analyse the economic empowerment of micro finance respondent. In this regard an analysis has been made with the help of the following parameters.

1 Occupation
2. Land holding size
3. Employment
4. Annual Income
5. Saving patterns
6. Loan amount
7. Credit utilization
8. Overall impact of microfinance

1. **OCCUPATION**

Occupation directly affects the income of the households and their consumption patterns. While classifying different occupations persons employed in agriculture related activities, animal husbandry, trade / business, service. Households not covered by various occupations have been put in the last category viz., 'others'. The relevant data is presented in the table 1 and 2 and Null hypothesis – I ($H_0$) is formulated and results pertaining to it are presented.

$H_0$: "There is no significant difference in Occupation-wise distribution of microfinance respondents in all the regions of A.P."

**TABLE 1: EMPLOYMENT/OCCUPATIONAL STATUS-WISE DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS**

| Sl. No | Employment/ Occupational status | Telangana | Andhra | Rayalaseema | Total |
|---|---|---|---|---|---|
| 1 | Agricultural / | 16 (48.49) [35.56] | 10 (30.30) [28.57] | 7 (21.21) [35.00] | **33** (33.00) |
| 2 | Animal Husbandry | 11 (55.00) [24.44] | 5 (25.00) [14.28] | 4 (20.00) [20.00] | **20** (20.00) |
| 3 | Trade / Business | 9 (13.04) [20.00] | 14 (48.08) [40.00] | 6 (20.68) [30.00] | **29** (29.00) |
| 4 | Service | 7 (77.78) [15.56] | 0 | 2 (22.22) [10.00] | **9** (9.00) |
| 5 | Others | 2 (22.22) [4.44] | 6 (66.67) [17.14] | 1 (11.11) [5.00] | **9** (9.00) |
| **Total** | **45 (100.00)** | **35 (100.00)** | **20 (100.00)** | **100 (100.00)** | |

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

| | |
|---|---|
| Chi-square Value | 16.354 |
| Table Value | 15.51 |
| D.F | 8 |
| P-Value | <0.05 |
| Result | Significant |

**FIG. 1: EMPLOYMENT/OCCUPATIONAL STATUS-WISE DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS**

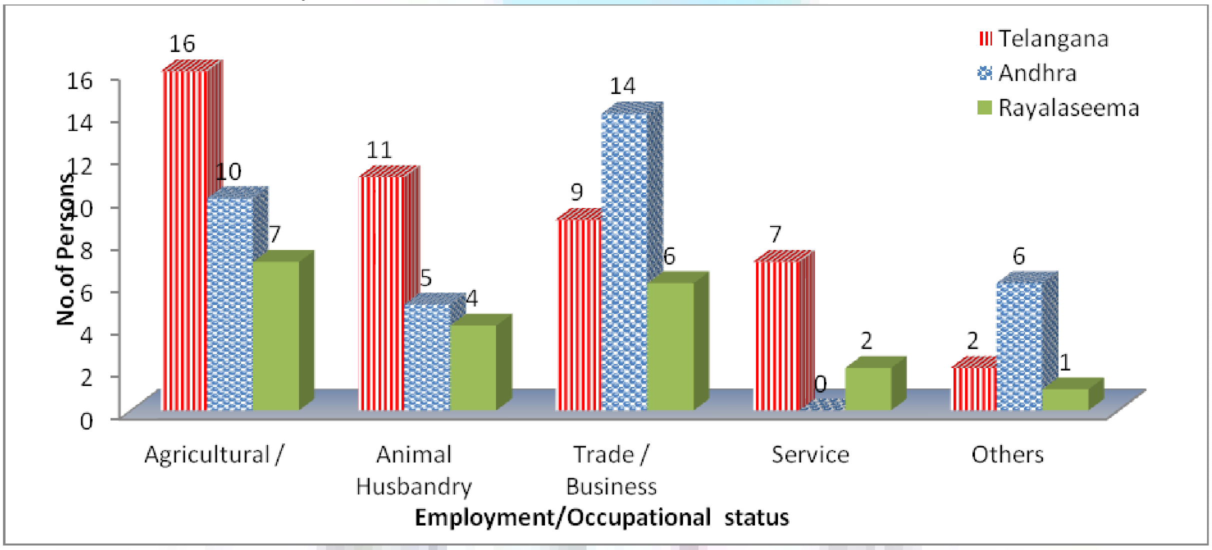



Table reveals the primary occupational details of the microfinance respondents. It is observed that the main occupation of the respondents were agricultural and agricultural related activities including either labour or farming and animal husbandry with 53 per cent of respondent. In agricultural labour occupation only as insignificant per cent were found which indicate that the sample households are not really vulnerable wage earning group suffering from seasonal nature of employment and acute poverty. Primary occupation of the respondents is that majority of the respondents of Micro-Finance were depend on agriculture and 29 per cent of them depend on business/trade.

Table1 shows the chi – square and p-value and fig.1 showing the distribution of Employment/Occupational status profile of the respondents among the regions of A.P. there is significance since p-value > 0.05 Hence, Hypothesis –I is accepted. As the obtained Chi – square value 16.354, critical value 15.51 is not significant since p- value is >0.05. It can be concluded that there is no significant difference in Employment/Occupational status profile of the respondents among regions of Andhra Pradesh.

**TABLE 2**

**ANOVA: ONE - FACTOR ANALYSIS**

| *SUMMARY* | *Count* | *Sum* | *Average* | *Variance* | *SD* |
|---|---|---|---|---|---|
| Agricultural / | 3 | 33 | 11.00 | 21.00 | 4.58 |
| Animal Husbandry | 3 | 20 | 6.67 | 14.33 | 3.79 |
| Trade / Business | 3 | 29 | 9.67 | 16.33 | 4.04 |
| service | 3 | 9 | 3.00 | 13.00 | 3.61 |
| Others | 3 | 9 | 3.00 | 7.00 | 2.65 |

| | | | | | |
|---|---|---|---|---|---|
| Telangana | 5 | 45 | 9.00 | 26.50 | 5.15 |
| Andhra | 5 | 35 | 7.00 | 28.00 | 5.29 |
| Rayalaseema | 5 | 20 | 4.00 | 6.50 | 2.55 |

| Source of Variation | SS | Df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Employment/occupational status | 164 | 4 | 41 | 4.1 | <0.05 | 3.84 |
| Error | 80 | 10 | 10 | | | |
| Total | 244 | 14 | | | | |

Table 2 reveals that 33 per cent households are engaged in agricultural related activities in all three regions and 29 per cent were representing trade or business activities. 20 per cent of respondents were engaged in animal husbandry. Respondents from service holders and others are representing 9 per cent each.
Table 2 shows the ANOVA F-observed and critical value, d.f and p-value and showing the distribution of Employment/occupational status profile of the respondents among the regions of Andhra Pradesh. There is significance since p-value <0.05. Hence, Hypothesis – I is rejected. As the obtained F-value 4.01 is more than its critical value 3.84 which is significant since p- value is <0.05. Thus it can be concluded that there is significant difference in Employment/occupational status profile of the respondents among the regions of Andhra Pradesh.

**2. LANDHOLDING SIZE**

Agriculture is the main occupation of the people of the rural areas in A. P. According to land holding size, the beneficiaries are categorized into three category viz., large farmers (more than 5 acres), medium farmers (1– 5 acres), Marginal farmers (less than 1 acre), Agricultural and non- agricultural labourers& others. The relevant data is presented in the table 3 and Null hypothesis – II ($H_0$) is formulated and results pertaining to it are presented.
$H_0$: "There is no significant difference in land holding size-wise distribution of microfinance respondents in all the regions of A.P."

**TABLE 3: LAND HOLDING SIZE-WISE DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS**

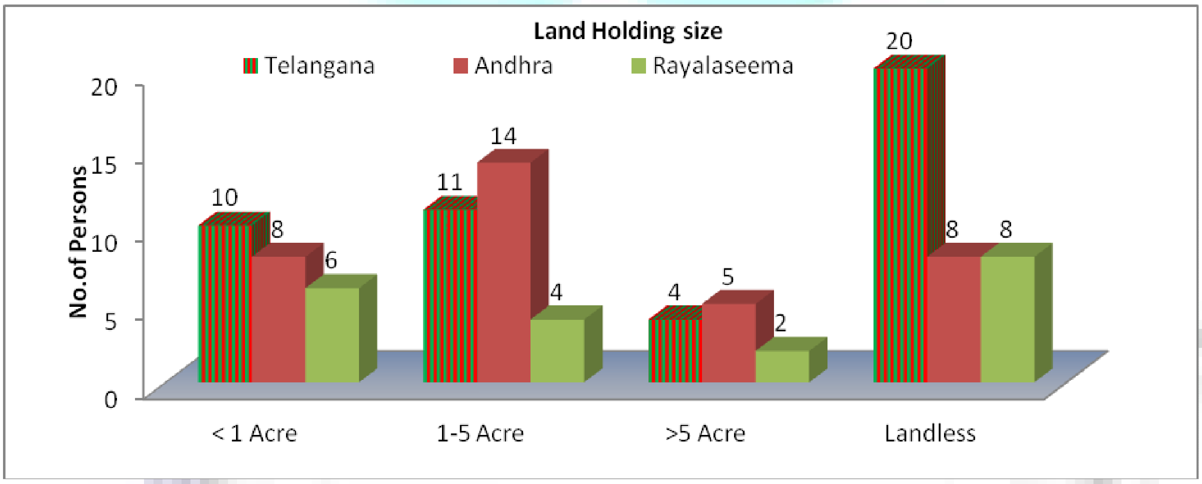
| Sl. No | Land Holding size | Telangana | Andhra | Rayalaseema | Total |
|---|---|---|---|---|---|
| 1 | < 1 Acre | 10 (41.67) [22.22] | 8 (33.33) [22.85] | 6 (25.00) [30.00] | **24** (24.00) |
| 2 | 1-5 Acre | 11 (37.93) [24.44] | 14 (48.28) [40.00] | 4 (13.79) [ 20.00] | **29** (29.00) |
| 3 | >5 Acre | 4 (36.36) [8.89] | 5 (45.45) [ 14.28] | 2 (18.18) [10.00] | **11** (11.00) |
| 4 | Landless | 20 (55.56) [44.44] | 8 (22.22) [22.85] | 8 (22.22) [40.00] | **36** (36.00) |
| **Total** | | **45 (100.00)** | **35 (100.00)** | **20 (100.00)** | **100 (100.00)** |

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

| | |
|---|---|
| Chi-square Value | 25.36 |
| Table Value | 12.59 |
| D.F | 6 |
| P-Value | <0.05 |
| Result | Significant |

**FIG. 2: LAND HOLDING SIZE-WISE DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS**




The table reveals the classification of the sample households based on land holding pattern revealed that the marginal farmers constituted the major share of 29 per cent followed by small farmers 24 per cent and agricultural labourers 36 per cent. A large majority of members came from poor backgrounds, owning no land or very little land. Less than 53 per cent had landholding of any significance.
Table 2 shows the chi – square and p-value and figure 2 showing the distribution of Land holding size profile of the respondents among the regions of Andhra Pradesh. There is significance since p-value < 0.05 Hence, Hypothesis – II is accepted. As the obtained Chi – square value 25.36 is more than the corresponding critical value 12.59 which is not significant since p- value is <0.05. It can be concluded that there is no significant difference in Land holding size of the respondents among the regions of Andhra Pradesh.

**3. EMPLOYMENT**

Microfinance respondents would essentially be formed for the purpose of empowering the poor to take charge of critical decisions concerning their lives and improve its quality. The process adopted for formation of the group has major influence over the way the group would evolve overtime. Importantly, women's participation in microfinance activity in its various activities is important for meeting out the broad objectives of micro-financing and effective functioning of SHG's. The relevant data is presented in the table 4 and Null hypothesis – III ($H_0$) is formulated and results pertaining to it are presented.

$H_0$: "There is no significant difference in Employment-wise distribution of microfinance respondents in all the regions of A.P."

**TABLE 4: EMPLOYMENT-WISE DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS**

| Sl. No | Employment | Telangana | Andhra | Rayalaseema | Total |
|---|---|---|---|---|---|
| 1 | Labour | 35 (46.05) [77.78] | 24 (31.58) [68.57] | 17 (22.37) [85.00] | 76 (76.00) |
| 2 | Employed | 10 (45.46) [22.22] | 9 (40.90) [25.71] | 3 (13.64) [15.00] | 22 (12.00) |
| 3 | Self Employed | 0 | 2 (100.00) [5.71] | 0 | 2 (2.00) |
| **Total** | | **45 (100.00)** | **35 (100.00)** | **20 (100.00)** | **100 (100.00)** |

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

| | |
|---|---|
| Chi-square Value | 24.866 |
| Table Value | 9.488 |
| D.F | 4 |
| P-Value | <0.05 |
| Result | Significant |

One surprise in membership profile is that female respondents employee in government and private sector, whose share in rural female workforce is nominal constitute over 2 per cent in the sample. It is observed that Anganwadi workers who are promoting microfinance at village joining the groups and invariable taking over the leadership role. This factor might have contributed for the over representation of self-employee in sample.
The table 4 brings out subsidiary employment of microfinance stakeholder. It is observed that mostly labour as with per cent. A seasonal agriculture person mainly depends on labour. Self-employed with 22 per cent only 2 per cent of respondents are employed in private sector. The contribution of income to the household income by the wife/husband has been analysed to find out how for the sample household are dependent on wife/husband's income. The main subsidiary employment of the surveyed households is shown in table. Agriculture, self-employment, labour are reported to be main subsidiary occupations.

**FIG. 3: EMPLOYMENT-WISE DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS**


Table 3 shows the chi – square and p-value and figure 3 showing the distribution of Employment status profile of the respondents among the regions of Andhra Pradesh. There is no significance since p-value < 0.05 Hence, Hypothesis – III is rejected. As the obtained Chi – square value 24.866 is more than its corresponding critical value of 9.488 which is significant since p- value is <0.05. Thus, it can be concluded that there is significant difference in Employment status profile of the respondents among the regions of Andhra Pradesh.

**TABLE 5: ANOVA: ONE -FACTOR ANALYSIS**

| SUMMARY | Count | Sum | Average | Variance | SD |
|---|---|---|---|---|---|
| Labour | 3 | 76 | 25.33 | 82.33 | 9.07 |
| Employed | 3 | 22 | 7.33 | 14.33 | 3.79 |
| Self Employed | 3 | 2 | 0.67 | 1.33 | 1.15 |

| | | | | | |
|---|---|---|---|---|---|
| Telangana | 3 | 45 | 15.00 | 325.00 | 18.03 |
| Andhra | 3 | 35 | 11.67 | 126.33 | 11.24 |
| Rayalaseema | 3 | 20 | 6.67 | 82.33 | 9.07 |

| *Source of Variation* | *SS* | *Df* | *MS* | *F* | *P-value* | *F crit* |
|---|---|---|---|---|---|---|
| employment | 976.89 | 2 | 488.44 | 21.60 | <0.01 | 6.94 |
| Error | 90.44 | 6 | 22.61 | | | |
| Total | 1067.33 | 8 | | | | |

Table 5 shows the ANOVA F-observed and critical value, d.f and p-value and showing the distribution of Employment profile of the respondents among the regions of Andhra Pradesh. There is significance since p-value <0.01.Hence, Hypothesis –III is rejected. As the obtained F-value 21.60 more than its critical value of 6.94 which is significant since p- value is <0.01. It can be concluded that there is significant difference in Employment profile of the respondents among the regions of Andhra Pradesh.

**4. ANNUAL INCOME**

Income of every family determines the economic position. Annual income earned by the respondents is furnished in this table Most of the families belong to income level of Rs. 10,000 to 70,000 per annum i.e. low. Interestingly, most of the families are living below the poverty line or just above it. However, they are contributing significantly to the family income. The relevant data is presented in the table 6 and Null hypothesis – IV ($H_0$) is formulated and results pertaining to it are presented.

$H_0$: "There is no significant difference in Annual income-wise distribution of microfinance respondents in all the regions of A.P."

**TABLE 6: ANNUAL INCOME –WISE DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS**

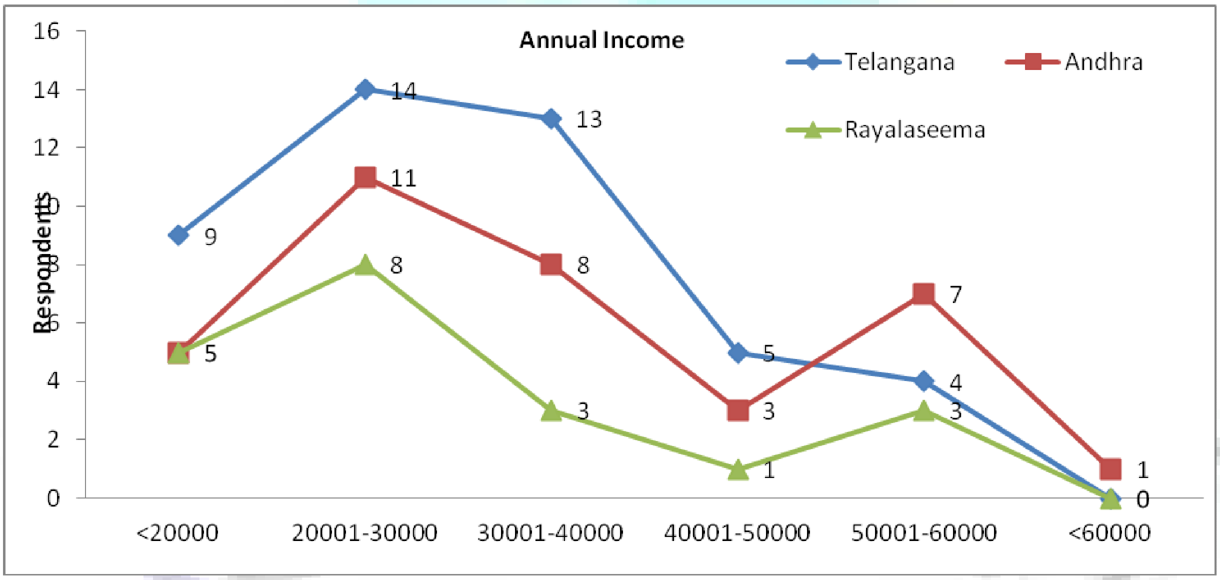
| Sl.No | Annual Income | Telangana | Andhra | Rayalaseema | Total |
|---|---|---|---|---|---|
| 1 | <20000 | 9 (47.36) [20.00] | 5 (26.32) [14.28] | 5 (26.32) [25.00] | **19** (19.00) |
| 2 | 20001-30000 | 14 (42.43) [31.11] | 11 (33.33) [31.43] | 8 (24.24) [40.00] | **33** (33.00) |
| 3 | 30001-40000 | 13 (54.17) [28.89] | 8 (33.33) [22.85] | 3 (12.50) [15.00] | **24** (24.00) |
| 4 | 40001-50000 | 5 (55.56) [11.11] | 3 (33.33) [8.57] | 1 (11.11) [5.00] | **9** (9.00) |
| 5 | 50001-60000 | 4 (28.57) [8.89] | 7 (33.33) [20.00] | 3 (21.43) [15.00] | **14** ( 14.00) |
| 6 | <60000 | - | 1 (100.00) (2.85) | - | **1** (1.00) |
| **Total** | **45 (100.00)** | **35 (100.00)** | **20 (100.00)** | **100 (100.00)** | |

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

| | |
|---|---|
| Chi-square Value | 26.523 |
| Table Value | 18.31 |
| D.F | 10 |
| P-Value | <0.05 |
| Result | Significant |

**FIG. 4: ANNUAL INCOME – WISE DISTRIBUTION OF SAMPLE MICROFINANCE RESPONDENTS**




It is clear from the table that a majority of 76 per cent of the respondents belongs to the annual income of below Rs. 40,000. There mining respondent's i.e., 24 per cent belong to above Rs. 40000. Thus there is close relationship between income and membership of microfinance. It is also clear that economically poor people are interested to join in microfinance to promote their financial position to lead independent life and to participate in development programme.

Table 6 shows the chi – square and p-value and figure 4. Showing, the distribution of Annual Income-wise distributions of MFIs respondents among the regions of Andhra Pradesh. There is significance since p-value < 0.05 Hence, Hypothesis – IV is rejected. As the obtained Chi – square value 26.523 is more than its critical value of 18.31 which is significant since p- value is <0.05. It can be concluded that there is significant difference in Annual Income-wise distribution of the respondents among the regions of Andhra Pradesh.

**TABLE 7: ANOVA: ONE -FACTOR ANALYSIS**

| *SUMMARY* | *Count* | *Sum* | *Average* | *Variance* | *SD* |
|---|---|---|---|---|---|
| <20000 | 3 | 19 | 6.33 | 5.33 | 2.31 |
| 20001-30000 | 3 | 33 | 11.00 | 9.00 | 3.00 |
| 30001-40000 | 3 | 24 | 8.00 | 25.00 | 5.00 |
| 40001-50000 | 3 | 9 | 3.00 | 4.00 | 2.00 |
| 50001-60000 | 3 | 14 | 4.67 | 4.33 | 2.08 |
| >60000 | 3 | 1 | 0.33 | 0.33 | 0.58 |

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

| | | | | | |
|---|---|---|---|---|---|
| Telangana | 6 | 45 | 7.50 | 29.90 | 5.47 |
| Andhra | 6 | 35 | 5.83 | 12.97 | 3.60 |
| Rayalaseema | 6 | 20 | 3.33 | 8.27 | 2.88 |

| *Source of Variation* | *SS* | *df* | *MS* | *F* | *P-value* | *F crit* |
|---|---|---|---|---|---|---|
| Annual income | 212.44 | 5 | 42.49 | 9.83 | <0.001 | 3.33 |
| Error | 43.22 | 12 | 4.32 | | | |
| Total | 255.66 | 17 | | | | |

Table 6 reveals that the income-wise distribution of the sample MF respondents. As can be seen in the table there is a similar trend in the income distribution in all the regions of Andhra Pradesh. The average number of households below the annual income of Rs. 30,000 is 52 (19+33) per cent, between Rs 30001 to 40000 is 24 per cent between Rs 400001 to Rs 50000 is 9 per cent and 15 per cent of households enjoy annual income of more than Rs 50001.

Table 7 shows The ANOVA F-observed and critical value, d.f and p-value and it shows the distribution of the annual income profile of the respondents among the regions of A.P. There is significance since p-value is <0.001. Hence, Hypothesis –IV is rejected. As the obtained F-value 9.83 is more than its critical value 3.33 which is significant since p- value is <0.001. It can be concluded that there is significant difference in the annual income profile of the respondents among the regions of Andhra Pradesh.

**5. THE REASONS FOR THE PREFERENCE OF THE MAIN PURPOSE OF THE SAVINGS**

Maintain saving at their doorstep save small amount on regular basis which was not possible in any formal financial institutions. Create emergency fund to give them a kind of security against odds. Contribute to their family or near and dear ones during distress. It is helpful in emergency situation including medical purpose, children's education and social and religious functions. The respondents were asked to reveal the important purpose of savings. The prominent factors reported were self-respect, emergencies, medical, social serving, agricultural, festival, and marriages education of children's etc. The relevant data is presented in the table 8 and Null hypothesis – V ($H_0$) is formulated and results pertaining to it are presented.

$H_0$: "There is no significant difference in Annual income-wise distribution of microfinance respondents in all the regions of A.P."

**TABLE-8: DISTRIBUTION OF MAIN PURPOSE OF SAVINGS OF SAMPLE MICRO-FINANCE RESPONDENTS**

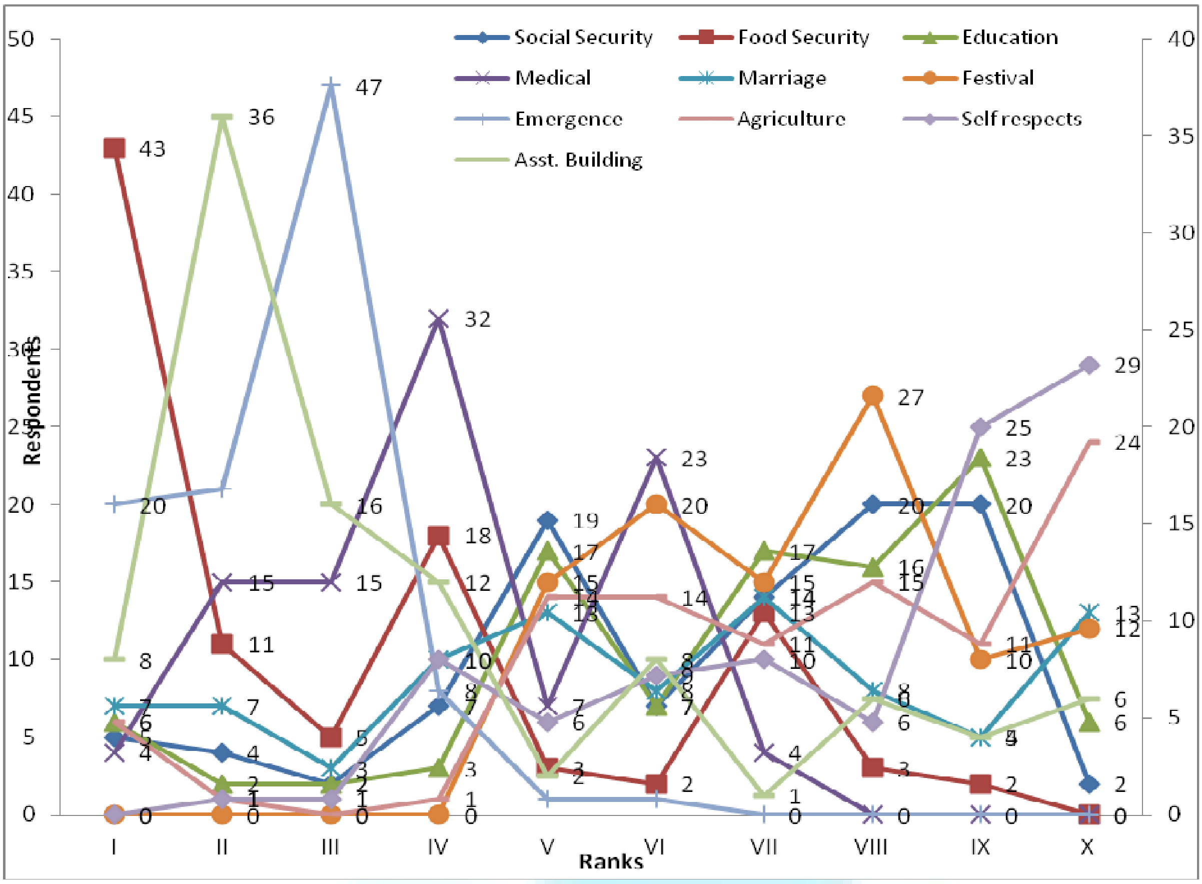
| | I | II | III | IV | V | Vi | VII | VIII | IX | X |
|---|---|---|---|---|---|---|---|---|---|---|
| Social Security | 5 | 4 | 2 | 7 | 19 | 7 | 14 | 20 | 20 | 2 |
| Food Security | 43 | 11 | 5 | 18 | 3 | 2 | 13 | 3 | 2 | 0 |
| Education | 6 | 2 | 2 | 3 | 17 | 7 | 17 | 16 | 23 | 6 |
| Medical | 4 | 15 | 15 | 32 | 7 | 23 | 4 | 0 | 0 | 0 |
| Marriage | 7 | 7 | 3 | 10 | 13 | 8 | 14 | 8 | 5 | 13 |
| Festival | 0 | 0 | 0 | 0 | 15 | 20 | 15 | 27 | 10 | 12 |
| Emergence | 20 | 21 | 47 | 8 | 1 | 1 | 0 | 0 | 0 | 0 |
| Agriculture | 6 | 1 | 0 | 1 | 14 | 14 | 11 | 15 | 11 | 24 |
| Asst. Building | 8 | 36 | 16 | 12 | 2 | 8 | 1 | 6 | 4 | 6 |
| Self-respects | 0 | 1 | 1 | 10 | 6 | 9 | 10 | 6 | 25 | 29 |

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

| SUMMARY | Count | Sum | Average | Variance | SD |
|---|---|---|---|---|---|
| Social Security | 10 | 100 | 10 | 56 | 7.48 |
| Food Security | 10 | 100 | 10 | 168.22 | 12.97 |
| Education | 10 | 99 | 9.9 | 57.88 | 7.61 |
| Medical | 10 | 100 | 10 | 120.44 | 10.97 |
| Marriage | 10 | 88 | 8.8 | 13.29 | 3.65 |
| Festival | 10 | 99 | 9.9 | 93.66 | 9.68 |
| Emergence | 10 | 98 | 9.8 | 239.51 | 15.48 |
| Agriculture | 10 | 97 | 9.7 | 59.12 | 7.69 |
| Asst. Building | 10 | 99 | 9.9 | 104.10 | 10.20 |
| Self-respects | 10 | 97 | 9.7 | 97.79 | 9.89 |
| I | 10 | 99 | 9.9 | 166.10 | 12.89 |
| II | 10 | 98 | 9.8 | 132.62 | 11.52 |
| III | 10 | 91 | 9.1 | 211.66 | 14.55 |
| IV | 10 | 100 | 10 | 88.32 | 9.40 |
| V | 10 | 97 | 9.7 | 44.23 | 6.65 |
| VI | 10 | 99 | 9.9 | 50.77 | 7.13 |
| VII | 10 | 99 | 9.9 | 36.99 | 6.08 |
| VIII | 10 | 100 | 10 | 81.66 | 9.04 |
| IX | 10 | 100 | 10 | 91.11 | 9.55 |
| X | 10 | 92 | 9.2 | 106.62 | 10.33 |

**FIGURE- 5: DISTRIBUTION OF MAIN PURPOSE OF SAVINGS OF SAMPLE MICRO-FINANCE RESPONDENTS**




## 6. LOAN AMOUNT

The amount of borrowing also influences the economic condition of the MFI group member. The amount of loan which exceeds and the repayment may become a burden on the borrower and sometimes it will be inadequate which will curtail the earning capacity of the beneficiaries. The relevant data is presented in the table 5 and Null hypothesis – V ($H_0$) is formulated and results pertaining to it are presented.

$H_0$: "There is no significant difference in loan amount-wise distribution of microfinance respondents in all the regions of A.P."

**TABLE NO. 9: LOAN AMOUNT WISE DISTRIBUTION OF RESPONDENTS**

| Sl.No | Loan amount | Telangana | Andhra | Rayalaseema | **Total** |
|---|---|---|---|---|---|
| 1 | <2500 | 1 (50.00) (2.22) | 0 | 1 (50.00) (5.00) | **2** **(2.00)** |
| 2 | 2500-5000 | 6 (60.00) (13.33) | 3 (30.00) (8.57) | 1 (10.00) (5.00) | **10** **(10.00)** |
| 3 | 5000-10000 | 22 (44.00) (48.89) | 17 (34.00) (48.57) | 11 (22.00) (55.00) | **50** **(50.00)** |
| 4 | 10000-20000 | 15 (41.67) (33.33) | 14 (38.89) (40.00) | 7 (19.44) (35.00) | **36** **(36.00)** |
| 5 | > 25000 | 1 (50.00) (2.22) | 1 (50.00) (2.85) | 0 | **2** **(2.00)** |
| **Total** | **45 (100.00)** | **35 (100.00)** | **20 (100.00)** | **100.00 (100.00)** | |

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

**TABLE 10: ANOVA: ONE-FACTOR ANALYSIS**

| SUMMARY | Count | Sum | Average | Variance | SD |
|---|---|---|---|---|---|
| <2500 | 3 | 2 | 0.67 | 0.33 | 0.58 |
| 2500-5000 | 3 | 10 | 3.33 | 6.33 | 2.52 |
| 5000-10000 | 3 | 50 | 16.67 | 30.33 | 5.51 |
| 10000-20000 | 3 | 36 | 12.00 | 19.00 | 4.36 |
| > 25000 | 3 | 2 | 0.67 | 0.33 | 0.58 |
| Telangana | 5 | 45 | 9.00 | 85.50 | 9.25 |
| Andhra | 5 | 35 | 7.00 | 62.50 | 7.91 |
| Rayalaseema | 5 | 20 | 4.00 | 23.00 | 4.80 |

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Loan amount | 634.67 | 4 | 158.67 | 25.73 | <0.001 | 3.84 |
| Error | 49.33 | 10 | 6.17 | | | |
| Total | 684.00 | 14 | | | | |

Table 10 shows The ANOVA F-observed and critical value, d.f and p-value and it shows the loan amount wise distribution of the respondents among the regions of A.P. There is significance since p-value is <0.001. Hence, Hypothesis –V is rejected. As the obtained F-value 25.73 is more than its critical value 3.84 which is significant since p- value is <0.001. It can be concluded that there is significant difference in the loan amount borrowed by the respondents among the regions of Andhra Pradesh.

**6. IMPACT OF MICROFINANCE**

Several indicators were chosen to understood the effects of the financed by microfinance on the planning of microfinance at the household level, first clients were asked what kind of impact ( Increase / Decrease / same) their participation in a microfinance activities. As observed in the study areas also the microfinance have helped participation families to improve their economic conditions and also contributed for empowerment of rural poor. Analyses the impact of microfinance on economic condition of the families' and participating on rural poor. Here the members perception were only considered in analysing the impact respondents were asked to choose option (a) Same condition (b) Increase (c) decrease to each of select economic and social development indications. Respondents response in presented as the table. Now an attempt is made to analyse the impact of microfinance in empowering sample respondents in terms of socio-economic. Since the study is largely a rural based, where a good number of members are uneducated and fail to maintain accounts. The respondents were not in a position to provide the correct data relating to income, saving etc., at individual level, therefore, the data relating to direction of changes from the period of membership was obtained in terms of (a) same (b) increase (c) decrease. Some methodology is adopted is analysing socio-economic impact examined in terms of increase in income, entry into political, attitudinal changes of respondents, improvement in overall status of member of microfinance etc.,

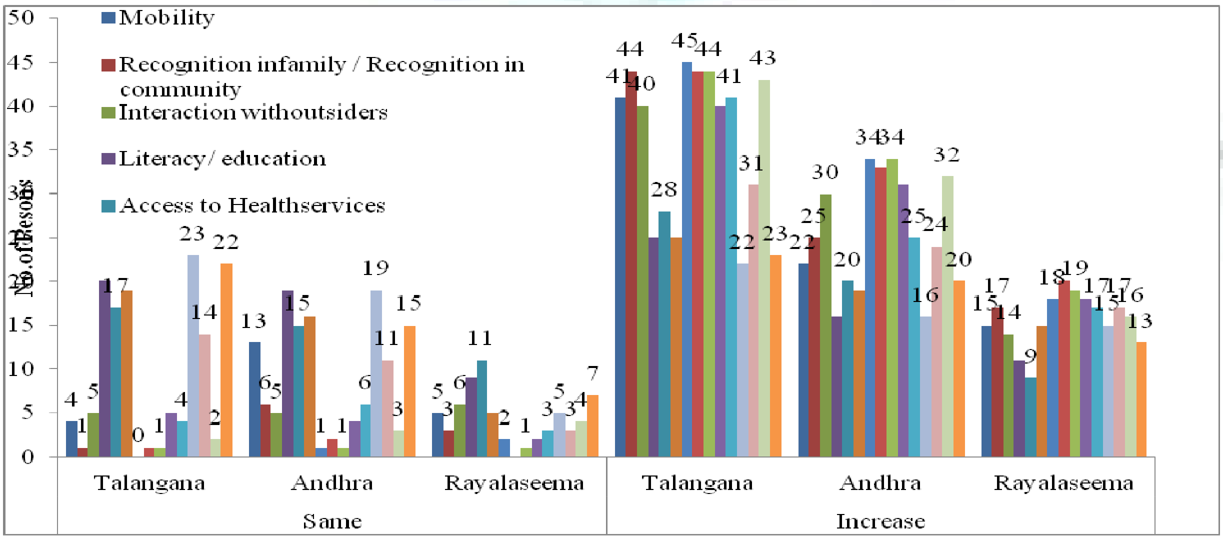
The socio-economic conditions of members have improved since joining the groups the positive changes have been reported in case of awareness regarding nutrition, health hygiene, family planning, decision making related to money cantered, interaction with outsiders mobility, educational development access to health services, family income etc., Important aspects, most of the agreed on the important of non-business related training the domains of food, health , empowerment and decision-making, family planning. increase in food expenditure, improvement in health, less dependence on others, increase in education, increase in confidence level, decision-making , leadership qualities, group solidarity and ability to interact with others.

Positive impact of microfinance was observed in terms of increased income, diversification of household activities and reduce dependence on the single main occupation of the household, larger employment opportunities. General improvement in their quality of life including housing conditions and education of children-particularly girl child, reduced dependence on the money lenders, largely spending on social occasions like festival and marriages, tendency to increase borrowing.

**TABLE 11: IMPACT OF MICROFINANCE**

| | Same | | | Increase | | |
|---|---|---|---|---|---|---|
| | Talangana | Andhra | Rayalaseema | Talangana | Andhra | Rayalaseema |
| Mobility | 4 | 13 | 5 | 41 | 22 | 15 |
| Recognition in family / Recognition in community | 1 | 6 | 3 | 44 | 25 | 17 |
| Interaction with outsiders | 5 | 5 | 6 | 40 | 30 | 14 |
| Literacy/ education | 20 | 19 | 9 | 25 | 16 | 11 |
| Access to Health services | 17 | 15 | 11 | 28 | 20 | 9 |
| Access to sanitation facility | 19 | 16 | 5 | 25 | 19 | 15 |
| Access to credit sources / Credit is easily available | - | 1 | 2 | 45 | 34 | 18 |
| Asset Building | 1 | 2 | - | 44 | 33 | 20 |
| Family Income | 1 | 1 | 1 | 44 | 34 | 19 |
| Skills | 5 | 4 | 2 | 40 | 31 | 18 |
| Voicing your concern /Leadership qualities | 4 | 6 | 3 | 41 | 25 | 17 |
| Nutrition awareness | 22 | 15 | 7 | 23 | 20 | 13 |
| Family Planning awareness | 23 | 19 | 5 | 22 | 16 | 15 |
| Health awareness | 14 | 11 | 3 | 31 | 24 | 17 |
| Participation in Dev.Program | 2 | 3 | 4 | 43 | 32 | 16 |

**FIG. 8: IMPACT OF MICROFINANCE**




**Mobility:-** Rapid changes in female/male relationship in terms of increased freedom, autonomy and mobility for example after some initial frication a women could stay overnight in another village to market her products and another could take part in a week long seminars/trainings. A rise in the income of rural poor, increase the livelihood children attending school participating when programe have an education component. Majority member used microfinance amount more than one purpose. All the respondents utilized the microfinance for assets building, family income increase, and income generation activity. Some spent on a significant impact on household on loan borrowers in multiple ways include employment generation, financial support from moneylenders, children's education health, and debt status and so on.

**Asset Building:-** Data shows that over 97 per cent of the respondents have reported that asset building 97%. Majority of the respondent also felt that the loan is need based. Impact is also analysed from with the information during their interviews with the research and the opinions expressed.

**Recognition in community:-**Important point which come out during the discussion was that earlier the relative /friends / neighbours were apprehensive to give loan to them, as they were not sure about their capacity for repayment, but now the member can get easy loan form them in case of emergency as they are source to get money. Regarding the esteem that they feel within their couple, 86% of respondents declare that their professional activity has positively affected the perception that their spouse or partner shows them as a result of participation in a microfinance program or development of the microfinance.

**Interaction with outsiders:-** A majority of 84 per cent of the respondents of microfinance reported that there was a positive changes of interaction with outsiders 16 per cent respondents were reported that there is no changes. This clearly indicates the higher involvement of members in decision-making. This is good sign toward the social and transformation taking place due to microfinance movement. Microfinance stakeholders interact with outsiders with a degree of sophistication and self-worth not seen among rural poor in past. The rural poor in mobile and is used to an independent income and therefore, always has had the advantage of greater freedom than the richer poor.

**Education:-** Education is an important determinant of social class. It is an important instrument of increasing and betterment of the chance of the rural poor employability. It is enables them to think for themselves making confident and also develop the capacity of recognizing. Education have been reported as crucial factor for developing rural poor and also empower them.

When it comes to education nearly 52 per cent of respondents reported noticeable for significant improvement in educational level. Nearly 48 per cent, however, reported no change respondents have borrowed for children's education and improvement was probably related to children's education on their own behalf respondents have invested in learning to sign their names, but not much more in terms of formal education. Their knowledge level, information base ability to analyse and articulate, all of which are part of education of a person appear to have improved significantly over the year with their microfinance.

**Access to health services:-** Microfinance provides rural poor right to borrow for their own health needs, a part from all other occupational and family needs. In the case of the poor personal health management reflects directly on earnings as the poor depends significantly on physical energy for their income, poor tend to poor their own health needs last, but membership in the microfinance provide them with the opportunity to invest in the own well beings. However 43 per cent of member said that there was either no-change or in-significant improvement in health status with 57 per cent. There were similar responses to change in education level and in their participation in microfinance. Overall the proportion of client household having treatment at private hospitals increase sharply at the expenses of others modes of treatments. Larger number of clients showed preference for child birth at government hospital rather than at home or at the public health service. The clients with longer association with microfinance institution had more preference for private hospital they were ready to spend more in the case of child delivery.

**Access to credit sources / credit easily available:-**The benefits obtained by the member of microfinance after their entry was analysed by taking into following variable such as increase income level. Better to credit facilities, better socio-economic status. Enhance the leadership quality, independence self-decision making habits, improves the standard of living provides regular income. Reduce the stress and participation in public affairs through average score analysis. Promoted groups positively responded for the indicator increase in expenditure on food. As mentioned earlier that normally an increase in expenditure on food brings equity in intra family distribution of food. It reflects significant changes and gains. The biggest impact on the lives of the member's was their social empowerment. They had acquired a level of confidence, awareness, and pride themselves. Besides, the member had improved problem solving situations and there was a general increase in the self-confidence. Researches finding out income have increase due to their participation in microfinance by taking up new livelihood activities. Women are also able to generate additional income for the families and able to raise families standard of living. By taking activities like mid-day meals, vegetable cultivation and animal husbandry for themselves and their family and able to meet small expenditure need such as consumption, health and educations.

**Impact on family Income:-**Under family income impact the indicators considered are change in household income, change in employment days, savings availability of credit, in-debt ness and free from money lenders. Impact related indication is give as table the development of the habit of saving is widely felt gain as many as 97% of sample respondents positively to this indicators, a great majority of 97 per cent of respondents of microfinance reported that their income was increased while remaining 3 per cent of the respondent s reported that there was no change in their family income.

**Voicing your concern/ Leadership quality:-** More than 87 per cent of members reported noticeable significant increase in leadership quality and a very small per cent of respondents felt that there was no change in their voice or leadership quality. On the question of improvement in leadership qualities nearly 87 per cent reported a moderate to significant increase in these, while nearly 13 per cent reported insignificant improvement. Leadership of microfinance stakeholders requires skill of negotiation of ability to represent group interest elsewhere of conflict resolution of funds management of accordingly functions. At least on some of these counts, members appear to have had significant improvement. Discussing issue like child marriage, protesting against counter liquor. Contesting elections, taking personal care, able to talk before village elders and official and cooperation among them.

**Nutrition awareness:-** Increase in expenditure on food normally bring equality in intra-household food distribution, before turning to analysis of social impact a word of caution, as it take long-time and need multi-pronged strategy for changes in gender equality and social development

**Participation in Development program:-**The table 11 reveals that better access to credit facilities was benefit obtained by the members of microfinance after their entry, participation in public affairs. Provide regular income, reduces the stress, self-decision-making habit. Improve the standard of living, increased income level independence. Enhance the leadership quality and better socio-economic status are the following benefit obtained by the member of microfinance after the entry. Governance related parameters are periodicity of meeting, attendance of the meeting, decision-making process in the meeting, observation of norms saving, and loan instalments, collection method, lending procedure rotation of leadership etc., Economic parameters include periodicity of saving, use saving for internal lending, lending rates, lending norms, regularity of loan, repayment etc., Data suggest that the sample respondents who belong to microfinance are much more aware about the services offered by the various organizations and have visited these organizations and have availed the service more often than the not participate members.

**Summary of Findings and Conclusion**

This Study summaries the major findings and discusses the issues of micro financing and brings conclusion. The objectives and goals of micro financing are to bring economic and social empowerment among rural poor, ensure financial sustainability, and provide skill development so that it would sustain with an economic activity. This present study attempted to analyses whether the micro financing have brought any change in the lives of rural poor. Great debates are on as to whether, forming groups, making women as members, providing credit and imparting some business skills would change the social equations in the society. The proponents argue that providing credit to rural poor can prove to be a suitable mechanism in enhancing Poor's socioeconomic conditions and thereby altering the relations between gender and class. On the other hand, critics argue that provision of credit may lead to marginal increase in income and assets which may enhance the wellbeing and economic security, but the increase may be too little to affect pervasively entrenched political and economic relations.

## CONCLUSION AND SUGGESTIONS

**Occupation:-** The occupational back ground of the respondents shows that 33 per cent households are engaged in agricultural related activities in all three regions and 29 per cent were representing trade/ business activities. 20 per cent of respondents were engaged in animal husbandry. Respondents from service sectors and others are representing 9 per cent each.

**Land holding size:-** Land holding pattern revealed that the marginal farmers constituted the major share of 29 per cent followed by small farmers (24 per cent) and agricultural labourers (36 per cent). A large majority of members came from poor backgrounds, owning no land or very little land. Less than 53 per cent had landholding of any significance.

**Employment:-**It is observed that mostly labour as with 76 per cent. A seasonal agriculture person mainly depends on labour. Self-employed with 22 per cent only and 2 per cent of respondents are employed in private sector. The contribution of income to the household income by the wife/husband has been analysed to find out how far the sample households are dependent on wife/husband's income. The main subsidiary employment occupations of the surveyed households are Agriculture, self-employment, labour.

**Annual Income:-**It is clearly observed that a majority of 76 per cent of the respondents belongs to the annual income of below Rs. 40,000. The remaining respondent's i.e., 24 per cent belong to above Rs. 40000. Thus there is a close relationship between income and membership of microfinance. It is also clear that economically poor people are interested to join in microfinance to promote their financial position to lead independent life and to participate in development programme. The average income of the sample respondents is worked out to be Rs.24, 600.

## IMPACT OF MICROFINANCE

**Mobility:-** Rapid changes in female/male relationship in terms of increased freedom, autonomy and mobility for example after some initial frication a women could stay overnight in another village to market her products and another could take part in a week long seminars/trainings. A rise in the income of rural poor, increase the livelihood children attending school participating when programe have an education component. Majority member used microfinance amount more than one purpose. All the respondents utilized the microfinance for assets building, family income increase, and income generation activity. Some spent on a significant impact on household on loan borrowers in multiple ways include employment generation, financial support from moneylenders, children's education health, and debt status and so on.

**Asset Building:-** Data shows that over 97 per cent of the respondents have reported that asset building 97%. Majority of the respondent also felt that the loan is need based. Impact is also analysed from with the information during their interviews with the research and the opinions expressed.

**Recognition in community:-**Important point which come out during the discussion was that earlier the relative /friends / neighbours were apprehensive to give loan to them, as they were not sure about their capacity for repayment, but now the member can get easy loan from them in case of emergency as they are source to get money. Regarding the esteem that they feel within their couple, 37 per cent of respondents declare that their professional activity has positively affected the perception that their spouse or partner shows them as a result of participation in a microfinance program or development of the microfinance. The trend is similar regarding the esteem that the microfinance within their family and community.

**Interaction with outsiders:-**Further the analysis reveals that on the whole , a majority of (84 per cent) the respondents of microfinance reported that there was a positive changes of interaction with outsiders and the remaining 16 per cent stated that there is no changes. This clearly indicates the higher involvement of members in decision-making. This is good sign toward the social and transformation taking place due to microfinance movement. Microfinance stakeholders interact with outsiders with a degree of sophistication and self-worth not seen among rural poor in past. The rural poor in mobile and is used to have independent income and therefore, always have had the advantage of greater freedom than the richer poor.

**Education:-**When it comes to education nearly 52 per cent of respondents replied that there is a significant improvement in educational level. Nearly 48 per cent, however, reported no change and replied that they have borrowed for children's education and improvement was probably related to children's education on their own behalf. Their knowledge level, information base, ability to analyse and articulate, all of which are part of education of a person appear to have improved significantly over the year with the microfinance. Further, 40 per cent of clients who have children perceive a positive change in their level of education thanks to their participation in microfinance programs. While it is possible to state that the duration of participation in microfinance program improves the education of children.

**Access to health services:-** Microfinance provides rural poor right to borrow for their own health needs, a part from all other occupational and family needs. In the case of the poor personal health management reflects directly on earnings as the poor depends significantly on physical energy for their income, poor tend to poor their own health needs last, but membership in the microfinance provide them with the opportunity to invest in the own well beings. However 43 per cent of member said that there was either no-change or in-significant improvement in health status with 57 per cent. There were similar responses to change in education level and in their participation in microfinance. Overall the proportion of client household having treatment at private hospitals increase sharply at the expenses of others modes of treatments. Larger number of clients showed preference for child birth at government hospital rather than at home or at the public health service. The clients with longer association with microfinance institution had more preference for private hospital they were ready to spend more in the case of child delivery.

**Access to credit sources / credit easily available:-**The benefits obtained by the member of microfinance after their entry was analyzed by taking into variables such as increase income level, better to credit facilities, better socio-economic status. Enhanced leadership quality, independent and self-decision making habits, improves the standard of living provides regular income, reduce the stress and participation in public affairs through average score analysis. Promoted groups positively responded for the indicator increase in expenditure on food. As mentioned earlier that normally an increase in expenditure on food brings equity in intra family distribution of food. It reflects significant changes and gains. The biggest impact on the lives of the members was their social empowerment. They had acquired a level of confidence, awareness, and pride themselves. Besides, the member had improved problem solving situations and there was a general increase in the self-confidence. Researches finding out that the income have increase due to their participation in microfinance by taking up new livelihood activities. Women are also able to generate additional income for the families and able to raise families standard of living. By taking activities like mid-day meals, vegetable cultivation and animal husbandry and general additional employment for themselves and their family and able to meet small expenditure need such as consumption, health and educations.

**Impact on family Income:-**Under family income impact the indicators considered are change in household income, change in employment days, savings, availability of credit, in-debt ness and free from money lenders. Impact related indication is given in table shows the development of the habit of saving is widely felt and gain as many as 97 per cent of sample respondents positively to this indicators. It is clear from the table that on the whole, an over whelming majority of 97 per cent of respondents of microfinance reported that their income was increased while remaining 3 per cent of the respondent s reported that there was no change in their family income.

**Voicing your concern/ Leadership quality:-**More than 56 per cent of members reported noticeable significant increase in leadership quality and nearly 90 per cent respondents similarly with respect of self-confidence. A very small per cent of respondents felt that there was no change in their voice or leadership quality. On the question of improvement in leadership qualities nearly 87 per cent reported a moderate to significant increase in these, while nearly 13 per cent reported insignificant improvement. Leadership of microfinance stakeholders requires skill of negotiation of ability to represent group interest elsewhere of conflict resolution of funds management of accordingly functions. At least on some of these counts, members appear to have had significant improvement on discussing issues like child marriage, protesting against counter liquor, Contesting elections, taking personal care, able to talk before village elders and official and cooperation among them.

**Nutrition awareness:-**Increase in expenditure on food normally bring equality in intra-household food distribution, before turning to analysis of social impact a word of caution, as it take long-time and need multi-pronged strategy for changes in gender equality and social development

**Participation in Development program:-**Participation in public affairs Provide regular income, reduces the stress, self-decision-making habit, Improve the standard of living, Increased income level, independence, Enhance the leadership quality and better socio-economic status are the benefits obtained by the member of microfinance after the entry. Governance related parameters are periodicity of meeting, attendance of the meeting, decision-making process in the meeting, observation of norms saving, and loan instalments, collection method, lending procedure rotation of leadership etc., Economic parameters include periodicity of saving, use saving for internal lending, lending rates, lending norms, regularity of loan, repayment etc., Data suggest that the sample respondents who belong to microfinance are much more aware about the services offered by the various organizations and have visited these organizations and have availed the service more often than the not participate members.

**Factors influence:-**In majority of the cases (50 per cent), it is the MFI field worker that has influenced the members by explaining the loan products especially the availability of a large loan amount. More than half of the enrolments were a result of influence from the member and the other household members to take the decision to join MFIs. In 15 per cent of the cases, friends and relatives influenced the decision. Interestingly, in 12 per cent of the cases, SHG members encouraged membership in MFIs.

**Position in MFI group:-**The position held by the respondents at present given. It is observed that more than 41 per cent of respondents were active members and followed by ordinary member with 40 per cent and 13 per cent facilitated by cashier/secretary and 6 per cent of respondents continue as the presidents and other important position in groups. Socio-economic characteristics of leadership of respondents are tabulated at the table 6 per cent proportion of president from SC /ST community is slightly less than their membership in the sample group and that of OBC/FC is higher.

**Satisfaction:-**The satisfaction of respondents with family members has been reported to be quite high. Most of them were found not satisfied with the family members, while a significant proportion was reported to be burdened

**Participation:-**The respondents were further asked about their participation in the decisions of the meetings. The majority of the respondents i.e. 53 per cent reported that all members participate in the decisions of the group meetings. Importantly, in the decision making process, NGO's facilitators also participate to enable the group members in choosing the best alternative

**Decision Making:-**Major decision are taken by group representative 47 per cent and 29 per cent respondents decision taken by facilitator with consultation with members. Decision been taken on consensus basis by the group member 15 per cent.

**Resolutions:-**Importantly, decisions in the group meetings are taken on the basis of consensus emerged (65 per cent). However, link workers or NGO's facilitators also take decisions in consultation with group members (29per cent. It is positive trend that definitely a decision of the group meetings is being taken in the consultation with link-workers/ facilitators.

## SUGGESTIONS

Some important parameters, for betterment of the working of microfinance institutions.

1. Working MFI should be made transparent will proper legistations.
2. There is a need to have proper regulating authority at each level saving, depositing, lending of money, which will help in long term sustainability of the sector and in avoiding any misuse of money.
3. The basic problem with the government schemes is that they have no accountability in terms of the number of populations they have served or in terms of the benefits one has received. This gives rise to the problem of duplication i.e. same person enjoying double benefits whereas quantum of people doesn't even receive support.
4. Strong marketing network is essential for effective and proper marketing of product. They need marketing support and institutional capacity to handle marketing activities independently.
5. Minimal or zero balance saving bank accounts should be initiated for all the poor individual and not only for the MFIs. The government can play a major role in this. This step would not only create a safe window for them but also help them to multiply their money.
6. All in all the government should keep an eye on the MFIs and facilitate their working through making a structured regulatory framework for MFI.
7. Government can consider bringing down the stipulation of equity requirement for MFIs so that there is not much pressure to earn more to satisfy private investors. Lending banks may also be made to accept such norms
8. Government can waive income tax at least 10 to 15 years so that the MFI will not have the pressure of making will the outgoing and such policy will also help improve the sustainability of MFIs through better internal accruals.
9. Government can consider fixing low interest rates on lending by the banks to MFIs both as the primary sector / weaker section and special interest subvention so that the MFIs can balance their high cost of operation and lend to the poor clients at reasonable rate of interest.
10. Special recovery process and customer grievance redressal measures may be introduced so as minimize the hardships faced by the poor.
11. The market-driven business model will have to be replaced with legitimate, more sustainable model with social objectives.
12. A strong and effective regulation of the sector is therefore imperative to put an end to undesirable practices and put the sector on the path of providing inclusive growth.
13. Emphasis should be given to SHGs formation and group lending rather than individual lending.
14. There is need to evolve new products by the banks commensurate with the requirements of women.
15. As women are an important part of the community, building their capability to manage communities and community project should be enhanced.
16. It is suggested to increase the ceiling limit of the loan to Rs 25,000. The interest rate on the loan amount should be brought down to minimum extent.
17. The members need to undergo training programmes related to accounting, motivation etc. It helps them in better understanding of need of relation between micro financing and members for smooth functioning.
18. It is recommended that all sanctioning and disbursement of loans should be done only at a central location and more than one individual should be involved in this function. In addition, there should be close supervision of the disbursement function.
19. It is there must be a minimum period of moratorium between the grant of the loan and the commencement of its repayment.
20. It is recovery of loan given in violation of the regulations should be deferred till all prior existing loans are fully repaid.
21. Government should promote microfinance systems only when they are linked to social mobilization and community empowerment.
22. Discriminations by the offical shall be stoped
23. Politicall interference seems to be block for effective functioning.
24. Regular training programs shall be conducted.
25. MFI are not political pressue to manitor and write off loans provide lover against unexpected losses.
26. Monitoring on utilization of loan for income generat achiving. Suffient information about the income generating projects, Incentives for clients and Recovery exmption in guanine cases especially in death, illheath.
27. MFI help more people become economically self sufficeint, Confidence building, social awarness of the people, Increased literacy and education.
28. The groups develop their own management system and accountability for handling the resources generated. The interaction among the members based on participatory mechanism in terms of decision-making.
29. MFI's can create a unique, alternative need based credit delivery mechanism by pooling their meager resources for catering to their consumption and production requirements.
30. The various categories for financial institutions in rural market have exhibited different potentials in serving rural poor. There is need to synchronize their efforts so that their work becomes supplementary and complementary in serving rural poor.

Microfinance through has reached the un-reached rural poor. There is need to evolve an informal micro financing through formal financial institutions. The massive growth of microfinance has paved the way for immediate financial accessibility for the poor who are too far away from this accessibility and microfinance. Microfinance is an alternative system of credit delivery for the poorest of the poor. It would help in improving the quality of life in rural India. The government of India can play vital role in encouraging. In order to solve the problems, relating regulations. MFI should come forward and extend facilities especially in empowering rural poor by providing education (training), motivation, and financial help and so on. MFI bring unity and integrity among the members. It improves general welfare of family and community. MFI assist the rural poor to perform traditional roles better and to take up micro entrepreneurship.

## BIBLIOGRAPHY


Aghion, B. A. de & Morduch, J. (2000): "Microfinance beyond group lending, in economics of Transition, Vol. 8, No. 2, pp. 401-402

Anjugam M, and T. Alagumani, (2001), "Impact of Micro Finance through Self-Help Group – a Case Study", Indian Journal of Agriculture Economic, Vol.56, No.3, July- September, Pp.458.

APMAS, 2002, "Study of SHGs in AP", Hyderabad, India

Bansal, Hema, 2003, "SHG-Bank Linkage Program in Indian: An Overview", *Journal of Microfinance*, Vol. 5, Number 1.

BASIX, 2000, "Savings and Credit Movement of Andhra Pradesh, Lessons for the Rest of India", Hyderabad, India

Bird, Barbara, J (1989), "Women Employees and Rural Development,' Gain Publishing, House, New Delhi.

Binodini Sethi and H.N. Atibudhi, (2001), "Micro Finance: An Innovative Tool for Banking with the Unbankables: a Study in Kalahandi District, Orissa.

CGAP (2003), The Impact of Microfinance, Helping to Improve Donor Effectiveness in Microfinance, CGAP Donor Brief No. 13

Chiranjeevulu, T. (2003), "Empowering women through self-help group", Kurushetra, Vol.51, March, Pp.16-19.

Dadrich, C.L. (2001), "Micro Finance – A panac for poverty alleviation: A case study of oriental Grameen project in India", Indian Journal of Agricultural Economics, Vol.56, No.3, July – September.

Deepak Shah, (2001), "Micro Financing through Co-operative in Maharashtra: An Impact Evaluation", Indian Journal of Agriculture Economic, Vol.56, No.3, July-September, Pp.472.

Dilip Kumar Patra Etal. *Women Empowerment through Self Help Groups.* Purulia: Kalyan.

Dichter, T.W., Questioning the future of NGOs in micro-finance, Journal of International Development, Special Issue: Sustainable Banking with the Poor, 5(3), March, 1996.

DHAN Foundation, "Building Nested Institutions of Savings and Credit Groups: Kalanjiam Experience", Madurai, India

Dwarakanath, H.D. (2002),"Rural credit and women Self-Help Group. A profile of Ranga Reddy District in Andhra Pradesh", Kurukshetra, Vol51, No.1 November, Pp.9-

Deepak Shah, (2001), "Micro Financing through Co-operative in Maharashtra: An Impact Evaluation", Indian Journal of Agriculture Economic, Vol.56, No.3, July-September, Pp.472.

Dwarakanath, H.D. (2002), "Rural credit and women Self-Help Group. A profile of Ranga Reddy District in Andhra Pradesh", Kurukshetra, Vol51, No.1, Nov. Pp.9-15.

Fisher, Thomas and M.S. Sriram ed., 2002, Beyond Micro-credit: Putting Development Back into Microfinance, New Delhi: Vistaar Publications; Oxford: Oxfam.

Galab, S and Chandrasekhara Rao, N. (2003), "Women's Self-Help Groups, Poverty Alleviation and Empowerment", Economic and Political Weekly, Vol.38, March, Pp.1274-1283.

Gupta S.K, and A. Shrivastava, (2001), "A Study of Working of Self-Help Groups in Madhya Pradesh", Indian Journal of Agriculture Economic, Vol.56, No.3, July-September, Pp.470.

Jothy K and I. Sundar, (2002), "Self-Help Groups under the women's development programme in Tamil Nadu: Achievements, bottlenecks and recommendations", Social Change: Vol.32, No.3&4, September-December, Pp. 195-204.

Kumaran, K.P. (1997), "Self-Help groups: An alternative to institutional credit to the poor: A case study in Andra Pradesh", Journal of Rural Development. *Vol.16 (3), July-September, Pp.515-530.*

Karmakar, K.G. (1990), 'Rural Credit and Self-Help Groups: Micro finance Needs and Concepts in India", Sage Publications India Pvt. Ltd., New Delhi.

Kamal Vatta and Parminder Singh, (2001), "The Performance of Self-Help Groups in Punjab, Indian Journal of Agriculture Economic, vol.56, No.3, July-September.

Kamal Vatta and Parminder Singh, (2001), "The Performance of Self-Help Groups in Punjab: A Study of Hoshiarpur District", Indian Journal of Agriculture Economic, Vol.56, No.3, July-September, Pp.452.

Kulshrestha, L.R. Micro-finance: The New Development Paradigm for Poor Rural Women, Kurukshetra, Nov. 2000.

Laxmi. R.Kulshstha and Archana Gupta (2002),"NGOs in Micro Financing partners in rural development", Kurukshetra, Vol.50, No.4, Feb, Pp.26-30.

Madheshwaran, S. & Empowering Rural Women Dharmadhikary, A., Through Self Help Groups: Lessons from Maharashtra Rural Credit Project, Indian Journal of Agricultural Economics, Vol. 56 (3) July-Sept, 2001.

Menon, P. (2000). "Micro-credit and Mixed Success".*Frontline,* Volume 19, No. 19, Sep. 2000

Meenai, Zubair Empowering Rural Women: A Approach to Empowering Women Through Credit Based, Self Help Groups, Aakar Books, Delhi, 2003.

Dr. Mishra R.K, (2002), "Self-Help Groups and Micro-Credit Movements in Orissa:Issues and Options, Indian Cooperative Review, Vol.34, No.3, January, Pp.189-193.

Muhammad Abdul Latif, (2001), "Micro Credit and Saving of Rural Households in Bangladesh", The Bangladesh Development Studies, Vol.27, No.1, March, Pp.51-68.

Manab Sen (2000), "Self-Help Groups and Micro Finance: An alternative Socio-Economic Option for the Poor", NGOs and Socio-Economic Development Opportunities, Deep & Deep Publications, Pvt.Ltd, New Delhi, Pp.77-94.

Dr. Manimekalai. N, (2000), "NGOs Intervention through Micro-Credit for Self-Help Women Groups in Rural Tamil Nadu", NGOs and Socio-Economic Development Opportunities, Deep & Deep Publications, Pvt.Ltd, New Delhi, Pp.95-111.

Ministry of Finance, Task Force on Revival of Cooperative Credit Institutions (Draft Report), New Delhi, 2004.

Ministry of Urban Employment & Poverty Alleviation (GoI), *Report of the Task Force on MicroCredit to the Urban Poor /Informal Sector*, New Delhi,2006.

Mishra S.N and M.M. Hossain, (2001), "A Study on the Working and Impact of Dharmadevi Mhila Mandal – A Rural Self-Help Group in Kalahandi District of Orissa", Indian Journal of Agriculture Economic, Vol.56, No.3, July-September, Pp.480.

Mishra J.P, R.R. Verma and V.K.Singh, (2001), "Socio-Economic Analysis of Rural Self-Help Groups Scheme in Block Amaniganj, District Faizabad (Uttar Pradesh)", Indian Journal of Agriculture Economic, Vol.56, No.3, July-September, Pp.473.

NABARD (2002), " SHG-Bank linkage: NABARD and Micro Finance" 2001-02.

NABARD, 2002, "Banking with the poor Financing SHGs", Hyderabad, India

NABARD and GTZ 2005: Impact of Microfinance Linkage Banking in India on the Millennium Development Goals (MDG) .

NABARD. (2002). *Banking with the Poor- Financing Self Help Groups.* NABARD

Namboodiri, N.V. and Shiyani, R.L. (2001) "Potential Role of SHG in Rural Financial Deepening" in *Indian Journal of Agricultural Economics,* Vol. 56, No.3, July-Sept. 2001.

NABARD, 2002, "Ten years of SHG-Bank Linkage (1992-2002)", Mumbai, India

NABARD (2002), "NABARD and Micro Finance" 2001-2002.

Nagaya Reddy (2000), "Micro Finance for Self-Help Groups" Kurushetra, Vol.48, No.11, Aug. Pp.10-15.

Nair, Ajai (2005), "Sustainability of Microfinance Self Help Groups in India: Would Federating Help?", World Bank Research Working Paper, 3516, February.

Narayana Reddy, G (2002), "Empowering women through Self-Help Groups and Micro credit: The case of NIRD Action Research Projects", Journal of Rural Development, Vol.21 (4), Pp.511-535.

Nanda, Y.C. (2000), "Role of Banks in Rural Development in the New Millennium, National Bank for Agriculture and Rural Development, Mumbai.

Ojha.R.K. (2001), “Self-Help Groups and Rural Employment”, Yojana, Vol.45.
Planning Commission, Approach Paper to the Tenth Five Year Plan (2002-07), New Delhi, 2001.
Puhazendhi, V and Satyasai, K.I.S (2000), Micro finance for rural people: An impact evaluation, NABARD, Mumbai.
Punithavathi Pandian and Eswaran, R. (2002), “Empowerment of women through Micro-credit”, Yojana, vol.46, November, Pp.47-50.
Puhazhendhi, V. and K.J.S. Satyasai (2000), “Micro finance for Rural People: An Impact Evaluation, National Bank for Agriculture and Rural Development, Mumbai.
Prem Singh Dahiya, N.K. Pandey and Anshuman Karol, (2001), “Socio-Economic Evaluation of Self-Help Groups in solan District of Himachal Pradesh: Impact, Issues and Policy Implications”, Indian Journal of Agriculture Economic, Vol.56, No.3, July-September, Pp.486.
Puhazhendhi.V and Satyasaw.K.J.B, (2001), “Economic and Social Empowerment of Rural Poor through Self-Help Groups, Indian Journal of Agriculture Economics, Vol.56, No.3, July-September.
Puhazhendhi,V and K.J.S.Satyasai ( 2000): Micro Finance for Rural people - An Impact Study, NABARD, Mumbai.
Parthasarathy, G. (1995). *Economic Impact of Women’s Thrift and Credit Societies in Cuddapah District, A.P.* Visakhapatnam: Institute of Development and Planning Studies.
Prasanthi, J. (1999). *Group Homogeneity and Public Policy Implementation: A Study of DWCRA Beneficiaries in Two Villages.* M. Phil. Dissertation, University of Hyderabad.
Prasanthi, J. (2002). *DWCRA Programme in A.P.: Its Genesis and Evolution.*
Puhazhendi, V. and Badatya, K.C. (2002). *SHG Bank Linkage Programme for Rural Poor: An Impact Assessment.* Micro Credit Innovations Department, NABARD, ‘E’ Wing, Bandra-kurla Complex, Bandra (E), Mumbai-51, India.
Rajaram Dasgupta. (2001) “Working and Impact of Rural Self Help Groups and other Forms of Micro financing” in *Indian Journal of Agricultural Economics,* Vol. 56, No.3, July-Sept. 2001.
Ritu Jain, Kushawaha, R.K and Srivastava, A.K, (2003), “Socio-Economic Impact through Self-Help Groups”, Yojana, July, Pp.11-12.
RBI, *‘Report of the Internal Group to Examine Issues Relating to Rural Credit and Microfinance’*, Mumbai, July, 2005.
Reddy, C.S. & Manak, S (2005) Self –Help Groups : A keynote of microfinance in India – Women Empowerment and social Security, APMAS working paper
SERP, 2002, “Progress Report (June 2000 – March 2002) Andhra Pradesh District Poverty Initiatives Project”, Hyderabad, India
Sivaramakrishnan.K, (2003), “Poverty alleviation through Self-Help Groups”, Migration and Gender: Place, Time and People Specific, Commission on Gender and Geography, TNJC, April, Pp.8-14.
Saundarijya Borbora and Ratul Mahanta, (2001), “Micro Finance through Self-Help Groups and its Impact: A Case of Rashtriya Gramin Vikas Nidhi – Credit and Saving Programme in Assam, Indian Journal of Agriculture Economic, Vol.56, No.3, July-September.
Sriram M S and Rajesh S. Upadhyayula “The Transformation of Microfinance in India: Experiences, Options and Future”, IIM, Ahmedabad, Sep.r 2002
Shylendra, H.S. (1999), “Micro-finance and Self-Help Groups (SHGs): A Study of the Experience of Two Leading NGOs”, SEVA and AKRSP in Gujarat (India), Researcher Paper 16, Institute of Rural Management, Anand.
Singh G.P, and P.S. Sehrawat, (2001), “Self-Help Group – A Micro Bank for Poor Villagers”, Indian Journal of Agriculture Economic, Vol.56, No.3, July-September, Pp.484.
Sriram, M.S. & Upadhyayula, R.S. (2002) "The Transformation of the Microfinance Sector in India: Experiences, Options and Future, Paper presented at the SIDBI workshop on —Key Dimensions in Transformation: From NGOs to Formal Institutions, Indian School of Business, Hyderabad, December 12-14.
Saxena, H.S. Issues Concerning Vulnerable Groups: Vision 2020 In India Vision 2020, Planning Commission, Government of India, 2004.

**REPORTS**

Report of the World Bank
Reserve Bank of India Bulletins
Planning Commission Documents.
Policy document on Industrial Development, Govt. of India.
Friends of Women’s World Banking, 2001, Role and Impact of Micro Finance of Poor, FWWB, Ahmedabad, Gujrat, India.

# POST-MERGER PROFITABILITY OF SELECTED BANKS IN INDIA

*K ANTONY AKHIL*
*RESEARCH SCHOLAR*
*CENTRAL UNIVERSITY OF KERALA*
*KASARAGOD*

**ABSTRACT**

*The present study aims to shed some light on the gains from consolidation exercise in terms of profitability of banks. Through the application of paired t-test, we arrived at the result that the consolidation of banks did improve the profitability of banks in India. The increase in profitability of banks under study is due to an increase in employee turnover and the subsequent reduction in operating expenses. Merger and acquisition programmes in Indian banks cannot be regarded as a false step if the benefits of it accrue to all stakeholders.*

## KEYWORDS
Banks, Merger, Profitability.

## INTRODUCTION

The corporate world is so fond of merger and acquisition (M&A) activity for instantaneous growth, survival and sustenance. Being a high-born US phenomenon, global demonstration effect and the linkage between various sectors of the economy has helped spread the inorganic growth strategy the world over. Bank mergers in India are as old as the colonial period when the Bank of Bengal, Bank of Bombay and Bank of Madras with their 70 branches merged to constitute a single entity namely the Imperial Bank of India. The horizontal merger did not stop there. Of recent, Bank of Rajastan was merged with ICICI Bank, acceding to a deal value of around Rs.3000 crores. The recommendations of successive Narasimham Committees paved the way for reshaping the structure of Indian banking industry according to size of banks. Their policy prescription was to have an enormous size for Indian banks, although the recent experience shows that internal financial management will be at bay without controlling for size. This has culminated with the merger of banks when Basel-II norms have been put into practice. While industries in India have undergone three distinct merger waves, the Indian banking industry is yet to complete two consolidation phases, according to a report by Dolat Capital. Against this backdrop, the paper aims to shed some light on the gains from consolidation exercise in terms of profitability of banks.

## REVIEW OF PREVIOUS STUDIES

Mylonidis and Kelnikola (2005) focused on the merging activity in the Greek banking system over the period 1999-2000. They took a sample of four acquirers and five target banks that are of relatively the same size and the non-merging banks that comprises of two large banks and two small banks are referred to as the control group. One of the major findings emerged from the study is that profit, operating efficiency and labour productivity ratios of the acquirer and acquired banks do not show any post-merger improvement, if the comparison has not been made with the corresponding ratios of the control group.

Cabanda and Pajara-Pascual (2007) made a comparison between short-run and long-run analysis of mergers in the corporate performance for shipping companies in the Philippines. The different measures of profitability used are net income, return on sales, return on assets and return on equity. Unlike the short-run, the long-run analysis using parametric t-test showed significant improvements in profitability of the merged shipping entity.

According to Mantravadi and Reddy (2008), mergers exerted a positive impact on the profitability of firms in the banking and finance industry in India. They took a sample of firms in the period of 1991 to 2003. The average pre-merger and post-merger performance of a set of financial ratios such as operating profit margin, gross profit margin, net profit margin, return on net worth, return on capital employed and debt-equity ratio were compared with the help of t-test for two-samples. However, the statistical test could not find any significant change in the operating performance of these financial ratios.

Badreldin and Kalhoefer (2009) studied the merger and acquisition activity in the Egyptian banking sector through the magnifier of reforms. The study concluded that merger and acquisition during 2002-07 had no clear impact on the profitability of acquirer banks, whether they are involved in domestic or cross-border transactions.

Ullah et al (2010) found a positive impact of mergers on the performance of banks in Pakistan. They selected a sample of four banks that have undergone the merger process in 2002. Using t-test on the measures of profitability, capital adequacy and solvency ratios, they recommended merger and acquisition for improved management and technology.

Kemal (2011) undertook a case study of Royal Bank of Scotland for analysing the post-merger profitability in Pakistan. He calculated the average of a set of financial ratios and affirmed the negative impact of mergers and acquisitions on profitability.

## OVERVIEW OF BANKING REFORMS

Dobson (2007) stated that the financial system of India is more developed than that of China. This was due to the banking reforms initiated in 1992 and the stringent banking policies adopted by the Reserve Bank of India from time to time. The market-driven banking reforms laid emphasis on the gradual reduction of cash reserve ratio and statutory liquidity ratio to make up the poor profitability of banks. The sluggish liberalization policies in India helped to increase the overall operational efficiency of financial intermediaries. Evidently, the entry of foreign banks opened the floodgates of competition in India. Of late, there have been some notable changes in the modus operandi of public sector banks in terms of competitiveness and profitability. All credit goes to the Narasimham Committees that speeded up the reform process in India and transformed the banking sector into an 'engine of economic growth'.

## OBJECTIVES AND METHODOLOGY

**Objectives of the Present Paper:** The present study aims to explore the impact of mergers and acquisitions on profitability of selected banks in India.

**Collection of Data:** The present paper is entirely based on secondary data. RBI Publications of 'A Profile of Banks' and 'Statistical Tables Relating to Banks in India' have been used throughout the study to calculate various ratios of profitability.

**METHODOLOGY:** The study examines the impact of the banks merged in India from 1999 to 2011. Between 1999 and 2011, around 18 amalgamations took place in Indian banking sector. Out of these 6 banks were selected as samples which constitute 1/3 of the population. The samples were selected on a random sampling basis through lottery method. Among the six acquirer banks selected, three of them are public sector banks and the remaining are private sector banks.

## RESULTS AND DISCUSSIONS

### VARIOUS RATIOS OF PROFITABILTY

The aim of any organization is to earn profit and to survive in the long run. An understanding of what happens to different ratios of profitability is useful not only to the firms, but to the government as well, to decide whether they should go for merger strategy or not. Before examining various ratios of profitability, it is necessary to have a clear understanding of the changes in growth of total assets and net profits of selected banks.

**TABLE 1: CHANGES IN GROWTH OF TOTAL ASSETS** (in Rs. Crore)

| Name of the bank | Pre-merger Average | Post-merger Average | Growth Rate |
|---|---|---|---|
| Punjab National Bank | 79568.5 | 114286.5 | 43.63 |
| Bank of Baroda | 80767 | 104028.5 | 28.80 |
| Oriental Bank of Commerce | 37503 | 56503 | 50.66 |
| Federal Bank | 18732 | 28798 | 53.74 |
| ICICI Bank | 298358.5 | 389548 | 30.56 |
| HDFC Bank | 112206.5 | 203175 | 81.07 |

Source: Computed from RBI Statistical Tables Relating to Banks in India and Annual Reports of Banks

As per the table, the average total assets of merged banks taken for this study during post-merger period was higher than the total assets during pre-merger period. It was also evident from the table that HDFC Bank achieved 81.07 highest growth rates in respect of total assets among sample banks followed by Federal Bank, Oriental Bank of Commerce and Punjab National Bank. The lowest growth rates are recorded in Bank of Baroda and ICICI Bank.

Net profit after the payment of taxes was increased by Rs.4864 crores in public sector banks while the increase was only Rs. 2243 crores for private banks during 2009-10 as compared to the previous period 2008-09.

**TABLE 2: CHANGES IN GROWTH OF NET PROFIT** (in Rs. Crores)

| Name of the bank | Pre-merger Average | Post-merger Average | Growth Rate |
|---|---|---|---|
| Punjab National Bank | 702 | 1259.5 | 79.42 |
| Bank of Baroda | 870 | 752 | -13.56 |
| Oriental Bank of Commerce | 571.5 | 659 | 15.31 |
| Federal Bank | 157.5 | 330.5 | 109.84 |
| ICICI Bank | 2825 | 3958 | 40.11 |
| HDFC Bank | 1365.5 | 2597 | 90.19 |

Source: Computed from RBI Statistical Tables Relating to Banks in India and Annual Reports of Banks

As per the table, the average net profits earned by merged banks increased in the post-merger period except for Bank of Baroda. Clearly, Federal Bank and HDFC Bank achieved the growth rate of more than 80 per cent. Oriental Bank of Commerce and Bank of Baroda lags behind any other bank in respect of net profits.

The various ratios of profitability examined in the study are return on assets, return on equity and net interest margin. Now let's briefly touch upon them.

### RETURN ON ASSET

Return on Asset (ROA) the ratio of net profit to total assets is widely used among financial institutions to measure how profitably the bank carries out its operations. The higher the ratio, the higher will be the managerial efficiency and vice-versa.

**TABLE 3: RETURN ON ASSETS**

| Name of the bank | Pre-Merger Average | Post-Merger Average |
|---|---|---|
| Punjab National Bank | 0.88 | 1.10 |
| Bank of Baroda | 1.13 | 0.77 |
| Oriental Bank of Commerce | 1.50 | 1.40 |
| Federal Bank | 0.91 | 1.36 |
| ICICI Bank | 1.20 | 1.05 |
| HDFC Bank | 1.33 | 1.41 |

Source: Computed from RBI, Statistical Tables Relating to Banks in India and A Profile of Banks, Various Issues.

Table 3 shows that Punjab National Bank is the only public sector bank that achieved higher return on assets when the merger and acquisition programme came to an end. The mean return on asset of two private banks slightly improved. On an average, the private banks outperform that of public sector banks in the field of return on assets.

### RETURN ON EQUITY

Return on Equity (ROE) which shows the return to the shareholders can be computed as a ratio of net profit to the total sum of capital, reserves and surplus. Higher value of the ratio is indicative of higher profitability.

**TABLE 4: RETURN ON EQUITY**

| Name of the bank | Pre-Merger Average | Post-Merger Average |
|---|---|---|
| Punjab National Bank | 19.18 | 19.71 |
| Bank of Baroda | 18.24 | 11.29 |
| Oriental Bank of Commerce | 23.65 | 16.82 |
| Federal Bank | 15.22 | 14.44 |
| ICICI Bank | 11.94 | 8.24 |
| HDFC Bank | 15.79 | 14.51 |

Source: Computed from RBI, Statistical Tables Relating to Banks in India and A Profile of Banks, Various Issues.

All but Punjab National Bank showed a decrease in average return on equity. Table 4 illustrates this trend. The average return on equity of both public sector and private banks came down in the post-merger period.

### NET INTEREST MARGIN

Net Interest Margin (NIM) is the ratio of spread to total assets. Spread can be calculated as the difference between interest earned and interest expended. For net interest margin, Bank of Baroda and HDFC Bank are the successful banks in terms of profitability.

**TABLE 5: NET INTEREST MARGIN**

| Name of the bank | Pre-Merger Average | Post-Merger Average |
|---|---|---|
| Punjab National Bank | 3.39 | 3.34 |
| Bank of Baroda | 2.89 | 2.98 |
| Oriental Bank of Commerce | 3.56 | 2.77 |
| Federal Bank | 2.95 | 2.76 |
| ICICI Bank | 1.76 | 2.02 |
| HDFC Bank | 3.87 | 3.91 |

Source: Calculated from A Profile of Banks, RBI, Various Issues.

The average net interest margin of public sector banks showed a declining trend, but the trend is a good sign so far as the profitability criterion is concerned. On the contrary, an increasing trend is discernible in case of private banks. This might be due to a decrease in competition when the public sector banks adhered to the profit-making goal along with social banking.

**TABLE 6: T-STATISTICAL ANALYSIS FOR THE SELECTED BANKS**

| Sl. No. | Ratios | Pre-Merger Mean | Post-Merger Mean | SD | T-value |
|---|---|---|---|---|---|
| 1 | Return on Assets | 1.158 | 1.182 | 0.288 | -0.20 (0.851) |
| 2 | Return on Equity | 17.34 | 14.17 | 3.19 | 2.43 (0.059) |
| 3 | Net Interest Margin | 3.070 | 2.963 | 0.367 | 0.71 (0.508) |

Source: Author's Calculations

Note: Figures in parenthesis show the p-values.

Table 6 shows the paired t-test for the combined banks during pre-and post-merger periods. The average return on assets showed an improvement though it was not statistically significant. The average return on equity decreased but it was not statistically significant as evidenced by the higher p-values. Similarly, the average net interest margin declined insignificantly.

## CONCLUSION

An attempt has been made to analyse the financial performance of banks in the wake of consolidation exercise. The results emerged from the profitability ratios, on an average, showed a significant difference between the profitability of banks in post-merger scenario. The increase in profitability of banks under study is due to an increase in employee turnover and the subsequent reduction in operating expenses. Merger and acquisition programmes in Indian banks cannot be regarded as a false step if the benefits of it accrue to all stakeholders.

## REFERENCES

1. Badreldin, A. and Kalhoefer, C. (2009), "The Effect of Mergers and Acquisitions on Bank Performance in Egypt", Working Paper No.18, GUC, Cairo.
2. Bhide, M. G., Prasad, A. and Ghosh, S. (2002), "Banking Sector Reforms: A Critical Overview", *Economic and Political Weekly*, Vol.37, No.5, pp 399-408.
3. Cabanda, E. and Pajara-Pascual, M. (2007), "Merger In The Philippines: Evidence In the Corporate Performance Of William, Gothong and Aboitiz (WG&A) Shipping Companies", *Journal of Business Case Studies*, Vol.3, No.4, pp 87-99.
4. Das, A., Nag, A. and Rey, S. C. (2005), "Liberalization, Ownership and Efficiency in Indian Banking: A Nonparametric Analysis", *Economic and Political Weekly*, Vol.40, No.12, pp. 1190-1197.
5. Dobson, W. (2007), "Financial Reforms in China and India: A Comparative Analysis", *Working Paper No.9*, Institute for International Business, University of Toronto.
6. Kemal, M. U. (2011), "Post-Merger Profitability: A Case of Royal Bank of Scotland (RBS)", *International Journal of Business and Social Science*, Vol.2, No.5, pp.157-162.
7. Mantravadi, P. and Reddy, A. V. (2008), "Post-Merger Performance of Acquiring Firms from Different Industries in India", *International Research Journal of Finance and Economics*, Issue 22, pp.192-204.
8. Mylonidis, N. and Kelnikola, I. (2005), "*Merging Activity in the Greek Banking System: A financial accounting perspective," South-Eastern Europe Journal of Economics*, Vol.1, pp.121-144.
9. Shanmugam, K.R. and Das, A. (2004), "Efficiency of Indian commercial banks during the reform period", Applied *Financial Economics*, Vol.14, pp.681-686.
10. Ullah, U., Ullah, S. and Usman, A. (2010), "Post-merger Performance of Atlas Investment and Al-Faysal Investment Bank Ltd. in Pakistan", *International Research Journal of Finance and Economics*, Issue60, pp. 168-174.

# A STUDY ON MANAGING DIVERSIFIED WORKFORCE-AND IT'S IMPACT ON ORGANIZATIONAL SUCCESS WITH REFERENCE TO BHEL/BAP, RANIPET

*IRSHAD AHMED.Y*
*RESEARCH SCHOLAR, PRIST SCHOOL OF BUSINESS, PRIST UNIVERSITY, VALLAM-THANJAVUR*
*VISITING FACULTY*
*CENTRE FOR DISTANCE EDUCATION*
*ANNA UNIVERSITY*
*CHENNAI*

## ABSTRACT

*The research has been undertaken to study on workforce diversity with respect to BHEL/BAP Ranipet. The main objective of this research is to manage the diversified workforce effectively for the betterment of the organizational success. To conduct the study, a sample size of 55 is selected; stratified random sampling technique has been used to collect the sample. With the help of questionnaire primary data were obtained and through the statistical test like chi square, f- test analysis and interpretation were carried out and suitable suggestions were recommended to the company. The scope of the study is to find the lapses if any in the present diversified workforce of the company. The study takes into account the genuine grievances of the employees and also their suggestion, comments and other incidental remarks which have a lot of bearing on the technical and non technical departments, and also which indirectly interlaced with the general tone and tenor of the organizational growth. In this study the researcher found that age & gender diversity may grow in the near future, so the researcher request the company to focus on this problem and suggest to take relevant pre-cautionary measures to tackle this problems and make their diversified workforce more effective.*

## KEYWORDS

Workforce diversity, Group cohesiveness, organizational effectiveness etc.

## INTRODUCTION

Knowledge is power. Companies can achieve success only when they are able to harness the collective knowledge of their employees. The value of such knowledge would be immense, especially when employees come from diverse backgrounds and different cultures. Just as they say "variety is the spice of life". Marketers have lately discovered that innovative and creative ideas come from employees belonging to sub cultures. Equal opportunity is the back bone of work force diversity, and the heterogeneity that is bought in deserves to be cultivated as a means of achieving organizational effectiveness, while the traditional homogeneity takes a back seat. Diversity may occur with respect to any characteristic; our focus will be on diversity with respect to demographic, relatively stable, and visible characteristics: specifically gender, age, religion, physical abilities, and sexual orientation, experience, income level etc.. Understanding how these characteristics shape organizational behavior is important. While many organizations publicly rave about the benefits of diversity, many find it challenging to manage diversity effectively. If managing diversity effectively has the potential to increase company performance, increase creativity, and create a more satisfied workforce, why aren't all companies doing a better job of encouraging diversity? Despite all the potential advantages, there are there are also a number of challenges associated with increased levels of diversity in the workforce.Managing workforce diversity has become the order of the day as more and more organization cross their domestic barriers and enters the international arena with their products, services and even building manufacturing facilities apart from entering in to the business alliance with foreign companies. It is the challenge for the HR fraternity. By creating a work environment where people of all origins and traits feel welcome, organizations will make it possible for all employees to feel engaged with their work and remain productive members of the organization.

## OBJECTIVES OF THE STUDY

1. To find out the group cohesiveness among the department
2. To find out the group cohesiveness between the department
3. To identify the Factors influencing in managing diversity effectively.

## NEED & SCOPE OF THE STUDY

- The scope of the study is to find the lapses if any in the present diversified workforce of the company.
- The study can be used as the base for managing the diversified workforce effectively for organizational success.
- The study helps business corporations expand their operation in to global market.
- The study also suggests the initiatives that enhance organization HR strategies.
- The study takes into account the genuine suggestion of the employee which have a lot of bearing on the technical and non technical departments.

## LIMITATIONS OF THE STUDY

A study has certain limitations that are unavoidable. These limitations fall beyond the control of researcher while collecting and analyzing the data.

- This study was conducted only in central public sector.
- This study was conducted only for the employees so it cannot be generalized to the whole company
- Due to smaller sample size and the nature of sampling method (random sampling) used, the results of the study have to be interpreted by keeping these limitations in mind.
- The study has been limited by time and cost factor.

## REVIEW OF LITERATURE

### WHAT IS WORKFORCE DIVERSITY?

*It is the Similarities and differences among employees in terms of age, cultural background, physical abilities and disabilities, race, religion and sexual orientation.*
Managing diversity is defined as "planning and implementing organizational system and practices in order to manage people effectively, so that their hidden talents and potential advantages of diversity are maximized and potential disadvantaged is minimized. Tay lor x

In simple, it is the difference between people, for example, in race, age, gender, disability, geographic origin, family status, education, or personality that can affect workplace relationships and achievement. It may be defined by any characteristic that varies within a particular work unit such as gender, race, age, education, tenure, or functional background (such as being an engineer versus being an accountant). Even though diversity may occur with respect to any characteristic, our focus will be on diversity with respect to demographic, relatively stable, and visible characteristics: specifically gender, race, age, religion, physical abilities, and sexual orientation.

**WHAT ARE THE LEADING PRACTICES OF DIVERSITY MANAGEMENT?**

The following four categories summarize the writings on leading practices in diversity management:

1. *Training*

Best practices in training start with diversity training as a part of the orientation process for new employees, with its principles and behaviors continually reinforced throughout an employee's tenure with the organization. That is, managers at all levels must be well trained in diversity management so as to convey a consistent message to employees. With respect to the administration of training programs, attendance must be mandatory for all; moreover, programs should be evaluated for inclusion of diverse groups and evaluated for effectiveness. Attendance is a start, but it is not the only goal.

2. *Development*

In the interest of promoting diverse individuals, awarding promotions simply because of an employee's diversity status is not the answer. For leaders to disregard qualifications and experience, putting someone in a position strictly due to his or her minority status, helps neither that employee nor the organization as a whole. In fact, this practice can do more harm than good in promoting respect for diverse others.

3. *Accountability*

Managers' performance reviews should factor in how well they manage diversity. It is axiomatic of "what gets measured gets done." Middle managers have the greatest need to be informed, sensitized, and coached. But top management must support, endorse, and commit to these practices.

4. *Feedback*

Career counseling and advising are vital. They can remedy turnover problems. Moreover, minority individuals (and majority-group employees for that matter) who have excellent opportunities elsewhere may leave if they are unaware of their opportunities with their current employer. When minorities do leave, the exit interview is an opportunity for the manager to listen and learn.

If the organization can meet with individual groups of minorities for feedback sessions, its leaders can see whether these employees have ideas to share when in the company of persons of the same background.

**HOW ARE COMPANIES MEASURING THE EFFECTIVENESS OF THEIR TRAINING INITIATIVES?**

Companies report using the following tools to measure diversity effectiveness.

* Employee surveys: change of attitudes
* Employment data: tracking numbers of employees with regard to turnover, absenteeism, and promotion
* 360-degree feedback: assessments of managers' handling of diversity issues
* Focus groups: employee perceptions of diversity efforts
* Benchmarking: comparing company efforts to competitors' best practices
* Diversity-specific surveys: asking diverse employee groups about company climate
* Annual performance reviews of managers: monitoring business units' achievement of financial results with a diverse workforce
* Employee feedback: how all employees feel about diversity initiatives?
* Customer feedback: whether diverse customers are well served.

**WHAT IS GROUP COHESIVENESS**?

**a. Group Cohesiveness** is the force bringing group members closer together. Cohesiveness has two dimensions: emotional (or personal) and task-related. The emotional aspect of cohesiveness, which was studied more often, is derived from the connection that members feel to other group members and to their group as a whole. That is, how much do members like to spend time with other group members? Do they look forward to the next group meeting? Task-cohesiveness refers to the degree to which group members share group goals and work together to meet these goals. That is, is there a feeling that the group works smoothly as one unit or do different people pull in different directions.

**b. Characteristics of a group**

Cohesiveness is a measure of the attraction of the group to its members (and the resistance to leaving it), the sense of team spirit, and the willingness of its members to coordinate their efforts. Compared with members of a low-cohesive group, those in a high-cohesive group will, therefore, be keen to attend meetings, be satisfied with the group, use "we" rather than "I" in discussions, be cooperative and friendly with each other, and be more effective in achieving the aims they set for themselves. The low-cohesive group will be marked by absenteeism, the growth of cliques and factions, and a sense of frustration at the lack of attainment.

## BENEFITS OF DIVERSITY

What is the business case for diversity? Having a diverse workforce and managing it effectively have the potential to bring about a number of benefits to organizations.

**a. Higher Creativity in Decision Making**

Research shows that diverse teams tend to make higher quality decisions.

An important potential benefit of having a diverse workforce is the ability to make higher quality decisions. In a diverse work team, people will have different opinions and perspectives. In these teams, individuals are more likely to consider more alternatives and think outside the box when making decisions. When thinking about a problem, team members may identify novel solutions. Research shows that diverse teams tend to make higher quality decision. Therefore, having a diverse workforce may have a direct impact on a company's bottom line by increasing creativity in decision making.

**b. Better Understanding and Service of Customers**

A company with a diverse workforce may create products or services that appeal to a broader customer base. For example, PepsiCo Inc. planned and executed a successful diversification effort in the recent past. The company was able to increase the percentage of women and ethnic minorities in many levels of the company, including management. A company with a diverse workforce may understand the needs of particular groups of customers better, and customers may feel more at ease when they are dealing with a company that understands their needs.

**c. More Satisfied Workforce**

When employees feel that they are fairly treated, they tend to be more satisfied. On the other hand, when employees perceive that they are being discriminated against, they tend to be less attached to the company, less satisfied with their jobs, and experience more stress at work. Organizations where employees are satisfied often have lower turnover.

**d. Higher Stock Prices**

Companies that do a better job of managing a diverse workforce are often rewarded in the stock market, indicating that investors use this information to judge how well a company is being managed. For example, companies that receive an award from the U.S. Department of Labor for their diversity management programs show increases in the stock price in the days following the announcement. Conversely, companies that announce settlements for discrimination lawsuits often show a decline in stock prices afterward.

**e. Higher Company Performance**

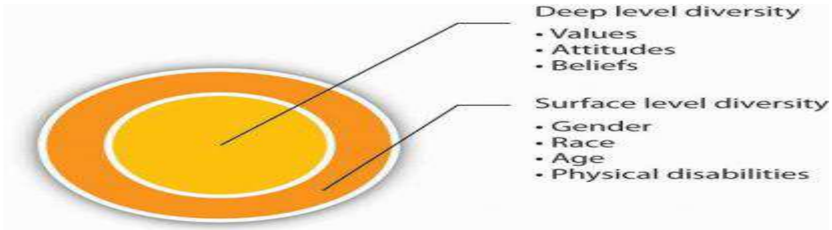
As a result of all these potential benefits, companies that manage diversity more effectively tend to outperform others. Research shows that in companies pursuing a growth strategy, there was a positive relationship between racial diversity of the company and firm performance. Companies ranked in the Diversity 50 list created by *Diversifying* magazine performed better than their counterparts. And, in a survey of 500 large companies, those with the largest percentage of female executives performed better than those with the smallest percentage of female executives.

**WHY ARE WE MORE ATTRACTED TO THOSE WHO SHARE OUR DEMOGRAPHIC ATTRIBUTES?**

Demographic traits are part of what makes up surface-level diversity. Surface-level diversity includes traits that are highly visible to us and those around us, such as race, gender, and age. Researchers believe that people pay attention to surface diversity because they are assumed to be related to deep-level diversity, which includes values, beliefs, and attitudes. We want to interact with those who share our values and attitudes, but when we meet people for the first time, we have no way of knowing whether they share similar values. As a result, we tend to use surface-level diversity to make judgments about deep-level diversity. Research shows that surface-level traits affect our interactions with other people early in our acquaintance with them, but as we get to know people, the influence of surface-level traits is replaced by deep-level traits such as similarity in values and attitudes. Age, race, and gender dissimilarity are also stronger predictors of employee turnover during the first few weeks or months within a company.

It seems that people who are different from others may feel isolated during their early tenure when they are dissimilar to the rest of the team, but these effects tend to disappear as people stay longer and get to know other employees.

**FIGURE**




Individuals often initially judge others based on surface-level diversity. Over time, this effect tends to fade and is replaced by deep-level traits such as similarity in values and attitudes. As you may see, while similarity-attraction may put some employees at a disadvantage, it is a tendency that can be managed by organizations. By paying attention to employees early in their tenure, having formal mentoring programs in which people are assigned mentors, and training managers to be aware of the similarity-attraction tendency, organizations can go a long way in dealing with potential diversity challenges.

**1. Fault lines**

A fault line is an attribute along which a group is split into subgroups. For example, in a group with three female and three male members, gender may act as a fault line because the female members may see themselves as separate from the male members. Now imagine that the female members of the same team are all over 50 years old and the male members are all younger than 25. In this case, age and gender combine to further divide the group into two subgroups. Teams that are divided by fault lines experience a number of difficulties. For example, members of the different subgroups may avoid communicating with each other, reducing the overall cohesiveness of the team. Research shows that these types of teams make less effective decisions and are less creative.

Fault lines are more likely to emerge in diverse teams, but not all diverse teams have fault lines. Going back to our example, if the team has three male and three female members, but if two of the female members are older and one of the male members is also older, then the composition of the team will have much different effects on the team's processes. In this case, age could be a bridging characteristic that brings together people divided across gender.

**2. Stereotypes**

An important challenge of managing a diverse workforce is the possibility that stereotypes about different groups could lead to unfair decision making. Stereotypes are generalizations about a particular group of people. The assumption that women are more relationship oriented, while men are more assertive, is an example of a stereotype. The problem with stereotypes is that people often use them to make decisions about a particular individual without actually verifying whether the assumption holds for the person in question. As a result, stereotypes often lead to unfair and inaccurate decision making.For example, a hiring manager holding the stereotype mentioned above may prefer a male candidate for a management position over a well-qualified female candidate. The assumption would be that management positions require assertiveness and the male candidate would be more assertive than the female candidate. Being aware of these stereotypes is the first step to preventing them from affecting decision making.

**The Business Case for Workplace Diversity**

For example, 400 executives agreed that **"diversity programs help to ensure the creation, management, valuing and leveraging of a diverse workforce that will lead to organizational effectiveness and sustained competitiveness."**

One of the major drivers behind the business case is the demographic changes that directly affect the labor pool and available talent. These changes are significant. In an organization, human capital and workforce relationships are the backbone of success. The flow of information between colleagues, work teams, customers and suppliers, for example, depends on the quality of relationships and talent in the workplace. Consequently, workplace diversity is increasingly viewed as an essential success factor to be competitive in today's marketplace.

The Society for Human Resource Management recommends the following components for a successful diversity initiative:

1. **Get executive commitment.** Enlisting the visible support and commitment of your organization's CEO is fundamental to a successful diversity initiative.
2. **Articulate the desired outcomes.** Be explicit about how support and commitment are to be shown and from whom it is expected.
3. **Assess the climate, needs and issues at your organization.** The use of focus groups can help clarify the obstacles. It will prove helpful to determine where your organization is currently on the diversity continuum before determining what interventions need to be taken.
4. **Create and maintain open channels of communication with employees at the launch of your diversity initiative and throughout the process.** Communication is crucial to the success of your diversity plan and should occur not only at the beginning of a diversity initiative, but also throughout the process.
5. **Consider forming a diversity taskforce to widen your support base.** This group can help analyze assessment data and make recommendations to top management.
6. **Develop a mechanism for dealing with systemic changes and procedural problems.** Once identified, obstacles and problems must be addressed. For example, your company may be committed to hiring persons outside of the dominant culture, but has difficulty promoting those same persons once they are with the organization.
7. **Design relevant, interactive applicable training.** The purpose of good training is to not just increase awareness and understanding about diversity, but to also develop concrete skills that employees can use to deal with workplace diversity, its implications and its effects
8. **Evaluate and measure each component of your diversity initiative (training, taskforce, mentoring initiative, employee networks, etc.).** Set measurable criteria and determine what you would like to accomplish and how you will gather data.
9. **Ensure integration and accountability.** Integrate the concepts, skills and results of your diversity efforts into the fabric of the organization and hold management accountable for encouraging diversity throughout the organization.

Dealing with diversity is a continuing process that enhances an organization's ability to adapt and capitalize on today's increasingly complex world and global marketplace. A well-managed diverse workforce can give your company the competitive advantage necessary to compete in a global economy.

**SIX KEY REASONS TO TIE WORKFORCE DIVERSITY TO ORGANIZATIONAL STRATEGIC GOALS AND OBJECTIVES ARE AS FOLLOWS:**

1) Greater adaptability and flexibility in a rapidly changing marketplace;
2) Attracting and retaining the best talent;
3) Reducing costs associated with turnover, absenteeism and low productivity;
4) return on investment (ROI) from various initiatives, policies and practices;

5) Gaining and keeping greater/new market share (locally and globally) with an expanded diverse customer base;
6) Increased sales and profits.

**KEY STRATEGIES FOR MANAGING DIVERSIFIED WORKFORCE**

Organizations managing diversity effectively benefit from diversity because they achieve higher creativity, better customer service, higher job satisfaction, higher stock prices, and lower litigation expenses. At the same time, managing a diverse workforce is challenging for several key strategies. Employees are more likely to associate with those who are similar to them early in a relationship, the distribution of demographic traits could create fault lines within a group, and stereotypes may act as barriers to advancement and fair treatment of employees.

**WHAT CAN ORGANIZATIONS DO TO MANAGE DIVERSITY MORE EFFECTIVELY?**

The following are the Suggestions for Managing Demographic Diversity effectively are as follows:

**a. Build a Culture of Respecting Diversity**

In the most successful companies, diversity management is not the responsibility of the human resource department. Starting from top management and including the lowest levels in the hierarchy, each person understands the importance of respecting others. If this respect is not part of an organization's culture, no amount of diversity training or other programs are likely to be effective. In fact, in the most successful companies, diversity is viewed as everyone's responsibility. Companies with a strong culture—where people have a sense of shared values, loyalty to the organization is rewarded, and team performance is celebrated—enable employees with vastly different demographics and backgrounds to feel a sense of belonging.

**b. Make Managers Accountable for Diversity**

People are more likely to pay attention to aspects of performance that are measured. In successful companies, diversity metrics are carefully tracked. For example, in PepsiCo, during the tenure of former CEO Steve Reinemund, half of all new hires had to be either women or minorities. Bonuses of managers partly depended on whether they had met their diversity-related goals. When managers are evaluated and rewarded based on how effective they are in diversity management, they are more likely to show commitment to diversity that in turn affects the diversity climate in the rest of the organization

**DIVERSITY TRAINING PROGRAMS**

Many companies provide employees and managers with training programs relating to diversity. However, not all diversity programs are equally successful. You may expect that more successful programs are those that occur in companies where a culture of diversity exists. A study of over 700 companies found that programs with a higher perceived success rate were those that occurred in companies where top management believed in the importance of diversity, where there were explicit rewards for increasing diversity of the company, and where managers were required to attend the diversity training programs.

**c. Review Recruitment Practices**

Companies may want to increase diversity by targeting a pool that is more diverse. By building relations with these occupational groups, organizations may attract a more diverse group of candidates to choose from. The auditing company Ernst & Young Global Ltd. increases diversity of job candidates by mentoring undergraduate students.

Companies may also benefit from reviewing their employment advertising to ensure that diversity is important at all levels of the company.

Dealing with diversity is a continuing process that enhances an organization's ability to adapt and capitalize on today's increasingly complex world and global marketplace. A well-managed diverse workforce can give your company the competitive advantage necessary to compete in a global economy.

## RESEARCH METHODOLOGY

A research methodology defines what the activity of research is, how to proceed, how to measure progress, and what constitutes success. Research is an organized and systematic way of finding answers to questions.

**DEFINING THE RESEARCH PROBLEM**

Workforce diversity it is a cutthroat challenge for HR fraternity. In a knowledge economy, it is very difficult to bring out the best of employees talent, abilities & skills. So this study emphasis on creating a strategy and a work environment where people from different geographic origin and traits should feel welcome, by acknowledging people differences as valuable asset, it enhances good management practices by preventing favoritism and promoting inclusiveness.

**DESCRIPTIVE RESEARCH DESIGN**

In this research the researcher descriptive research design, because it is one of the social research in which it is concerned with specific predictions, with narration of facts and describing the characteristics of a particular individual or group or situation.

**DATA COLLECTION**

**PRIMARY DATA**

It was collected by survey method. A structured questionnaire was used for collecting response from the respondents

**SECONDARY DATA**

It was collected from reputed international, national marketing journals, magazines, brochures, and other related websites

**SAMPLING TECHNIQUES- STRATIFIED RANDOM SAMPLE**

Sampling is a unique technique used to collect data about a pertinent problem under study. It is conducted when the population is very large and census study. In this research the researcher uses stratified random sample**,** in which population is divided in to several sub population are individually more homogeneous than the total population and then we select items from each stratum to constitute a sample. The sample size of this project is 55 employees

**PILOT STUDY**

**Pre testing the questionnaire was conducted by administrating it to 20 employees.**

This was done to exclude unwanted and irrelevant questions and to include any Information that was left out.

**a. Statistical Tools Used:**

1. Chi-Square test
2. Percentage analysis
3. F- test analysis

## DATA ANALYSIS AND INTERPRETATION

**GENDER PROFILE**

**TABLE 2.1.1**

| *Gender* | *tech* | *non tech* | *tot* | *Percent* |
|---|---|---|---|---|
| male | 25 | 18 | 43 | 78.1818 |
| female | 4 | 8 | 12 | 21.8182 |
| tot | 29 | 26 | 55 | 100 |

**AGE PROFILE**

**TABLE 2.1.2**

| *Age* | *tech* | *non tech* | *tot* | *percent* |
|---|---|---|---|---|
| below 30 | 8 | 3 | 11 | 20 |
| 31- 40 | 2 | 2 | 4 | 7.27273 |
| 41-50 | 12 | 8 | 20 | 36.3636 |
| 51 above | 7 | 13 | 20 | 36.3636 |
| tot | 29 | 26 | 55 | 100 |

**QUALIFICATION PROFILE**

**TABLE 2.1.3**

| *Educational qualification* | *tech* | *non tech* | *tot* | *percent* |
|---|---|---|---|---|
| below 10 | 0 | 1 | 1 | 1.81818 |
| plus 2 | 0 | 2 | 2 | 3.63636 |
| diploma | 8 | 1 | 9 | 16.3636 |
| iti | 1 | 0 | 1 | 1.81818 |
| UG | 16 | 7 | 23 | 41.8182 |
| PG | 4 | 15 | 19 | 34.5455 |
| tot | 29 | 26 | 55 | 100 |

**INCOME PROFILE**

**TABLE 2.1.4**

| *income* | *tech* | *non tech* | *tot* | *percent* |
|---|---|---|---|---|
| 8k-12k | 2 | 2 | 4 | 7.27273 |
| 12k-16k | 1 | 6 | 7 | 12.7273 |
| 16k-20k | 3 | 2 | 5 | 9.09091 |
| above 20k | 23 | 16 | 39 | 70.9091 |
| tot | 29 | 26 | 55 | 100 |

**NATURE OF RESIDENCY PROFILE**

**TABLE 2.1.5**

| *Residency* | *tech* | *non tech* | *tot* | *percent* |
|---|---|---|---|---|
| City | 3 | 9 | 12 | 21.8182 |
| Urban | 6 | 5 | 11 | 20 |
| semi-urban | 13 | 6 | 19 | 34.5455 |
| Rural | 7 | 6 | 13 | 23.6364 |
| Tot | 29 | 26 | 55 | 100 |

**EXPERIENCE PROFILE**

**TABLE 2.1.6**

| *Experience* | *tech* | *non tech* | *tot* | *percent* |
|---|---|---|---|---|
| below 5 | 8 | 5 | 13 | 23.6364 |
| 6 to 10 | 1 | 0 | 1 | 1.81818 |
| 11 to 15 | 1 | 0 | 1 | 1.81818 |
| 16 to 20 | 0 | 3 | 3 | 5.45455 |
| 21to 25 | 8 | 7 | 15 | 27.2727 |
| 26 to 30 | 10 | 9 | 19 | 34.5455 |
| 31 above | 1 | 2 | 3 | 5.45455 |
| Tot | 29 | 26 | 55 | 100 |

**PLEASURE IN WORKING WITH OTHER DEPARTMENTS**

**TABLE 2.2.1: TAKING PLEASURE IN WORKING WITH OTHER DEPARTMRNT MEMBERS**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL RESPONDENT | PERCENTAGE |
|---|---|---|---|---|
| Always | 5 | 9 | 14 | 25.454 |
| Most of the time | 19 | 11 | 30 | 54.545 |
| Occasionally | 4 | 4 | 8 | 14.545 |
| Rarely | 1 | 2 | 3 | 5.454 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that 54.545% of employees are most of the time take pleasure in working with other department members. And 25.454% of employees are always take pleasure in working other department members. And only 14.545% are occasionally willing to work. And the rest of employees are very rarely tale pleasure in working with other department.

**LEVEL OF TRUST IN DEPARTMENT MEMBERS**

**TABLE 2.2.2**

| PARTICULARS | TECH DEPT | NONT ECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| A GREAT DEAL OF TRUST | 5 | 9 | 14 | 25.454 |
| CONSIDERABLE TRUST | 14 | 10 | 24 | 43.636 |
| AVERAGE TRUST | 10 | 17 | 17 | 30.909 |
| VERY LITTLE TRUST | - | - | - | - |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 25.454% of employees have a great deal of trust with the department members And 43.636% of employees have considerable trust. Remaining 30.909% of them have average level of trust.

**WELLNESS OF WORKING TOGETHER**

**TABLE 2.2.3**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| VERY WELL | 5 | 12 | 17 | 30.909 |
| FAIRLY WELL | 24 | 13 | 37 | 67.272 |
| NOT WELL | - | - | - | - |
| VERY POOR | - | 1 | 1 | 1.818 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 30.909% of employees are very well & successful in working tighter. And 67.272% are fairly well. And the remaining are very poor.

**LEVEL OF LOYALTY & SENSE OF BELONGINGNESS TOWARDS THE DEPARTMENT**

**TABLE 2.2.4**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONG LOYALTY | 9 | 14 | 23 | 41.818 |
| ABOVE AVERAGE LOYALTY | 18 | 11 | 29 | 52.727 |
| A LITTLE LOYALTY | 2 | 1 | 3 | 5.454 |
| ALMOST NO | - | - | - | - |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that 41.818% of employees have very strong loyalty & sense of belongingness with their department. And 52.727% of employees have above average loyalty. And the rest of them have very little loyalty.

**LEVEL OF SELF-CONTRIBUTION OF AN EMPLOYEE IN THE DEPARTMENT**

**TABLE 2.2.5**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| FULLY INVOLVED | 20 | 21 | 41 | 74.545 |
| PARTIALLY INVOLVED | 5 | 3 | 8 | 14.545 |
| REASONABALLY INVOLVED | 4 | 2 | 6 | 10.909 |
| NOT INVOLVED | - | - | - | - |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 74.545% of employees have fully involved in the department. And 14.545% of employees have partially involved. Remaining are reasonably involved.

**RATE OF LOCKOUT & STRIKE IN THE DEPARTMENT**

**TABLE 2.2.6**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| REGULAR | - | 1 | 1 | 1.818 |
| OFTEN | - | - | - | 25.454 |
| SOME TIME | 11 | 17 | 28 | 45.454 |
| NOT AT ALL | 18 | 8 | 26 | 23.636 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 1.818%of employees have regular rate of lockout & strikes in the department. And 25.454% of employees have often rate of lockout & strikes. And 45.454% of employees rated sometime.

**FREQUENCY OF RESISTANCE OF AN EMPLOYEE IN DECISION MAKING**

**TABLE 2.2.7**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| REGULAR | 1 | 2 | 3 | 5.454 |
| OFTEN | 10 | 4 | 14 | 25.454 |
| SOME TIME | 13 | 12 | 25 | 45.454 |
| NOT AT ALL | 5 | 8 | 13 | 23.636 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 5% of employees have regular frequency of resistance in decision making .and 25.454% of employees are often resist. And 45.454% of employees resist sometime. And the remaining of them are not at all resisting.

**UNITY & TOGHTERNESS AS GROUP IN THE DEPARTMENT**

**TABLE 2.2.8**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| GREAT EXTENT | 9 | 10 | 19 | 34.545 |
| SOME EXTENT | 16 | 13 | 29 | 52.727 |
| VERY LITTLE EXTENT | 1 | 2 | 3 | 5.454 |
| NOT AT ALL | 3 | 1 | 4 | 7.727 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 34.545% of employees have very great extent of unity &stand together as group in the department. And 52.727% of employees have some extent of unity. And 5.454% of employees have very little extent of unity .And remaining of them doesn't have unity at all.

**HELPING TENDECY OF AN EMPLOYEE IN THE DEPARTMENT**

**TABLE 2.2.9**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 7 | 11 | 18 | 32.727 |
| AGREE | 18 | 13 | 31 | 56.36 |
| DIS AGREE | 4 | 2 | 6 | 10.909 |
| SRONGLY DIS AGREE | - | - | - | - |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 32.727 % of employees strongly agree that they have helping tendency in the department. And 56.36% just agree. And the remaining of the employees are disagree that they do not help each other.

**CLEAR ROLES & ACCOUNTABILITY OF AN EMPLOYEEE IN THE DEPARTMENT**

**TABLE 2.2.10**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 7 | 11 | 18 | 32.727 |
| AGREE | 18 | 15 | 33 | 60.0 |
| DIS AGREE | 4 | - | 4 | 7.272 |
| SRONGLY DIS AGREE | - | - | - | - |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 32.727 % of employees strongly agree that they have clear roles & accountability of an employee in the department. And 60% just agree. And the remaining of the them are disagree that they do not have clear roles & accountability.

**HIGH STANDARD OF EXCELLENCE FOR THE TASK HELD BY AN EMPLOYEE IN THE DEPARTMENT**

**TABLE 2.2.11**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 3 | 16 | 19 | 34.545 |
| AGREE | 20 | 28 | 28 | 50.909 |
| DIS AGREE | 6 | 8 | 8 | 14.545 |
| SRONGLY DIS AGREE | - | - | - | - |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 34.545 % of employees strongly agree that they have high standard of excellence for the task held by an employee in the department. And 50% just agree. And the remaining employees are disagreeing that they do not have high standard of excellence for the task held by an employee in the department.

**DEPARTMENT MEMBERS MAKE ME FEEL INVOLVE IN THE DEPAERTMENT**

**TABLE 2.2.12**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 2 | 9 | 11 | 20.0 |
| AGREE | 18 | 16 | 34 | 61.818 |
| DIS AGREE | 9 | 1 | 10 | 18.18 |
| SRONGLY DIS AGREE | - | - | - | - |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 20 % of employees strongly agree that their department members make them feel involve in the department. And 61.818% just agree. And the remaining employees are disagreeing that their department members do not make them feel involve in the department.

**WE CAN TALK OPENLY IN THE DEPARTMENT**

**TABLE 2.2.13**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 3 | 10 | 13 | 23.636 |
| AGREE | 14 | 12 | 26 | 47.272 |
| DIS AGREE | 10 | 4 | 14 | 25.454 |
| SRONGLY DIS AGREE | 2 | - | 2 | 3.636 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 23.636% of employees strongly agree that they can talk openly with all the members in the department. And 47.272% just agree. And 25.454% of employees are disagreeing that they can talk openly with all the members in the department. And the rest of them are strongly disagreeing

**WE CAN SAY ANYTHING IN THE DEPARTMENT WTHOUT HAVING ANY WORRY**

**TABLE 2.2.14**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 1 | 10 | 11 | 20.0 |
| AGREE | 15 | 10 | 25 | 45.454 |
| DIS AGREE | 10 | 6 | 16 | 29.090 |
| SRONGLY DIS AGREE | 3 | - | 3 | 5.454 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 20% of employees strongly agree that they can say any thing in the department without having any worry. And 45.454% just agree. And 29.090% of employees are disagreeing that they cannot say any thing in the department without having any worry. And the rest of them are strongly disagreeing.

**MY ABSENCE WOULD NOT MATTER TO THE DEPARTMENT**

**TABLE 2.2.15**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 2 | 6 | 8 | 14.545 |
| AGREE | 15 | 10 | 25 | 45.454 |
| DIS AGREE | 10 | 10 | 20 | 36.36 |
| SRONGLY DIS AGREE | 2 | - | 2 | 3.636 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 14.545% of employees strongly agree that their absence wouldn't matter to the department. And 45.454% just agree. And 36.36% of employees are disagreeing that their absence would matters a lot to the department. And the rest of them are strongly disagreeing.

**MEMBERS ARE PLEASED WITH THE GOALS IN THE DEPARTMENT**

**TABLE 2.2.16**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 1 | 4 | 5 | 9.909 |
| AGREE | 19 | 17 | 36 | 65.545 |
| DIS AGREE | 8 | 3 | 11 | 20 |
| SRONGLY DIS AGREE | 1 | 2 | 3 | 5.454 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 9.909% of employees strongly agree that members are pleased with the goals that have been chosen .and 65.545% just agree. And 20% of employees are disagreeing that their department members are not pleased with the goals that has been preferred. And the rest of them are strongly disagreeing.

**DEPARTMENT MEMBERS ARE BROADMINDED TOWARDS FEEDBACK & CRITICICSM**

**TABLE 2.2.17**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 3 | 4 | 7 | 12.727 |
| AGREE | 16 | 14 | 30 | 54.454 |
| DIS AGREE | 8 | 7 | 15 | 27.272 |
| SRONGLY DIS AGREE | 2 | 1 | 3 | 5.454 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 12.727% of employees strongly agree that their department members are broadminded towards feedback &criticism. And 54.454% just agree. And 27.272% of employees are disagreeing that their department members are not broadminded towards feedback &criticism. And the rest of them are strongly disagreeing.

**DEPARTMENT MEMBERS ARE ENGAGED IN BACKBITING**

**TABLE 2.2.18**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | 2 | 5 | 7 | 12.727 |
| AGREE | 12 | 11 | 23 | 41.818 |
| DIS AGREE | 12 | 8 | 20 | 36.363 |
| SRONGLY DIS AGREE | 3 | 2 | 5 | 9.909 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 12.727% of employees strongly agree that their department members are engaged in backbiting. And 41.818% just agree. And 36.363% of employees are disagreeing that their department members are not engaged in backbiting. And the rest of them are strongly disagreeing.

**DEPARTMENT MEMBERS HAVE COMMON SET OF NORMS & VALUES**

**TABLE 2.2.19**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| STRONGLY AGREE | - | 3 | 3 | 5.454 |
| AGREE | 21 | 22 | 43 | 78.18 |
| DIS AGREE | 7 | - | 7 | 12.727 |
| SRONGLY DIS AGREE | 1 | 1 | 2 | 3.636 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 12.727% of employees strongly agree that their department members have common set of norms and values. And 78.18% just agree. And 12.727% of employees are disagreeing that their department members don't have common set of norms and values. And the rest of them are strongly disagreeing.

**LEVEL OF COOPERATION BETWEEN THE DEPARTMENTS**

**TABLE 2.2.20**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL | PERCENTAGE |
|---|---|---|---|---|
| FULLY COOPERATIVE | 9 | 19 | 28 | 50.90 |
| PARTIALLY COOPERATIVE | 14 | 4 | 18 | 40.07 |
| REASONABLY COOPERATIVE | 3 | 2 | 5 | 7.272 |
| NOT AT ALL | 3 | 1 | 4 | 1.818 |
| TOTAL | 29 | 26 | 55 | 100 |

**INFERENCE**

The above table indicates that only 50.90% of employees have fully cooperative between the department. And 40.07% of employees have partially cooperative between the department. And 7.2715% are reasonably cooperative. And the rest of them are not cooperative

**CHI – SQUARE TEST**

**UNITY AS A GROUP IN THE DEPARTMENT**

**Null hypothesis H0**: There is no relationship between unity and group cohesiveness in the department

**Alternative hypothesis H1**: There is a relationship between unity and group cohesiveness in the department.

**OBSERVED FREQUENCY TABLE**

**TABLE 2.1.7**

| PARTICULARS | TECH DEPT | NON TECH DEPT | TOTAL RESPONDENT | PERCENTAGE |
|---|---|---|---|---|
| Great extent | 9 | 10 | 19 | 34.545 |
| Some extent | 16 | 13 | 29 | 52.727 |
| Very little extent | 1 | 2 | 3 | 5.454 |
| Not at all | 3 | 1 | 4 | 7.272 |
| TOTAL | 29 | 26 | 55 | 100 |

**EXPECTED FREQUENCY TABLE**

| O | E | O-E | (O-E)2 | (O-E)/E |
|---|---|---|---|---|
| 9 | 10.01 | -1.01 | 1.0201 | 0.10 |
| 10 | 8.98 | 1.02 | 1.0404 | 0.11 |
| 16 | 15.29 | 0.71 | 1.2141 | 0.07 |
| 13 | 13.70 | 0.7 | 0.49 | 0.03 |
| 1 | 1.581 | 0.581 | 0.3375 | 0.21 |
| 2 | 1.418 | 0.582 | 0.3387 | 0.23 |
| 3 | 2.109 | 0.891 | 0.793 | 0.37 |
| 1 | 1.890 | -0.89 | 0.712 | 0.37 |
| | | | $\chi^2=\sum\frac{(f(a)-f(e))^2}{f(e)}$ | **Total =1.502** |

**FORMULA 1**

$$Fe=\frac{\text{Row Subtotal X Column Subtotal}}{\text{Total}}$$

**FORMULA 2**

$$X^2 = \Sigma\frac{(\text{Observed frequency - Expected frequency})^2}{\text{Expected frequency}}$$

**RESULT**

At 5 % level of significance,

Degree of freedom = (R-1) (C-1)

= (4-1) (2-1)

= 3

Tabulated value = .815

Calculated value = 1.502

Since the calculated value is less than the tabulated value, the null hypothesis (H0) is accepted (i.e.) there is no relationship between unity & togetherness as group in the department.

**TAKING PLEASURE IN WORKING WITH OTHER DEPARTREMNT MEMBERS**

**Null hypothesis H0**: Department members didn't pleasure in working with other department members

**Alternative hypothesis H1**: Department members rarely do take pleasure in working with other department members

**TABLE 2.1.8**

**OBSERVED FREQUENCY TABLE**

**EXPECTED FREQUENCY TABLE**

| O | E | O-E | (O-E)2 | (O-E)/E |
|---|---|---|---|---|
| 5 | 7.38 | -2.38 | 5.664 | 0.76 |
| 9 | 6.61 | 2.39 | 5.712 | 0.86 |
| 19 | 15.81 | 3.19 | 10.71 | 0.64 |
| 11 | 14.81 | -3.18 | 10.11 | 0.71 |
| 4 | 4.21 | -0.21 | 0.0441 | 0.01 |
| 4 | 3.78 | 0.28 | 0.0784 | 0.02 |
| 1 | 1.58 | -0.58 | 0.336 | 0.21 |
| 2 | 1.41 | 0.59 | 0.3481 | 0.24 |

**RESULT**

At 5 % level of significance,

Degree of freedom = (R-1) (C-1)

= (4-1) (2-1)

= 3

Tabulated value = 7.815

Calculated value = 3.45

Since the calculated value is less than the tabulated value, the null hypothesis (H0) is accepted (i.e.) Department members didn't take pleasure in working with other department members.

**AGE & INCOME**

**Null hypothesis H0**: There is no relationship between age & income.

**Alternative hypothesis H1**: There is a relationship between age & income.

**OBSERVED FREQUENCY TABLE**

**TABLE 2.1.9**

| AGE | INCOME LEVEL | TOTAL |
|---|---|---|
| 11 | 4 | 15 |
| 4 | 7 | 11 |
| 20 | 5 | 25 |
| 20 | 39 | 59 |
| Tot=55 | Tot=55 | 110 |

**EXPECTED FREQUENCY TABLE**

| O | E | O-E | (O-E)~2 | (O-E)/E |
|---|---|---|---|---|
| 11 | 7.5 | 3.5 | 12.25 | 16.33 |
| 4 | 5.5 | -1.5 | 2.25 | 0.409 |
| 4 | 12.5 | -8.5 | 72.25 | 5.78 |
| 7 | 29.5 | -22.5 | 506.25 | 17.161 |
| 20 | 7.5 | 12.5 | 156.25 | 20.83 |
| 5 | 5.5 | -0.5 | 0.25 | 0.045 |
| 20 | 12.5 | 7.5 | 56.25 | 4.5 |
| 39 | 29.5 | 9.5 | 90.25 | 3.059 |
| | | | $\chi^2=\sum\frac{(f(a)-f(e))^2}{f(e)}$ | **68.114** |

**RESULT**

At 5 % level of significance,

Degree of freedom = (R-1) (C-1)

= (4-1) (2-1)

= 3

Tabulated value = 7.815

Calculated value = 68.114

Since the calculated value is greater than the tabulated value, the alternative hypothesis (H1) is accepted (i.e.) there is a relationship between age & income

**AGE & UNITY**

**Null hypothesis H0**: There is no relationship between age & unity

**Alternative hypothesis H1**: There is a relationship between age & unity

**OBSERVED FREQUENCY TABLE**

**TABLE 2.1.10**

| AGE | UNITY & TOGHTERNESS | TOTAL |
|---|---|---|
| 11 | 19 | 30 |
| 4 | 29 | 33 |
| 20 | 3 | 23 |
| 20 | 4 | 24 |
| Tot=55 | Tot=55 | 110 |

**EXPECTED FREQUENCY TABLE**

| O | E | O-E | (O-E)~2 | (O-E)/E |
|---|---|---|---|---|
| 11 | 13.6 | -2.6 | 6.76 | 0.497 |
| 23 | 28 | -5 | 25 | 0.892 |
| 29 | 12 | 17 | 289 | 24.08 |
| 23 | 30.1 | -7.1 | 50.41 | 1.674 |
| 24 | 23.5 | 0.5 | 0.25 | 0.010 |
| | | | $\chi^2=\sum\frac{(f(a)-f(e))^2}{f(e)}$ | **27.153** |

**RESULT**

At 5 % level of significance,

Degree of freedom = (R-1) (C-1)

= (4-1) (2-1)

= 3

Tabulated value = 7.815

Calculated value = 27.143

Since the calculated value is greater than the tabulated value, the alternative hypothesis (H1) is accepted (i.e.) there is a relationship between age & unity

***F – TEST***

**AGE & EXPERIENCE**

**TABLE 2.1.11**

| AGE | EXPERIENCE |
|---|---|
| 11 | 13 |
| 4 | 1 |
| 20 | 1 |
| 20 | 3 |
| | 15 |
| | 19 |
| | 3 |

**COMPUTATIONAL TABLE**

| AGE | EXPERIENCE | X | (x)~2 | y | (y)~2 |
|---|---|---|---|---|---|
| 43 | 13 | 11-13.75=2.75 | 7.56 | 13 -7.85 = 5.15 | 26.552 |
| 12 | 1 | 4-13.75=9.75 | 95.06 | 1-7.85 = - 6.85 | 46.922 |
| | 1 | 20-13.75=6.25 | 39.06 | 1-7.85 = - 6.85 | 56.922 |
| | 3 | 20-13.75=6.35 | 39.06 | 3-7.85 = - 4.85 | 23.522 |
| | 15 | | | 15-7.85 =7.15 | 51.122 |
| | 19 | | | 19-7.85 =11.15 | 24.322 |
| | 3 | | | 3-7.85 = - 4.85 | 23.522 |
| Total | | **=180.74** | | | **=342.854** |

**FORMULA 1**

$$\bar{x} = \frac{1}{n} \cdot \sum_{i=1}^{n} x_i$$

**FORMULA 2**

$$F = \frac{Var(x_s)}{Var(y_s)}$$

**RESULT**

Table value is = 8.93
Calculated value = 1.05
Since the calculated value is less than the table value
I.e. there is no association between age & experience.

**GENDER & EXPERIENCE**

**TABLE 2.1.12**

| GENDER | EXPERIENCE |
|---|---|
| 43 | 13 |
| 12 | 1 |
| | 1 |
| | 3 |
| | 15 |
| | 19 |
| | 3 |

**COMPUTATIONAL TABLE**

| GENDER | EXPERIENCE | x | (x)~2 | y | (y)~2 |
|---|---|---|---|---|---|
| 43 | 13 | 43-27.5=15.5 | 240.25 | 13 -7.85 = 5.15 | 26.552 |
| 12 | 1 | 12-27.5=15.5 | 240.25 | 1-7.85 = - 6.85 | 46.922 |
| | 1 | | | 1-7.85 = - 6.85 | 56.922 |
| | 3 | | | 3-7.85 = - 4.85 | 23.522 |
| | 15 | | | 15-7.85 =7.15 | 51.122 |
| | 19 | | | 19-7.85 =11.15 | 24.322 |
| | 3 | | | 3-7.85 = - 4.85 | 23.522 |
| Total | | | **=480.5** | | **=342.854** |

**RESULT**

Tabulated value is = 5.99
Calculated value is = 8.409
Since the calculated value is greater than the table value
I.e. there is an association between gender & experience

**GENDER & NATURE OF RESIDENCY**

**TABLE 2.1.13**

| GENDER | NATURE OF RESIDENCY |
|---|---|
| 43 | 12 |
| 12 | 11 |
| | 19 |
| | 13 |

**COMPUTATIONAL TABLE**

| GENDER | NATURE OF RESIDENCY | x | (x)~2 | y | (y)~2 |
|---|---|---|---|---|---|
| 43 | 12 | 43-27.5=15.5 | 240.25 | 12-13.75 =1.75 | 3.0625 |
| 12 | 11 | 12-27.5=15.5 | 240.25 | 11-13.75= -2.75 | 7.5625 |
| | 19 | | | 19-13.75-0.75 | 27.5625 |
| | 13 | | | 13-13.75=0.75 | 0.5625 |
| Total | | | **= 480.5** | | **=38.75** |

**RESULT**

Tabulated value is = 10.13
Calculated value is = 12.91
Since the calculated value is greater than the table value
I.e. there is an association between gender & nature of residency

**GENDER & INCOME LEVEL**

**TABLE 2.1.14**

| GENDER | INCOME LEVEL |
|---|---|
| 43 | 4 |
| 12 | 7 |
| | 5 |
| | 39 |

**COMPUTATIONAL TABLE**

| GENDER | INCOME | x | (x)~2 | y | (y)~2 |
|---|---|---|---|---|---|
| 43 | 4 | 43-27.5=15.5 | 240.25 | 4-13.75=9.75 | 95.0625 |
| 12 | 7 | 12-27.5=15.5 | 240.25 | 7-13.75=6.75 | 45.5625 |
| | 5 | | | 5-13.75=8.75 | 76.5625 |
| | 39 | | | 39-13.75=25.75 | 663.0625 |
| Total | | | = 480.5 | | =880.25 |

**RESULT**

Tabulated value is = 10.13

Calculated value is = 1.637

Since the calculated value is less than the table value, hence there is no association between gender & income

## FINDINGS

54.545% of employees are most of the time take pleasure in working with other department members. And 25.454% of employees are always take pleasure in working other department members. And only 14.545 are occasionally willing to work. The rest of employees are very rare.

25.454% of employees have a great deal of trust with their department members and 43.636% of employees have considerable trust. Remaining 30.909% of them have average level of trust.

30.909% of employees are very well & successful in working together. And 67.272% are fairly well. And the remaining of them are very poor.

41.818% of employees have very strong loyalty & sense of belongingness with their department. And 52.727% of employees have above average loyalty. And the rest of them have very little loyalty.

74.545% of employees have fully involved in the department. And 14.545% of employees have partially involved. Remaining of them are reasonably involved.

5% of employees have regular frequency of resistance in decision making .and 25.454% of employees are often resist. And 45.454% of employees resist sometime.

34.545% of employees have very great extent of unity &stand together as group in the department. And 52.727% of employees have some extent of unity. And 5.454% of employees have very little extent of unity.

32.727 % of employees strongly agree that they have helping tendency in the department. And 56.36% just agree. And the remaining of the employees are disagree that they do not help each other.

32.727 % of employees strongly agree that they have clear roles & accountability of an employee in the department. And 60% just agree. And the remaining of them are disagree that they do not have clear roles & accountability.

34.545 % of employees strongly agree that they have high standard of excellence for the task held by an employee in the department. And 50% partially agree. And the remaining employees are disagreeing that they do not have high standard of excellence for the task held by an employee in the department.

20 % of employees strongly agree that their department members make them feel involve in the department. And 61.818% partially agree. And the remaining employees are disagreeing that their department members do not make them feel involve in the department.

20% of employees strongly agree that they can say any things in the department without having any worry.45.454% partially agree.

12.727% of employees strongly agree that their department members are broadminded towards feedback & criticism. And 54.454% partially agree. And 27.272% of employees are disagreeing that their department members are not broadminded towards feedback &criticism.

12.727% of employees strongly agree that their department members have common set of norms and values. And 12.727% of employees are disagreeing that their department members don't have common set of norms and values. And the rest of them are strongly disagreeing.

From the study it is found that only 50.90% of employees have fully cooperative between the department. And 40.07% of employees have partially cooperative between the department. And 7.2715% are reasonably cooperative. And the rest of them are not cooperative.

## SUGGESTION

Based upon the findings of the study, the following suggestion are made by the researcher in order to Enhance Competitive Advantage through Diversity Management

- **Assess**. Conduct a top-to-bottom critical assessment of all company policies and programs. Determine if there are biases that create potential challenges for diverse employees. Review diversity initiative results (e.g., recruitment of top talent, retention strategies, succession planning, career development goals) to determine if the workplace is structured to exclude certain employee groups. Determine where changes in organizational culture, policies and programs need to be made.
- **Capitalize**. Promote diversity initiatives to the top agendas of senior management by capitalizing on reputation as a diversity management consultant.
- **Dialogue**. Develop and maintain continuous dialogue with the senior management regarding diversity as a business strategy.
- **Discover**. Through focus groups, confidential employee surveys and exit interviews, determine how diversity initiatives are viewed and gather feedback for improvement.
- **Network**. Network with other HR professionals to learn different approaches to diversity management, challenges encountered and recommended best practices.
- **Learn**. To best utilize a diverse workforce, profit from lessons learned.

## CONCLUSION

Workforce diversity has become the order of the day as more and more organization cross their domestic barriers and enters the international arena with their products, services and even building manufacturing facilities apart from entering in to the business alliance with foreign companies. Diversity needs to be embraced more as a concept rather than to meet any statutory requirement. Diversity management strategy involves institutionalizing effective training mechanisms and putting relevant functionaries in place. These measures may sound expensive in the beginning, but likely to pay richer dividends in the long run. Culture sensitive issues and conflict situations between the departments may have to be handled very carefully to avoid future complications. Managing workforce diversity is a challenge for the HR fraternity. Various processes may have to be customized while not losing the balance of equality. Maintaining a supportive work environment is the critical need of the hour in addition to attending to culture- specific requirement of the workforce. Thus the objective of workforce diversity is two fold, help the employer identify, attract and retain the best talent from each "people consistency" and help facilitate a workplace where that talent can maximize its performance, towards the best possible marketplace performance and shareholder value. The study has revealed that BHEL/BAP, Ranipet effectively manages its diversified workforce

## BIBLIOGRAPHY & REFERENCES


1. Ahmed, Nilufer R. Managers Magazine, December 1993 v68n12. Stirring the salad bowl: Diversity continues to increase.
2. Antonak, R. F. Attitudes toward persons with disabilities 1988. Methods to measure attitudes toward people who are disabled. Baridon, Andrea and Eyler, David. McGraw-Hill, Inc. 1994. Working Together.
3. Barnard, Clay and Lentz, Glenda. Journal of Career Planning and Placement. Spring 1992. Making Diversity a Reality within our Profession.
4. Bradford, L. and Raines, C. New York: Master media Limited, 1992. Twenty something: Managing and motivating today's New Workforce.
5. E. Gnanasekaran, Research Methods in Business, Anuratha publications.
6. Herbert, Solomon. The Black Collegian. First Semester (October) 1994. How is Companies Achieving Workplace Diversity?
7. C.R Kothari (2003) "research methodology"-2nd editions-
8. Research methodology – 4th edition – Uma Sekaran- published bt john wiley
9. V.S.P Rao – human resource management – excel books-new Delhi 2000
10. Cox, T. H., Jr. (1990). Problems with research by organizational scholars on issues of race and ethnicity. *Journal of Applied Behavioral Science, 26*(1), 5-23.
11. Cox, T. H., Jr. (1991). The multicultural organization. *Academy of Management Review, 5*(2), 34-47.
12. Cox, T. H., Jr. (1993). *Cultural diversity in organizations: Theory, research & practice.* San Francisco: Berrett-Koehler Publishers.
13. Cox, T., Jr., Lobel, S. A., & McLeod, P. L. (1991). Effects of ethnic group cultural differences on cooperative and competitive behavior on a group task. *Academy of Management Journal, 4,* 827-847.
14. *Diversity Dictionary.* (1996). University of Maryland Diversity Database.
15. Dutton, J. E., & Ashford, S. J. (1993). Selling issues to top management. *Academy of Management Review, 18,* 397-428.
16. Ehrlich, E., & Garland, S. (1988, September 19). For American business, a new world of workers. *Business Week, 5,* 24-30.
17. Fernandez, J. P. (1993). *The diversity advantage.* New York: Lexington Books.
18. Finney, M. (1989). Planning today for the future's changing shape. *Personnel Administrator, 34*(1), 44-45.
19. Goldstein, I. L. (1991). Training in work organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 83-117). Palo Alto, CA: Consulting Psychologists Press.
20. Griggs, L. B. (1995). Valuing diversity: Where from . . . where to? In L. B. Griggs & L. L. Louw (Eds.), *Valuing diversity: New tools for a new reality* (pp. 1-14). New York: McGraw-Hill.
21. Hanover, J. M. (1993). *Impact of workforce diversity training: The role of the environment in transfer of training.* Unpublished doctoral dissertation, DePaul University, Chicago, Illinois.
22. Harbeck, K. M. (Ed.). (1992). *coming out of the closet: Gay and lesbian students, teachers, and curricula.* Binghampton, NY: Harrington Park Press.
23. Harris, P. R. (1994). *High performance leadership: HRD strategies for the new work culture.* Amherst, MA: Human Resource Development Press.
24. Hayles, V. R. (1996). Diversity training and development. In R. L. Craig (Ed.), *The ASTD training and development handbook* (pp. 104-123). New York: McGraw-Hill.
25. Hayles, V. R., & Russell, A. M. (1997). *The diversity directive.* New York: McGraw-Hill.
26. Henderson, G. (1994). *Cultural diversity in the workplace: Issues and strategies.* Westport, CT: Quorum Books.
27. Jackson, S. E. (1991, September 29). *Implications of workforce diversity for assessment practices.* Lecture given at the conference "Assessment: A Changing View," organized by Personnel Decisions, Minneapolis, MN.
28. Jackson, S. E., & Alvarez, E. B. (1992). Working through diversity as a strategic imperative. In S. E. Jackson & Associates (Eds.), *Diversity in the workplace* (pp. 13-29). New York: Guilford Press.
29. Jackson, S. E., & Associates. (1992). *Diversity in the workplace.* The Professional Practice Series (Douglas W. Bray, Ed., Society for Industrial and Organizational Psychology). New York: Guilford Press.
30. Jamieson, D., & O'Mara, J. (1991). *Managing workforce 2000: Gaining the diversity advantage.* San Francisco: Jossey-Bass.
31. Johnson, S. J. (1995). *The Status of valuing and managing diversity in Fortune 500 service organizations: Perceptions of top human resource professionals.* Academy of Human Resource Development (AHRD) Conference Proceedings, St. Louis, MO.
32. Johnston, W. B., & Packer, A. E. (1987). *Workforce 2000: Work and workers for the 21st century.* Indianapolis, IN: Hudson Institute.
33. Kanter, R. M. (1977). *Men and women of the corporation.* New York: Basic Books.
34. Kaufman, L. (1994). Painfully aware. *Government Executive, 26*(2), 16-22.

# 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-mails i.e. **infoijrcm@gmail.com** or **info@ijrcm.org.in** 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 an appropriate consideration.

With sincere regards

Thanking you profoundly

**Academically yours**

Sd/-

**Co-ordinator**