

**ISSUES RELATED TO COMPENSATION PAID ON COMPULSORY
ACQUISITION OF LAND –IN THE CONTEXT OF OF PROJECT
MIHAN, NAGPUR.**

Prof. Varsha Nerlekar*

ABSTRACT:

Govt. of Maharashtra has decided to develop a composite project called 'Multi-Model International Passenger and Cargo Hub Airport at Nagpur' (MIHANTM). The project comprises of developing the existing domestic airport of Nagpur as an international passenger and cargo hub airport, along with a Multi Product Special Economic Zone (SEZ), which is abutting to the boundary of the airport. Maharashtra Government had approved acquisition of 3624.21 hectares of private land for project MIHAN and MADC (Maharashtra Airport Development Corporation) had proposed to take care of rehabilitation of the Project Affected People (PAP's). Accordingly MADC announced a rehabilitation package that includes relocation of the PAPs in rural areas to a site on the east of Khapri (Railway) village, and those in urban areas to Chinchbhuvan, Along with the other critical issues related to the rehabilitation & Resettlement process this paper attempts to answer the two important aspects of the Resettlement plan namely, whether compensation should be paid in cash or in kind? & secondly how to protect the interests of vulnerable groups such as tribal people, landless and semi landless peoples, and women groups?

Key words: MIHAN, Compulsory Land acquisition, Project Affected People (PAP), Rehabilitation and Resettlement plan, Rehabilitation Package

INTRODUCTION TO THE STUDY

Govt. of Maharashtra has decided to develop a composite project called 'Multi-Model International Passenger and Cargo Hub Airport at Nagpur' (MIHANTM). The project comprises of developing the existing domestic airport of Nagpur as an international passenger and cargo hub airport, along with a Multi Product Special Economic Zone (SEZ), which is abutting to the boundary of the airport.

The existing airport presently on about 400 Hectares is to be developed as an international passenger and cargo hub airport over a total area of about 1,295 Hectares by providing world-class huge terminal building on about 3 million Sq.ft built-up areas, constructing a second parallel runway of 4,000 Mt. length and 60 Mt. width and an exclusive cargo complex. It will have a holding capacity of about 100 aircraft

The project includes an SEZ, a captive power plant, a health city, road and rail terminals, an international school, and a residential area on 3,600 hectares of land

Maharashtra Government had approved acquisition of 3624.21 hectares of private land for project MIHAN and MADC had proposed to take care of rehabilitation of the PAPs. The

PAPs were classified into two groups, those from rural areas and those from urban areas or the areas under the jurisdiction of Nagpur Municipal Corporation.

Accordingly MADC announced a rehabilitation package that includes relocation of the PAPs in rural areas to a site on the east of Khapri (Railway) village, and those in urban areas to Chinchbhuvan.

DEFINITION OF THE PROBLEM

Displacement as a by-product of large development projects is a central concern to development, because it challenges the mere purpose of development. Development projects need to be beneficial for all and therefore resettlement needs to be incorporated as an integral aspect of project policies. However, no strong regulations are in place to secure the well-being of the project affected people and resettlement becomes an inherently political manner. The power imbalances between different stakeholders often result in further impoverishment of the ones displaced by such projects. The way resettlement affects people's lives strongly depends on the local situation, and here a distinction needs to be made between urban and rural context. Urban livelihoods are strongly tied up with their local environment and resettlement affects their asset base in multiple ways.

Depending on their vulnerability, they are susceptible to risks such as landlessness, joblessness, Marginalization, educational losses and food insecurity. Compensation usually is confined to the provision of housing or financial means to restore housing, and does not include the other, less quantifiable risks.

The consequences of forced resettlement are enormous: it destroys the existing modes of production and ways of life, affects kinship and community organization and networks, causes environmental problems and impoverishment, and threatens cultural identity of tribal and ethnic minorities. Population displacement, therefore, disrupts economic and sociocultural structures. People who are displaced undergo tremendous stress as they lose productive resources - land or otherwise - in the adjustment process. Resettling the displaced poor, remote, and economically disadvantaged is not always an easy task.

OBJECTIVE OF THE STUDY

Most of the Social science research social sciences focus on the socio-economic impacts of dislocation and resettlement. This article primarily focuses on one important aspect of the resettlement process: land acquisition and compensation. The discussion is an attempt to answer the following questions:

1. Whether compensation should be paid in cash or in kind?
2. How do you protect the interests of vulnerable groups such as tribal people, landless and semi landless peoples, and women groups?

Most countries have land acquisition laws that require prompt and adequate monetary compensation for persons who lose their land and property. However, cash compensation has many negative consequences, particularly for the rural and financially illiterate populations.

Rural economies in India are largely agriculture based and to some extent are non-monetized, based on reciprocal exchange of goods and services; therefore, people are not well accustomed to managing cash. For a rural economy one we can say that "Land is like diamonds but money is like ice"

Most of the rehabilitates of project MIHAN are farmers. Some of them have very little transaction experience with the outside world. The sudden cash in their hands can give many of them the false impression of being wealthy. Gambling and drinking may increased to an unprecedented level. The story of damage ones on and on... The villagers ...think that displacement has cost them a lot both materially, and spiritually. They claim that they were not compensated adequately for their loss. While speaking to most of the households in Khapri village it was noticed that the compensation money was received in installment & the amount of installment was insufficient to purchase a new agricultural land. Hence the money received was spent on either consumption or unproductive expenses. Few informed villagers also spent the money on the education of their children assuming that their children would get employment in the industries that would be set up in MIHAN. But unfortunately this could not happen due to several factors like lack of communication skill & other employable skills

Similar project in Indonesia revealed that "displaced families provided only cash compensation suffered about a 50 percent reduction in income compared to pre-project conditions, and their productive resource base was reduced by 47 percent". Studies carried out at the Srisaillam and Lower Manair dam projects in India also confirm the inadequacy of cash as a mode of compensation. Exclusive cash compensation is least useful to the resettles in the long run; instead, for land-based resettlement, a "land-for-land" approach may be more beneficial since land is the key to reestablishment and contributes to cultural security. The land-for-land approach is essential for resettlement despite criticisms that it denies the settlers the right to choose for themselves and that cash compensation could provide opportunities for opening family businesses.

One important mechanism for implementing the land-for-land strategy is to identify several possible relocation sites to provide alternative choice to the displaces. The productive potential, quality of soil, availability of irrigation water, and locational advantages of the new relocation sites should be ideally better or at least equivalent to the lost site in order to make it attractive to the settlers. Furthermore, in selecting relocation sites, attention should be paid to the possibility of off-farm income (e.g., fishing, seasonal wage labor, gathering forest products) to supplement family income.

There are three significant issues related to monetary compensation: (1) evaluating the worth of property to determine the amount of payment; (2) the timing of the payment; and (3) determining noncash compensation where cash alone is not appropriate. In many countries, market value of the land being acquired is used as the determining factor in calculating compensation. A displaced person may find it difficult to acquire comparable land with the compensation money because of limited land market or higher value of land in the relocated area, where prices can double or even triple almost overnight. In addition, the costs for relocating, transporting, salvaging building materials, and so on can put financial strain on the

resettles. In such circumstances, cash compensation should be supplemented by providing "replacement assets" (e.g., house, land, shop) in order for the displaced to be resettled

Compensation payments are sometimes severely delayed - as much as 10 to 15 years in India, Bangladesh, and Nepal - which obviously devalues the compensation award. Compensation money must be made available before the actual move so that displaced households can use the money to overcome or minimize the hurdles of dislocation. Furthermore, compensation for land acquisition should not be limited to monetary payments to individuals; there should be appropriate compensation to the community of people to reestablish their new communities:

The Narmada Water Dispute Tribunal (NWDT), formed by the Supreme Court to adjudicate sharing of water of the Narmada River among four states in India, established in a landmark decision that property holders displaced due to land acquisition were entitled to cash compensation. The NWDT specified that irrigable agricultural lands, house plots, schools, community buildings, drinking water wells, fuel wood lots, livestock wells, health clinics, threshing grounds, burial or cremation grounds, and so forth were to be provided by the government to replace those sacrificed to planned development projects. Only the cost of agricultural land is to be recouped from the cash compensation of the affected people; other components are project costs.

Finally, cash compensation disproportionately benefits some interest groups (i.e., big landlords) and not so much poor and small-scale farmers, the landless, and women. Landlords profit more from relocation because much of their land is either sharecropped or remains uncultivated, making the cash compensation more attractive to rich farmers, who then reinvest it in the nonagricultural sector. Landless laborers are often the hardest hit group in the relocation processes due to their lack of ownership and entitlement to land. In many countries such as Bangladesh, India, and Pakistan, landless people constitute 50 percent of the total rural population. In such circumstances, there is often customary recognition of "use-right," but cash compensation to landless displaced is always inadequate.

As a group, women are also affected by forced relocation; very rarely have their concerns been considered in resettlement projects. In many cultures, women are involved with land-based activities and in herding animals; they are part of the productive work force and contribute substantially to the sustenance of the family. However, compensation monies always go to men, often leading to mistrust and division in the family.

LAND TENURE, ACQUISITION, AND RESETTLEMENT

Involuntary resettlement plans must not only address the relocation and rehabilitation needs of property owners, but also the landless, wage laborers, artisans, craftspeople, and women. In other words, resettlement designs must keep the community in mind, not the individual. This means carefully considering existing land tenure systems and inheritance patterns, and local customary practices that govern use and entitlement to community property. Studies of land tenure systems and customary practices will be helpful in devising compensation rules and resettlement titles.

Furthermore, developing and designing a resettlement plan means understanding the legal framework. Many World Bank-financed projects in Asia and elsewhere dealt with the problems associated with relocation and resettlement on an ad hoc basis due to lack of national resettlement policies. Since the legal basis for land acquisition may vary from state to state and region to region (as in India), a national land acquisition and resettlement policy should be flexible enough as an instrument for guidelines, leaving the details to local authority for local decisions on the merits of individual projects.

Planning resettlement must begin early on in a development project. It should be based on information as accurate as possible about the scale of displacement, impacts and consequences on the life and livelihood of the people, the extent of loss of assets, and destruction of infrastructure and services. A good strategy is to undertake a complete socioeconomic survey of potentially affected families, with names of all members of the household, their age, gender, education levels, and occupational backgrounds. The survey should also include questions aimed at gauging people's attitudes, preferences, and choices on future resettlement. Such a survey is of fundamental importance to plan ahead and to prevent inflows of outsiders for future compensation award.

Due to the lack of a proper survey, for example, the number of families requiring relocation almost tripled from initial estimates in the Upper Krishna Irrigation Project in India, causing considerable delay in resettlement operations. Participation of and assistance by the local community in the survey and planning process may ensure better results. Instead of a "top-down" resettlement planning, if the people are consulted right from the beginning and feel involved in the local decision-making process, they will be more likely to see the resettlement plan as their project. People's participation in resettlement planning and implementation can be very helpful in designing realistic and sustainable economic production systems. Finally, the socioeconomic survey data can also be used to develop new training programs for alternative employment if the available land is not sufficient to accommodate all the project-affected people.

1. Population dislocation and involuntary resettlement also occur as consequences of wars, civil strifes and natural disasters such as floods, riverbank erosion, and earthquakes. Despite important differences between population displacement caused by natural disasters and resettlement caused by development, people displaced by flood and riverbank erosion in Bangladesh face problems almost similar to those affected by development projects

Displacement as a by-product of large development projects is a central concern to development,

Development projects need to be beneficial for all and therefore resettlement needs to be incorporated as an integral aspect of project policies since it challenges the mere purpose of development.. However, no strong regulations are in place to secure the well-being of the project affected people and resettlement becomes an inherently political manner. The power imbalances between different stakeholders often result in further impoverishment of the ones displaced by such projects. The way resettlement affects people's lives strongly depends on

the local situation, and here a distinction needs to be made between urban and rural context. Urban livelihoods are strongly tied up with their local environment and resettlement affects their asset base in multiple ways. Depending on their vulnerability, they are susceptible to risks such as landlessness, joblessness, marginalization, educational losses and food insecurity. Compensation usually is confined to the provision of housing or financial means to restore housing, and does not include the other, less quantifiable risks.

CONCLUSION:

To conclude we can say that in most of the developmental projects like project MIHAN the compensation is paid partly in cash. However the authorities should be very cautious in doing so since most of the rehabilitates of project MIHAN are farmers. Some of them have very little transaction experience with the outside world. The sudden cash in their hands can give many of them the false impression of being wealthy. Also loss of land leaves them with no employment since the rehabilitates are traditionally engaged in the occupation of farming for generations together & know no other vocation. Hence the governmental authorities & other social institutions should engage in capacity building of these peasants whereby they are trained for some vocation or some employment in the upcoming industries. Also efforts should be taken to increase the employability of the young children of these PAP's whereby they get a sense of involvement and feel that the project is for their benefit. The authorities should also consider that not all the PAP's have their own land; some of them are farm workers who work on other people's land on daily wage basis. Since they don't have any land of their own, there is no way that they get any cash compensation, but it should be recognized that their livelihood is also affected by the project. Hence they should also be entitled to some sort of alternate livelihood. It is also very important to increase the financial literacy of the PAP's whereby they are educated on the various avenues through which they can generate income by investing their compensation money. Finally it should be recognized that any developmental project can lead in to real economic development only when it receives people support & this is possible only through a carefully drafted Rehabilitation Strategy.

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AUTHOR DETAILS-

Mrs. Varsha Nerlekar*

Assistant Professor(Fin.)

‘Indira School of Business Studies’,

Cell No.93722 19151

E-mail-varsha.nerlekar@indiraisbs.ac.in

COMPETENCY MAPPING OF NURSES - A STUDY OF NAGPUR CITY

Ms. Muktai Chavan Deb^{*}

Dr. Sujit G. Metre^{}**

ABSTRACT:

With steady rise in number of infectious diseases, turbulent and continuous changes in working environment, lack of proper implementation of health care policies, uneven ratio of healthcare professionals and patients'; hospitals have become aware that they need to be proactive in adapting to rapidly changing circumstances by adopting human resource practices which will ensure effective quality services to the patients. More and more people are beginning to realize that for effective performance competencies of workforce need to be mapped. The objective of this paper is to determine the Requisite skills and abilities required to perform the duties of a nurse effectively. Nagpur has created a benchmark in health care services. The density of hospitals in *Dhantoli* area of Nagpur is highest Asia. A sample of 228 nurses was analyzed and results identified Professional Knowledge, Communication & Interpersonal skills and Coding as skills required for performing the job of a nurse effectively.

Key words: Personal traits, Health care, Professionals, Nurses, Competency Mapping, Effective performance

INTRODUCTION:

*"Lo! in that house of misery
A lady with a lamp I see
Pass through the glimmering gloom,
And flit from room to room."*

These words are from a famous poet [Henry Wadsworth Longfellow](#)'s 1857 poem "Santa Filomena" talking about a Lady with a lamp- who laid foundations to modern day nursing- Florence Nightingale.

NURSING CARE:

Today's non-cap-wearing, scrub-bedecked nurses are increasingly well-educated at colleges and universities that focus on care coordination and critical thinking, as well as clinical skills. To be successful, they must be well-educated, well-trained, and able to lead patient care. In 20 years, this picture will have changed again. A nurse is competent when (s) he possesses the skills and abilities required for lawful, safe and effective professional practice without direct supervision.

COMPETENCY MAPPING:

Competencies comprise the knowledge, skills, values and attributes demonstrated through behavior that results in competent and superior performance. Competency describes what superior performers actually do on a job that produces superior results.

LITERATURE REVIEW:

Many studies have been conducted in regards of Competency mapping of health care professionals. Nurses have used competency standards as their professional framework since the late 1980s when competency standards for registered nurses and for enrolled nurses were developed by the peak national body responsible for nursing regulation which is now known as the Australian Nursing and Midwifery Council.

The Nursing Leadership Institute Competency Model By Rose O. Sherman, RN, Ed.D.: Nursing Leadership Institute at the Christine E. Lynn College of Nursing interviewed 120 nursing managers in South Florida to determine their perspective on the leadership skills needed by nursing leaders today. They identified personal mastery, interpersonal effectiveness, financial management, human resource management, caring and systems thinking as critical leadership competencies for today's nursing managers.

RESEARCH METHODOLOGY

OBJECTIVES OF THE STUDY:

The primary objectives of this research project are:

1. To determine the existing set of competencies through literature review
2. To identify set of nursing competencies deemed necessary by health care professionals in Nagpur region.

SAMPLE:-

A total of 300 questionnaires were sent and 250 were returned. 22 were left out due to high number of missing data.

HYPOTHESIS

For the purpose of present study the researcher has laid down the following hypothesis:

Competency mapping helps to identify performance criteria required for the job.

DATA ANALYSIS AND INTERPRETATION:

A questionnaire was designed and consisted of 5 open ended questions and 10 questions on a Likert scale.

1. Educational qualification is one of the most important aspects of Health Care professional. There are various courses available in India for Nursing. They are:

- B.Sc (nursing) Degree courses and
- General Nursing and Midwifery (GNM) diploma courses

Sadly the number of respondents with required educational qualification is only **38%**. Rests of the respondents were mere SSC, HSSC, or plain graduates.

1. Primary Reason for choosing the profession:

When the respondents were asked about the primary reason for Choosing the professional nearly 70% of them answered:

- Domestic problems
- Money problems
- Easily available & Nothing else to do

2. Skills required for doing the job effectively:

When the respondents were asked about the skills required for doing the job effectively following answers were elicited:

Fig.1.1. Skills required by the Nurses

Patience	Good etiquettes	Working for long hours	Knowledge
Communication skills	Interpersonal skills	Dedication	Concentration
Sense of humor	Kind	Caring attitude	Day by day practice
	Helping attitude	Positive attitude	Honesty

The data of 10 skills were first separated into two groups: Technical & Non Technical and further the skills were categorized into Required and Not Required.

Following are the findings for Nurses:

- 86% respondents agree to the fact that professional knowledge is a required competency which every nurse must possess; while 14% nurses feel this is not required for the nursing profession. Professional knowledge is of utmost importance in medical field. Nurses have to advice; support not only doctors but also the patients and their relatives.

- 88% respondents agree to the fact that advice is a required competency which every nurse must possess; while 12% nurses feel this is not required for the nursing profession. Nurses are a bridge between doctors and patients. They have to advice patients regarding the dosage of the medicines; explain diet plans and other preventive things.
- 75% respondents agree to the fact that coding is a required competency which every nurse must possess; while 25% nurses feel this is not required for the nursing profession. Coding means a System, structure, arrangement or classification. Nurses have to record and maintain the data of temperature, Blood pressure; keep separate record of patients to avoid mixing up of data.
- 93% respondents agree to the fact that support is a required competency which every nurse must possess; while 7% nurses feel this is not required for the nursing profession. Sometimes nurses have to emotionally support the patients and their relatives and support doctors during surgeries, while performing tests, etc.
- 78% respondents agree to the fact that communication skill is a required competency which every nurse must possess; while 22% nurses feel this is not required for the nursing profession. In a country like India where we have so many languages and dialects it becomes necessary to understand the need of the patients to treat them. Communication skills not only mean speaking effectively but listening and responding too. Hence this is a highly required skill.
- 87% respondents agree to the fact that interpersonal skill is a required competency which every nurse must possess; while 13% nurses feel this is not required for the nursing profession. Interpersonal skill or social skills help and individual to work effectively in his work environment. It means communicating effectively, empathic attitude, optimism, confidence, calmness; assertive are a few skills which can be called as interpersonal skills.
- 73% respondents agree to the fact that data maintenance is a required competency which every nurse must possess; while 27% nurses feel this is not required for the nursing profession. With advent of computer data maintenance had become very easy. Records of hundreds of patients can be accessed any time anywhere.
- 61% respondents agree to the fact that managing stress is a required competency which every nurse must possess; while 39% nurses feel this is not required for the nursing profession. Medical profession is synonymous with stress. Long working hours, endless queue of patients with their woes, inadequate salary and infrastructure, managing personal lives and maintaining owns good health are important aspects of health care professionals. At such time effective stress management becomes essential.
- 59% respondents agree to the fact that conflict management is a required competency which every nurse must possess; while 41% nurses feel this is not required for the nursing profession. When people from different backgrounds come together to work conflicts are bound to happen. Relatives of the patients are often seen creating ruckus in

the hospital premises. At such times conflict handling strategies come in handy.

CONCLUSION:

Ignorance, illiteracy and superstition is still rampant in many pockets of India. And hence the role of health care professionals is furthermore important. The findings from the data analysis of health care professionals are quite shocking.

Surprisingly while choosing nursing as their career 70% of the nurses have chosen it due to domestic or monetary problems and also as an easy and secure way of earning money. The passion required for the profession is missing somewhere. Also most of the nurses do not possess appropriate nursing degrees. This makes the matter worse because one small mistake can be fatal.

The skills or competencies required for nurses are patience, knowledge, dedication, honesty, caring attitude and communication skills. The researcher has not got details of the nurses working in different wards of the hospitals such as Outpatient Department, Intensive Care Unit, Neonatal Intensive Care Unit, Surgery ward, etc. This can be future scope of the study wherein one can determine whether there are different competencies for nurses working in different work areas.

Thus we can say that competency mapping of healthcare professionals not only paves way for future course of action but also provides a skill set to work on. The need is to form a standard procedure of competency mapping which will be applicable to all the health care professionals all over the country and will be beneficial for the entire society. Then and then only we will be able to achieve the goal of "HEALTH FOR ALL".

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AUTHOR DETAILS

Ms. Muktai Chavan Deb*

Assistant Professor

Dr. Panjabrao Deshmukh Institute of Management Technology & Research,

Dhanwate National College, Nagpur

Email id: muktaideb@gmail.com

Contact Number: 9923571092

Dr. Sujit G. Metre**

Director

Datta Meghe Institute of Management Studies

Nagpur

Email id: sujit_metre@yahoo.co.in

Contact Number: 9822714241

**“INTERNAL BRAND BUILDING THROUGH HR INTERVENTIONS
IN MANAGEMENT INSTITUTE’S OF VIDARBHA REGION”**

(2001-02 TO 2010-11)

Smt. Arvinder Kour Mehta*

Dr. Malhar Kolhatkar**

ABSTRACT

Considering the working age population, Institute is racing against time to raise the quality of education and strengthen the brand.

For this purpose to sustain the brand outside it is the need of the hour that it should exist in the hearts and mind of employees especially in the service sector where they are the facilitator to meet the expectation of customers generated by the Institute by making certain promises.

Education Sector also cannot exclude them self from generating its own brand considering the competitive environment provided by all the mushrooming Management Institutes all over the India due to privatization and liberalisation policy of Central and State Government.

In the present study the researcher has tried to consider the broader integrative framework across Corporate Marketing and Corporate Management and has taken into account the role of HR in encashing demographic dividend and strengthening the Brand Quality Internally.

Key Words : Demographic Dividend, Internal Brand Building, Role of HR and Employee Branding

INTRODUCTION

INTERNAL BRAND BUILDING

Internal Brand building attempts to link employees’ everyday work behavior to a larger raison d’etre of the organization: the organization’s brands. Through the extension of the branding practices into the organization, particularly having employees wear clothing associated with the brand, and through the subsequent incursion of the brand into individuals’ personal behaviors, these employee branding initiatives promise to engage individuals more fully, while appropriating more of their personal selves. Thus, at the same time that these programs align employee behavior and bring the entire organization into the circle of enthusiasm and creativity that enables brand stewardship (Davis & Dunn, 2002; Ind, 2001).

In many ways employees are the brand and should be treated as apriority audience. Hence the paradigm of brand thinking has taken a more balanced perspective by “striving to ensure satisfaction amongst both customers and employees“(Thomson et al, 1999, p. 820).

Employees are now seen as a critically important constituent of the brand. This is where internal branding as a strategic concept comes into play, with a plethora of relevant literature expanding on this concept (Charland, 2001; De Chernatony, 2000, 2001; Donath, 2001; Faust & Bethge, 2003; Keller, 1999; Knox & Maklan, 2001; LePla & Parker, 1999; Macrae, 1996; Mitchell, 2002; Tosti & Stotz, 2001). All these authors recognize the importance of internal brand management as a process to align staff behavior with brand values, and agree that, as Mitchell (2002)³ suggests, “by applying many of the principles of consumer advertising to internal communications, leaders can guide employees to a better understanding of, and even a passion for, the brand vision” (p. 99).

INTERNAL BRANDING IN THE SERVICES SECTOR

Schiffenbauer (2001) maintains that the brand message will lose its credibility if it is not supported by the employees within the organization. As important internal promise deliverers, employees within the organization must align their performance with the external brand promise (Schultz and Schultz 2000) in order to maximize the strength of the brand (Arruda 2002). Hence, internal branding efforts are essential if employees are to understand and take ownership in the brand. This becomes even more critical for service organizations because consumer loyalty is typically challenged by service quality, which is often much more variable and more difficult to control than product quality (Schultz 2002).

ROLE OF HR IN INTERNAL BRAND BUILDING

It is an area of interest to know how much the HR cooperates with the other department in building the corporate Brand.

In order for employees' behavior to reflect brand values it is essential for organizations to align their human resource (HR) practices with brand values (Gotsi & Wilson, 2001)⁴. But although there is a need for HR involvement in internal brand building there is little research concerning the impact HR can have on delivering the brand promise (Aurand et al, 2005)⁵. Aurand et al (2005) have found that a strong relationship exists between HR involvement in internal branding and the incorporation of the brand into work activities. Furthermore, they found that employees have a more positive attitude towards the brand when there is HR involvement in internal branding.

HR-CONTRIBUTIONS TO BRANDING

A rising number of researchers are articulating a need for HR to become more engaged in branding activities (Aurand et al 2005; Burmann & Zeplin, 2005; Martin et al, 2005; Hatch & Schultz, 2003; Wilson, 2001; de Chernatony, 1999; Ulrich, 1998; Becker et al, 1997; Ind, 1997). It is therefore interesting to note that the HR department is not highly involved in corporate branding even in the investigated best-practice companies. Instead, HR efforts related to brand building seem to be more focused on employer branding. It thus appears as if Martin et al's (2005) statement that HR has encountered certain problems in legitimising its role in business may need to be analysed.

NEED/ IMPORTANCE OF THE STUDY

The Data shows that 35 B-Schools have been established within last five year which constitute the total 57.37 % of overall B-School of Vidarbha Region, 2 college have been Established since last 5-10 years which constitute 3.27 % of total B-school, 5 college have been established since last 10-15 years which constitute 8.19% of total B-School and only 19 colleges out of total 61 B-School have more than 15 years of standing.

As suggested by the above mentioned Data, the Management Institute is ushering like a mushroom all over India especially at Vidarbha Region which gives stiff competition to other Established B-School and in order to retain their glory they need to keep upgrading and developing the brand inside and outside.

As the institutional branding has multiple stakeholders, its success largely relies on Employee's Attitudes and behaviours in delivering the brand promise to external stakeholders. To be recognized as high-performing, Institutions have to understand and orchestrate their employees. In view of this, Internal branding has emerged as a key process to align the behavior of employees with the brand values.

Despite the growing interest in Institutional internal branding, there has been limited research conducted into the processes required to encourage brand-supporting behavior through HR Activities. Therefore, this study aims to unearth the role of HR plays in delivering brand values to the customer.

In the present situation of B-School in Vidarbha, choosing them as the research setting provides a good opportunity for research to examine the effects of the HR on Internal Branding activities to yield a Brand Commitment and loyalty among the Staff Members of B-Schools. Because a single area of work is expected to give the study better control over market and environmental differences.

The reasons set out above provide a rationale for choosing the above mentioned topics be an appropriate research context in which to investigate the relationships between internal branding activities and brand support behaviour among academic and non academic staff, as well as their underlying mechanisms (i.e., the mediating effects of internal branding factors). This research is, thus, expected to yield theoretical, managerial and policy contributions.

STATEMENT OF THE PROBLEM

Internal Branding Process is both complex and costly. Furthermore it requires support from several department in the organization as internal branding processes should stem from a holistic standpoint and cannot be managed effectively and efficiently solely in a decentralized exclusive manner.

In the institution or for that any service sector it is one thing to inform and make employees understand the brand values and quite another make them act in accordance to it.

Infact it should be the endeavour of every institute to imbibe the Brand Value in the employees and make them committed to the brand in order to display on-brand behavior. If the employee does not know how, or lacks the commitment to act in accordance with the brand values, these become hollow and the brand promise that has been communicated to customers may not be fulfilled (Boone 2000; Khan 2009). This pivotal brand commitment is described as a personal identification with, and psychological attachment to the brand (Burmman & Zeplin 2005; Punjaisri et al. 2009a;).

Brand commitment is however not a phenomenon that emerges on its own (Burmman & Zeplin 2005). In fact it is argued that the enabling of brand commitment among employees is a challenging task for many HR managers (Burmman & Zeplin 2005), making the implementation of internal branding particularly important as a enabler of brand commitment (de Chernatony & Segal-Horn 2001; Punjaisri & Wilson 2007; Punjaisri et al. 2009a). 9

As the employees' brand commitment is a prerequisite to on-brand behavior (Thomson et al 1999; Burmann & Zeplin 2005; Kimpakorn & Tocquer 2009), it becomes the key to enactment of the brand and in extension delivery of the brand promise, posing a challenging but rewarding task for any service firm. It is however, important to understand what constitutes the concept of internal branding process from the HR Perspective and how it is related to the commitment of customer contact employees, therefore the following aim of the study is stated.

AIMS AND OBJECTIVES OF THE STUDY

The various purpose of this Research Paper is:

1. To know and understand the various component required in the process of Internal Brand Building
2. To know the various activities where the HR can make its strong impact.
3. To study the role of HR in internal brand building
4. To study the factor influencing Brand Commitment.
5. To develop a perspective that HR practices in higher education institutions can be a powerful tool for branding and attaining competitive advantage.
6. To identify, analyze and highlight the aspects which shows the real picture of the topic of study.

HYPOTHESIS

1. Brand Loyalty is equal between Teaching and Non Teaching Employee
2. HR Role in Internal Brand Building is insignificant of Brand Loyalty among employees.

RESEARCH METHODOLOGY

An Empirical Research has been carried out and reported in the present Paper-

Universe

Global Competition is changing the relationship between management education and business. Continuous changes in both technology and economic systems, along with the speed of change, requires Institutions to be branded. And with the rise of Institutional marketing and Institutional branding has raised awareness of the crucial role that employees play in Institutional branding process. Management education has become a major profession that attracts considerable attention across the world. Hence considering this aspect the Universe of study is restricted to management education in Vidarbha but its contribution towards providing clear perception and tools to build the institutional brand image to various sector of business and all over the world is really worth.

Geographical Context

The geographical context is limited to staff, campus, premises and jurisdiction of Management Institutes of Vidarbha Region

Population

The Primary Data was collected from the Teaching and Non Teaching Staff Members of MBA Institutes in Vidarbha Region

The Population size is given as follows

- Questionnaire for non teaching staff – 183 (3 Non Teaching Employee x 61 MBA Institutes)
- Questionnaire for Teaching Staff – 366 (6 Teaching Employee x 61 MBA Institutes)

Sampling is done with the help of random Sampling and cluster Sampling Method

Sampling Method

For the purpose of this survey, Non Probability Sampling Technique of Quota Sampling was employed as the sample size was small and fixed and the sampling unit was clearly defined. Questionnaire asked for all the categories were closed ended.

Method of Data Collection

Pre designed questionnaire and pre structure interview schedules was canvassed for collecting primary data from the Teaching and Admin Staff from the MBA Institutes of Vidarbha Region.

Sources of Data Collection

The data was collected through Primary and Secondary Sources

The Data was collected from the Teaching and Non Teaching Staff Members of MBA Institutes Affiliated to Following University of Vidarbha Region

1. RTM Nagpur University, Nagpur
2. Sant Gadge Baba Amravati University, Amravati
3. Gondwana University, Gadchiroli

Tools of Data Collection

Pre designed questionnaire and pre structure interview schedules canvassed for collecting primary data from the Teaching and Admin Staff from the MBA Institutes of Vidarbha Region.

DATA ANALYSIS AND DISCUSSION

Descriptive Statistics

During the data collection a total of 51 B- Schools affiliated to RTM Nagpur University and 9 B- Schools of Sant Gadge Baba Amravati University were approached. In the Vidarbha region one more Gondwana University is located at Gadchiroli. However, in absence of any MBA Institute affiliated to G.U University, it was excluded from the present Study.

In all total 521 Staff both Teaching and Non Teaching was approached which resulted in 391 Respondents, yielding a response rate of 75.4%. Out of the 130 responses that were not collected, 56 did not want to participate and 74 questionnaires were not returned after distribution.

Table of Descriptive Statistics Frequency

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	244	62.4	62.4	62.4
Valid Female	147	37.6	37.6	100.0
Total	391	100.0	100.0	

Interpretation- Most respondents were Male which represented 62.4% of the respondents. Females represented 37.6% of the respondents.

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	18-25 years	18	4.6	4.6	4.6
	26-35 years	233	59.6	59.6	64.2
	36-45 years	102	26.1	26.1	90.3
	45 Years and above	38	9.7	9.7	100.0
	Total	391	100.0	100.0	

Interpretation- The age of the respondents were divided into four categories, where 4.6% of the respondents represented ages between 18-25 years , 59.6% represented ages between 26-35, 26.1% represented ages between 36-45 and 9.7 % represented ages 45 and above. This table shows that majority of the respondent belongs to the age group of 26 and 35 years.

Marital Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Married	312	79.8	79.8	79.8
Valid Unmarried	79	20.2	20.2	100.0
Total	391	100.0	100.0	

Interpretation-Majority of the respondents were Married which signify 79.8% of total respondents and only 20.2 respondents are unmarried.

Nature of the job

	Frequency	Percent	Valid Percent	Cumulative Percent
Teaching	312	79.8	79.8	79.8
Valid Non Teaching	79	20.2	20.2	100.0
Total	391	100.0	100.0	

Interpretation- The data was collected from Teaching and Non Teaching Staff Members of B-School where 79.8% represent the Teaching Staff Member and 20.2 represent the Non Teaching Staff Members. The less number of Non teaching Staff is due to the AICTE Norm wherein proportionate non teaching staff are appointed in the B-School.

Educational Qualification

	Frequency	Percent	Valid Percent	Cumulative Percent
Higher Scondary	1	.3	.3	.3
Graduation	19	4.9	4.9	5.1
Post Graduation	300	76.7	76.7	81.8
Valid M.Phil/Ph.D	61	15.6	15.6	97.4
Professional Qualification	10	2.6	2.6	100.0
Total	391	100.0	100.0	

As seen from the above mentioned table most of the respondents (76.7%) had a Master's degree as for Teaching Staff Members Post Graduation in the respective field is mandatory, and a Small Percentage (0.3%) had Higher Secondary and 4.9% had a degree below Masters which necessarily belongs to Non Teaching Staff Category. Out of the complete respondents 15.6% had M.Phil/Ph.D degree and 2.6% had other professional degree.

Total Work Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
1-5 years	188	48.1	48.1	48.1
6-10 years	87	22.3	22.3	70.3
Valid 11-15 years	46	11.8	11.8	82.1
Above 15 years	70	17.9	17.9	100.0
Total	391	100.0	100.0	

Work Experience in the Present Institute

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0-2 years	136	34.8	34.8	34.8
3-5 years	161	41.2	41.2	76.0
6-10 years	68	17.4	17.4	93.4
11-15 years	13	3.3	3.3	96.7
Above 15 years	13	3.3	3.3	100.0
Total	391	100.0	100.0	

Interpretation- The amount of time the respondents had been working at their current organization was divided into five categories where 34.8% of the respondents represented time between below two years , 41.2% represented three to Five years, 17.4% represented six to ten years, 3.3 % represent Eleven to Fifteen Years and 3.3% represented more than Fifteen Years of Experience.

RELIABILITY STATISTICS

Prior to examining the Internal Brand Building and factors explaining it, the strength of the scale was assessed by examining its reliability. The instrument was then subjected to the computation of coefficient alpha (Cronbach, 1991). Cronbach's alpha was computed to ascertain the extent to which items making up each variable shared a common core. In reliability analysis, the alpha (α) coefficient was calculated to find out the internal consistency of the items on the scale. It was found Cronbach's Alpha **0.823** and Cronbach's Alpha based on Standardized items 0.820 for 47 variable which was more than 0.6 (Nunnally, 1978) which confirms that the scale shows good internal reliability. The detail result of which is given hereunder :

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.832	.823	39

EXPLORATORY FACTOR ANALYSIS (EFA)

After the reliability of the scales was assessed, the researcher conducted the exploratory factor analysis (EFA) in order to examine the factorial structure of the scales. The EFA is a generally useful technique during the early stages of scale refinement and validation, since it allows the researcher to have a preliminary understanding of the relationships between the indicators and their relevant constructs (Churchill, 1979; de Vellis, 1991).

Afterwards, the researcher examined the anti-image correlation matrixes with the Kaiser-Meyer-Olin (KMO) measure of sampling adequacy. The KMO statistics varies between 0 and 1. A value of 0 indicates that the sum of partial correlations is large relative to the sum of correlations, indicating diffusion in the pattern of correlations (hence, factor analysis is likely to be inappropriate). A value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors. Kaisers(1974) recommends accepting values greater and 0.5 as acceptable (values below this should lead to either collect more data or rethink which variables to include).In the present study the Kaiser –Meyer-olkin measure of sampling adequacy came for each factor i.e Instill the Brand, Brand Communication, Brand Image, Brand Knowledge, Brand Facilitation and Brand Clarity come above 0.5

Hypothesis Testing

The Hypothesis framed were tested. The details of which is given hereunder :

	Hypothesis	Test Applied
H1	Brand Loyalty is equal between Teaching and Non Teaching Employee	2 Sample T Test
H2	HR Role in Internal Brand Building is insignificant of Brand Adaptation and Brand Loyalty among employees.	Regression and Correlation

Hypothesis 1- Brand Loyalty is equal between Teaching and Non Teaching Staff

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Mean 1	Equal variances assumed	.142	.706	-1.448	389	.148	-.08505	.05872	-.20050	.03040
	Equal variances not assumed			-1.520	128.454	.131	-.08505	.05597	-.19578	.02569
Mean 2	Equal variances assumed	.390	.533	.637	389	.525	.04204	.06602	-.08775	.17184
	Equal variances not assumed			.619	116.409	.537	.04204	.06797	-.09257	.17665
Mean 3	Equal variances assumed	.150	.699	-.078	389	.938	-.00533	.06826	-.13953	.12888
	Equal variances not assumed			-.083	130.110	.934	-.00533	.06447	-.13287	.12222

Mean 4	Equal variances assumed	.003	.955	.274	389	.784	.01777	.06487	-.10978	.14531
	Equal variances not assumed			.279	123.613	.780	.01777	.06361	-.10815	.14368
Mean 5	Equal variances assumed	6.044	.014	4.399	389	.000	.20348	.04626	.11253	.29443
	Equal variances not assumed			3.874	105.122	.000	.20348	.05252	.09934	.30762
Mean 6	Equal variances assumed	7.217	.008	-.043	389	.966	-.00331	.07721	-.15511	.14850
	Equal variances not assumed			-.049	144.634	.961	-.00331	.06810	-.13791	.13130

Interpretation : Here, the significance 2 tailed value for Mean of 5 and 6 i.e Brand Facilitation and Brand Clarity is .014 and .008 respectively which is less than the Alpha value of 0.05. Hence, we can conclude that null hypothesis is rejected and alternative is accepted. However, in all other cases null hypothesis is accepted since alpha value is more than 0.05.

Hypothesis 2: HR Role in Internal Brand Building is insignificant of Brand Adaptation and Brand Loyalty among employees.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	

1	.648 ^a	.420	.412	.35790	.420	55.78	5	35	.000	1.640
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a. Predictors: (Constant), Mean6, Mean5, Mean3, Mean2, Mean4

b. Dependent Variable: Mean1

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	35.698	5	7.140	55.738	.000 ^b
Residual	49.315	385	.128		
Total	85.014	390			

a. Dependent Variable: Mean

Interpretation : According to the data given above table, there is a significant correlation exist between HR Role in Internal Brand Building Adaptation and various other component like Brand Information, Brand Knowledge, Brand Facilitation and Brand Clarity ($p < 0.05$). However there is not so strong positive correlation has been identified between variables ($r = .648$). This indicates that there is a significant strong level of correlation exists. The fact that determination coefficient is $R^2 = 0.420$ indicate that 42% of the change in Brand Adaptation and Brand Loyalty can be explained by way Brand has been informed, Knowledge was given, brand behavior facilitated and Brand Clarity the employees have in the Institution.

DISCUSSION

As the hypotheses regarding the presence of internal branding activities could all be supported, this provided relevant context. This meant that all individual internal branding activities were relevant for this study. The results from the regression analysis show that 42% (with p-value 0.000) of the Brand Adaptation/ Loyalty within the MBA Institutes can be explained by other five identified internal branding activities; Brand Information, Knowledge, facilitation and Brand Clarity. This result shows that Brand Adaptation and Commitment of employees can in fact be managed by implementing certain internal branding activities. It also means that 48% of Brand Adaptation and commitment is explained by other factors. When revisiting the literature we could see that previously stated antecedents of affective commitment were personal characteristics, job characteristics, work experience and structural characteristics (Allen & Meyer 1990). As the latter three can be directly connected to the employing organization to a large extent, personal characteristics can be regarded as a factor of high uncertainty regarding predictability and can therefore vary regarding degree of

impact on affective commitment from case to case. This factor can therefore indeed be part of the explanation of affective commitment that is not included in the results of this study. While analyzing the Brand Adaptation and loyalty between teaching and non Teaching Staff it has been observed that there is no positive relationship are explained except at Brand Facilitation and Brand Clarity.

CONCLUSIONS

To summarize the discussion about HR Role in internal Brand Building process, we present our main conclusions below:

- Internal branding activities are significantly present among Employees within the MBA Institutes of the Vidarbha Region.
- A significant part (42%) of affective commitment among customer contact employees can be explained by internal branding activities such as Brand information, Brand Knowledge Brand Facilitation and Brand Clarity

In this study it has been shown that the HR Plays a significant role in the internal branding activities and all have positive relationships to the affective commitment of employees within the MBA Institute of the Vidarbha Region.

This gives implications for managers that want customer contact employees to identify with, be involved and emotionally attached to the employing Institute. The internal branding activities mentioned above facilitates this if managed successfully, which in turn makes it possible for the customer contact employees to adequately display on brand behavior, a sought after achievement for service firms.

As much as 42% of the affective Brand Adaptation of employees can be explained by the internal branding activities presented in this study. And although internal branding is often a complex process to execute, it should be in the best interest of every manager in charge of such matters to consider the implementation of brand oriented recruitment, Brand oriented communication, Brand oriented knowledge, Brand oriented facilitation and providing brand clarity.

LIMITATION AND FUTURE RESEARCH

The study was performed on the MBA Institute and it has been argued in this paper that the result of the sample is generalizable to the population. It might not however be generalizable to the whole of the service industry. Investigation in other parts of the service industry would help remedy this and further validate the measurement of this study.

The items used to measure the presence of internal branding were not adopted from previous research and therefore had to be developed specifically for this study. The items would benefit from further validation from future research.

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AUTHOR DETAILS-

Smt. Arvinder Kour Mehta*

Asst. Professor- Datta Meghe Institute of Management Studies, Atrey Layout, Nagpur

Email: arvinderkour@yahoo.com.

Dr_Malhar Kolhatkar**

Asst. Professor – VMV Commerce, JMT Arts and JJP Science College, Nagpur

Email- malharkolhatker@rediffmail.com

**PERFORMANCE EVALUATION OF RUSHIKULYA GRAMYA BANK
OF ODISHA STATE**

Padma Lochan Bisoyi*

Dr. Nilesh Dangat**

ABSTRACT

Rushikulya Gramya Bank (RGB) is the first of the three Regional Rural Banks (RRBs) sponsored by Andhra Bank was established on 14th February, 1981 under provision of the Section 3 of the Regional Rural Bank Act, 1976 with its head office at Berhampur, Ganjam, Odisha. The objective of this paper is to evaluate the performance of Rushikulya Grama Bank of Odisha state. The indicators selected for studying the performance of RGB are advances to agriculture, Priority Sector Lending (PLS), Credit Deposit Ratio(C-D Ratio), recovery performance, net profit during 2002-2003 to 2011-2012. The study is exploratory in nature and makes use of secondary data. The data is collected from the various issues of RGB, RBI bulletin and key performance indicators of RRBs etc. For evaluation of the performance, the ratios and percentages have been computed using the data on the chosen indicators. For verification of the hypothesis t test is used. The study finds and concludes that performance of RGB is satisfactory.

Keywords: *Agricultural Lending, Deposits and Loans, Priority Sector Lending,*

INTRODUCTION:

Banks play an important role in the mobilization and allocation of resources in any country (Ibrahim 2010). Rural people in India are facing problems in the inadequate supply of credit. The major source of credit to the rural households, particularly low income working households, has been the informal sector. Informal sector advances loans at very high rates of interest; the terms and conditions attached to such loans have given rise to an elaborate structure of intimidation of both economic and non-economic conditions in the rural population in India (Nathan & Ramachandran 2001). The Regional Rural Banks were established under the provisions of an ordinance promulgated on the 26th September 1975 and the Regional Rural Bank Act, 1975 with an objective to ensure sufficient institutional credit for agriculture and other rural sectors (RRB 2008). The objectives as given in the preamble of the Regional Rural Banks Act of 1976 were “to develop the rural economy in providing for the purpose of development of agriculture, trade commerce, industry and other productive activities in the rural areas, credit and other facilities particularly to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs and for matter connected therewith and incidental thereto” (RBI 2008).

The first five Regional Rural Banks were set up in five states in Haryana, West Bengal, Rajasthan with one each and two in Uttar Pradesh. These banks covered 11 districts of these five states (RBI 1976). As on March 2012, there were 82 Regional Rural Banks operating in India with a network of 16001 branches (RRB 2001). Rushikulya Gramya Bank is the first of the three Regional Rural Banks sponsored by Andhra Bank was established on 14th February,

1981 under provision of the section 3 of the Regional Rural Bank Act, 1976 with its head office at Berhampur, Ganjam, Odisha. As a scheduled Commercial Bank, it is authorized to conduct all types of banking activities under Section-5B of the Banking Regulation Act 1949.

Several changes have taken place in the focus and operation of the Regional Rural Banks in the wake of financial sector reforms in India and various measures have been taken by the Government to improve the commercial viability of the Regional Rural Banks since 1994-95 (Dhaliwal et al. 2009). After the amalgamation of the Regional Rural Banks, they are working very efficiently for what they have been established (Syed 2013). So it has been considered an appropriate to study the performance evaluation of Rushikulya Gramya Bank (RGB) as a Regional Rural Bank (RRB) in the state of Odisha.

OBJECTIVES OF THE STUDY:

- i. To study the impact of Rushikulya Gramya Bank finance on agricultural development in the Ganjam district of Odisha.
- ii. To study the Priority Sector Lending by Rushikulya Gramya Bank in the study period.
- iii. To study the Credit Deposit Ratio of Rushikulya Gramya Bank in the study period.
- iv. To study the recovery performance of Rushikulya Gramya Bank in the study period.
- v. To study the net profit of Rushikulya Gramya Bank in the study period.
- vi. To study the some of the key performance indicators of Rushikulya Gramya Bank.

HYPOTHESIS OF THE STUDY:

- i. There is no significance difference between farm and non-farm finance by Rushikulya Gramya Bank.
- ii. There is no significant difference between Priority Sector Lending and Non-priority Sector Lending by Rushikulya Gramya Bank.

RESEARCH METHODOLOGY:

The present study is exploratory in nature and based on secondary data collected from the various Annual Reports of RGB, RBI bulletin and Key performance indicators of RRBs etc. The period of study chosen covers 2002-2003 to 2011-2012. The indicators selected for studying the performance of RGB are advances to agriculture, Priority Sector Lending (PLS), Credit Deposit Ratio(C-D Ratio), recovery performance, net profit etc during 2002-2003 to 20011-2012. For evaluation of the performance, the ratios and percentages have been used and for verification of hypothesis t test is used.

REVIEW OF LITERATURE:

Nagar (1979) in a study on Regional Rural Banks (in Rajasthan) found that the Regional Rural Banks had made creditable progress in deposit mobilization and credit distribution.

Rao (1980) in his study on Regional Rural Banks in Andhra Pradesh concluded that, given the coverage, the bank was functioning well in meeting the credit requirements of the target group. **Singh and Upadhyia (1984)** conducted a study on the loan recovery aspect of Regional Rural Bank in Bihar. Crop failure, expenditure on marriage and other social functions in the family were considered important factors of non-payment of loans. Inadequate follow up measures and lack of serious attitude of borrowers towards repayment were also explained as reasons. **Parmer et al (1988)** in the research "Performance of the Banaskantha Mehsana Grameen Bank in Gujarat" evaluated the performance of the Banaskantha Mehsana Grameen Bank in Gujarat state and found there is a positive trend in the number of branches, deposits, advances per branch and advances per-capita of the said bank. **Krishnan (1990)** "Regional Rural Banks and Rural Development" finds that the Regional Rural Banks have played a vital role in sustaining and rejuvenation rural economy despite of several odds. **Savaraiah et al. (1998)** "Rural Banking for the Rural Milieu" assessed the performance of the Chaitanya Gramin Bank in Andhra Pradesh and found that investment in agriculture received a lion's share especially crop loan, which lead to a good sign for the development of banking sector in that area. **Fujita (2000)** "Credit flowing from the poor to the rich: the financial market and the role of the Grameen Bank in rural Bangladesh" analysis the utilization of loans from Grameen Banks and illustrates in detail the mechanism used by the Grameen Banks to alleviate poverty and sheds light on possible limitations on their functioning. An existence of reversed credit flow from the poor to rich in the rural informal financial market is also discussed in this study. **Mishra (2005)** attempted to study the impact of institutional finance of the farm income and productivity a case study of Odisha. The study revealed that per hectare borrowings of the marginal, small and large farmers for crop loan was as Rs 2,251, Rs 2,066 and Rs 1,788 respectively and for long term credit it was Rs 859, Rs 952 and Rs 986 respectively. Thus large farmers borrowed less short term and more long term credit per hectare as compared to the marginal farmers who borrowed more short term credit.

DATA ANALYSIS:

AGRICULTURAL ADVANCES:

Ganjam is one of the agricultural dominated district in Odisha. Agriculture is the backbone of the Ganjam economy. Nearly 70 percent people in the district depend on agriculture. Ganjam district is backward because agriculture is backward. To develop the local economy bank finance is highly essential. Keeping this in mind the bank has been according top priority for landing to agriculture, both under short term working capital finance and investment credit. The total outstanding credit as on March 2003 was Rs. 34.85 crores which is 27 percent to the total advance, where as it is increased to Rs.191.08 crores which is 39.10 percent as on March 2012. Table-1 shows the share of agricultural advances to total advances.

Table- 1: Share of agricultural advances to the total advances (Crores)

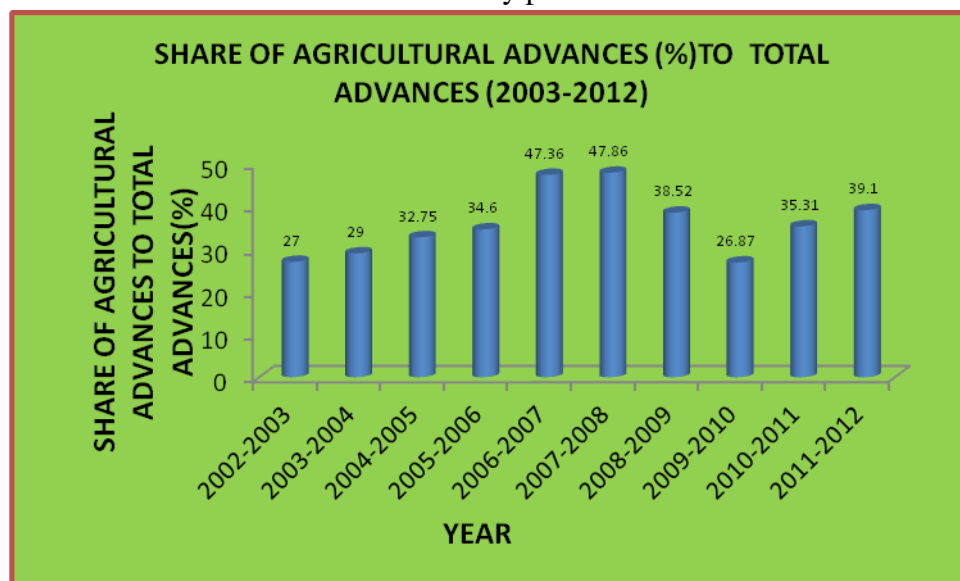
Year	Advances to Agriculture Sector	Share to total Advance (%)
2002-2003	34.85	26.58
2003-2004	45.72	28.93
2004-2005	63.87	32.75
2005-2006	80.78	34.60
2006-2007	120.69	47.36
2007-2008	129.8	47.86
2008-2009	117.84	38.52
2009-2010	92.53	26.87
2010-2011	145.14	35.31
2011-2012	191.08	39.10

Source: Issues of annual reports of Rushikulya Gramya Bank (2003-2012)

Chart- 1: Share of agricultural advances to total advances of RGB from 2003-2012

Below chart shows the total agricultural advances to total advance of RGB in the study period. One of the very important reasons for setting RRBs in India to develop agriculture. Nearly 70 percent people in India live in rural areas. Rural development can be possible if agriculture can be developed. Keeping rural development via agricultural development, the bank is giving top priority to agricultural sector, which is clear from the chart below. From it is also clear that from the financial year 2002-2003 to 2007-2008 the total agricultural advances to total advance of RGB is increasing at increase rate. In the year 2002-2003 the total agricultural credit to total credit of RGB was only 26.58 % increased to 47.86 % in the financial year 2007-2008. In successive three years there is a decline in total agricultural advances. But after again from financial year 2010-2011 the total agricultural credit is increasing at rapid rate registering 39.10 % as on March 2011-2012. It shows that the bank is giving important to the agricultural sector for what they have been set up. The bank has been advancing on an average of 35.83% to the total advance in the study period. In the year 2007-2008 the share of agricultural advance to total advance was 47.86 percent which was highest

in the study period.



TESTING OF HYPOTHESIS:

Ho = There is no significance difference between farm and non-farm finance by Rushikulya Gramya Bank.

Table-2: Share of agricultural (Farm) advances and Non-farm sector advances to the total advances

Year	Advances to Agriculture(farm) Sector	Share to total advances (%)	Advance to Non-farm sector	Share to total advances (%)
2002-2003	34.85	26.58	3.25	2.48
2003-2004	45.72	28.93	3.45	2.17
2004-2005	63.87	32.75	4.28	2.19
2005-2006	80.78	34.60	4.67	2.00
2006-2007	120.69	47.36	5.05	1.98
2007-2008	129.8	47.86	8.97	3.31
2008-2009	117.84	38.52	26.69	8.72
2009-2010	92.53	26.87	28.59	8.30
2010-2011	145.14	35.31	31.7	7.71
2011-2012	191.08	39.10	35.8	7.33

Source: Issues of annual reports of Rushikulya Gramya Bank (2003-2012)

TABLE- 3: T-TEST RESULTS

Parameters	Farm	Non-Farm
Number of items	10	10
Mean	10530.857	1524.976
Standard Deviation	4833.89914	1358.48326
Standard Error	1528.61313	429.59013
Confidence Level	95%	
Degrees of freedom	18	
t value calculated	5.67	
Standard Deviation	0.355	
t value from table	2.101	
Null Hypothesis(Ho) is rejected		

5% Level of significance

INTERPRETATION OF RESULTS:

The calculated value of 't' is more than the table value at 0.05 level of significance i.e $5.67 > 2.101$, hence the null hypothesis is rejected. Thus there is a difference between farm financing and non-farm financing by RGB. It is concluded that the bank finances more to farm than non-farm sector, thereby rural development.

PRIORITY SECTOR LENDING:

Priority sector refers to those sectors of the economy which may not get timely and adequate credit in the absence of this special dispensation. Typically, these are small value loans to farmers for agriculture and allied activities, micro and small enterprises, poor people for housing, students for education and other low income groups and weaker sections. The Reserve Bank of India (RBI) sets a target for priority sector lending for scheduled Commercial Bank at 40 per cent. But it raises the target for Regional Rural Banks to the level of 60 per cent as Regional Rural Banks were mainly established for development of rural sector through disbursement of credit to rural activities. It is observed that the share of advances to priority sector fulfills the RBI norms of 60 per cent in all the years during the period of study. It is found that throughout the period of study the percentage of credit disbursed to priority sectors was 62 or more. It shows that RGB has been emphasizing the credit deployment to priority sectors and hence its efforts in financing the priority sectors in

the Ganjam of Odisha are noteworthy. The bank has surpassed the stipulated minimum level of 60 percent of the advances as priority sector lending by achieving Rs. 340.83 crores which is 69.74 percent to the total advances as on March 2012 as against 89 crores which is 68 percent to the total advance as on March 2003. From the table it reveals that share of priority sector lending the total advance is increasing year after year with little change.

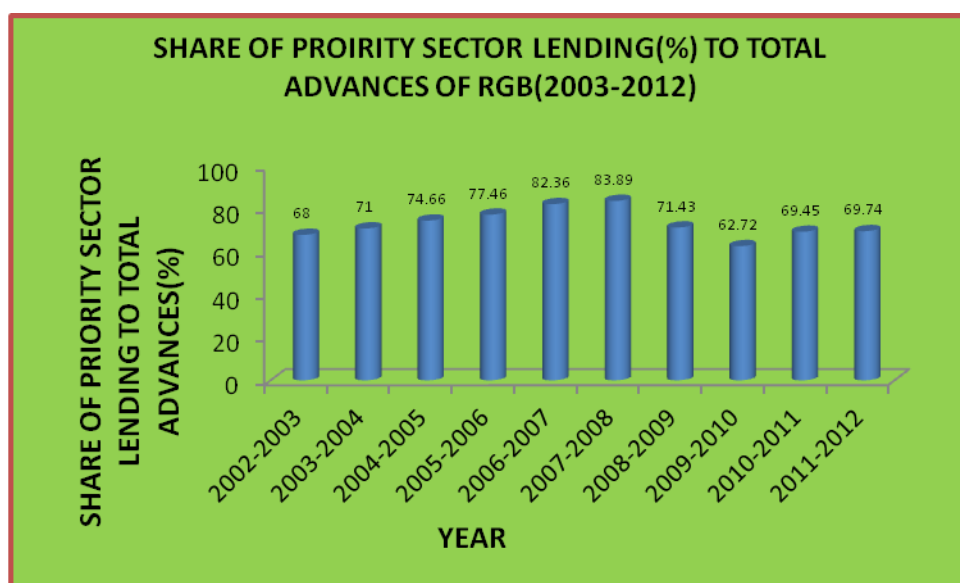
Table- 4: Share of priority sector lending to the total advances of RGB in the study period (Crores)

Year	Priority Sector Lending	Share of Priority Sector Lending to Total Advances (%)
2002-2003	89.00	67.86
2003-2004	112.39	70.49
2004-2005	145.62	74.66
2005-2006	180.87	77.47
2006-2007	209.86	82.31
2007-2008	227.46	83.89
2008-2009	219.55	71.76
2009-2010	233.19	67.72
2010-2011	285.45	69.45
2011-2012	340.83	69.74

Source: Issues of annual reports of Rushikulya Gramya Bank (2003-2012)

Chart-2: Share of priority sector lending (%) of RGB from 2003-2012

The bank is advancing to priority sector on an average 204.42 crores in the study period. From the chart it is clear that the highest lending was 340.83 crores which was 69.74 % to the total advances of RGB in the financial year 2011-2012. It shows the bank is giving importance to the priority sector for what they have been established. Rushikulya Gramya Bank gives priority to priority sector which is evident from the chart below. The share of priority sector is lending 73.07 percent on an average in the study period. The share of priority sector lending in percentage is increasing at increasing rate from 2002-2003 to 2007-2008. After 2007-2008 there is decline in the priority sector lending.



TESTING OF HYPOTHESIS:

Ho = There is no significant difference between priority sector lending and non-priority sector lending by Rushikulya Gramya Bank.

Table- 5: Share of priority sector lending and Non-Priority sector lending to the total advances of RGB in the study period.

Year	Priority Sector Lending	Non- Priority Sector Lending	Share of Priority Sector to Total Advances (%)	Share of Non- Priority Sector to Total Advances (%)
2002-2003	89.00	42.15	67.86	32.14
2003-2004	112.39	47.05	70.49	29.51
2004-2005	145.62	49.42	74.66	25.34
2005-2006	180.87	52.60	77.47	22.53
2006-2007	209.86	45.11	82.31	17.69
2007-2008	227.46	43.69	83.89	16.11
2008-2009	219.55	86.42	71.76	28.24
2009-2010	233.19	111.14	67.72	32.28
2010-2011	285.45	125.58	69.45	30.55
2011-2012	340.83	147.91	69.74	30.26

Source: Issues of annual reports of Rushikulya Gramya Bank (2003-2012)

Table- 6: t test results

Parameters	Priority Sector	Non Priority Sector
Number of items	10	10
Mean	204.422	75.107
Standard Deviation	76.44457	39.72231
Standard Error	24.1739	12.5613
Confidence Level	95%	
Degrees of freedom	18	
t value calculated	4.75	
Standard Deviation	60.9	
t value from table	2.101	
Null Hypothesis(Ho) is rejected		

5% Level of significance

INTERPRETATION OF RESULTS

The calculated value of 't' is more than the table value at 0.05 level of significance i.e $4.75 > 2.101$, hence the null hypothesis is rejected. Thus there is a difference between priority sector lending and non-priority sector lending by RGB. It is concluded that the bank finances more to priority than non-priority sector, there by rural development.

CREDIT DEPOSIT RATIO:

The credit deposit ratio is one of the important indicators to assess the functioning and performance of a bank. It is observed that the ratio is less than one in all the years during the study period, which implies that the deposits exceed the advances. Of course, it lies above 0.40 in all the years. Among the years in the whole period, the ratio was lowest at 0.41 in 2009-2010 and highest at 0.62 in 2005-2006. It shows that the bank has a scope for furthering more advances than deposits. In order to ensure that the rural deposits were not used to increase urban credit, the RBI directed that each rural and semi urban bank branch had to maintain a credit deposit ratio of at least 60 per cent. It is found that RGB does not fulfill RBI norms in most of the years as the credit deposit ratio is below 0.60 during the whole period except the years from 2005-06 to 2006-07, in which the ratio lies above 0.60 which is above the RBI norm. It shows that the performance of RGB in maintaining the credit deposit ratio of at least 60 per cent is not satisfactory.

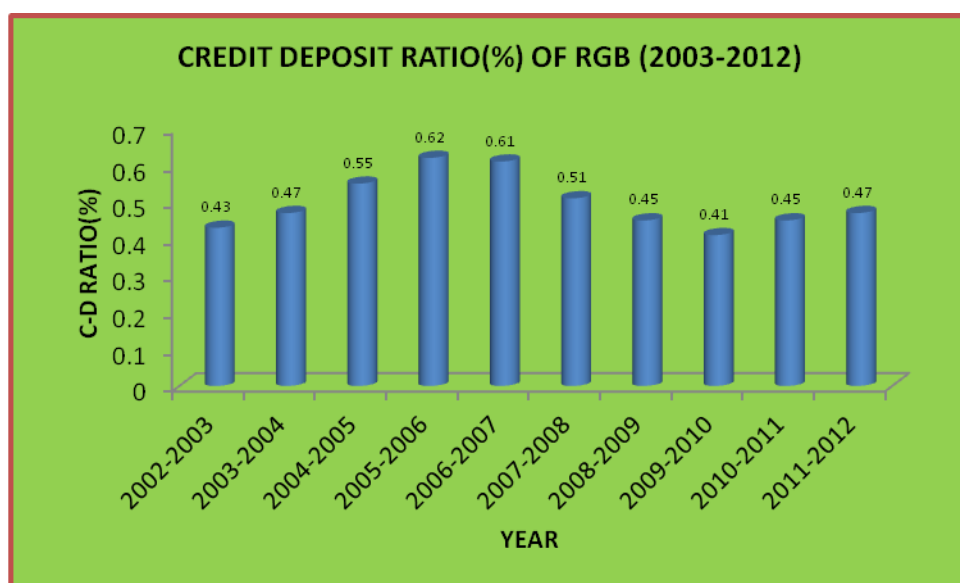
Table: 7: Credit deposit ratio of RGB from 2003-2012 (Lakh)

Year	Amount of Deposits	Amount of Advances	Credit Deposit Ratio
2002-2003	30520.30	13115.12	0.43
2003-2004	34073.85	15944.89	0.47
2004-2005	35253.60	19504.45	0.55
2005-2006	37409.95	23347.96	0.62
2006-2007	42111.39	25497.20	0.61
2007-2008	53288.20	27115.38	0.51
2008-2009	68441.96	30597.92	0.45
2009-2010	83003.68	34433.49	0.41
2010-2011	92285.67	41103.35	0.45
2011-2012	103697.37	48874.37	0.47

Source: Issues of annual reports of Rushikulya Gramya Bank (2003-2012)

Chart-4: Credit Deposit Ratio (%) of RGB from 2003-2012

It is the ratio of how much a bank lends out of the deposits it has mobilized. It indicates how much of a bank's core funds are being used for lending, the main banking activity. A higher ratio indicates more reliance on deposits for lending and vice-versa. Lower C-D Ratio means underutilization of deposits whereas more C-D Ratio means pressure on resources. For the sound financial health the bank has to maintain balance between the two. So for the RGB is concerned it is on an average 0.49 which is below the required ratio.



RECOVERY PERFORMANCE:

The success of a bank always lies in its effectiveness in timely recovery of the advances it has disbursed. Therefore the recovery performance of a bank indicates its priority in collection of the funds that has been lent. In case of RGB, it can be noticed that the recovery performance is satisfactory as in all the years except 2009 and 2010, the recovery percentage of the bank has been more than 60 per cent. It is found that the recovery performance has been improved to the level of above 68 per cent which raises the status of RGB to be a successful RRB in Odisha. It shows that both demand and collection in the study period increases. In the year June 2002 total demand and collection were 4477.45 lakhs and 2911.77 lakhs respectively, which increase to 20594.7 lakhs and 13427.24 in June 2011.

Table-8: Recovery performance of RGB from 2003-2012 (Lakh)

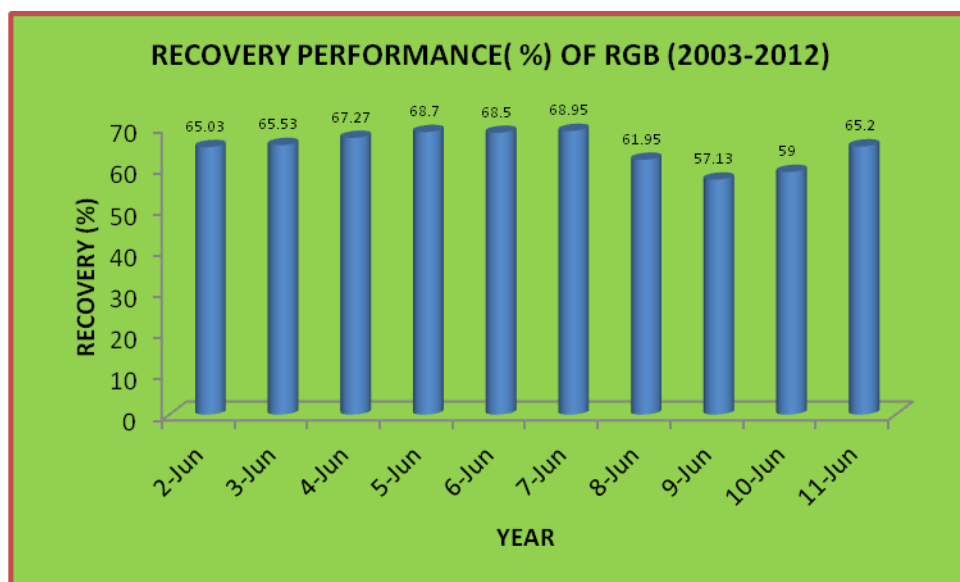
Year	Demand	Collection	Recovery %
Jun-02	4477.45	2911.77	65.03
Jun-03	5411.24	3545.92	65.53
Jun-04	6833.94	4597.15	67.27
Jun-05	8519.31	5853.05	68.70
Jun-06	10900.01	7466.88	68.50
Jun-07	11802.51	8138.42	68.95
Jun-08	13804.00	8552.00	61.95

Jun-09	14344.82	8194.91	57.13
Jun-10	16899.36	9970.39	59.00
Jun-11	20594.7	13427.24	65.20

Source: Issues of annual reports of Rushikulya Gramya Bank (2003-2012)

Chart-5: Recovery Performance (%) of RGB from 2003-2012

The recovery performance of the bank on the whole during the period has been found to be satisfactory. The highest percentage of recovery has been recorded at a level of 68.95 per cent in June 2007 and the lowest 59 percent in June 2010. Thus the overall recovery percentage is growing along the years with a few exceptions during the study period. It is observed that the recovery performance of the bank is satisfactory and is improving in recent years.



NET PROFIT:

Net profit can be defined as the difference between income and expenditure. From the table is clear that net profit in the study period in all the years is positive. In the financial year 2003-2005 net profit was highest of Rs. 1058.27 lakh and in the financial year 2006-2007 it was lowest 43.70 lakh. In the financial years 2005-2008 net profit was very low may be due to operating expenses, rate of borrowing, staff positions, and rate of interest payable to depositors. The financial year 2011-12 the net profit of the bank is 580.43 lakh. The bank is expected to increase profit in coming years.

Table-9: Income and Expenditure of RGB: (lakh)

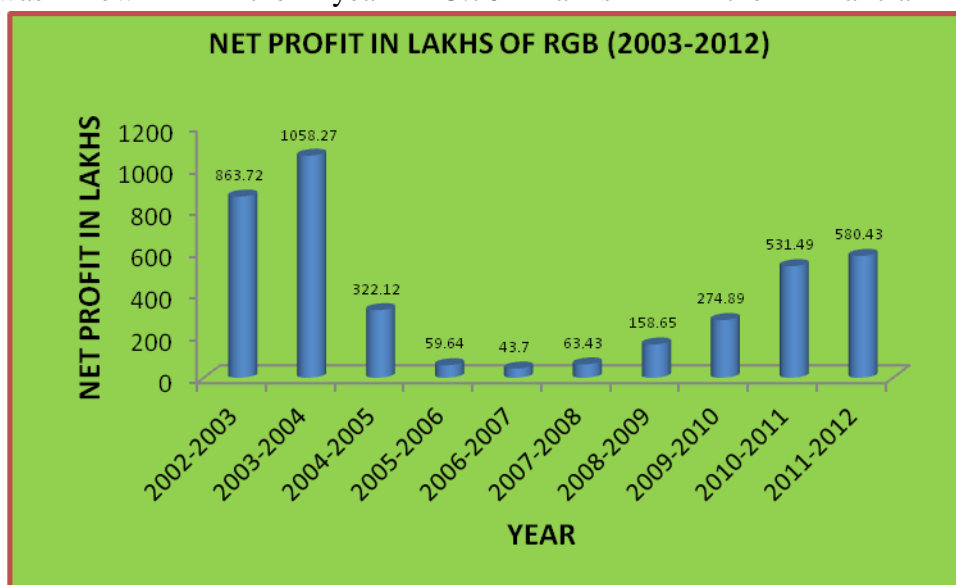
Year	Income	Expenditure	Net Profit
2002-2003	4412.26	3314.76	863.72

2003-2004	4417.06	3080.00	1058.27
2004-2005	3623.77	3048.08	322.12
2005-2006	3728.49	3176.01	59.64
2006-2007	4048.53	3406.02	43.70
2007-2008	4062.41	3875.12	63.43
2008-2009	5477.66	4997.56	158.65
2009-2010	6571.64	5584.92	274.89
2010-2011	7410.06	6383.50	531.49
2011-2012	9492.69	7522.16	580.43

Source: Issues of annual reports of Rushikulya Gramya Bank (2003-2012)

Chart-6 : Net profit of RGB from 2003-2012

Chart below shows that net profit in the financial year was highest i.e 1058.27 lakhs where s it was low in the year 43.70 lakhs in the financial year 2006-



2007.

**KEY PERFORMANCE INDICATORS OF RUSHIKULYA GRAMYA BANK FROM
(2003-2012):**

The key performance indicators of RRBs are given in the below table. The following trends can be noted from the table;

i. Number of Branches:

There are 84 RGB branches were operating in the district of Ganjam and Gajapati of Odisha as on 2012, it was 72 branches as on 2003. From the table it reveals that number of branches of RGB is increasing in the study period.

ii. Aggregate Business:

The aggregate total business of RGB was Rs. 436.4 crores in the year 2003, which increased to 1525.7 crores in 2013.

iii. Deposits:

The deposits of RGBs have increased substantially over the years. The total deposits were Rs. 305.2 crores in 2003. They have increased to Rs. 1037 crores by March 2012.

iv. Advances:

The total advances granted by all the RGBs amounted to Rs. 488.74 crores. Over 90 percent of the advances of the RGBs are direct advances to the small and marginal farmers, landless labourers and rural artisans.

v. Credit Deposit Ratio (C-D Ratio):

The Credit Deposit Ratio of RGB was 47.13 percent, where as it was 43 percent in the year 2003.

vi. Priority Sector Lending:

The priority sector lending of RGB was Rs. 340.83 crores, where as it was Rs. 83 crores in the year 2003. Out of the total priority sector lending, agricultural advances was Rs. 191.07 crores in the year 2012, whereas it was Rs. 34.85 in the year 2003. It shows that RGB advances more to agriculture sector than any other sector.

vii. No of Clients:

The number of clients was 7.01 lakh as on 2012, whereas it was 5.0 lakh in the year 2008.

viii. Non-Performing Assets:

The non-performing assets was 5.36 percent in the year 2012, it was 0.96 percent in the year 2003. It shows that the NPA is decreasing day by day in the study period.

The Rushikulya Gramya Banks thus have been achieved notable progress in expanding branch network and extending credit support to the weaker sections in the rural areas. They exist as rural bank of the rural people.

Table- 10: Key Performance Indicators of Rushikulya Gramya Bank (2003-2012)

Sr. No	Particulars	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	Total Branches	72	73	75	76	77	77	80	81	81	84
2	Aggregate Business (Cr)	436.4	500.2	547.6	600	675	804	990	1174.4	1333.9	1525.7
3	Aggregate Deposit (Cr)	305.2	340.7	352.5	374.1	421.11	532.88	684.42	830.04	922.86	1037
4	Low Cost Deposits (Cr)	30	38	39.56	43.38	46.35	46.35	50.57	51.79	116.45	115.18
5	Gross Advances (Cr)	131.2	159.5	195	233.5	254.15	271.15	305	344.34	411.03	488.74
6	Credit Deposit Ratio (%)	43	47	55.32	62.42	60.5	51	44.7	41.48	44.54	47.13
7	Operating Profit (Cr)	10.98	3.39	1.3	2.53	1.25	1.02	4.8	9.86	10.26	19.71
8	Net Profit(After Tax) Cr	8.64	NA	3.22	NA	3.03	3.93	1.01	1.88	3.64	4.01
9	Per Branch Business(Cr)	6.06	6.85	7.3	7.99	8.78	10.44	12.38	14.5	16.47	18.16
10	Per Employee Business (Cr)	1.31	1.52	1.66	1.85	2.09	2.49	3.08	3.46	4.1	4.03
11	Priority Sector Lending(Cr)	89	112.4	145.6	180.9	209.86	227.46	218.54	233.19	285.45	340.83
12	Agricultural Advances(Cr)	34.85	45.72	63.87	80.78	120.69	120.69	117.84	92.53	145.14	191.07
13	Kisan Card issued so far	14000	18000	7462	5133	2692	3737	2227	1409	1909	16074
14	KCC Advance(Cr)	17	22	33	40.85	45.31	49.09	40.25	45.86	52.19	57.99
15	Household Covered	NA	NA	NA	NA	157804	141402	160000	170000	180000	215000
16	Financial Inclusion (%)	NA	NA	NA	NA	97.22	100	100	100	100	100
17	No. of clientele(lakh)	NA	NA	NA	NA	NA	5.00	5.57	6.21	6.39	7.01
18	Net NPA	5.36	4.87	3.99	3.88	3.64	3.81	1.83	1.34	1.3	0.96
19	Staff RGB	332	330	331	328	324	323	322	340	328	382

Issues of annual reports of Rushikulya Gramya Bank (2003-2012)

FINDINGS:

- The bank has been advancing on an average of 35.83% to the total advance in the study period. In the year 2007-2008 the share of agricultural advance to total advance was 47.86 percent which was highest in the study period.
- It is found that the bank finances more to farm than non-farm sector, thereby rural development.
- It is observed that the share of advances to priority sector fulfills the RBI norms of 60 per cent in all the years during the period of study. It is found that throughout the period of study the percentage of credit disbursed to priority sectors was 62 or more. It shows that RGB has been emphasizing the credit deployment to priority sectors and hence its efforts in financing the priority sectors in the Ganjam of Odisha are noteworthy.
- It is concluded that the bank finances more to priority than non-priority sector, thereby rural development.
- It is found that RGB does not fulfill RBI norms in most of the years as the credit deposit ratio is below 0.60 during the whole period except the years from 2005-06 to 2006-07, in which the ratio lies above 0.60 which is above the RBI norm. It shows that the performance of RGB in maintaining the credit deposit ratio of at least 60 per cent is not satisfactory.
- The recovery performance of the bank on the whole during the period has been found to be satisfactory. The highest percentage of recovery has been recorded at a level of 68.95 per cent in June 2007 and the lowest 59 percent in June 2010. Thus the overall recovery percentage is growing along the years with a few exceptions during the study period.
- In the financial year 2003-2005 net profit was highest of Rs. 1058.27 lakh and in the financial year 2006-2007 it was lowest 43.70 lakh. In the financial years 2005-2008 net profit was very low may be due to operating expenses, rate of borrowing, staff positions, and rate of interest payable to depositors.

CONCLUSIONS:

Performance evaluation is a relative concept, in the present research, the performance of Rushikulya Gramya Banks, is an attempt been made to analyze the performance in terms of certain defined parameters like number of branches, advances to agriculture, Priority Sector Lending, Credit Deposit Ratio, loans and investments made by these banks and some of the key performance indicators. So far the Credit Deposit Ratio is concerned the bank is lagging behind from the RBI norms. Other than C-D Ratio, the performance of RGB in Odisha is satisfactory and working as per the guidelines given by RBI. Finally the bank is performing well in the study area and developing the rural economy there by economic development.

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AUTHOR DETAILS

Mr. Padma Lochana Bisoyi*

Assistant Professor,

S. B. Patil Institute of Management, Ph.D. Scholar (University of Pune),

Email: bisoyi.padma@gmail.com,

Mobile: 08928294775.

Dr. Dangat Niles**

Vice Principal and Head Research,

Prof. Ramakrishna More Arts, Commerce and Science

College, Akurdi, Pune

CAPTIVE WIND POWER OPPORTUNITIES:

A CASE STUDY OF INDUSTRIAL CONSUMERS IN MAHARASHTRA

Prasanna Sutaone*

SUMMARY

Indian power sector is driven by continuous increase in demand, growth in economy & increasing population. The country faces challenge of supplying affordable power to all stakeholders of the society in sustainable manner. The demand supply gap deficit is pegged to 8.7% in the year 12-13. Electricity Act 2003 played instrumental role in abolishing monopolistic nature of serving bulk as well as retail consumers. This led to reforms in the power sector, the new act provides for non discriminatory open access of transmission network, de-licensing of generation including Captive power generation.

Industrial sector is one of the largest consumers of electrical energy in India. It consumes about 45.92% of total electricity consumption in the country.

Renewable energy resources can go long way in mitigating in India's energy shortages, however their full potential is yet to be realized.

Wind energy over the years has emerged as a viable, cost effective & commercial option for grid connected power generation. As of now wind contributes 68% of total renewable power installed capacity in India (source: MNRE)

Wind Energy emerged as a most potential source of energy globally among all other renewable source of energy. The salient features of Wind Energy projects are a) Ease of Putting Wind Farm b) Low operation & maintenance requirements c) Wind Power projects are easily scalable d) Short gestation period.

The main objectives of setting up Wind Power Project are

Captive option for Industrial & bulk consumers as the policies are favorable and wheeling facilities are available.

Feed in Tariff option financial investors put up wind power project for sale of electricity to local distribution utilities under preferential tariff decided by respective regulatory commission.

Sale to Third Party option is also available for financial investors under wheeling and banking arrangements by paying charges as decided by regulatory commission with cross subsidy.

Renewable Purchase Obligation : RPO is imposed by state regulatory commission on distribution utilities & Open access consumers, wind power projects is the ideal solution for mitigating RPO obligation.

This paper aims to give techno commercial view for captive wind power project under open Access Mechanism.

Key words: Open Access, Wind Power, Electricity act.

INTRODUCTION

Power cost is the major component in the industrial costing; all the industries are struggling very hard to contain the cost. The power cost can be controlled by employing energy efficient measures or by offsetting costly power from utility with low cost power either through bi-lateral agreement or by setting up captive power plant. This paper aims to give techno commercial view for captive wind power project under open Access Mechanism.

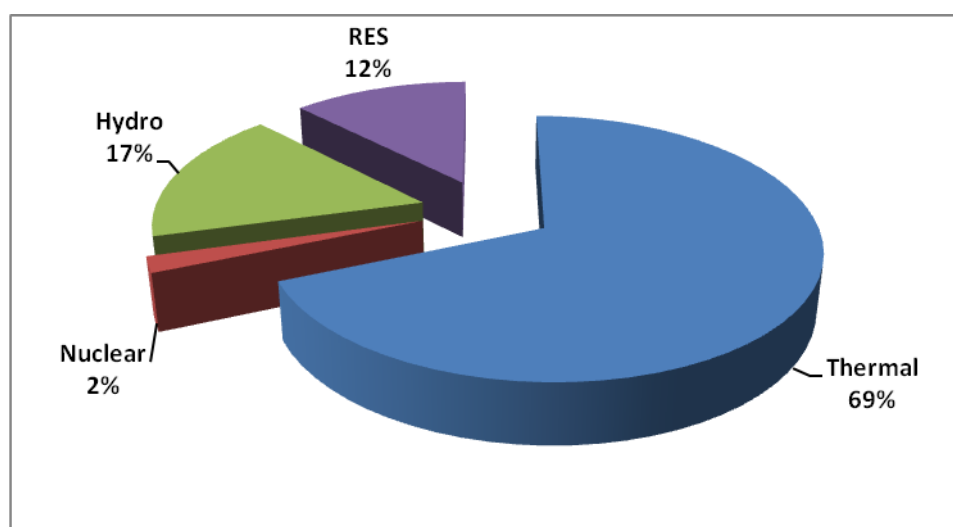
OVERVIEW OF THE INDIAN POWER SECTOR:

All India Installed capacity (MW) as on 28.02.2014

Region	Thermal	Nuclear	Hydro	RES	Total
Northern	40577.75	15994.75	15994.75	5279.62	63922.15
Western	63826.30	1840.00	7447.50	9925.19	83038.99
Southern	32484.60	1320.00	11398.03	13127.33	58329.96
Eastern	24935.08	0.00	4113.12	417.41	29465.61
North-East	1411.24	0.00	1242.00	252.65	2905.89
Island	70.02	0.00	0.00	10.35	80.37
All India	163304.99	4780.00	40195.40	29462.55	237742.94

Total Power Generation in year 2012-13 was 911 BU with the peak load deficit of 9 % on all India Level. The per capita consumption is 917 KWH * against the global average of 2600 KWH, the power mix is dominated by Thermal followed by hydro & renewable. The Power mix as explained in the pie chart below.

Energy Mix in Indian Power sector as on 28.02.2014



Captive Power Plant: Captive Power by definition refers to generation from a unit set up by industry for its exclusive consumption..

Provisions for Captive Power Plants in Electricity Act 2003- Captive generating plant is defined under **Section 2 (8)**. It is a power plant set up by any person to generate electricity primarily for his own use and includes a power plant set up by any cooperative society or association of persons for generating electricity primarily for use of members of such cooperative society or association. **Section 9 (1)** further stipulates that a person may construct, maintain or operate a captive generating plant and dedicate transmission lines.

It also provides that supply of electricity from the captive generating plant through the grid shall be regulated in the same manner as the generating station of a generating company. Section 42 (2) states that surcharge (for meeting the requirements of cross-subsidy) on wheeling charge shall not be leviable in case open access is provided to a person who has established a captive generating plant for carrying the electricity to the destination of his own use.

Source: Electricity Act 2003

Wind Power Scenario in India

The Wind power sector in India has seen growth since its inception in the year 1989 through private participation the growth was driven by progressive policy support, matured technology & favorable tax incentives. The wind installations in India are over 21 GW.

In RE technologies Wind is the leader in India with installations more than 68% **(21178.30 MW as on 31.03.2014)***

Major boost to the wind sector was given by attractive Feed in tariff, accelerated depreciation, Generation based incentive etc. There are many other initiatives taken under Electricity Act 2003 to promote wind Power Project e.g. Banking, Wheeling policies.

The wind potential is concentrated in Southern, western, and north western regions. CWET has reassessed the wind energy potential in country at 102 GW.

Maharashtra has wind installations of 4100.7 MW (as on 31.03.2014) its second highest installations after Tamilnadu.

Over the years the Wind has emerged as a strong contender to compete with fossil fuel generators & with introduction of progressive open access policies by regulators in Maharashtra backed with techno economic maturity. Wind Power is preferred because it is easily scalable, has low gestation period, the execution risk is minimal.

CONCEPT OF CAPTIVE POWER PROJECT FOR INDUSTRIAL CONSUMERS:

Incremental Energy Charges: Industrial Consumers are never subsidized and the annual increment in the tariff is almost ceteris paribus. Power cost are increasing consistently for last 5 years, this is because of high fuel input cost, high T& D losses.

The industries having Thermal captive power plant are also facing problem of increase of coal/ gas cost leading to high cost of power.

Tariff coupled with Fuel adj. cost- Most of Distribution utilities are given permission to load 'Fuel Charge' as variable fuel Energy charge in addition to routine Energy charge. Fuel Charge is amount per unit derived as per specified formula and changes every month,

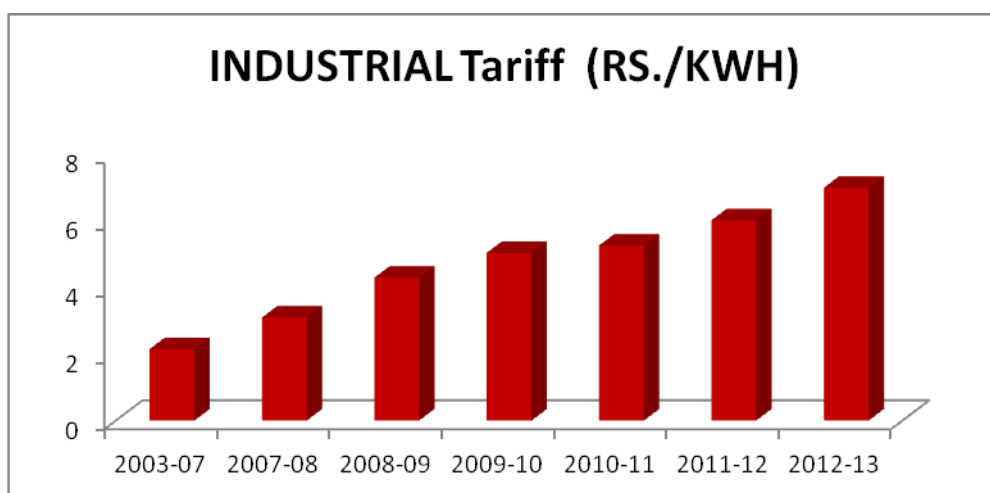
Industries have set up captive power plants for their internal consumptions based on the fossil fuel basis e.g. Coal, Diesel, and Gas Etc. All large Industries having captive Thermal/Gas/ diesel captive power plants are facing steep increase in the fuel cost thus making captive power generation unviable option.

Electricity Tariff Trend in Maharashtra - MSEDCL

SUMMARY OF ENERGY CHARGES - MAHARASHTRA (EXPRESS FEEDERS)		
YEAR	INDUSTRIAL (RS./KWH)	% Increase
2003-07	2.15	
2007-08	3.1	30.65%
2008-09	4.3	27.91%
2009-10	5.05	14.85%
2010-11	5.27	4.17%
2011-12	5.03	12.60%
2012-13	7.01	13.98%

The average tariff increase was 17.36 % in the basic tariff rate apart from this basic tariff the tariff includes Additional energy charges, Fuel adjustment Cost, Electricity duty, tax on sale etc.

The total cost of electricity per unit for industry as on October 13 is Rs. 8.70/ KWH (after considering prompt payment discount with additional energy charges & FAC)



Cost of Electricity to 33 KV Industrial consumers in Maharashtra (Feb14)

Particulars	Rate / KWh
Energy Charges Per KWH	7.01
Additional Energy Charges	-
TOD Tariff EC	0.07
FAC Per Kwh	0.08
Electricity Duty	0.95
Tax on Sale	0.08
PF Penalty / Incentive	-0.74
Total	7.45

Apart from this the Industrial consumers get TOD tariff discount / penalty based on time of consumption.

Additional Energy Charges (AEC) – Not Considered

Wind as Captive power Plant:

Typically the wind power projects are installed in a wind farm at designated place where the wind density is more than 200 WPD. In India the wind zones are identified in the state of Tamilnadu, Karnataka, Kerala, Andhra Pradesh, Maharashtra, Madhya Pradesh, Gujarat & Rajasthan.

RESEARCH METHODOLOGY:

Universe – Maharashtra

Unit – HT I Industrial Consumers

Size – 24943

Data Collection – Primary data is collected with the help of detailed questionnaire with questions about consumption of Electricity in the Industry. Time of day Consumption, Tariff charged.

Open Access Mechanism for Captive Wind Power Project:

Any Industry/ Consumer having contract demand more than 1 MVA is deemed open access consumer. When any consumer sets up captive wind power project the power can be credited to his consumption by open access mechanism as under.

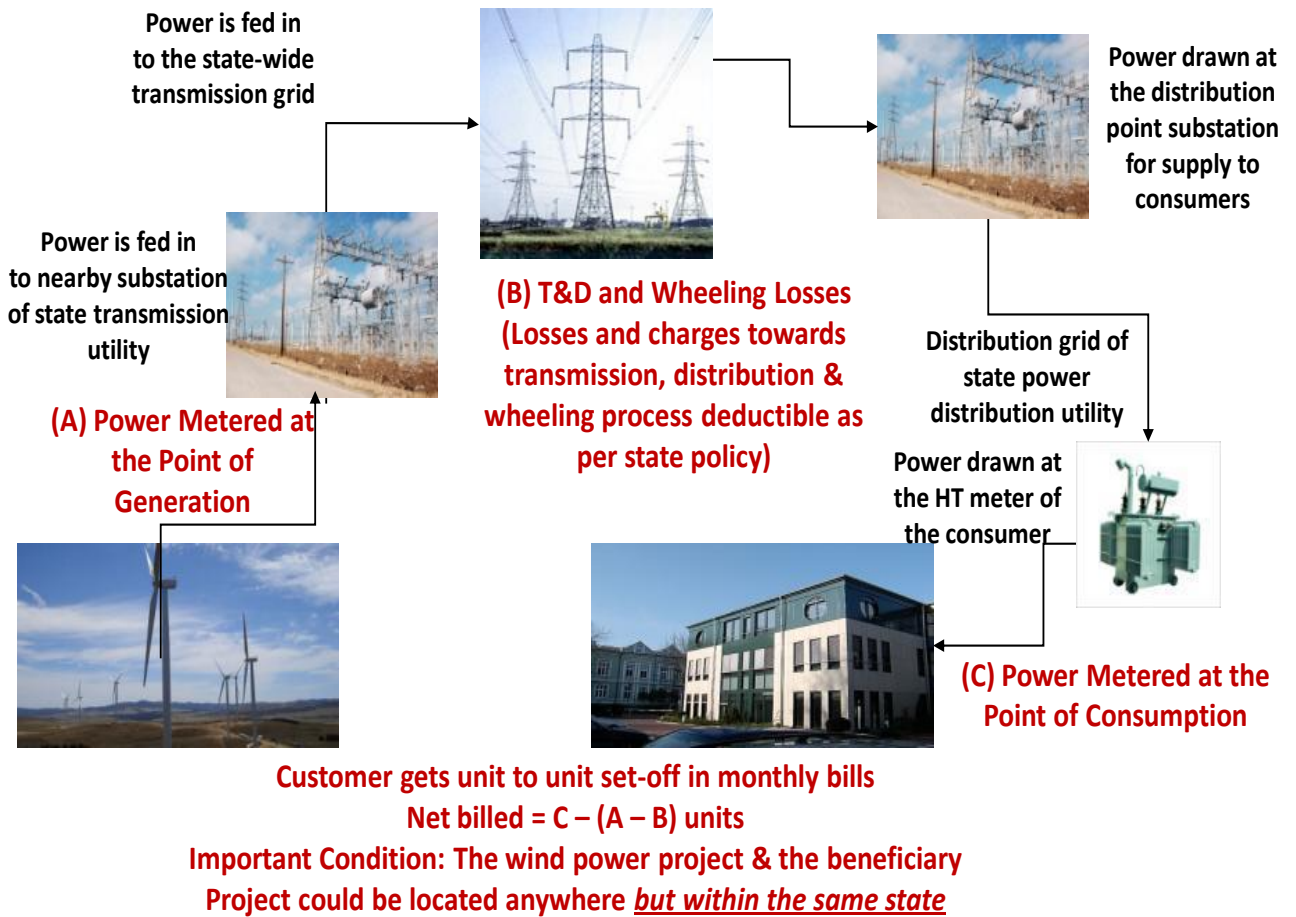
Power generated by captive wind power project is metered at the point of generation and power fed into transmission utility system (Credit)

Power is wheeled through Transmission & distribution system (Transmission losses, wheeling losses, Tran. Charges , Wheeling charges are paid to utility as per SERC)

Power is drawn at point of consumption is metered (Debit)

The net units billed will be $C - (A - B)$

Open Access Mechanism



OPEN ACCESS CHARGES IN MAHARASHTRA

Open Access charges in Maharashtra for Captive consumers/ OA Consumers are based on drawl voltage level are as under:

Open Access Charges	
Transmission Charges	43p/Kwh
Wheeling Charges	11-60 p /Kwh
Transmission Loss	4.19%
Wheeling loss	6-9%
Cross Subsidy	Not Applicable if captive

Based on the TOD consumption pattern the capacity of the Captive Wind power plant can be decided as the adjustment in the electricity consumption will be done as per TOD consumption & Generation

The typical generation pattern of Wind Power Project in Maharashtra is

Zone A (2200-0600) – 32%

Zone B (0600- 0900 & 1200-1800) – 38%

Zone C (0900-1200) – 12%

Zone D (1800-2200) – 18%

As per the MERC policy the banking of the units generated by wind power project is allowed till the end of financial year. Therefore the adjustment of generated power is utmost important.

COST REALIZATION TO CAPTIVE WIND POWER PLANT

Particulars	Rate/ KWH
Cost Of MSEDCL Power	7.45
Less Open access Charges	-0.89
Less OA Losses	-0.74
Total Realization	5.82
Add REC Income	1.50
Less Average cost of Wind Energy (Avg 20 Years)	2.50
Net Realization (Captive WPP)	4.82

BENEFIT OF WIND CAPTIVE WIND POWER PROJECT:

- Reduction in power cost for the life time of Wind Power Project (20 Years)
- Long term power cost hedging for the company
- No increase in power cost gives competitive advantage
- ‘Go Green’ image of the company
- Additional source of revenue through sale of REC if the green benefits are not required by the company.
- Payback of the investment is less than 5 Years looking at the high incremental cost of utility power.
- Additional Revenue through CDM & REC

Industry need not raise bills and wait for months for payment when the wind power is tied up for captive purpose, as the credit of the Energy would invariably come in routine Energy Bill. This not only increases cash flow but also gives comfort to financial institutions and Banks

In any case this increment in tariff is like making more profits for existing captive wind energy users

Few Success Stories in Maharashtra:

1. Poonawala Group – Installed Capacity 60 MW
2. Bajaj Auto Limited – Installed capacity 65.2 MW
3. State Bank of India – Installed Capacity 9 MW
4. Suzlon Energy Limited- Installed capacity 3.45 MW

Techno Commercial Analysis: Case Study of a Industries with Drawl voltage of 11 KV and

The consumption Vs Wind Generation is mapped as below

Table – 4

Time Zone	Time Slots Hrs	Monthly average Consumption	Yearly average Consumption	Consumption Pattern %	Generation Distribution %
A	2200 - 0600	179091	2149091	26%	34%
B	0600 - 0900 , 1200 - 1800	271494	3257928	40%	36%
C	0900 - 1200	95956	1151469	14%	12%
D	1800 - 2200	132088	1585060	19%	18%
Total Annual Consumption		678629	81,43,548	100%	100%

Total Yearly Consumption is 81, 43,548 KWH

Recommendation Captive Wind Power Plant of 2.1 MW in the state of Consumption (Maharashtra) -Generated KWH Vs receipt KWH at Industrial Premises

Wind Turbine Generation	MU Deliver at S/s Metering at Site	OA Losses	MU available for Factory Consumption
4.4 MU	4.09 MU	0.53 MU	35.52 MU

FINANCIAL FOR 2.1 WIND POWER PROJECT FOR CAPTIVE CONSUMPTION

Particulars	Details of Project
Size of Project	2.1 MW
Site	Maharashtra
Project Cost	1400 L INR
Free O&M	1 Year
O&M	25 L p.a. 5% Escalation
Tariff Realization	Rs.4.82 per KWH
% Escalation	5%
CER + REC	YES
Financials	
Project IRR (Pre- Tax)	30.80%
Equity Payback	1.92 Year
Project Payback	5.67 Year

The cost of Power for this customer is hedged for Rs. 4.36 Per Kwh with 5% escalation for 20 years. The project is debt free after 5.67 Years.

CONCLUSION:

With increasing cost of fuel & the industries have shown interest in setting up captive wind power projects the other advantages includes low gestation period, low yearly recurring cost, an industry can hedge power cost till 25 years (life of wind Mill) , industry also enjoy benefit of green power to meet RPO requirements, This option is best suited for long term power cost reduction. The Industry after offsetting RPO can enjoy benefits of REC thus securing additional income from the project.

With introduction of cross subsidy to third party open access consumers in Maharashtra the cost of power in bi-lateral or Power trading has increase and now is same as the utility power cost. With captive options the cross subsidy is not applicable the industry can enjoy the benefits of low cost generation, and transmission at metering point. With turnkey solutions providers in Indian Power sector the industry need not to employ additional man power as the wind sector companies provide Operation & maintenance services for life time of the project.

For Captive consumption the Wind is the economical option, though during loan repayment period the cost of generation is apparently high but once the loan repayment is complete the cost accounts only for the Operation & Maintenance, Insurance. The benefits of REC coupled with CDM will further reduced the payback period.

ABBREVIATION:

1. MNRE : Ministry of New & Renewable Energy
2. MW: Mega Watt
3. BU : Billion Units
4. KWH: Kilo Watt Hours
5. T&D Losses: Transmission & Distribution losses
6. FAC : Fuel Adjustment Cost
7. GW: Giga Watt
8. CWET: Centre for Wind Energy Technology
9. KV : Kilo Volt
10. PF : Power Factor
11. TOD : Time of Day Tariff
12. WPD : Wind Power Density
13. MVA: Mega Volt Ampere
14. SERC : State Energy Regulatory Commission
15. OA : Open Access
16. MSEDCL: Maharashtra State Electricity Distribution Co. Ltd.
17. REC : Renewable Energy Certificate
18. MERC : Maharashtra Electricity Regulatory Commission
19. RPO : Renewable Purchase Obligation
20. REC : Renewable Energy Certificate
21. CER : Carbon Emission Reduction Certificate under Clean Development Mechanism

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AUTHOR DETAILS

Prasanna Ashok Sutaone*
Assistant General Manager
Suzlon Energy Limited
Email- Prasanna.sutaone@suzlon.com
Cell no.- 9922908815

Causality between Foreign Institutional Investment and Stock Market in India

Dr. Vikram K. Joshi*
Dr. Vilas M. Chopde**

ABSTRACT

This study investigates the causal nexus between Net FII and BSE SENSEX in India using cointegration approach and vector error correction model. The analysis was carried out over the period January 2009 to April 2013. The Cointegration test result confirms the existence of long-run equilibrium relationship between Net FII and BSE SENSEX (stock market) in India. The empirical result based on the error-correction model estimate indicates one-way causality runs from BSE SENSEX to Net FII in the short-run and long-run.

Keywords: Cointegration, causality, impulse response function, BSE SENSEX, Net FII.

JEL Classification: C32, E62, G11, G15.

I INTRODUCTION

India being a developing economy is still suffering from the problems like low level of income and capital accumulation. Despite the financial crunch India has developed a strong urge for industrialization and economic development in recent past. Amongst the various initiatives to undertake the process, one of the most important one is allowing foreign institutional investment (FII) to enter into an economy. It enters into an economy only through stock exchanges either in the form of equity or debt, thus making an impact on the stock market of an economy. The daily transaction of FII is believed to be the reason behind the volatility in the stock markets. Sometimes, the impact of FII on stock market seems to be significant and in some occasions it seems to be insignificant. Looking at the present state of Indian economy which is facing the problems like inflation, high fiscal deficits, low economic growth, etc., it is in dire need of foreign funds to make the ends meet. The need for foreign investment arises due to development of basic infrastructure; to speed up the process of industrialization; to undertake private investments; to fulfill global imperatives; to harness comparative advantage; to remove technological gaps, etc. Positive fundamentals combined with fast growing markets have made India an attractive destination for foreign institutional investors (FIIs). Hence the present study is an attempt to analyze whether Net FII leads the stock market to rise or fall or it is the stock market that leads the Net FII to rise or fall. The index of Bombay Stock Exchange BSE SENSEX is taken as the representative of the stock market in India. The rest of the paper is organized as below: Section II deals with the literature review, Section III discusses the methodology and the data, in Section IV the empirical findings are discussed and finally Section V concludes.

II REVIEW OF LITERATURE

The various studies are already conducted to study the impact of FII on Stock market. The brief summary of some of the studies already conducted is given as below:

Loomba Jatinder (2012) studied the dynamics of the trading behaviour of FIIs and effect on the Indian equity market. The study is conducted using daily data on BSE Sensex and FII activity over a period of 10 years spanning from 01st January 2001 to 31st Dec 2011. It provides the evidence of significant positive correlation between FII activity and effects on Indian Capital Market. The analysis also finds that the movements in the Indian Capital Market are fairly explained by the FII net inflows.

Jain Mamta et. al. (2012) attempted to understand the behavioural pattern of FII during the period 2001 to 2010 and examined the volatility of BSE Sensex due to FII. They have concluded that the FIIs are influencing the SENSEX movement to a greater extent. Also when SENSEX rises FII inflow increases and when SENSEX falls FII inflow decreases, since there exists a positive correlation between them.

Sultana Syed T and Pardhasaradhi S (2012) examined the impact of FDI and FII on Indian stock market. Sensex and Nifty were considered as the representative of stock market as they are the most popular Indian stock market indices. Based on 11 years data starting from 2001 to 2011, it was found that the flow of FDI & FII was moving in tandem with Sensex and Nifty. The study concludes that Flow of FDIs and FIIs in India determines the trend of Indian stock market.

Bansal Anand and Pasricha J.S. (2009) studied the impact of market opening to FIIs, on Indian stock market behaviour. Using stock market data related to Bombay Stock Exchange, for both before and after the FIIs policy announcement day. An empirical examination has been conducted to assess the impact of the market opening on the returns and volatility of stock return. It is concluded that while there is no significant changes in the Indian stock market average returns, volatility is significantly reduced after India unlocked its stock market to foreign investors.

Batra Amita (2003) examined the dynamics of foreign portfolio inflows and equity returns in India by analyzing daily and monthly data. The study found that there is strong evidence of FIIs chasing trends and adopting positive feedback trading strategies at the aggregate level on a daily basis. However there is no evidence of positive feedback trading on a monthly basis. The results of analysis also indicate that foreign investors have a tendency to herd together in their trading activity in India. The trading behavior and biases of the FIIs do not appear to have a destabilizing impact on the equity market.

Shankar Anand (2011) examined a brief history of QE and in this light analyzed the effect of Quantitative Easing-II in the US on FII inflows into the Indian Stock Market using daily data between March 2010 and June 2011 in a “before-after” setting. The results suggest that post the announcement of QE-2, FII inflows have fallen significantly. The fall in FII inflows post November 3, 2010 has been explained via factors negatively affecting stock market returns in

India using global and domestic factors which include sovereign debt problems in the Euro-area, political tensions between North and South Korea and in the MENA region, high inflation in India and policy rate hikes by Reserve Bank of India.

Joshi Vikram and Saxena Richa (2011) examined impact of FII on BSE SENSEX in terms of total investment (equity+debt) and FII in terms of total turnover (purchase and sale of equity & debt) by taking the daily transactions of FII and movement of SENSEX. The study concludes that there exists a significant relationship between SENSEX and total turnover as well as SENSEX and net investment of FII during few occasions and it is insignificant otherwise.

Rakesh Kumar (2012) examined dynamics of foreign institutional investments and stock market returns in India based on the daily data of 2246 observations. The study reveals that there is two ways causation between the stock market returns and net foreign inflows; however, such relationship is stronger in case of returns causing net inflows as compared to net inflows causing the stock market appreciation. Moreover, the Indian stock market experience the expansion in investors' base and the sustained increases in the stock market prices and expectedly the price pressure hypothesis is satisfied in Indian stock market. Besides, there is no evidence of contrarian call is being taken by the foreign institutional investors rather they follow the positive feedback that FIIs move money into the market in response to the increasing returns at the market and withdraw with the decrease in returns.

Thus, from the above studies, it is observed that there exists a strong and positive correlation between Foreign Institutional Investments (FII) and stock market index SENSEX in India. But whether BSE SENSEX causes Net FII to increase or since stock market index SENSEX is rising so Net FII is rising is the question still remained unanswered. Hence, the present study is proposed to study the causality between the Net FII and BSE SENSEX, i.e., stock market in India.

III METHODOLOGY AND DATA

The Augmented Dickey-Fuller (1979) test was employed to infer the stationary of the series. If the series are non-stationary in levels and stationary in differences, then there is a chance of cointegration relationship between them which reveals the long-run relationship between the series. Johansen's (1988) cointegration approach and Vector Error Correction Model (VECM) have been employed to investigate the causal nexus between BSE stock market index SENSEX and Net FII in India. Johansen's cointegration test has been employed to investigate the long-run relationship between two variables. Besides, the causal relationship between BSE SENSEX and Net FII in India is investigated by estimating the following Vector Error Correction Model (VECM) (Johansen, 1988):

$$\Delta X_t = \sum_{i=1}^{p-1} \Gamma_i \Delta X_{t-i} + \Pi X_{t-1} + \varepsilon_t ; \quad \varepsilon_t | \Omega_{t-1} \sim \text{distr}(0, H_t) \quad (1)$$

where X_t is the 2×1 vector $(FII_t, SENSEX_t)'$ of Net FII and BSE SENSEX, respectively, Δ denotes the first difference operator, ε_t is a 2×1 vector of residuals $(\varepsilon_{FII,t}, \varepsilon_{SENSEX,t})'$ that follow an as-yet-unspecified conditional distribution with mean zero and time-varying covariance matrix, H_t . The VECM specification contains information on both the short- and long-run adjustment to changes in X_t , via the estimated parameters Γ_i and Π , respectively.

There are two likelihood ratio tests that can be employed to identify the co-integration between the two series. The variables are cointegrated if and only if a single cointegrating equation exists. The first statistic λ_{trace} tests the number of cointegrating vectors is zero or one, and the other λ_{max} tests whether a single cointegrating equation is sufficient or if two are required. In general, if r cointegrating vector is correct, the following test statistics can be constructed as:

$$\lambda_{\text{trace}}(r) = -T \sum \ln(1 - \hat{\lambda}) \quad (2)$$

$$\lambda_{\text{max}}(r, r+1) = -T \ln(1 - \hat{\lambda}_{r+1}) \quad (3)$$

where $\hat{\lambda}_i$ are the eigen values obtained from the estimate of the Π matrix and T is the number of usable observations. The λ_{trace} tests the null that there are at most r cointegrating vectors, against the alternative that the number of cointegrating vectors is greater than r and the λ_{max} tests the null that the number of cointegrating vectors is r , against the alternative of $r + 1$. Critical values for the λ_{trace} and λ_{max} statistics are provided by Osterwald-Lenum (1992).

If Net FII and BSE SENSEX are cointegrated, then causality must exist in at least one direction (Granger, 1988). Granger causality can identify whether two variables move one after the other or contemporaneously. When they move contemporaneously, one provides no information for characterising the other. If “X causes Y”, then changes in X should precede changes in Y. Consider the VECM specification of Equation (1), which can be written as follows:

$$\Delta FII_t = \sum a_{FII,i} \Delta FII_{t-i} + \sum b_{FII,i} \Delta SENSEX_{t-i} + a_{FII} z_{t-1} + \varepsilon_{FII,t} \quad (4)$$

$$\varepsilon_{i,t} \mid \Omega_{t-1} \sim \text{distr}(0, H_t)$$

$$\Delta SENSEX_t = \sum a_{SENSEX,i} \Delta FII_{t-i} + \sum b_{SENSEX,i} \Delta SENSEX_{t-i} + a_{SENSEX} z_{t-1} + \varepsilon_{SENSEX,t} \quad (5)$$

where $a_{FII,i}$, $b_{FII,i}$, $a_{SENSEX,i}$, $b_{SENSEX,i}$ are the short-run coefficients, $z_{t-1} = \beta' X_{t-1}$ is the error-correction term which measures how the dependent variable adjusts to the previous period's deviation from long-run equilibrium from equation (1), and $\varepsilon_{FII,t}$ and $\varepsilon_{SENSEX,t}$ are residuals.

In the above equations of Vector Error Correction Model, the unidirectional causality from BSE SENSEX-to-Net FII (SENSEX Granger causes Net FII) requires: (i) that some of the $b_{FII,i}$ coefficients, $i = 1, 2, \dots, p-1$, are non zero and/or (ii) a_s , the error-correction coefficient

in Equation (4), is significant at conventional levels. Similarly, unidirectional causality from Net FII-to-BSE SENSEX (Net FII Granger causes SENSEX) requires: (i) that some of the $a_{\text{SENSEX},i}$ coefficients, $i = 1, 2, \dots, p-1$, are non zero and/or (ii) a_{SENSEX} is significant at conventional levels. If both variables Granger cause each other, then it is said that there is a two-way feedback relationship between FII_t and SENSEX_t (Granger, 1988). These hypotheses can be tested by applying Wald tests on the joint significance of the lagged estimated coefficients of ΔFII_{t-i} and $\Delta \text{SENSEX}_{t-i}$. When the residuals of the error-correction equations exhibit heteroskedasticity, the t-statistics are adjusted by White (1980) heteroskedasticity correction.

Finally, the Impulse Response Function (IRF) has been employed to investigate the time paths of Net FII in response to one-unit shock to the BSE SENSEX and vice versa. The impulse response function analysis is a practical way to visualize the behaviour of a time series in response to various shocks in the system (Enders, 1995). The plot of the IRF shows the effect of a one standard deviation shock to one of the innovations on current and future values of the endogenous variables. This study includes two variables, viz. Net FII and BSE SENSEX, for the Impulse Response Function technique.

In this study, the monthly time series data of the two variables under consideration, namely the BSE SENSEX and the Net FII of India, have been carried out from the period January 2009 to April 2013. The Net FII is the difference between the inflow and the outflow in each month. All necessary data for the sample period are obtained from the websites of Bombay Stock Exchange for SENSEX and Security and Exchange Board of India (SEBI) for net FII in India.

IV EMPIRICAL FINDINGS & DISCUSSION

The Augmented Dickey-Fuller test (ADF) was employed to test the stationarity of the BSE SENSEX and Net FII. The results are presented in Table 1 and 2. The test reveals that SENSEX becomes stationary when their first difference is used and hence it is concluded that BSE SENSEX have unit root. The net FII series is also tested for unit root and it is found that it is stationary at level. When one series have unit root and other series is stationary, the possibility of cointegration cannot be ruled out. In other words, it can be assumed that both the variables- Net FII and BSE SENSEX- are integrated in order of one, $I(1)$.

Table 1: Augmented Dickey-Fuller test for unit root test of BSE SENSEX

Null Hypothesis: SENSEX has a unit root				Null Hypothesis: D(SENSEX) has a unit root			
Exogenous: Constant				Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=10)				Lag Length: 1 (Automatic - based on SIC, maxlag=10)			
Level				First difference			
		t-Statistic	Prob.*			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.614609	0.4679	Augmented Dickey-Fuller test statistic		-7.355234	0.0000
Test critical values:	1% level	-3.565430		Test critical values:	1% level	-3.571310	
	5% level	-2.919952			5% level	-2.922449	
	10% level	-2.597905			10% level	-2.599224	
*MacKinnon (1996) one-sided p-values.							

Table 2: Augmented Dickey-Fuller test for unit root test of FII

Null Hypothesis: FII has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=10)			
Level			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.972202	0.0001
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	
*MacKinnon (1996) one-sided p-values.			

Johansen's Cointegration test was performed to examine the long-run relationship between the Net FII and BSE SENSEX and its results are presented in Table 3.

Table 3: Johansen Cointegration Test

Sample (adjusted): 6 52				
Included observations: 47 after adjustments				
Trend assumption: Linear deterministic trend				
Series: BSE NET_FII				
Lags interval (in first differences): 1 to 4				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.310621	17.62051	15.49471	0.0236
At most 1	0.002937	0.138224	3.841466	0.7100
Trace test indicates 1 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.310621	17.48229	14.26460	0.0150
At most 1	0.002937	0.138224	3.841466	0.7100
Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

The Johansen's cointegration tests result reject the null hypothesis of no cointegration at the five per cent significance level. Thus, it can be concluded that BSE SENSEX and Net FII are cointegrated or they co-move in the long run.

Table 4: Normalized Cointegrating Coefficients

Variables	Co-integration vectors	t-Statistics
SENSEX (-1)	1.000000	---
FII (-1)	0.888909	3.39265* (0.26201)
C	-27518.67	---
Note: *indicates significance at 5 % level (Standard Error in parantheses).		

Table 4 shows the estimated cointegration equation normalized on the values of Net FII on BSE SENSEX. According to the results, there is a statistically significant positive relationship between BSE SENSEX and Net FII in India. According to Granger Representation Theorem, if there is evidence of cointegration between two or more variables, then a valid error correction model exist between the two variables. The results of the estimated Vector Error Correction Model (VECM) are presented in Table 5.

Table 5: Vector Error Correction Model Estimates

Independent variables	Dependent variables	
	D(SENSEX)	D(FII)
CointEq1 (z_{t-1})	0.010774 (0.01342) [0.80282]	-0.661233* (0.22397) [-2.95227]
D(BSE(-1))	-0.320308 (0.15073) [-2.12510]	1.555828 (2.51546) [0.61851]
D(BSE(-2))	-0.449766* (0.15243) [-2.95069]	-3.551946 (2.54385) [-1.39629]
D(NET_FII(-1))	0.006046 (0.01069) [0.56583]	-0.092393 (0.17834) [-0.51807]
D(NET_FII(-2))	0.011772 (0.00890) [1.32298]	0.071119 (0.14850) [0.47892]
C	177.4064 (124.285) [1.42741]	-390.9735 (2074.19) [-0.18849]
R ²	0.214034	0.393167
F-statistic	2.341945	5.571945*
Included observations: 49 after adjustments Standard errors in () & t-statistics in [] Optimal lag length is determined by the Schwarz Information Criterion (SC) * indicates significance at 5 % level.		

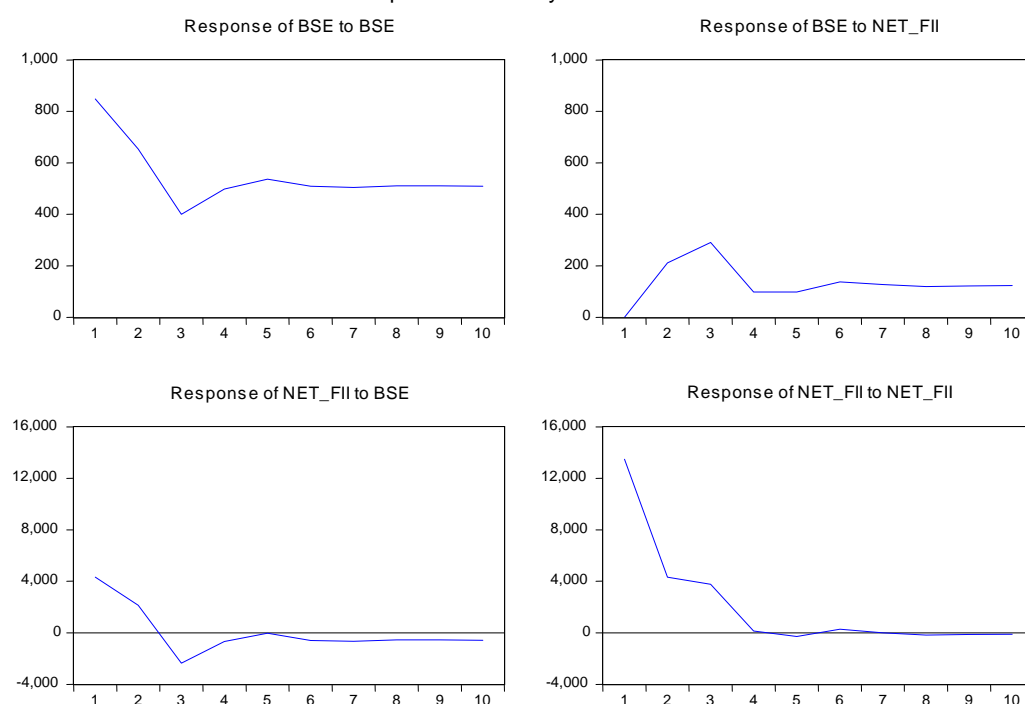
In equation (4), the error correction term is found to be negative and significant at five percent level. This implies that the cointegrated series is in disequilibrium in the short run, it is Net FII that makes greater adjustment in order to reestablish the equilibrium. In other words, BSE SENSEX leads to the Net FII in the long-run. Moreover, the lagged BSE SENSEX variable in equation (4) is found to be non-zero indicating that the BSE SENSEX leads the Net FII in India. Besides, the Wald-F-statistics for b_s is found to be 5.571945 statistically significant at five per cent level, and whereas for a_s it is 2.341945, is statistically insignificant. This implies a significant causality running from BSE SENSEX to Net FII in the short-run. Overall, the empirical results confirm the unidirectional causation runs from BSE SENSEX to Net FII in both short-run and in the long-run.

Figure 1 presents the impulse response function. The impulse response function graphically illustrates the expected response of BSE SENSEX to the innovation in Net FII and by BSE SENSEX itself and also show the response of Net FII to the innovation in BSE SENSEX and by Net FII itself. This function enables characterization of the dynamic

interactions among variables and allows us to observe the speed of adjustment of variables in the system. Figure 1 plots the response of Net FII to shocks in BSE SENSEX and vice versa. A shock in BSE SENSEX has negative effect on Net FII at beginning and then has a positive effect throughout the longer time period. Besides, the response of BSE SENSEX to Net FII shock begins with immediate positive effect and has greater negative effect on BSE SENSEX for the longer time period. This indicates that there is significant positive impact of BSE SENSEX on Net FII and not vice versa. This result is consistent with the earlier findings of Vector Error Correction model.

Figure 1: Impulse Response Function

Response to Cholesky One S.D. Innovations



V CONCLUSION

The purpose of this study is to investigate the causal nexus between Net FII and stock market movements in India with reference to BSE SENSEX using cointegration approach and error correction model. The analysis was carried out over the period January 2009 to April 2013. The Cointegration test result confirms the existence of long-run equilibrium relationship between Net FII and the stock market in India. The empirical result based on the error-correction model estimate indicates one-way causality runs from BSE SENSEX movement to Net FII in the short-run and long-run. The present study suggests that the Net FII is growing rapidly than the stock market index in Indian economy. This is mainly due to the over optimism on the part of investors as they see Indian economy more prospective in terms of return on investments. Therefore, the Indian Stock Market regulators must regulate the stock market in such a way that it will remain lucrative for the foreign investors to invest in India.

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AUTHOR DETAILS-

Dr. Vikram K. Joshi*

Assistant Professor,
Dr. Ambedkar Institute of Management Studies & Research,
Deekshabhoomi, Nagpur – 440010.
Email: vikramkjoshi@gmail.com

Dr. Vilas M. Chopde**

Vice Principal,
Dr. Ambedkar College,
Deekshabhoomi, Nagpur – 440010.
Email: vilas1958@yahoo.com