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SITUATION ANALYSIS OF DOCTORS WORKING IN HEALTH DEPARTMENT OF ODISHA: A DESCRIPTIVE STUDY

RAMA CHANDRA ROUT
SENIOR MEDICAL OFFICER
DEPARTMENT OF HEALTH & FAMILY WELFARE
GOVERNMENT OF ODISHA
NUAPADA

BHUPUTRA PANDA
ASST. PROFESSOR
INDIAN INSTITUTE OF PUBLIC HEALTH
BHUBANESWAR

ABHIMANYU SINGH CHAUHAN
PROGRAMME ASSOCIATE
INDIAN INSTITUTE OF PUBLIC HEALTH
BHUBANESWAR


ABSTRACT

Stable human resources are critical for a robust public health system in any country. Preliminary review of Odisha state data revealed that about one-third posts of Medical Officers were lying vacant; the doctors perceived that the work conditions in the districts were not conducive in rural areas, resulting in lower level of Job satisfaction. Situation analysis was conducted using secondary data from two districts, namely, Cuttack (representing coastal) and Kalahandi (representing non-coastal). Perception on work conditions was analyzed using primary data. Forty-three doctors were selected at random from different levels of public health facilities, that constituted about 10% of total strength of doctors in the selected sample districts, and were administered a semi structured questionnaire. Qualitative data was collected from 42 respondents through six Focused Group Discussions (N=35) and seven in-depth interviews (N=7). Thirty-one percent of all type of posts was vacant across the two districts. Seventy three percent respondents in Cuttack and forty percent in Kalahandi ranked the available basic amenities in the place of posting as 'good'. However, differences in level of dissatisfaction with regard to work conditions, pay structure, posting, transfer and promotion procedures in the two districts was found to be insignificant. With regard to the problem of 'not joining' in non-coastal areas, the main reasons were preference for higher study, non-availability of bare minimum facilities in rural areas, distance between the place of nativity and place of posting, and psychological insecurity. Further, delay in promotion, low pay-structure and inconsistent posting and transfers were cited as the main factors behind job dissatisfaction. Regular and timely promotion, fixed duty hours, separation of cadre and uniform human resources policy would help improve the level of job satisfaction amongst the doctors working in coastal and non coastal districts of Odisha.

KEYWORDS

Work condition of Doctors, Job satisfaction, Human Resource Policy.

INTRODUCTION

 Odisha attained separate statehood on 1st April 1936. Geographically, the State has about 4.8% of total area of the Country with about 3% of the Country's population. It has three revenue divisions, 30 districts, 58 subdivisions and 314 community development blocks.¹ Government of Odisha for programmatic interventions categorized the State into coastal and non-coastal regions. Coastal region constituted districts with better health and development indicators. With regard to the health infrastructure, there are 32 district headquarter Hospitals, 25 sub-divisional hospitals, 87 area hospitals, 377 CHCs, 314 Block PHCs and 1220 PHCs (New).²

The root causes of poor health indicators in the state are attributed to poverty, social deprivation, low levels of literacy, poor infrastructure for health care and a skewed distribution of health workforce particularly those of allopathic doctors. Non-availability of doctors in the state in general, and in non-coastal districts in particular, has been one of the main reasons behind poor health indicators.³ Under government of Odisha, there are 4258 sanctioned Medical Officers posts starting from Super time Scale (1), Senior Administrative Grade (3), Selection Grade (8), Junior Administrative Grade-Joint Director level I (120), Junior Administrative Grade-Joint Director level II (452), Senior Class I (1440), and Junior Class I (2234).⁴

The Indian Public Health Standards (IPHS) has guidelines on doctor-bed ratio. In the context of shortage of trained manpower in the state, recruitment, retention and job satisfaction are the three-fold challenges. The recent introduction of provision of monetary incentives, preferential Post Graduation (PG) admission and mandatory rural posting for admission to PG study has not changed the scenario much.

Despite of limited state-specific literature available on the subject, an attempt was made to review selected reports available on the web. "Health in Orissa" points out that there are only 195 doctors per million population in the State and the doctor density per 10,000 population was between 3 and 4 in 2005.⁵ Health Sector Reforms in India highlighted the emphasis on delegation of powers to district and Community Health Centre level.⁶ Mandatory rural service for PG admission, rural internship for better community health orientation, short course trainings and multi-skilling (e.g. Anesthesia, Emergency Obstetric care) were initiated in 1999 as a part of supply-side reforms.⁷ Working Papers on the subject have cited that the challenges in recruitment and retention of doctors by the Government was mainly on two fronts: undue delay of institutional mechanisms in recruitment, such as, Union Public Service Commission (UPSC) and Orissa Public Service Commission (OPSC) on one hand, and inconsistency in incentive provisions, regularization of contractual services, regulation of the length of stay in rural areas and preferential PG admission on the other. As a result, doctors didn't show interest and commitment to work on contract.⁸

The study aimed to understand the perception of doctors on the service conditions, more specifically in relation to work conditions, salary and incentives, promotional avenues and overall job satisfaction. The specific objectives of this paper were to understand (i) number of government doctors actually working in various ranks in the state; (ii) distribution pattern of doctors in relation to coastal and non-coastal districts; and (iii) perception of doctors serving in both coastal and non-coastal districts with regard to work conditions, job satisfaction and procedures related to promotion, transfer and posting.

MATERIAL & METHODS

This descriptive study was conducted in Kalahandi and Cuttack districts of Odisha during April-July, 2011. Doctors in all facility levels, from Primary Health Centre (PHC) to District Headquarters Hospital (DHH) were included in the study. Convenient sampling was done at the district level to include those doctors who were available at the time of field visit of the interviewer. Selected respondents from the state headquarters were also included to understand their perspectives.

Secondary data from the State headquarters revealed that there were 106 doctors in Kalahandi district and 163 doctors in Cuttack district during the study period of which 96 and 141 had been posted for more than a year, respectively, in those districts. Doctors who were working in the place of posting for more than one year were taken for data collection.

Two districts, one representation district from the non-coastal category (Kalahandi) and one from coastal category (Cuttack) were chosen purposively for data collection. In Kalahandi district, doctors from District Headquarters Hospital (DHH) Bhawanipatna, Sub Divisional Hospital (SDH) Dharmagarh, and Community Health Centre (CHC) Junagarh and two Primary Health Centres – New (PHC-N) were taken, while in Cuttack district doctors working in DHH Cuttack (City Hospital), Sub Divisional Hospital (SDH) Banki and Athagarh, one CHC and two PHCs-N were included.

(i) For studying the size, composition and distribution, secondary data from the state and district head quarters were considered. (ii) For understanding the level of job satisfaction semi-structured questionnaires (21 respondents in Kalahandi and 22 respondents in Cuttack) were administered, (iii) For understanding the perception of doctors on work conditions, promotion, posting and transfer procedures, Focus Group Discussions (FGDs) and in-depth interviews were recorded. In Kalahandi, three Focus Group Discussions were conducted involving 20 respondents, three senior doctors were included in the In-depth interview and twenty-one doctors were administered a pre-tested semi-structured questionnaire. Similarly, in Cuttack district three Focus Group Discussions were conducted involving 15 doctors; three senior doctors were interviewed and twenty-two were administered the semi-structured questionnaire. Three in-depth interviews were also conducted at the state level. Responses were recorded in the voice recorder. In view of the saturation of responses, in-depth interviews were restricted to nine participants. Thematic framework approach was used for data analysis. Finally, direct observation was made in six CHCs, three in each district, to assess the actual physical conditions existing in relation to different basic amenities. Prior consent had been obtained for voice recording of FGDs, in-depth interviews and administration of questionnaires. No video recording or photographs were taken during the study.

RESULTS

1424/4258 medical officer posts (32%) were lying vacant as on 1st April, 2011. This included two Additional Directors, sixteen Joint Directors - level I, 122 Joint Directors level II, 395 Senior Class I and 918 Junior Class I. Conversely, only 2834 doctors (67%) were in position to cater to the needs of the entire health service delivery system of Odisha. In Kalahandi district 68 (39%) posts out of total 174 posts were vacant. Similarly in Cuttack district 66 (29.2%) out of total 229 were vacant during the same reference period. There is a significant difference in the percentage of vacancy between Cuttack and Kalahandi district (Table I).

Analysis of semi structured questionnaires in a four-point scale revealed that in Kalahandi district four respondents (19%) were fully satisfied with present posting, transfer and promotion procedures; two were satisfied to some extent (10%), eleven were not satisfied (52%) and four respondents expressed their total dissatisfaction (19%). Eleven out of twenty-one respondents from Kalahandi were not receptive to the idea of compulsory posting, as they felt that it would not improve the service delivery quality. The results of in depth interviews indicated rational policy for posting, transfer and promotion may be adopted which would envisage provision of preferential posting for senior doctors. Job-enrichment may be done using delegation of authority and responsibility; Comparable findings in Cuttack district were as follows: three (13.5%) respondents were totally satisfied, four (18%) were satisfied to some extent, three (13.5%) were not satisfied and twelve (55%) were not at all satisfied. About the overall service experience, few respondents from both the districts categorized government service as 'good' and 'very good'. Seventy three percent respondents in Cuttack and forty percent in Kalahandi ranked the available basic amenities in the place of posting as 'good'. It was also felt that basic amenities ought to be given doctors and their family members, especially electricity and safe water supply. Lack of Schooling facilities for children was cited to be one of the most discouraging factors against rural stay. Since its effective remedy would need substantial engagement with other departments, such as, rural development, engineering, education and PRI departments, thus a state level Convergence Cell may be established under the leadership of the Hon'ble Chief Minister. However, none of the respondents from both the sample districts ranked the available facilities 'satisfactory'. Direct observation of Community Health Centres (CHC) in both the districts complimented the above responses.

Thematic analysis of Focus Group Discussions revealed that with regard to the perception on work conditions, posting, transfer and promotion procedures, and over all opinion on state government services, differences in the responses across district categories (coastal and non-coastal) were statistically not significant. When asked on whether posted befitting one's training, qualification & specialization, and on whether satisfied with place of posting, all respondents answered negatively in Kalahandi; whereas in Cuttack the responses were 13%, 0% and 53% respectively. With regard to the pay structure and incentives, while Kalahandi didn't have any respondent expressing satisfaction, about 13% of respondents in Cuttack were satisfied with it. With regard to appropriate place of posting, transparent transfer procedures and timely promotion policies, responses were not satisfactory in both the districts. All the respondents from coastal and non-coastal category of districts were dissatisfied with their present nature of job. The main reasons for higher level of dissatisfaction were found to be associated with their place of posting, transfer and promotion procedures and lack of an effective and time-bound system for career progress (Table 2). As compared to the situation in 1990, after restructuring of the Orissa Medical and Health Services Rules, the prospects for promotion of young doctors has improved, but not yet fully satisfactory. Findings of in-depth interviews were similar to the above.

DISCUSSION

Vacancies in both generalist' and specialist' posts were from 13% to 55% at the time of study in different districts across the state. As per IPHS norms, the State would need about 11764 doctors. During the study period 3499 doctors were in position against 4258 sanctioned posts.⁹ The only post of Cardiologist in non-coastal districts (KBK belt) was vacant at Bhawanipatna, since the doctor posted there had not joined. None of the respondents in Kalahandi district and 53% of respondents in Cuttack district was satisfied in reference to place of posting. With regard to availability of basic amenities, Cuttack (73%) was much better as compared to Kalahandi (40%). None of the respondents of Kalahandi were satisfied with the pay structure and incentive, as compared to 13% satisfied respondents in Cuttack. Further probing revealed that all these satisfied respondents were successful practitioners. All doctors in Kalahandi (100%) and almost all in Cuttack (91%) opined that transparent posting and transfer procedures would improve the level of satisfaction. It was also reflected that there is improvement in the promotion scenario after restructuring of medical cadre which needed to continue with the momentum.

"More incentives for remote non-coastal areas were necessary with antedated relieve instructions at the time of posting", said one respondent.

All respondents were against compulsory KBK (undivided Kalahandi, Bolangir and Koraput districts, commonly grouped as KBK) posting and 12% respondents perceived the present service conditions to be 'good'. Respondents were not in favour of working in corporate health sector as they felt common men couldn't reach out to those costly services. Furthermore, there was no definite demand for private practice in remote rural areas; whereas in urban areas, private practice was perceived to be the single most motivating factor for which all successful practitioners wished to serve in city areas. Regular posting on a time-bound manner would be the first step in this direction. Alternative recourses, such as, ad-hoc and contractual appointments could also be made with higher scale of pay. A multi-pronged strategy to improve the pay structure and incentives could be implemented. Increased annual intake of doctors as medium-term strategy will help fill up the current vacancies over a period of next ten years. Establishing Medical Colleges under Public Private Partnership (PPP) could be a feasible long-term strategic solution for making the state IPHS-compliant.¹⁰ Only compulsory posting to non-coastal areas would not yield encouraging results; rather posting on rotational basis according to seniority may be implemented for improved retention. Simultaneous improvement in living conditions, such as, house, water supply, electricity and communication ought to be considered not only for retention of current workforce but also for opening of new health centers. One of the main reasons behind freshly passed out graduates not joining government service was found to be preparation for getting into Post Graduation study; posting in remote areas, provision of less salary were additional factors. The findings are comparable in both coastal and non-coastal districts.

This reaffirms the established understanding that coastal and non-coastal districts in Orissa don't have substantial associated differences in overall service conditions and the level of satisfaction of doctors.

Establishment of separate Public Health cadre would provide public health doctors with more opportunities to develop specialized knowledge and ability to manage public health problems. Only those doctors opting for managerial positions may only be taken into public health cadre. Posting on rotational basis may be adopted with option of mutual transfer.

CONCLUSION

The immediate priorities for the government would be expedited recruitment, provision of incentives for retention and development of competitive human resource policy. Delayed promotion and non-availability of schools for education of children were found to be the important factors behind higher level of dissatisfaction. Time-bound promotion system linked to one's performance may be introduced as a pilot intervention and there may be fixed duty hours as to rationalize work distribution. Coordinated programme planning between health and education department would create opportunities for health in all policies. Post-globalization, the revolution in information technology has also increased the Level of Aspiration (LOA) which needs to be considered while framing the human resource policy for the state. This study has been undertaken using composite attributes such as posting, transfer, and promotion under one category. Further study on each of these attributes would help strengthen our understanding of each of these factors.

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TABLES

TABLE 1: DETAILS OF VACANCY IN CUTTACK AND KALAHANDI DISTRICTS OF ODISHA

Category	Cuttack			Kalahandi		
	S	P	V	S	P	V
JD-I (Gen)	1	1	0	1	1	0
JD-I (Spe)	5	4	1	5	5	0
JD-II (Gen)	11	9	2	6	3	3
JD-II (Spe)	12	11	1	14	10	4
Sr-I (Gen)	52	39	13	35	30	5
Sr-I (Spe)	24	16	8	20	12	8
Jr-I (Gen)	81	67	14	51	33	18
Jr-I (Spe)	43	16	27	42	12	30
Addl Post	0	30	00	0	22	00
Total	229	193	66	174	128	68

Source: NRHM Doctors database update [1.4.2010]

JD = Joint Director; Gen = Generalist; Spe = Specialist; Sr-I = Senior Class I

Jr-I = Junior Class I; Addl Post = Additional Posts

S = Sanctioned; P = Positioned; V = Vacant

TABLE 2: PERCEPTION ON SERVICE CONDITIONS, PLACE OF POSTING, TRANSFER AND PROMOTION

Attributes	Cuttack (N=15)		Kalahandi (N=20)	
Perception on place of posting				
Befitting training	Yes (2)	No (13)	Yes (0)	No (20)
Befitting qualification	Yes (0)	No (15)	Yes (0)	No (20)
Satisfactory	Yes (8)	No (7)	Yes (0)	No (20)
Perception about Payment and incentives				
Appropriate payments	Yes (2)	No (13)	Yes (0)	No (20)
Adequate incentives	Yes (0)	No (15)	Yes (0)	No (20)
Perception on posting, transfer and promotion procedures				
Transparent posting	Yes (2)	No (13)	Yes (0)	No (20)
Transparent transfer	Yes (0)	No (15)	Yes (0)	No (20)
Timely promotion	Yes (1)	No (14)	Yes (0)	No (20)
Overall job satisfaction				
Enjoying	Enjoying service	0	Enjoying service	0
Dissatisfied	Dissatisfied	15	Dissatisfied	20

QUALITY OF EDUCATION AND TEACHERS IN ETHIOPIAN SECONDARY SCHOOLS (THE CASE OF EASTERN ZONE OF TIGRAI REGION, ETHIOPIA)

DR. HAILAY GEBRETINSAE BEYENE

**ASST. PROFESSOR
MEKELLE UNIVERSITY
ETHIOPIA**

MRUTS DESTA YEEBIYO

**MANAGING DIRECTOR & CHAIRMAN OF THE BOARD OF AGAZI ALUMNI ASSOCIATION, MEKELLE BRANCH
NEW MILLENIUM UNIVERSITY COLLEGE
MEKELLE
ETHIOPIA**

ABSTRACT

The study has dealt with the assessment of the quality of education in the high schools of Eastern Zone of the Regional State of Tigray, Ethiopia. The study investigated the quality of education with a particular emphasis on teachers as one of the core actors in the teaching learning process. It has adopted census method of study taking all the school principals as respondents using questionnaire method of data collection. The study has revealed that all the teachers participating in the teaching process are first degree holders and almost all have taken the pedagogical training. However, the effectiveness of the pedagogical training taken by the teachers seems to be doubtful owing to the prevailing sliding quality of education in the high schools of the Eastern Zone of Tigray, though there could be other contributing factors to the existing lower quality of education. It is found as well that there is high dissatisfaction of teachers and discomfort with regard to the compensation being applied in the zone, which could influence the quality of education adversely. Shortage of teachers in the high schools is resulting in a teacher to be overloaded and gets forced to teach courses out of one's specialization which adversely influences on the quality of education.

KEYWORDS

Principals' perception, quality of education, satisfaction level, teachers' role.

INTRODUCTION

It is obvious that the Ethiopian Government has been directing all efforts of the various sectors with the aim of alleviating the deep rooted poverty which has been so prevalent in the country for a very long period of time. One of the top priorities given from the various sectors of the country was the education sector with the rationale that poverty can be eradicated with the help of the force of diversified, capable and skilled personnel army that can effectively combat the fight against backwardness. Consequently nationwide development strategies were designed where the educational sector got a prominent place as a result massive expansion on the educational activities has been made in a very short period of time. The educational coverage of the country and the expansion of Higher institutions is so enormous which resulted the production and supply of skilled and semi skilled human resource that can involve or participate in the development activities of the country. Despite the positive results achieved in expanding education and access to the people, still there are indications where a lot of work should be done on the quality part of the education. It has been observed that from those who are sitting to take the national competency assessment very few are observed passing the examination. Moreover, significant number of the students who join universities are observed to have a lot of difficulties in coping up and grasping the concepts of the subject matter of the courses they are taught. The Secondary Schools in the country are serving as the direct inputs to Ethiopian Universities and Colleges. The educational performance of the Secondary schools is significantly affecting the academic performance of Ethiopian Higher Institutions. Currently, the State Regional Government is also giving a lot of focus to ensure the provision of quality education to the people of Tigray and some measures are being taken. It is evident that the problem of the quality of education is not as such to be left solely to be dealt by the regional government. The desired quality can be ensured and be sustained through the concerted efforts of various bodies. Agazi Alumni Association is one that the issue of quality of educations concerns it directly and has the social responsibility and obligation to contribute its part in maintaining the desired quality of education and see students of today becoming productive citizens of tomorrow. With this rational in mind the association has taken the initiative to conduct a study to identify the actual real problems of schools with a particular emphasis on the high schools of the Eastern Zone of Tigray.

OBJECTIVE OF THE STUDY

The objective of this study is to examine the prevailing quality of education in relation to the participating teachers and identify the problems of high schools in this regard that deter the realization of the desired quality of education in Eastern Zone of the Tigray Regional State of Ethiopia.

METHODOLOGY

The study bases its analysis on the conceptual frame work of most researchers adopt while doing similar study on education. The study has reviewed various literatures on education, quality of education, factors that determine quality of education, conceptual definition of education, and the like. The survey study is conducted based on primary data collected from almost all high schools of the Eastern zone of the Regional State of Tigray. A questionnaire has been prepared and filled by the respective principals of each school. The study is analyzed using descriptive approach in the form of percentages, graphs, and averages. The study focuses on teachers one of the core actors in the teaching learning process. The desired quality of education can be realized through the integration of various factors. This study deals with the factors related to teachers which without it becomes unthinkable to maintain the quality level of education. Cognizant of this fact, the study has made its investigation as to the prevailing reality of the crucial factors that should be possessed by the teachers that enables them play their part in achieving the targeted quality of education. The study will investigate the educational qualification of teachers, the status of pedagogical education and skills the teachers have, their level of commitment, and their satisfaction level with regard to the existing compensation.

SCOPE OF THE STUDY

The scope of the study is limited to the assessment of the problems of the high schools in Eastern Zone of Tigray with a particular emphasis on teachers of these schools. It is limited to the problems associated with the teaching learning process that affects the quality of education. The study does not deal with the problems related to students, physical and location of the specified Eastern zone high schools; and the tertiary higher institutions such as colleges, universities of the zone. It specifically focuses on the teachers' related problems of the secondary schools of the Eastern zone.

LIMITATION OF THE STUDY

Problems related to education are so general which may range from primary level to the tertiary level. These problems could be country wide, region wide, in their coverage. However, this study is limited to the specified zone of the region and on one part of the educational sector that is on the secondary schools. The study attempted to deal with the educational quality problems attributed to teachers' related factors. Educational quality can be affected by many factors in which teachers related ones are only part of it that this study assumes as a limitation of this study. Besides, the findings of this study may not represent to other schools in the other regions of the regional state of Tigray, the whole region and the country in general. Moreover, as the study is mainly based on descriptive approach due to the relative inherent characteristics of the approach it may not investigate the problem so deeply. The responses used in this study are mainly as per the responses given by the respective principals of each high school and had the views of the teachers to some of the issues been incorporated to some extent the reliance on the responses of the principals would have been minimized which this study considers as a limitation.

SIGNIFICANCE OF THE STUDY

The study will help identify the real problems high schools are facing in the teaching learning process which enables them to recognize from the teachers part and tackle it in a way that enhances the quality of education. It will help the Education Bureau of the Tigray Regional State government in Ethiopia, Agazi Almuni Association and other concerned bodies understand the problems the schools are facing and do all necessary planning and execution efforts to mitigate it. Moreover, this study will be important to concerned bodies to prioritize the problems that should be challenged and effectively channel the resources it used to generate for the enhancement of quality of education in the zone. This study also is of paramount importance serving as an input for setting a strategic plan that is thought to be achieved in the long run. Having a picture about the overall problems related to the important key stakeholders of the schools will help government and nongovernmental organizations persuade their respective audiences in the home country and across the world to be coordinated and work cohesively to achieve the common major goal of enhancing quality of education.

STUDY AREA

The study is conducted in Ethiopia in which it is classified in to regional administrative states. The regional states of Ethiopia are also classified into administrative zones. Accordingly the Tigray Regional State in which this study is conducted is classified into four zonal administration areas, namely Eastern Zone, Western Zone, Southern Zone, and Central Zone. The zonal administration is further classified into 'woreda' (subzone) administration areas. This study is conducted in one of the regional zonal administration of the Eastern Zone of Tigray Regional State.

LITERATURE REVIEW

Educational quality is defined in various ways. In general, it can be stated that there is no universal definition of education quality. Even though each country considers education as vital for all its affairs and development, each country's policies define quality explicitly or implicitly according to its own economic, political, social, and cultural visions. Virtually all countries, however, include two key elements as the basis of quality: students' cognitive learning (which is what achievement tests usually measure) and their social, creative, inter-personal, and emotional development. Cognitive learning is the major explicit objective of most education systems and is often used as the sole indicator of quality, although there is wide disagreement on what to measure as cognitive learning and how to measure it. Learners' social, creative, and emotional development is rarely assessed in a significant way or included in cross-national "league tables" of educational outcomes (Leu 2005; UNESCO 2004, p. 29).

Countries of the world are highly concerned about its quality. In the search for ways to improve quality of education, most countries increasingly focus on understanding complex interactions that take place at the school, classroom, and community levels as the primary engines of quality and as a way of engaging local actors to address the frequently weak link between policy and practice (Farrell 2002). Of the factors that contribute to education quality at the local level, quality of teaching is recognized as the key, the factor without which other quality inputs are unlikely to be successful (ADEA 2004; ADEA 2005; Anderson 2002; Boyle et al. 2003; LeCzel 2004; UNESCO 2004; UNESCO 2006; USAID/EQUIP1 2004; USAID/EQUIP2 2006).

To examine the quality of education several studies used to be done. A study of teacher quality and teacher professional development in Ethiopia has been carried out under the USAID/EQUIP1 Leader Award examined teachers' and principals' perspectives on education quality as the first stage of the study (Asgedom et al. 2006). Carried out by researchers from Addis Ababa University, the study included in-depth qualitative interviews with a core group of 24 grade 4 teachers in 12 focus schools, three schools each in Amhara, Oromia, Southern Nations, Nationalities and People's (SNNP), and Tigray Regional States. In-depth interviews were also carried out with principals of the 12 schools. To compare how teachers and principals talked about quality with teachers' classroom practice, the study found out the teaching of the 24 core teachers. To illuminate the information from the in-depth interviews and observations, it carried out focus-group discussions with six to eight teachers in each school (about 86 teachers total) and 439 grade 4 teachers from the four regional states completed a quantitative survey questionnaire that explored their perspectives on issues and practice related to education quality. Whereas this study has selected sample schools while this study is census in its nature and in the Eastern Zone of Tigray and deals with secondary schools quality aspects of education.

In all aspects of the school and its surrounding education community, the rights of the whole child, and all children, to survival, protection, development and participation are at the centre. This means that the focus is on learning which strengthens the capacities of children to act progressively on their own behalf through the acquisition of relevant knowledge, useful skills and appropriate attitudes; and which creates for children, and helps them create for themselves and others, places of safety, security and healthy interaction. (Bernard, 1999)

What does quality mean in the context of education? Many definitions of quality in education exist, testifying to the complexity and multifaceted nature of the concept. The terms efficiency, effectiveness, equity and quality have often been used synonymously (Adams, 1993). Considerable consensus exists around the basic dimensions of quality education today, however. Quality education includes: learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communities; environments that are healthy, safe, protective and gender-sensitive, and provide adequate resources and facilities; content that is reflected in relevant curricula and materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life, and knowledge in such areas as gender, health, nutrition, HIV/AIDS prevention and peace; processes through which trained teachers use student-centred teaching approaches in well-managed classrooms and schools and skilful assessment to facilitate learning and reduce disparities; outcomes that encompass knowledge, skills and attitudes, and are linked to national goals for education and positive participation in society.

This definition allows for an understanding of education as a complex system embedded in a political, cultural and economic context. It is important to keep in mind education's systemic nature, however; these dimensions are interdependent, influencing each other in ways that are sometimes unforeseeable.

This definition also takes into account the global and international influences that propel the discussion of educational quality (Motala, 2000; Pigozzi, 2000), while ensuring that national and local educational contexts contribute to definitions of quality in varying countries (Adams, 1993). Establishing a contextualized understanding of quality means including relevant stakeholders. Key stakeholders often hold different views and meanings of educational quality (Motala, 2000; Benoliel, O'Gara & Miske, 1999). Indeed, each of us judges the school system in terms of the final goals we set for our children our community, our country and ourselves (Beeby, 1966).

Definitions of quality must be open to change and evolution based on information, changing contexts, and new understandings of the nature of education's challenges. New research — ranging from multinational research to action research at the classroom level — contributes to this redefinition.

Systems that embrace change through data generation, use and self-assessment are more likely to offer quality education to students (Glasser, 1990). Continuous assessment and improvement can focus on any or all dimensions of system quality: learners, learning environments, content, process and outcomes. School systems work with the children who come into them. The quality of children's lives before beginning formal education greatly influences the kind of learners they can be. Many elements go into making a quality learner, including health, early childhood experiences and home support. Physically and psychosocially healthy children learn well. Healthy development in early childhood, especially during the first three years of life, plays an important role in

providing the basis for a healthy life and a successful formal school experience (McCain & Mustard, 1999). Positive early experiences and interactions are also vital to preparing a quality learner. A large study in 12 Latin American countries found that attendance at day care coupled with higher levels of parental involvement that includes parents reading to young children is associated with higher test scores and lower rates of grade repetition in primary school (Willms, 2000).

Parents may not always have the tools and background to support their children's cognitive and psychosocial development throughout their school years. Parents' level of education, for example, has a multifaceted impact on children's ability to learn in school. In one study, children whose parents had primary school education or less were more than three times as likely to have low test scores or grade repetition than children whose parents had at least some secondary schooling (Willms, 2000).

Learning can occur anywhere, but the positive learning outcomes generally sought by educational systems happen in quality learning environments. Learning environments are made up of physical, psychosocial and service delivery elements.

Physical learning environments or the places in which formal learning occurs, range from relatively modern and well-equipped buildings to open-air gathering places. The quality of school facilities seems to have an indirect effect on learning, an effect that is hard to measure. Some authors argue that "extant empirical evidence is inconclusive as to whether the condition of school buildings is related to higher student achievement after taking into account student's background" (Fuller, 1999). The quality of school buildings may be related to other school quality issues, such as the presence of adequate instructional materials and textbooks, working conditions for students and teachers, and the ability of teachers to undertake certain instructional approaches. Such factors as on-site availability of lavatories and a clean water supply, classroom maintenance, space and furniture availability all have an impact on the critical learning factor of time on task. When pupils have to leave school and walk significant distances for clean drinking water, for example, they may not always return to class (Miske & Dowd, 1998).

Many countries significantly expanded access to primary education during the 1990s, but the building of new schools has often not kept pace with the increase in the student population. In these cases, schools have often had to expand class sizes, as well as the ratio of students to teachers, to accommodate large numbers of new students. A UNICEF/UNESCO survey conducted in 1995 in 14 least developed countries found that class sizes ranged from fewer than 30 students in rural and urban Bhutan, Madagascar, and the Maldives, to 73 in rural Nepal and 118 in Equatorial Guinea (Postlewaithe, 1998).

Within schools and classrooms, a welcoming and non-discriminatory climate is critical to creating a quality learning environment. In many countries, attitudes discouraging girls' participation in education have been significant barriers to providing quality education to all students. The Republic of Guinea provides an example of how this barrier can begin to be overcome. Between 1989 and 1997, Guinea was able to increase the percentage of school-age girls enrolment from 17 per cent to 37 per cent. This was done through the establishment of a high-profile Equity Committee, research to better understand various communities' needs and attitudes, policy reforms related to pregnancy of school-age mothers, the building of latrines for girls in schools, institutional reform that brought more women into teaching and administrative positions, and a sensitisation campaign to raise community awareness about the value of girls' education. Although curricular reform and other issues remain to be acted upon, and girls' persistence and achievement have not yet reached the level of boys', this case shows that efforts to improve the learning environment for girls and all students can lead to real results (Sutton, 1999).

Relative to both girls and boys, parents, educators and researchers express important concerns about teachers who create an unsafe environment for students. In some schools in Malawi, for example, male teachers sexually harassed girls even with outside observers present (Miske, Dowd, et al., 1998). When parents in Burkina Faso, Mali and Tanzania were asked about reasons they might withdraw their children from schools, they most often cited a lack of discipline, violence of teachers towards pupils (corporal punishment), and the risk of pregnancy due to the male teachers' behaviour (Bergmann, 1996).

A study in Ethiopia found that nearly 50 per cent of teachers interviewed reported using corporal punishment at least once a week, with 11 per cent saying they use it every day. Just over one third said they never use corporal punishment (Verwimp, 1999). These teacher behaviours affect the quality of the learning environment since learning cannot take place when the basic needs of survival and self-protection are threatened.

Well-managed schools and classrooms contribute to educational quality. Students, teachers and administrators should agree upon school and classroom rules and policies, and these should be clear and understandable. Order, constructive discipline and reinforcement of positive behaviour communicate a seriousness of purpose to students (Craig, Kraft & du Plessis, 1998).

The school service environment can also contribute to learning in important ways. Provision of health services and education can contribute to learning first by reducing absenteeism and inattention. Sick children cannot attend school, and evidence from China, Guinea, India and Mexico shows that children's illness is a primary cause for absenteeism (Carron & Chau, 1996).

The highest quality teachers, those most capable of helping their students learn, have deep mastery of both their subject matter and pedagogy (Darling-Hammond, 1997).

The preparation that teachers receive before beginning their work in the classroom, however, varies significantly around the world and even within the least developed countries. In Cape Verde, Togo and Uganda, for example, 35 per cent to 50 per cent of students have teachers who had no teacher training. Yet in Benin, Bhutan, Equatorial Guinea, Madagascar and Nepal, over 90 per cent of students do have teachers with some form of teacher training. In these latter countries, most teachers have, at least, lower secondary education; this contrasts sharply with Cape Verde and Tanzania where over 60 per cent of students have teachers with only a primary education (Postlewaithe, 1998). Perhaps as a consequence of too little preparation before entering the profession, a number of teachers in China, Guinea, India and Mexico were observed to master neither the subject matter they taught nor the pedagogical skills required for good presentation of the material (Carron & Chau, 1996). This affects educational quality since student achievement, especially beyond basic skills, depends largely on teachers' command of subject matter (Mullens, Murnance & Willett, 1996) and their ability to use that knowledge to help students learn. A recent evaluation of the East African Madrasa (Pre-school) Programme noted the importance of mentoring by trainers in the form of continuous support and reinforcement of teacher learning by on-site visits to classrooms following a two week orientation training and alongside weekly trainings in Madrasa Resource Centres. (Brown, Brown & Sumra, 1999).

Whether a teacher uses traditional or more current methods of instruction, efficient use of school time has a significant impact on student learning. Teachers' presence in the classroom represents the starting point. Many teachers face transportation and housing obstacles that hinder them from getting to school on time and staying until school hours are over. Many teachers must hold second jobs, which may detract from the time and energy they expend in the classroom. Teachers may miss school altogether. A study in China, Guinea, India and Mexico found that nearly half the teachers interviewed reported being absent at some point during the previous month (Carron & Chau, 1996), requiring other teachers to compensate for them or leaving students without instruction for the day. Next, when teachers are present, learning occurs when teachers engage students in instructional activities, rather than attending to administrative or other non-instructional processes (Fuller, et al., 1999). As mentioned above, the opportunity to learn and the time on task have been shown in many international studies to be critical for educational quality. Finally, some schools that have been able to organize their schedules according to children's work and family obligations have seen greater success in student persistence and achievement.

In Ethiopia, for example, schools that began and ended the day earlier than usual and that scheduled breaks during harvest times found that educational quality improved. "The quality of a school and the quality of teaching of the individual teacher is higher in schools that are able (and willing) to make more efficient use of the available time of its teachers and its pupils" (Verwimp, 1999).

Professional development can help overcome shortcomings that may have been part of teachers' pre-service education and keep teachers abreast of new knowledge and practices in the field. This ongoing training for teachers can have a direct impact on student achievement. Case studies from Bangladesh, Botswana, Guatemala, Namibia and Pakistan have provided evidence that ongoing professional development, especially in the early years after initial preparation and then continuing throughout a career; contribute significantly to student learning and retention (Craig, Kraft & du Plessis, 1998). Effective professional development may take many forms; it should not be limited to formal off-site kinds of programs. Dialogue and reflections with colleagues, peer and supervisor observations and keeping journals are all effective ways for teachers to advance their knowledge (UNICEF, 2000). A program in Kenya, the Mombassa School Improvement Project, built on this approach to professional development and showed that teachers supported with in-service as well as external

workshop training improved significantly in their abilities to use student-centred teaching and learning behaviours (Anderson, 2000). In India, an effective program used interactive video technology to reach a large number of teachers who sought professional development. This program found that training using interactive video technology led to improved conceptual understanding of pedagogical issues for a large number of geographically dispersed teachers (Maheshwari & Raina, 1998).

This study particularly focuses on what we can learn from understanding of the Ethiopian Eastern Zonal Administration area of Tigray's high schools principals' perceptions on teachers and of quality of education. The paper addresses questions of how principals conceptualize and understand quality of education, quality of teaching, and quality of learning. Understanding principals' perspectives on quality is particularly important because they are the professionals primarily responsible for overseeing the overall proceedings of the teaching learning process like, active-learning, and student-centered pedagogical approaches to improving education quality that underlie the reform policies of Ethiopia in general and in the Tigray Regional State Eastern Zone area secondary schools in particular. Understanding the perception of principals of the schools in the Eastern Zone of Tigray as the way educators perceive the prevailing quality of education, may help identify challenges to implementing the reform policies as well as points of intervention to improve the effectiveness and success of the new policies. This study particularly will focus on the perceptions the principals on the quality of education in relation to teachers.

RESULTS AND DISCUSSION

LOCATION, GRADE LEVEL AND AREA OF PREMISES OF THE HIGH SCHOOLS IN EASTERN ZONE

The role of education in developments in all forms in general and in the process of poverty eradication through producing labor force with diversified, capable and skilled personnel that can effectively combat (fight) against backwardness in particular is quite oblivious. The socio-economic development achievements exhibited in the world are concrete evidences for the assertion. With this understanding nationwide development strategies have been designed where the educational sector got a prominent place and as a result massive expansion on the educational activities have been made in a very short period of time in Ethiopia.

Similar trend, if not more, is achieved in the Regional State of Tigray too where education has been among the priority areas in terms of the attention given and the investment deployed in the undergoing development endeavors. As the result currently the number of secondary schools has reached nineteen in the Eastern Zone. Hence, no exaggeration if one concludes that the performances realized in the educational sector are remarkable comparing to the earlier periods. 10 of the high schools found in the zone are up to preparatory level (9th-12th) that is they are having both cycles (first and second cycle secondary schools) while nine are at the level of first cycle secondary schools (9th-10th). But the schools included in this assessment are 15 for it could not be possible to get information on the remaining schools on time.

The data gathered from the respective schools shows that eight of them are not fenced. Such situation may expose the schools for various problems. Taking the simplest job that can be realized in the schools, it is not easy even to practice plantations and hence students cannot have appreciation on nature and environmental concerns. It is very surprising to observe one of the oldest high schools in Tigray Region, Agazi Comprehensive Secondary School, and being still not having a secured compound. Of course the problem might be linked with availability of resources for the fact other things might be the priority areas in a situation of scarce resources. The data collected on the area of premises of respective school reveals different size. The information gathered shows that there is no standard as to the area required for the schools. It is quite obvious that concentration of the schools tend to Adigrat town not only because of the reason that there is relatively high population but also the surrounding suburbs are served by the prevailing infrastructures in the town.

TABLE 1: LOCATION AND GRADE LEVEL OF HIGH SCHOOLS IN EASTERN ZONE

S/N	Name of School	Grade Level	Location		Premises		Fenced
			'Wereda'	Town	Area Size	Circumference	
1	Agazi Coprehnsive Secondary School	9 th -12 th	Adigrat	Adigrat	90 m ²	1200m	No
2	Yalemberhan Secondary School	9 th -10 th	Adigrat	Adigrat	9500 m ²	1200m	No
3	Finoteberhan Secondary School	9 th -10 th	Adigrat	Adigrat	200,000 m ²	-	No
4	Tsinsetamariam Secondary School	9 th -12 th	Adigrat	Adigrat	-	-	Yes
5	Zalanbessa Secondary School	9 th -10 th	Gulomekada	Zalanbessa	62500 m ²	1000m	Yes
6	Dewhan Secondary School	9 th -12 th	Erob	Dewhan	-	-	No
7	Lideta Secondary School	9 th -10 th	Erob	Alitena	2500 m ²	-	No
8	Bizet Secondary School	9 th -12 th	Ganta-Afeshum	Bizet	-	-	Yes
9	Ahzer Secondary School	9 th -10 th	Ganta-Afeshum	Ahzer	46500 m ²	-	Yes
10	Edaga-Hamus Secondary School	9 th -12 th	Saesie-Tsaeda Emba	Edaghamus	914000 m ²	-	No
11	Masho Secondary School	9 th -12 th	Hawzien	Hawzien	-	-	Yes
12	Negash Secondary School	9 th -10 th	Kilte-Awlalo	Negash	37500 m ²	-	No
13	Wukro Secondary School	11 th -12 th	Wukro	Wukro	-	-	Yes
14	Atsebi Secondary School	9 th -12 th	Atsibi Wonberta	Atsibi	69689 m ²	-	Yes
15	Agulae Secondary School	9 th -10 th	Kilte-Awlalo	Agulae	5000 m ²	1000m	No

Source: Data gathered from respective School, 2010.

TEACHERS IN THE SCHOOLS BY EDUCATIONAL LEVEL AND PEDAGOGICAL SKILL

Teachers are the primary actors in the creation of skillful, creative and innovative citizens. Hence, deployment of qualified teachers is among the areas of focus in the process of building quality educational service. The changes achieved in this regard are encouraging. During the time the study is made, there are only about 4.6% of the teachers with diploma qualification while there is no one at the certificate level. Therefore, 95.4% of the teachers in secondary schools of Eastern Zone are first bachelor's degree holders. No teacher is having master's second degree. Compared to their respective number of teachers, the diploma holders seem to have relatively concentrated in Lideta Secondary School having the proportion of 50%, in Tsinsetamariam Secondary School 16.7% and in Zalanbessa Secondary School sharing about 13.8% of the total teachers in the schools.

The policy direction that stipulates all high school teachers to be at least with first degree appears realized accordingly in general. On the other hand, all teachers except 1.2% of them have taken pedagogical training which is believed to be an important skill for the teaching-learning process. About 12.6% of the total teachers are females. This, on the other hand, indicates the participation of females to be low compared to the male counterparts.

However, contrary to the achievements in the educational level of teachers, there are problems in the capacity of the high school graduates as has been viewed by the principals of the respective schools. This problem in turn may be reflected on the capacity of the teachers to equip their students with the required level of skills and knowledge on each subject. As long as these high school graduates who possess relative less capacity are to join universities then a vicious circle takes place that would have far-reaching impact in the whole socio-economic development processes of the region and the country at large.

The respondents added that despite the efforts made in the expansion of the physical infrastructure and production of teachers with higher qualification, the quality issues are still compromised. Consequently, this issue has become one of the pressing agendas in the public as well as for the government. As a result quality education has become central issues these days in all educational institutions. It is important to remind at this juncture that teachers play the pivotal role in the process to ensure quality education that would be instrumental to transform the whole socio, economic, political and cultural aspects of the society.

TABLE 2: TEACHERS BY EDUCATIONAL LEVEL AND SEX

S/N	Name of School	Teachers by Educational Level										Pedagogical Training		
		Certificate		Diploma		1st Degree		2nd Degree		Total		Grand Total	Taken	Not Taken
		M	F	M	F	M	F	M	F	M	F			
1	Agazi Copenhensive Secondary School	-	-	4	-	67	8	-	-	71	8	79	79	-
2	Yalemberhan Secondary School	-	-	2	-	62	15	-	-	64	15	79	79	-
3	Finoteberhan Secondary School	-	-	-	-	53	23	-	-	53	23	76	76	-
4	Tsinsetamariam Secondary School	-	-	3	1	19	1	-	-	22	2	24	-	-
5	Zalanbessa Secondary School	-	-	4	-	22	3	-	-	26	3	29	29	-
6	Dewhan Secondary School	-	-	-	1	32	3	-	-	32	4	36	36	-
7	Lideta Secondary School	-	-	2	3	5	-	-	-	7	3	10	-	-
8	Bizet Secondary School	-	-	4	-	34	8	-	-	38	8	46	42	4
9	Ahzera Secondary School	-	-	-	-	7	2	-	-	7	2	9	8	1
10	Edaga-Hamus Secondary School	-	-	-	-	9	46	-	-	9	46	55	55	-
11	Masho Secondary School	-	-	5	-	75	12	-	-	80	12	92	-	-
12	Negash Secondary School	-	-	-	-	21	4	-	-	21	4	25	-	-
13	Wukro Secondary School	-	-	1	-	30	2	-	-	31	2	33	31	2
14	Atsbi Secondary School	-	-	-	-	38	9	-	-	38	9	47	-	-
15	Agulae Secondary School	-	-	-	-	13	-	-	-	13	-	13	12	1
	Total			25	5	487	136	0	0	512	141	653	447	8

Source: Data gathered from respective School, 2010.

OPINIONS OF SCHOOLS ON EFFORTS OF TEACHERS

Schools were asked to give their opinions on the efforts of teachers with the belief that commitment of teachers is determinant in the endeavor to create a skillful and responsible generation. Accordingly seven schools have responded that most of their respective teachers are hardworking persons. On the other hand, six schools indicated few of their teachers to be hardworking ones. Five have replied that most of the teachers show medium effort. It was expected that two choices are possible but should not be contradicting to each other. A school is not expected, for example, to reply most of its teachers to be hardworking and most showing medium/low effort. But it is possible to reply few teachers being hardworking persons while most of them showing medium or low effort. As the result four schools have marked two options as depicted in the following table but the responses do not contradict.

The writers believe that as per the responses of the schools the commitment level of the teachers in the zone is in a good status. From this it can be inferred that the commitment and dedication of the teachers is not as such a problem, rather problems other than this seems to be responsible for the sliding down of the quality of education in the zone. In fact, it is still is essential to note that the prevailing commitment and efforts of teachers is quite important determinant although may not be sufficient if not associated and integrated with the other actors and input factors.

TABLE 3: OPINIONS OF SCHOOLS ON EFFORTS OF TEACHERS

S/N	School	Most of them Hardworking	Few of them Hardworking	Most of them Show Medium Effort	Most of them Show Low Effort
1	Agazi Comprehensive Secondary School		✓	✓	
2	Yalemberhan Secondary School	✓			
3	Finoteberhan Secondary School		✓	✓	
4	Tsinsetamariam Secondary School	✓			
5	Zalanbessa Secondary School				
6	Dewhan Secondary School	✓			
7	Lideta Secondary School	✓			
8	Bizet Secondary School	✓			
9	Ahzera Secondary School	✓			
10	Edaga-Hamus Secondary School			✓	
11	Masho Secondary School	✓			
12	Negash Secondary School		✓		
13	Wukro Secondary School		✓		
14	Atsebi Secondary School		✓	✓	
15	Agulae Secondary School		✓	✓	

Source: Data gathered from respective School, 2010.

PREVAILING PROBLEMS RELATED WITH TEACHERS

Having a look into existing problems related with teachers is taken as important component of the inquiry. Each of the schools has enumerated different issues but have many in common. Few of the schools do not seem to adequately have understood or might have intentionally tried to divert the responses linking with other aspects than trying to highlight issue that directly are linked with teachers. The responses of each school are documented in the following table that many of them can be summarized in to the following items.

Issues related with ethics of teachers not being to the required level are among the points stated. This can comprehend different aspects such as late coming and early withdrawal of teachers from classes, teachers not using their periods fully, teachers not monitoring and not making follow ups on their students, etc. Some schools have reflected that such features are observed on teachers. These would be important obstacles to ensure quality educational service that is expected to create innovative and committed generation. The phenomenon appears to contradict to the information documented on the pedagogical skill of teachers. The information collected in this regard shows that almost 99% of the teachers have taken pedagogical training. On the other hand, this may partly imply the less effective feature of the attended pedagogical training. However, though such phenomenon mare observed, the proportion of teachers who exhibited the stated behaviours can not be known to make a general conclusion in this regard though a single instance of such acts from a single teacher should even be avoided. Hence, it would be advisable to further investigate the causes for such behaviours and apply a remedial action to restore the desired educational behaviour.

Discomfort of teachers because of being low salaried is highlighted by almost one third of the schools. In principle one may argue that such discomfort should not have been reflected in undermining responsibilities that have for-reaching societal and national impacts. In general terms this dissatisfaction of teachers does not influence the teaching learning process positively. Under this situation of the high schools, let alone the teachers become motivated and take the initiative to innovate new thing that helps them embark the expected knowledge and skills into their students, they tend to lose the motivation to work as per

the normal standards. The respective authorities need to take this issue and resolve it in a way the existing discomfort will be minimized and its adverse impact on the quality of education will be mitigated.

As highlighted earlier, the writers take teachers as the primary actors amidst the endeavors to improve and ensure quality of education. As the result, maximum efforts should be exerted to win the commitment and high devotion of teachers with a complete understanding on the pivotal position they have in building responsible, committed, innovative and disciplined generation. Otherwise, the discourses usually made on facilitation of development and eventual creation of technologically advanced society would remain to be rhetoric.

The mechanisms to address the problems can be different. Some of the problems might be reduced and resolved through building a systematic management practices such that, among others, may include proper execution of monitoring and evaluation, recognition of achievements or good performances through the provision of promotions and awards fairly that strictly and transparently depend on performances, etc. Provision of periodic trainings and orientations on the roles and responsibilities of teachers would help to address part of the issues. Designing proper systems of motivation would have also its respective contribution. The issue of salary is another important element which is highly dependent on the economic progress of the country and region in particular to afford. Generally complementary instruments have to be designed and practiced by periodically updating it taking into account the prevailing realities.

It can be understood that the problems faced by teachers in the high schools of the Eastern zone of Tigray are varied and many of the problems are specific to each school. Shortage of teachers is observed to common problem of schools like Zalanbessa, Ahzera, Bizet, Masho, Atsbi and Agulae Secondary schools. This implies that the existing teachers will be forced to be overloaded and they will be pushed to teach subjects out of their respective specialization. This situation results in a negative impact on the quality of education in general.

Moreover, some of the problems seem to directly influence the educational quality while others influence indirectly. It can be understood that some teachers are not properly managing their time which can be explained by not utilizing their teaching time fully; start classes late after some minutes and finish earlier than the time scheduled for it; and mis-utilization of the time allotted for teaching. In addition, in some schools, the teachers' problems that can be resolved through training that enhance their capacity and professional ethics. Some of the schools are also facing fundamental problems related to teaching materials such as shortage of reference books and laboratories. Still there are problems related to access to the internet, computers, recreational facilities, housing facilities, toilet facilities, and the like.

TABLE 4: PROBLEMS RELATED WITH TEACHERS

S/N	School	Prevailing Problems
1	Agazi Comprehensive Secondary School	<ul style="list-style-type: none"> Few teachers do not use their periods fully Late coming and earlier withdrawal of teachers Few teachers do not monitor their students
2	Yalemberhan Secondary School	<ul style="list-style-type: none"> Lack of toilet for teachers Lack of lounge for teachers Lack of residence house Non availability of laboratory
3	Finoteberhan Secondary School	<ul style="list-style-type: none"> Shortage of reference books Lack of computers and internet access <p>Both problems impede teachers to exert efforts fully</p>
4	Tsinsetamariam Secondary School	<ul style="list-style-type: none"> Shortage of periodic and continuous training to teachers
5	Zalanbessa Secondary School	<ul style="list-style-type: none"> Shortage of teachers
6	Dewhan Secondary School	<ul style="list-style-type: none"> Ethics of teachers is not to the required level Discomfort of teachers because of less salary
7	Lideta Secondary School	<ul style="list-style-type: none"> Difficulty in getting permanent teachers because of the school being far from the urban areas
8	Bizet Secondary School	<ul style="list-style-type: none"> Shortage of teaching materials
9	Ahzera Secondary School	<ul style="list-style-type: none"> Shortage of teachers and as the result teachers are forced to teach not their fields of study
10	Edaga-Hamus Secondary School	<ul style="list-style-type: none"> Less commitment of teachers because of dissatisfaction in their living conditions Less efforts of students
11	Masho Secondary School	<ul style="list-style-type: none"> Shortage of experienced teachers as most of them are fresh Graduates Shortage of teaching material supports
12	Negash Secondary School	<ul style="list-style-type: none"> Lack of residence houses for teachers Lack of recreational/lounge for teachers
13	Wukro Secondary School	<ul style="list-style-type: none"> Less commitment of teachers Misuse of class hours Not making self evaluation whether the teacher makes a change on his/her students or not Tendency to measure owns efforts in terms of time devoted in school rather than on results
14	Atsbi Secondary School	<ul style="list-style-type: none"> Teachers being overloaded because of shortage of teachers
15	Agulae Secondary School	<ul style="list-style-type: none"> Shortage of teachers as the result there are with 35 hrs period Teachers do not introduce new initiatives Few teachers feel discomfort on the prevailing situation

Source: Data gathered from respective School, 2010.

CONCLUSION AND RECOMMENDATION

The assessment has tried to gather information on the existing situation of the secondary schools that would be an input for planning purposes. Now it is time to wide up summarizing the major findings of the assessment that would lead to draw points of recommendations.

The proportion of the female students in the secondary schools is found very low that accounts to 12.6% only in the current year. So, the situation demands special efforts to be exerted in enhancing the participation of females in boosting the educational quality of the zone.

The improvement achieved in the deployment of teachers is also encouraging. More than 95% of the teachers found in the secondary schools of the Eastern Zone are first degree graduates. And more than 98% of the teachers have taken pedagogical training. Both cases imply the availability of the skills that are important inputs for ensuring quality educational service.

However, the opinions the schools have on the efforts of their respective teachers appears an area of attention. It has been shown that the dedication and commitment status of teachers is somehow good though some of the schools have indicated that only few of their teachers are hardworking. This will lead to the tendency that students will become medium or low hardworking. As the result the physical presence of teachers may not enable to achieve the expected results since efforts of students is one of the determinant factors for the educational performances. There are problems as regards to the dissatisfaction of teachers due to the fact that they are being low salaried which adversely affects the quality of education. Hence, the provision of the proper incentive is among the basic factors that should be given due emphasis amidst the endeavors to ensure quality education.

Each of the secondary schools of the Eastern Zone have their respective peculiar problems which distinguished it from the rest. Some of the problems are common to some of the schools. Some of the schools have the problem of shortage of teachers resulting in overload and teaching subjects out of ones specialization. In addition, some as well have a problem in the utilization of the time allotted for class teaching, and lack of teaching materials, as well as recreational facilities. The concerned bodies need to appreciate the problems and provide possible solutions so that such problems will no longer exist in the schools for the future.

It is quite obvious that all problems cannot be resolved over night. The resources required to address the problems would be relatively high in the resource scarce environment. Hence, an integrated effort of various actors would be necessary to fundamentally resolve the problems. Necessary efforts are therefore needed from all stakeholders expecting that the respective governmental sector would take the leading position in coordinating and organizing the process.

Relentless efforts are needed to make teachers internalize the role they have in the nation and generation building and what their responsibility implies from the societal transformation point of view. All necessary and possible steps should be taken to minimize and eventually avoid discomforts of teachers.

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AN ANALYSIS OF THE IMPACT OF FISCAL DECENTRALIZATION (FD) ON BUDGET DEFICIT IN PAKISTAN

ABDUR RAUF
RESEARCH SCHOLAR
GOMAL UNIVERSITY
D.I.KHAN
PAKISTAN

DR. ABDUL QAYYUM KHAN
ASST. PROFESSER
COMSATS INSTITUTE OF INFORMATION TECHNOLOGY
WAH CANTT.
PAKISTAN

DR. KHAIR-UZ ZAMAN
DEAN
DEPARTMENT OF SCIENCES
GOMAL UNIVERSITY
D.I.KHAN
PAKISTAN

ABSTRACT

The purpose of this paper is to empirically analyze the impact of fiscal decentralization on budget deficit. Applying the Engle Granger two step co-integration approach, it is found that both revenue and expenditure decentralization have significant impacts on budget deficit. To strengthen this finding two extra models were developed for both the measures of FD and each one were taken separately for analyzing its impacts over budget deficit and the final results of both the model support the results of the parental model. The other variables GDP and trade deficit also have significant impacts over budget deficit in the study period.

KEYWORDS

Fiscal Decentralization, Expenditure, Revenue, Budget deficit, Engle Granger.

INTRODUCTION

Since the last few decades the Fiscal Decentralization (FD) catches a significant attention throughout the world. Most of the countries around the world transfer their responsibilities from central governments to the local governments as it is viewed that because the local governments have the better knowledge of their localities and are in a position to launch that kind of policies through which economic growth of the locality in general and of the overall country in particular can be enhance. Also it is viewed that by devolving the decision making responsibilities to the local governments are helpful to boost up the efficiency of the government and bring transparency in the government affairs as monitoring of the local governments are in the hands of the local inhabitants. Another positive aspect of the transformation of the financial powers to lower tier governments is that that these governments are helpful to increase tax collection because these governments are more attached with the local community. Because of these benefits of fiscal decentralization it can be expected that this (fiscal decentralization) will also help to minimize the budget deficit of a country. Till to date this assumption regarding the relationship between fiscal decentralization and budget deficit is ignored at all except the single attempt that have been made by Billin Neyapti who find the positive impacts of fiscal decentralization over budget deficit in cross countries case.

Economic growth is the prime objective of each and every country in the world and fiscal decentralization, as stated earlier, help to achieve that objectives so nowadays whether it is developing or developed country transfer their decision to the local/lower governments. Government of Pakistan also looking forward for economic development and for that she also followed the same path, attempted to decentralize its financial decision. Different devolution plans have been launched in various era's and for the resource redistribution amongst the provinces National Finance Commission was formulated in 1974, (although it is a controversial/debatable issue amongst the provinces), so that the resources once collected can be redistributed according to the specified formula.

The current study will focus on to empirically analyze the impacts of Fiscal decentralization and budget deficit in respect of the Pakistan economy. Fiscal decentralization impacts is taken with both revenue and expenditure decentralization in combined and also individually so that to strengthen the findings of the study. This study is different from the study of Billin Neyapti as it take a country specific case while Neyapti conducted a cross countries study on the said subject.

The rest of the paper is organized as following! Section two consist of the brief history of the attempts made by Pakistan in respect of fiscal decentralization and the fiscal trends of Pakistan economy, the third section highlight the literature on fiscal decentralization, Data and Methodology employed in the study is discuss in the fourth section of the paper and before references there is regression analysis and conclusion of the study.

FISCAL DECENTRALIZATION AND BUDGET DEFICIT TRENDS IN PAKISTAN

Islamic republic of Pakistan is a democratic country whose matters are guided by 1973 Constitution. National Assembly and the Senate make the Parliament of Pakistan. The constitution differentiates between the duties of the provincial and federal government. Federal government has to address defence, foreign policy, currency, debt services etc. while the provincial governments concern with roads, tourism, culture, youth etc. To run these affairs both governments need financing and for that purpose a special finance commission is established whose major function is to redistribute the financial resources between the federal and provinces and amongst the provinces. This finance commission is called National Finance Commission (NFC).

NFC Award is constituted in article 160(1) of 1973 constitution (Annex I) and proposed to be held at intervals of five years. (Iftikhar Ahmad et al 2007). It is the distribution of financial resources among the provinces of Pakistan by the federal government on annual basis. Certain types of taxes collected in each province are pooled, and then redistributed according to the NFC formula. What taxes to include in the distribution pool and the distribution formula is a subject of debate. Pakistan has had seven NFC awards formulas for the redistribution of resources. A very brief description is presented here for understanding the pattern of the resource redistribution.

In 1974 first NFC award were launched and in this fewer taxes like income tax, sales tax and export duty, were included in the divisible pool. The population was taken as criteria for resource redistribution. The share of federal was 20% and of provinces was 80%. The provincial share was distributed as, Punjab 60.25%, Sindh 22.50%, KPK 13.39%, Balochistan 3.8%. (NFC report 1991).

In 1979 another award formula was set under the chairmanship of Ghulam Ishaq Khan who was a federal minister at that time. Because this committee never met so at that time the 1974 award formula was followed for resource redistribution. In 1981 a population census were conducted and this change the proportion of population and now the share of each province were, Punjab 57.97%, KPK 13.39%, Sindh 23.34%, and Balochistan 5.30%. (Gov. of Pak. 2006).

In 1985, under the chairmanship of Dr. Mehboob-ul-Haq, a new committee was formed for resource redistribution. This committee failed to bore any fruits, so for resource redistribution the 1974 formula was followed.

During the Nawaz regime, a committee was formed for the same purpose under the chairmanship of Sirtaj Aziz. In this award customs duties remained in the hands of federal governments while all other taxes and duties were with provinces. The share of federal Gov. was 20% and of provincial share was 80%. (Ghaus and Pasha 1994). The share of provinces was, Punjab 57.88%, Sindh 23.28%, KPK 13.54%, and Balochistan 05.30%. (NFC report 1991).

In Feb. 1997 an award formula was presented. This time the chairman of the committee for award formula was Shahid Javid Burki. Under this award all the taxes and duties were included in divisible pool. Upto certain limits the matching grants were introduced and decided that if any province revenue growth exceeds 14.2%, they will be provided matching grants. The share of the provinces under this award formula was, Punjab 57.88%, Sindh 23.28%, KPK 13.54%, and Balochistan 05.30%. (Government of Pakistan Report 1996).

Under the chairmanship of Shaukat Aziz an award committee was formulated on July 22nd, 2000. Because there was lack of common consensus amongst the provinces so after 11 meetings no final suggestion were recommended. At that time the provinces demanded for 50% share. Therefore no further progress has been made until 2005 when a new committee was set to give an acceptable formula for resource redistribution. Here as well there was no common consensus. Finally the authority was given to the president who announces it and says that this award formula will be affected from July 1st, 2006. According to this award the provincial share were, Punjab 57.36%, Sindh 23.71%, KPK 13.82%, and Balochistan 05.11%.

Today the award distributions are under the formula which was launched in Lahore under the chairmanship of finance minister Shaukat Tarin. Under this award formula the provincial share of divisible pool increased from 47.5% to 56% in first financial year of the award (2010-11) and 57.55 in remaining years of the award. Also in this award the tax change is reduced from 5% to 1%. The provincial shares under this award formula are, Punjab 51.74%, Sindh 24.55%, KPK 14.62% and Balochistan 09.09%.

Award formulas↓ / provinces share→	Punjab	Sindh	KPK	Balochistan
1	60.25%	22.50%	13.39%	3.8%
2	57.97%	23.34%	13.39%	5.30%
3	57.97%	23.34%	13.39%	5.30%
4	57.88%	23.28%	13.54%	5.30%
5	57.88%	23.28%	13.54%	5.30%
6	57.36%	23.71%	13.82%	5.11%
7	51.74%	24.55%	14.62%	9.09%

FISCAL TRENDS IN PAKISTAN

For the economic growth of a country the importance of a sustainable fiscal performance cannot be denied. The poor fiscal performance is problematic for the economy and can leads to slowing down the growth of the economy. Pakistan, being a developing country always looking forward for enhancing economic growth and to minimize the gap that occur between the expenditures of the government and revenues that she collect. The economic survey of Pakistan (2007-2008) report that since the last seven years the poor fiscal performance of the economy was not taken seriously and where the reforms were demanded to be launched, these were delayed and this led the policy makers to a fix in the period of fiscal year 2008-2009 thus it became a challenging job for the rest of the period. But the positive thing about this year (2008-2009) was that here the fiscal deficit declined to 4.3% as a %age of GDP. This mainly happens in 2008-2009 because the subsidies on oil were reduced and the developmental spending was reduced to some extent.

There are two sides of balancing the budget in Pakistan and these are the expenditure side and revenue side. The expenditure can further be divided into developmental expenditure and current expenditure. Similarly the revenue can also be divided into tax and non tax revenue. By looking at the performance of Pakistan economy it can be noted that in 1990-1991 the total expenditures as a %age of GDP were 25.7% while in 2008-2009 these were reduced to 18.6% as a %age of GDP. While the current expenditure share in the total expenditures in 1990-1991 was 19.2% and till 1999 the trend was increasing of the share of current expenditure in total expenditure and then in 2005 this share reduced to 13.3% as a percentage of GDP and again in 2008-2009 increased to 15.8% as a percentage of GDP. On the other hand the developmental expenditure also showed decreasing trend and in the period from 1992 to 2001 these reduced to 1.7% in 2001 from 5.7%. In the next five years it again jumped to 4.2% in 2006. While in 2008-2009 the share of developmental expenditure in the total expenditure is 2.8%.

The performance of the total revenue is also not very much different from the performance of the expenditures. In 1990-1991 the total revenue were 16.9% as a %age of GDP which till 1996 showed increasing trend and reach to 17.9 % and then start declining and in 2001 touch the lowest side of 13.1%. After that again start increasing trend and in 2008-2009 it jumped to 14.6%. amongst the total revenue the share of the tax revenue in these total was 12.7% in 1990-1991 and 11.3% in 2008-2009 while the share of non tax revenue in total revenue were 4.2% in 1990-1991 and 3.8% in 2008-2009.

As stated earlier that the sustainability in the fiscal performance is good for overall health of the economy but the dilemma with the developing countries is that they have a creeping fiscal performance on one hand and on the other how to fuel in this weak fiscal performance is another problem. Pakistan is one of those countries who had a persistent deficit in its fiscal performance. Over the last twenty or so years this showed a mix up trend and was high in 1990-1991 and were at lowest side in 2004 and then again increased to 4.3% in 2008-2009 which was 2.3% as a %age of GDP in 2004.

LITERATURE REVIEW

With respect to this particular subject "impacts of fiscal decentralization on budget deficit" only a single study is conducted by Bilin Neyapti. She cover the period from 1980-1998 for sixteen countries and took the panel data for all these countries. The finding of the study shows that with increase in the size of population the fiscal disciplining effects of fiscal decentralization also increased. Further her study suggest that if there is no local elections then the fiscal decentralization is more effective and with ethno-linguistic diversification and with quality governance the expenditure decentralization is less beneficial in the sample countries.

In most of the cases the fiscal decentralization impacts are investigated with respect to both revenue and expenditure devolution. It is viewed that the transformation of expenditure responsibilities help to increase the delivery of public service goods in case where the country is heterogeneous because in such cases the local governments are in a more suitable position to deliver and help the local inhabitants. Adam et al (2008) investigated the public service delivery in case of OECD countries while Kyriacou and Sagues (2009) said the government efficiency with respect to fiscal decentralization can be better judged when we take the institutional framework and developmental level of the country.

Zhang (2006) and Bouton et al, (2008), divert the attention towards the draw backs associated with the fiscal decentralization. They are of the view that because local government's tax base is limited therefore they are not in a position to fully utilize/use in favor the present tax bases. In some cases there are legal limitations over borrowing of the local governments therefore their debt management capabilities are restricted/limited. Now because the local governments have limited revenue capabilities therefore they also have less autonomy with respect to expenditure responsibilities. Thus the fiscal differences increased considerably. Finally these authors are of the view that in the absence of the central redistributive system, the income distribution is unequal in cases where there is the variance in the revenue bases.

Amongst most of the researchers the expenditure decentralization is not favored because of the following drawbacks associated with expenditure decentralization; 1- because the local governments do not have the institutional framework and also they lack administrative know how therefore the cost with respect to information and coordination is much higher than the central government. 2- These governments while supplying the public goods and services do not have economies of scale as compared to the central government. 3- if there is no local accountability then the expenditure decentralization may leads to corruption in the society and divide the society into rich and poor where the favors will always for the rich. 4- Implementation of the macroeconomic policies became difficult.

On the bases of the above stated arguments the literature investigated the effectiveness of fiscal decentralization moves in both direction, in favor and against, as far as its role to improve the fiscal efficiency of the government is concerned. Tanzi (2000) suggest that to improve the performance of fiscal decentralization following factors such as country total size, revenue generation abilities of the local government, privatization capabilities of the economy, government transparency, and the administrative abilities and capabilities of the local governments, must be take in mind. Fleinkman and Pleakanov in 2005 study the Russian economy and they noted that in Russia decentralization have negative impacts and suggest that in those regions where the incentives has been distorted by decentralization a more higher degree of intraregional decentralization is needed.

With respect to the cross countries studies conducting on investigating the impacts of fiscal decentralization, De Mello (2000), noted the following factors that have positively impacts of fiscal decentralization and these factors are, citizen's cooperation, people confidence over government, etc. De Mello and Barenstein (2001) are of the view that if the non tax revenue collection is greater than the relationship between governance and local spending will be stronger. Fisman and Gatti (2002) while conducting their study they found that expenditure decentralization has negative impacts over corruption. Treisman (2000) while studying the same variables finds that there is no significant relationship between expenditure decentralization and corruption. Based on the case of China, Chen (2004) studying the decentralization phenomenon with respect to revenue decentralization in China finds that there is positive relationship between the revenue decentralization and corruption.

The country specific literature that have been carried on the impacts of fiscal decentralization, in most of the cases are inconclusive, e.g. Hope (2000), Barrett (2000), Lin and Liu (2000), Dethier (2000), Norris et al. (2000), Eaton (2001), Faguet (2001), Feltenstein and Iwata (2005), Neyapti (2005),.

DATA AND METHODOLOGY

To analyze the impacts of fiscal decentralization on budget deficit annual time series data is used. The study period is taken from 1979 to 2009. The data for the study is taken from the various issues of Economic Survey of Pakistan and a handbook of statistics published in 2005 by the State Bank of Pakistan.

In this study the Engle- Granger two step approach for cointegration (1987) is used to check the long run relationship between fiscal decentralization and budget deficit. Before going to estimate the data it is necessary to check the order of integration of the variables. When this became clear that each variable have the same order of integration then the study will be proceeds to investigate the long run relationship amongst the variables. For unit root purpose both Augmented Dicky Fuller (ADF) and Phillips Perron (PP) tests were used. It was observed that at level all the variables were non-stationary but after taking the first difference these became stationary and thus we conclude that all the variables are integrated of order one or I(1). Now we are in a position to apply the Engle Granger cointegration approach. According to this approach if there is same order of integration of the variables then the first step to find (estimate) the long run relationship between the variables under study is, to apply the Ordinary Least Square method and save the residuals. In the second step of the saved residuals the unit root property has to be checked and if there is no unit root in the saved residuals that mean that there is long run relationship between the variables and so the null hypothesis is rejected.

Here in this study the budget deficit is used as a dependent variable while fiscal decentralization is measure with respect to both revenue and expenditure assignment. Our decentralization variables are

GEXP: Total central government expenditure;

PEXP: Total provincial expenditure less defence expenditures and payment of interest on debt;

GREV: Total central government revenue, and

PR: Total provincial revenue less grants-in-aid to total government revenues

According to Phillips and Woller (1997), the use of the PEXP and PR as a two straight forward measures of fiscal decentralization sometimes mislead. At the time when local taxes, tax rates and tax bases are established by the central government then in such cases confusion is natural. Also it leads into a fix when the provincial expenditures are exercised by the central government or when the grants in aid are used for specific purpose and also when we account the defence expenditures. All these are the difficulties associated with the measuring fiscal decentralization but as all of them cannot be addressed here, therefore we make only two adjustments to our FD measures which are suggested by Wasylenko (1987). We subtract the defence and debt expenditures from total expenditures to calculate the provincial expenditures and the second adjustment is regarding with the calculation of the provincial revenue where we subtract the grants in aid to calculate the ratio of provincial revenue. Our basic model is;

$$BD = \alpha_1 + \beta_0(GEXP) + \beta_1(GREV) + \beta_2(GDPfc) + \beta_3(TD) + \beta_4(PR) + \beta_5(PEXP) + U_t$$

The GDP is used for economic growth and TD is the trade deficit in our model.

While our model to capture the impacts of expenditure decentralization on budget deficit is

$$BD = \alpha_1 + \beta_1(GEXP) + \beta_2(GDPfc) + \beta_3(TD) + \beta_4(PEXP) + U_t$$

and for revenue decentralization we develop the following model;

$$BD = \alpha_1 + \beta_1(GREV) + \beta_2(GDPfc) + \beta_3(TD) + \beta_4(PR) + U_t$$

RESULTS AND DISCUSSION

(i) Test for order of Integration

In the first step we check the order of integration as the pre-condition for Engle Granger co-integration is that the variables must have the same order of integration otherwise this will not be applied. For this purpose both Augmented Dicky Fuller (ADF) test and Phillips Perron (PP) test are used in the study. The results of ADF and PP test at level and at first difference of the variables are given below.

TABLE 1: ADF AND PP TESTS AT LEVEL AND FIRST DIFFERENCE

variable	ADF test				PP test			
	intercept	Prob.	Trend & intercept	Prob.	intercept	Prob.	Trend & intercept	Prob.
BD	-1.77170	0.3866	-3.65998	0.0413	-1.50479	0.5175	-3.77823	0.0321
DBD	-7.13365	0.0000	-6.9885	0.0000	-7.2801	0.0000	-7.12039	0.0000
GEXP	4.19057	1.0000	1.55431 -3.69568	1.0000	7.88354	1.0000	2.34659	1.0000
DGEXP	-2.85513	0.0063		0.0038	-2.85037	0.0063	-3.56196	0.0051
GREV	4.17246	1.0000	1.85799	1.0000	6.43995	1.0000	2.22948	1.0000
DGREV	3.19396	0.0030	-4.37658	0.0086	-3.27962	0.0025	-4.41811	0.0078
GDP	12.2077	1.0000	8.17479	1.0000	12.2077	1.0000	8.23600	1.0000
DGDP	3.10684	0.0001	1.65132	0.0003	7.31274	0.0005	7.31372	0.0005
TD	3.01173	1.0000	1.39045	0.9999	3.53870	1.0000	1.77572	1.0000
DTD	-3.71885	0.0091	-4.72926	0.0037	-3.86704	0.0063	-4.90671	0.0024
PR	4.47652	1.0000	0.19296	0.9968	4.36651	1.0000	0.14136	0.9963
DPR	-2.74777	0.0089	-4.28825	0.0010	-2.6115	0.0012	-4.0127	0.0012
PEXP	-1.93454	0.3128	-1.77576	0.6912	1.88869	0.3328	-1.81378	0.6728
DPEXP	-7.34860	0.0000	-7.49941	0.0000	-7.37614	0.0000	-7.57097	0.0000

Note: all the variables are significant at 1% level of significance; hence they have the same order of integration.

(ii) Regression Analysis:

From the above table 1 it is clear that our model is quite suitable to apply Engle Granger cointegration technique over it as all the variables have the same order of integration i.e. I(1). When we apply the OLS at level over our model the following results were obtained.

$$BD = \alpha_1 + \beta_0 (GEXP) + \beta_1 (GREV) + \beta_2 (GDPfc) + \beta_3 (TD) + \beta_4 (PR) + \beta_5 (PEXP) + Ut$$

$$BD = 0.16 - 1.0 GEXP + 1.0 (GREV) - 8.16 (GDPfc) - 3.0 (TD) - 4.46 (PR) + 6.21 (PEXP)$$

$$t\text{-stat: } (0.8579) (-4.2347) (2.8091) (-0.0296) (-0.1538) (-0.6211) (0.2609)$$

$$R^2 = .976$$

$$F\text{-stat. } 2.86$$

$$\text{Adj. } R^2 = .979$$

$$\text{Prob (F-stat) } = 0.0000$$

$$\text{Durbin - Watson Stat. } 2.156$$

Now we saved the residuals of the estimated model and then check these residuals for their order of integration. In case if these saved residuals integrated at level i.e. I(0), then we have what we looking for, the long run relationship between our variables. Results are displayed in the table below.

variable	ADF test				PP test			
	intercept	Prob.	Trend & intercept	Prob.	intercept	Prob.	Trend & intercept	Prob.
residuals	-5.74817	0.0000	-5.64967	0.0000	-5.91218	0.0000	-5.78962	0.0000

Note: the saved residuals are significant at 1% level of significance and is integrated of I(0).

It is clear from the above table that there is no unit root in the saved residuals and the saved residuals are integrated at level or I(0) so we can conclude that in the long run the fiscal decentralization have its impacts on budget deficit.

Also an attempt has been made to investigate individually the relationship of our fiscal decentralization measure with budget deficit. First we present the expenditure decentralization impacts over budget deficit and then there will be the results of our estimation showing the relationship between revenue decentralization and budget deficit. The model which was estimated to investigate the impacts of expenditure decentralization on budget deficit is;

$$BD = \alpha_1 + \beta_1 (GE) + \beta_2 (GDPfc) + \beta_3 (TD) + \beta_4 (PE) + Ut$$

Here the GE and PE are the central and provincial government expenditures respectively. As we know earlier that our variables of the study are I(1), therefore we have to estimate them at level and not going for checking the order of integration again. After regressing the variables at level by applying the OLS technique we saved the residuals and then went for checking the unit property of the saved residuals and note that there is no unit root in our residuals at level and thus these are I(0), which mean that individually the expenditure decentralization also affect budget deficit in the long run in case of Pakistan economy. The results of the saved residuals to check the unit root property is pasted in the below table.

variable	ADF test				PP test			
	intercept	Prob.	Trend & intercept	Prob.	intercept	Prob.	Trend & intercept	Prob.
residual	-5.24741	0.0002	-5.15891	0.0001	-7.28522	0.0000	-7.23057	0.0000

Note: the saved residuals are significant at 1% level of significance and is integrated of I(0).

Once we have noted that expenditure decentralization, in the long run have some effects on budget deficit, then it seems necessary to check the same effects of revenue decentralization in the long run. For that purpose we develop a new model which is;

$$BD = \alpha_1 + \beta_1 (GR) + \beta_2 (GDPfc) + \beta_3 (TD) + \beta_4 (PR) + Ut$$

GR and PR are the central and provincial government revenues. From our below table of the Residuals checking for unit root, it can be noted that here the results are same as that were in case of expenditure decentralization, a long relationship is found between revenue decentralization and budget deficit.

variable	ADF test				PP test			
	intercept	Prob.	Trend & intercept	Prob.	intercept	Prob.	Trend & intercept	Prob.
residual	-4.24546	0.0024	-4.17397	0.001	-4.24546	0.0024	-4.17397	0.001

Note: the saved residuals are significant at 1% level of significance and is integrated of I(0).

CONCLUSION

This study is an extension in the literature to analyze the impacts of fiscal decentralization on macroeconomic variables. Very rare literature is found over the relationship between fiscal decentralization and macroeconomic variables. In respect of the budget deficit and fiscal decentralization relationship it is the first study where the focus is on a specific country. In the current study an attempt has been made to investigate the relationship between the two by applying Engle Granger two step cointegration Approach. Two separate models, other than the main model, were developed for the study so that to check and better analyze the phenomenon that which type of decentralization can be helpful to minimize the budget deficit and the results of the study showed that in the long run both type of decentralization have a significant impacts over budget deficit and both are helpful to minimize the budget deficit. While the other variables GDP and trade deficit also have a valuable impacts over budget deficit.

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DETERMINANTS OF MILITARY EXPENDITURE IN DEVELOPING COUNTRIES AND THEIR EFFECTS ON THE ECONOMY

A. K. M SAIFUR RASHID
ASSOCIATE PROFESSOR OF ECONOMICS
GOVT. KHONDOKAR MOSHARRAF HOSSAIN COLLEGE
KOTCHANDPUR, JHENIDAH
BANGLADESH

MD. ZAHIR UDDIN ARIF
ASST. PROFESSOR
DEPARTMENT OF MARKETING
FACULTY OF BUSINESS STUDIES
JAGANNATH UNIVERSITY
DHAKA
BANGLADESH

M. NURUL HOQUE
PROFESSOR
DEPARTMENT OF ECONOMICS
JAHANGIRNAGAR UNIVERSITY
SAVAR, DHAKA
BANGLADESH

ABSTRACT

The present article focuses on the determinants of military expenditure in developing countries and their effects on the economy. After Benoit's (1973) work, numbers of researchers investigate the impact of military expenditure on the economy. It is argued that before examining the effect of military expenditure on the economy, at the first is needed to the determinants of military expenditure of a country. This article is both a review and an assessment of academic literatures issued on the determinants of military expenditure in developing countries and their economic effect. Economic and non-economic factors influence on military expenditure in developing countries. Whatever the determinants of military expenditure, governments of developing countries should allocate their scarce resources in different sectors carefully.

KEYWORDS

Military expenditure, Developing countries, Determinants of military expenditure, Economic effect.

INTRODUCTION

Scarcity must find the right balance between the discipline of the market and the generosity of welfare economics. The very first useful economic model that captures the essence of scarcity, choice and opportunity costs is the production possibility frontier (PPF). Samuelson takes guns-butter trade-offs to depict the difficult choices a country faces in allocating resources between defense spending and other valued pursuits (such as health care and education). Perhaps he tacitly chooses one less desired good "gun" and the other more desired good "butter" to make his point. Every beginner of economics discipline who must have developed a sense of disdain for the resources claimed by the defense spending. Human Development Report (1991) placed the issue of 'guns-butter' choice to reflect the above mentioned balance between the working of the invisible hand and the desirability of welfare economics when it states- "If a government chooses to spend more on its army than on its people, it can not be regarded as committed to human development". Military expenditure is increasing every year rapidly almost all countries of the world. This expansion in the military establishment has also stimulated much interest among economists regarding the effect of military expenditure on the economy. Benoit (1973) starts the very first research regarding the effect of military expenditure on economic growth. After his work, numbers of researchers investigate the 'guns-growth' relationship. It is argued that before analyzing the impact of military expenditure on the economy, it is needed to identify the determinants of military expenditure of a country.

OBJECTIVES OF THE STUDY

The main objectives of the study are to identify the determinants of military expenditure in developing countries and to analyze their effects on the economy.

METHODOLOGY OF THE STUDY

The article has been prepared mainly on the basis of academic literatures survey. Various relevant published and unpublished materials such as articles from different journals, books, conference paper, working paper etc. have been reviewed and assessed for the purpose of this study.

LIMITATIONS OF THE STUDY

The limitations of the study are as follows:

- Due to maintain a very confidential policy, many countries do not disclose the information of military expenditure properly.
- Due to lack of resources, it was not feasible to collect primary data, which would have greatly enriched the analysis.
- For lack of primary data, no statistical tool could be employed and no statistical relevance could be established.

DETERMINANTS OF MILITARY EXPENDITURE

Before analyzing the effect of military expenditure on economic growth, it is important to know what factors determine military expenditure of a country. Determinants of military expenditure may differ from country to country. Deger and Sen (1983) assume that defense expenditure is particularly determined by strategic considerations of security and threat. Harris (1986) finds out the determinants of military expenditure for Association for South East Asian (ASEAN) countries. He identifies that economic forces have moderate influence on defense expenditure but there is a tendency of defense expenditure to increase only modestly in the absence of a threat to security, and to respond to fluctuations in domestic economic well-being.

Determinants of military expenditure of a country can be divided into two broad categories:

I) Economic factors and II) Non-Economic factors.

I) ECONOMIC FACTORS

In most of the empirical researches on the relationship between military expenditure and economic growth, researchers assume 'military expenditure' as an explanatory variable. They consider either military expenditure as a percentage of GDP or central government expenditure or just growth of military expenditure as explanatory variable. Among them, Benoit (1973) begins such research at first. Economic factors like Gross Domestic Product/Gross National Income (GDP/GNI), Central Government Expenditure (CGE), and Foreign Exchange Availability (FEA) are considered as explanatory variables in their military burden equation. Harris (1986) suggests that wealthier countries are able to afford to allocate a higher proportion of GNI or government expenditure to defense. He also considers balance of payments and government revenue as explanatory variables in his military burden equation. Hewitt (1993) shows that when growth of GDP falls in some regions (Sub-Saharan Africa, the Middle East and the Western Hemisphere of developing countries) during the period 1985-1990, the ratio of government expenditure to GDP also falls. Maizels and Nissanke (1986) consider GDP per-capita, GDP growth rate, CGE as ratio to GDP as explanatory variables in military burden equation. They find that oil exporting countries in the Middle East begin rapid military expansion following the sharp rise in oil prices in 1973 and 1978-79. Lim (1983) argues that foreign capital inflow might enable a country to increase its defense. Looney and Frederiksen (1986) consider GDP and CGE as explanatory variables in their military burden equation. Therefore, researchers mainly identify that GDP, CGE, and FEA are the three important economic factors which influence the extent and nature of the military expenditure of a country.

II) NON-ECONOMIC FACTORS

There are various non-economic factors that influence military expenditure of a country. These are as follows:

- a) Option good property/Psychological factor
- b) Geo-strategic factors
- c) Types of government

a) OPTION GOOD PROPERTY/PSYCHOLOGICAL FACTOR

Many people want to have their military stronger than others. They seem to treat a strong military as national pride of the country. They want to transform military into a well-equipped and trained the modern force. Therefore, the ruling governments allocate more resources on military. National security is assumed to be linked with the very presence of a stronger military; the psychological need to feel 'secure' is normally satisfied by military expenditure. Moreover, the mere presence of a good often gives a sense of 'security' is called the 'option good', and a stronger military endows the attributes of being an 'option good'.

b) GEO-STRATEGIC FACTORS

Geo-strategic factors influence a country's military expenditure. It may be influenced by two ways: i) Internal factors and ii) External factors. Internal or external threats can be conducive to larger military expenditures of a country.

i) INTERNAL FACTORS

Military expenditure may be motivated by the needs of security within the country. There are many countries in the world facing civil wars, separation movement etc. However, some external influences also exacerbate the situation. Countries like Sri Lanka, Thailand, Indonesia, Myanmar, Sudan etc. are facing these problems. These may cause of increasing the average level of military expenditure in developing countries. Number of military personnel of a country is also a determinant of military expenditure. Expenditure on armaments and military expenditure in total is not the same thing. The largest proportion of defense expenditure goes not only on armaments but also on personnel costs and on operations and maintenance. Harris (1986) shows that in common with developed countries, personnel costs made up almost half in Indonesia's military expenditure, and 'operation and maintenance' costs accounted for a further 28 percent in 1978-79. Again, Ball (1983b) estimates total security expenditure for 48 LDCs and finds that personnel and operations/maintenance costs made up over 90 percent of total costs in the Philippines, Singapore and Thailand, and 75 percent for Malaysia in the late 1970's. Chletsos and Kollias (1995) analyze the Greek military data during the period 1974-1990, and find that more than half of military expenditure is allocated for military personnel. Many developing countries have a large number of military personnel. Therefore, a large number of equipments will be needed for larger personnel and the commensurate maintenance costs will be higher for these equipments.

ii) EXTERNAL FACTORS

There are many countries which are engaged either in conflict or show hostility among others. Therefore, they always remain involved in arms race. For example, the hostility between India and Pakistan or Arab states and Israel or South Korea and North Korea or Turkey and Greece or Peru and Chile or Peru and Ecuador etc. are believed to have led to an arms race between countries, which might have contributed to their increased military expenditures. Military expenditure is principally determined by strategic considerations of security and threat (Deger and Sen 1983). Thee (1982) has discussed the determinants of rapid military build-ups in developing countries. He distinguishes between external factors, such as imperial rivalries and ideological/religious conflicts, and internal factors such as vested interests of the military, the ready use of force as an instrument of diplomacy and the adoption of a national security doctrine are dependent on a strong military. He suggests that while globally (and this is particularly true for the super powers) internal factors are more important, armaments in developing countries tend to be animated by external factors (Thee 1982, p. 114). McKinley (1989) conducts a cross-sectional analysis for a large number of Third World Countries over the periods 1950-1982 and determines that military expenditure increases in response to an inter-state conflict and decreases following the cessation of the conflict. Another study conducted by Weedy (1986) argues that international competition and threats to national security led to higher military participation ratios and larger military outlays.

Territorial disputes and competitive arms race between adjacent/neighbor countries in the Third World are an obvious and major source of escalating military expenditure. Even in Latin America, whereby international standards, territorial disputes are not present, some increases in military expenditures that have been caused by regional rivalry among neighbors. Peru and Chile have a long standing conflict and are among the highest spenders in Latin America in terms of the share of GDP devoted to the military (Deger, 1986). Klein (2004) shows that Peru tends to increase its military expenditure when Ecuador and Chile increase their military expenditures.

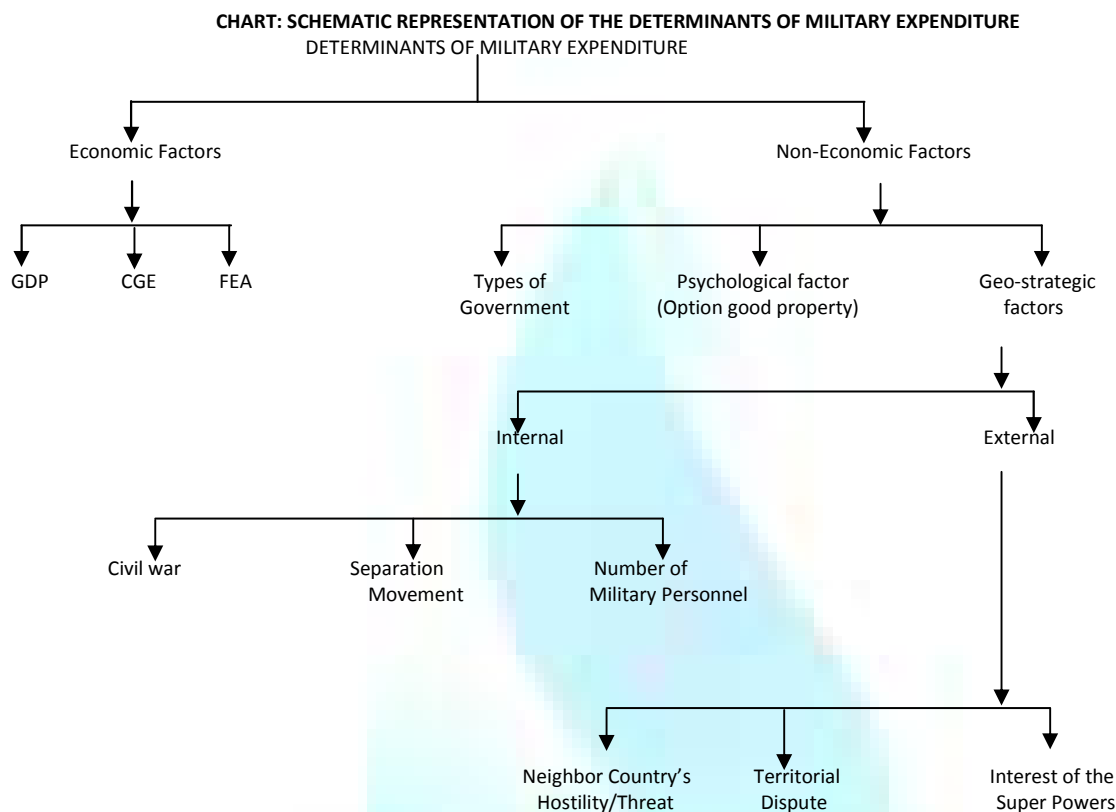
The world was divided into two super powers before 1990. USA was one hand and USSR was on the other. Then they tried to create military ally in favor of them. For this reason, they gave military aid to those countries. However, after the fall of USSR, USA becomes super power alone. Though France, Russia, Italy, Germany, China sell military weapons but USA is trying to capture all weapons market alone. Deger (1986) argues that supplier countries contribute in no small way to the internationalization of military spending and the consequent rise of defense expenditure. The exporting countries often encourage LDCs to buy or otherwise import arms, in order to gain economic advantages or political control of an ally. International salesmanship of weapons systems is very sophisticated and often high-level members of the government (including heads of state) are called into add their weigh to advertisement pressures. Maizels and Nissanke (1986) contend that to the extent a developing country adheres to a global political/strategic alliance, provides facilities for foreign military bases, and depends on a super power or its allies for its military equipment and personnel training, it may also come under pressure to expand its own military establishment, partly to enhance the potential of a foreign military base, and partly as an instrument in support of power bloc regional policy. Various empirical studies support the hypothesis that Greek's military expenditure is primarily determined by the Greek-Turkish conflict (Majeski 1985, Kollias 1991, Refenes et al., 1995). Dunne et al. (1999) find that there is a bi-directional linear causality between the military expenditures of both countries- India and Pakistan.

c) TYPES OF GOVERNMENT

Military is a critically important actor in domestic politics in the Third World countries. Democratic system of the developing country is fragile. This system of the most developing nations did not able to establish on the strong base yet. Political instability is the common scenario of these states. Military often occupies the state power driving away many democratic governments of the developing countries. In Thailand, military occupies state power for 17 times in its history. Though controversy remains among researchers about the relationship between types of regimes (civil or military) and levels of military expenditures, a familiar intuitive proposition is that when in power, the military will allocate more to the defense sector. Schmitter (1973) studies on 19 Latin American countries over the period 1950-1970 and concludes that military coups are associated with changes in military expenditures, but the direction of change is indeterminate. Zuk

and Thomson (1982) study for 66 LDCs over the period 1967-1976 and find no relationship between the occurrences of coups and military expenditures as a proportion of central government expenditure. Whynes (1979) studies on 10 Latin American countries over the period 1959-1975 and concludes that there is a positive relationship between the occurrences of coups and military expenditures. Grindle (1986) identifies positive relation between regime change and military expenditure. This study is conducted on 18 Latin American countries over the period 1967-1980. However, Looney (1987) identifies no relation between regime change and military expenditure as a proportion of central government expenditure for Argentina over the period 1961-1982. Deger (1986) contends that it is not always true that military governments necessarily spend more on defense than their civilian counterpart.

Determinants of military expenditure may differ from country to country. The determinants of military expenditure of a country, which are shown in chart below:



Where, GDP= Gross Domestic Product, CGE= Central Government Expenditure, FEA= Foreign Exchange Availability.

ECONOMIC EFFECTS OF THE DETERMINANTS OF MILITARY EXPENDITURE

Economic factors influence on the economy in several ways. After Benoit's (1973) work, researchers empirically investigate the growth effect of military expenditure considering military expenditure as an explanatory variable. Joerding (1986), Chowdhury (1991), LaCivita and Frederiksen (1991), Kusi (1994), Heo (1999), Dakurah et al. (2001) and others' empirical investigation suggest that there may be four possible causal ordering between military expenditure and economic growth: bi-directional causality between military expenditure and economic growth, unidirectional causality from growth to military expenditure or vice versa and the absence of any causal relationship. High growth rates of GDP may cause high military burden and high military burden may cause higher rates of growth. Researchers argue that military expenditure may have positive spin-off effect on the economy. Militaries of some countries administer schools, colleges, universities, medical colleges that help to create human capital to the society. Moreover, they conduct some industries by which skilled human resources are created. Military as an organized and disciplined force helps in the process of modernization, provides technical skills, educational training and creates infrastructure necessary for economic development and also rescues the society, when a country falls in trouble like natural disaster. They also argue that this spin-off effect may occur by creating effective demand and increasing productivity through technological advancement. Empirical evidences in favor of positive spin-off are provided by, among others, Benoit (1973, 1978), Dixon and Moon (1986), Ward et al. (1991), Alexander (1995), Chletsos and Kollias (1995), Sezgin (1997, 2000), Dunne and Nikolaidou (2001), Yildirim and Sezgin (2002), Yildirim et al. (2005). However, it is difficult to measure empirically the spin-off effect of military expenditure on the economy. Again, researchers who find negative relationship between military expenditure and economic growth suggest the presence of crowding-out effect of military expenditure. They claim that military expenditure may retard economic growth by crowding-out civilian consumption, more productive civilian investment, health, and education expenditure and infrastructure development and creates a balance of payments problem. Support for this proposition has been provided by, among others, Deger and Sen (1983), Lim (1983), Faini et al. (1984), Lebovic and Ishaq (1987), Mintz and Huang (1990), Ward and Davis (1992), Antonakis (1999), Dunne and Vougas (1999), Galvin (2003). One argument behind the negative military-welfare trade-off is that government funded research and development programs are primarily concentrated in the military industry, while non-military research and development programs are much less amply funded. Support for the proposition of negative trade-off has been provided by, among others, Russet (1970), Harris et al. (1988), Apostolakis (1992), Frederiksen and Looney (1994), Ozsoy (2002), Yildirim and Sezgin (2002). Another argument suggests that there is no negative or even a positive relationship between military expenditure and social programs. Accordingly modern society moves towards a warfare-welfare state in which decision makers must buy off the electorate with welfare goods [Peroff and Podolok (1979), Apostolakis (1992)]. No trade-off and positive trade-off are reported by, among others, Peroff and Podolok (1979), Harris et al. (1988), Hess and Mullan (1988), Davis and Chan (1990), Frederiksen and Looney (1994), Sensen (2002), Yildirim and Sezgin (2002).

Analyzing the impact of military expenditure as a share of CGE, one should consider the following issues:

- The tax effect consequent to a rise in military expenditure, and the possible mobilization of additional resources for non-military needs;
- The implications of budget deficits in the monetary process via the government's financial constraint;
- The short-term multiplier effects consequent to an increase in any form of government expenditure (Deger 1986, p. 61).

Here Deger argues that if military expenditure is financed by additional taxation, tax effort of the society may be improved. After the improvement of the tax effort of the society, if the military burden goes down in later years, the total saving potential may have been increased for the economy. Then additional military expenditure can have fiscal effects which may lead to the mobilization of resources. This analysis assumes that after improvement of tax effort, the military burden will go down in later years. But military burden of the society has been increased every year. Again, military expenditure puts pressure on

nationals by heavier tax burden, reduces private savings and investments that affect on the economy negatively. Moreover, when government allocate resources in different sectors by borrowing money that put pressure in the credit market resulting in higher interest rates which also hamper private investment. Multiplier effects have been used to support the claim that a security-based autonomous increase of military expenditure may have expansionary effects on the economy. Expenditure on armaments and military expenditure in total is not the same thing. The largest proportion of defense expenditure goes not only on armaments but also on personnel costs and on operations and maintenance in the developing countries. Almost 70% to 80% of their allocation remains for these two purposes. Multiplier effects of military expenditure should be considered in terms of consumption and this consumption effect of military expenditure should be accounted with compare to civilian consumption. Again, expenditures on military hardware imports put pressure on developing countries' stock of foreign exchange reserve. As a result, developing countries may not be able to import other more desired productive capital goods due to shortage of foreign exchange.

It is difficult to identify the impact of non-economic factors on the economy. If the primary purpose of military expenditure is to maintain security and protect the country from threats, a rise in military budget should increase domestic stability. In principal, a higher military outlay should contribute to 'peace and security', thus allowing people to take a lower inter-temporal view of the consumption/saving decision making (Deger 1986, p. 95). Recently, Todaro and Smith (2003) in their well-known text book 'Economic Development' state that military build-ups often seem to lead to war, which, as the many recent wars in Africa show clearly, has devastating consequences for economic and social development. They also state that whatever the reasons, it is now clear that high military expenditures are draining developing economies of scarce resources needed to finance long-term development efforts. Research sponsored by UNICEF (1996, 2000) states that there is no doubt that security is important in all countries, regardless of income level. But many facets of security that are emanated by the military create big armed forces and weapons technologies and as a result they exclude many other important aspects of security. Again, high levels of military spending do not necessarily deter armed conflict, keep a country's citizens safe from violence, or generally improve the quality of life in a country. Rather poverty and lack of development fuel hatred and escalate more violence and hostilities and that improvement in such areas as nutrition, health, education, water, sanitation and family planning would go even further to reduce the underlying causes of so many battles.

CONCLUSION

In this article, it has been demonstrated that various economic and non-economic factors influence on military expenditure of developing countries and they affect on the economy. It is clear from analyzing the academic researches that if GDP, CGE and FEA of a country increase, its ability to allocate more resources in defense purposes will be greater. Again, non-economic factors also influence on the military expenditure of developing countries. But controversial prevails among defence economists about the impact of military expenditure on the economy. Considering the determinants of military expenditure of a country and their effects on the economy, governments of developing countries should allocate their scarce resources in different sectors very carefully.

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A CRITICAL EVALUATION OF THE GOVERNMENT EXTENSION SERVICES: THE CASE FOR LAND REFORM FARMS, IN THE WEST COAST DISTRICT, WESTERN CAPE

MOGALE PETER SEBOPETSA
MASTERS STUDENT – REGENT BUSINESS SCHOOL
DEPARTMENT OF AGRICULTURE - WESTERN CAPE
REPUBLIC OF SOUTH AFRICA

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

ABSTRACT

The quality of agricultural extension services is perceived to be a key determinant of profitable farming enterprises. The aim of this study was to assess the quality of the extension services in West Coast district with the objective to determine the impact of extension services on land reform farms delivered under the Land Redistribution for Agricultural Development (LRAD) programme, measure the linkages between land reform farmers and extension officers, evaluate the frequency of visits by extension officers to land reform farmers, determine the perception of land reform farmers on government extension services and to evaluate the impact of government extension service on land reform farmers' access to markets. Land reform in South Africa is a priority program of government with efficient productivity as its ultimate outcome. The settlement of new farmers and specifically post settlement support is crucial for the successful transformation of the agricultural sector. The study was conducted in the West Coast District of Western Cape Province. The study used both qualitative and quantitative methodology. The data used in the quantitative analysis was collected from 20% of the sample population. Whilst data collected through qualitative methodology was used to explain the outcome of the quantitative method. The study found that 77.78% of respondents are aware of the extension services. It was also found that the extension workers do have regular contacts with the entrepreneurs (respondents). In addition, it was found that the respondents regard the service of extension workers to be of less value to their farming activities. The study recommends the training of extension workers on impact subjects such as marketing, technology transfer and finances. In addition, the study recommends that the Department should consider adopting a specific extension approach for the province with clear standard operating procedures.

KEYWORDS

Land Reform, Agricultural Extension, Quality, Training

INTRODUCTION

The agricultural sector in Africa is growing and shows great potential (Versi, 2011). According to this author, many African countries are investing in the development of their agricultural sector in order to enhance its sectoral contribution to the national economies and thereby increasing its real terms and percentages of its contribution to Gross Domestic Product (GDP). In the article entitled "Agriculture: Foundation of civilization" Versi, (2011) reported that various World Bank studies have indicated that the acceleration of agricultural growth has a potential to reduce poverty four times relatively to other sectors. This author's observation resonates well with African condition because African continent is known for its richness in natural resource capacity (Kabukuru, 2011), reported that Africa has failed to reduce its poverty challenges since its independence in 1960s. The authors further reported that during 1990s nearly half of all Africans lived on \$1 a day or less and 30 percent of the world's poor lived in Africa. According to the UN Millennium Development Goals report for 2011, African children remain the most undernourished in the world (Sithole, 2011). The trends points that sub-Saharan Africa will not meet its hunger reduction target by 2015. On the contrary, South East Asia, East Asia and Latin America are said to be making tremendous progress (Sithole, 2011). The failure of Africa continent to fight poverty and malnutrition happens despite the commitment by African states to enhance agricultural investment through a program initiated by New Partnership for Africa's Development (NEPAD) called Comprehensive Africa Agricultural Development Programme (CAADP) in 2003. The slow endorsement of CAADP by African countries appears to have adverse impact on its effectiveness regarding elimination of extreme hunger and poverty. In South Africa, hunger and extreme poverty are more pronounced in rural and peri-urban areas (Mmbengwa, 2011).

According to this author, these areas rely on agriculture for their livelihood. Therefore, well supported agricultural enterprises may contribute significantly to job creation and consequently alleviate food insecurity. Unfortunately, agricultural activities in poor rural and peri-urban areas of South Africa are dominated by subsistence land reform farmers, whose background in farming require massive mentorship through government extension workers. Government extension officers have been used as pillars for capacity building support to all South African farmers. In spite of their services being free and available to all South African farmers, commercial agricultural (highly productive and competitive type of farming in South Africa) do not prefer their services and instead use private extension services for their farming support. It appears that the lack of quality in extension services may act as deterrent for commercial farming sector to utilize it. The extension service in South Africa is organised under the Ministry of Agriculture. The role of government extension agents is much debated but little documented (Francis and Rawlins-Branan, 1987). There is a tendency to reduce government extension to the transfer of technical information, ignoring its social and economic role (Ballantyne, 1987; Francis and Rawlins-Branan (1987). It is generally accepted that the role of these workers should include teaching the farming enterprises how to increase their productivity (Ballantyne, 1987).

The question remains whether government extension officers are capacitated to render these tasks given the level and type of their education (e.g. some of them may have a degree in crop science, but very little knowledge on management and marketing), lack of farming skills and inadequate infrastructure are some of the factors impacting negatively on the success of Enterprises. Modise, (2011) re-emphasised that land reform farmers have no any other option than to use government extension workers, despite their shortcoming which ranges from lack of experience, inadequate financial resources, weak institutional structures. In addition, Bembridge (1987) found that less than one in four extension workers can be considered to have sufficient knowledge to be able to perform their tasks effectively. He also found considerable deficiencies in the quality of extension staff in terms of technical support and administrative control (Bembridge, 1987). Many extension workers lack the necessary knowledge and skills in technology and management to disseminate useful information to farmers (Bembridge, 1987).

Fremy (2000) reported that extension services all over sub-Saharan Africa are woefully inadequate in terms of numbers, training and the needed infrastructure and other necessities. Farming enterprises in South Africa are limited in financial management and extension personnel. Extension officers are unable to provide these enterprises with informed guidance on financial and management matters (Groenewald, 2004) and Food and Agriculture Organisation (FAO, 2000). Drawing from a variety of the reports, it may be concluded that extension workers are failing to meet the expectations of the agricultural business community in

South Africa (URS, 2006) and Dinucci and Fre (2003). Therefore, the extent to which the extension service has capacity to serve the agricultural community in South Africa remains an important challenge. The objectives of the study were to determine the following:

- To measure the start ups and farming experience of land reform farmers
- To measure the linkages between land reform farmers and extension officers.
- To evaluate the frequency of visits by extension officers to land reform farmers.
- To determine the perception of land reform farmers on government extension services.
- To evaluate the impact of government extension service on land reform farmers' access to markets.
- To make recommendations on strategies to ensure the effectiveness of government extension service.

METHODOLOGY

The study was conducted in the West Coast district municipality located in the Western Cape Province of South Africa (Wikipedia, 2011). According to Wikipedia, [22], this municipal district has a total area of 31, 101 square kilometers (12, 008sq mi). Figure 1, shows that the municipality is comprised of six local municipalities (Matzikama, Cederberg, Bergrivier, Saldanha Bay, Swartland and West Coast District Management area).

FIGURE 1: MAP FOR THE WEST COAST DISTRICT MUNICIPALITY



Mooreesburg is the head office of the district municipality and is situated at 33°10'S 18°40'E 33.167°S 18.667°E latitude, 33°10'S 18°40'E 33.167°S 18.667° East longitude. West Coast District Municipality has a total population of 286, 751 with a density of 9.2/km² (23.9/sq mi) and a households of 76,215. The population is varied in terms of race, with coloured having the highest (71.64%) population, followed by white (19.12%). Blacks and India or Asian have the least population (8.96% and 0.27% respectively). According to (Jacobs and Makaudze, 2009), West Coast District's livelihood is highly (80%) reliant on the farming sector. These authors reported that the government land reform programme has so far done little to improve the livelihoods of rural households tied to agriculture in this region. Due to high level of poverty, the majority of residents rely on income from farming and government grants. The research used both qualitative and quantitative methods. Prior to the commencement of the data collection, an intensive desktop study, involving the use of old and recent published materials was explored. The desktop study prioritized both national and international accredited journals information resources. With regard to qualitative methodology, participatory forums were used to delineate the research context and premise, whilst the quantitative methods were utilized to measure variables under investigation.

TABLE 1: THE DISTRIBUTION OF INDIVIDUAL FARMERS & GROUP MEMBERS IN WESTERN CAPE PROVINCE

District	Individual Farmers	Group Members
Cape Metro Area	163	128
Cape Winelands	142	4 459
Central Karoo	13	401
Eden	110	744
Overberg	80	880
West Coast	173	2 551
Total	681	9 163

N=18
(10%)

A representative (20%) sample size was pre-determined by using expert evaluation. The functional enterprises aged more than a year was identified and categorized during data collection. Consequently, eighteen enterprises responded on the questionnaire from across the entire district, (Figure 1). The reliability

test and repeatability measures were determined. Both descriptive and inferential analyses were conducted. According to Diamantopoulos and Schlegelmilch, (2005) and Eiselen, Uys and Potgieter (2005), analysis of the data should be well planned in order to provide the relevant outcome. In order to conform to the directives of the above authors, the choice of the analyses used in this research followed the guidelines mentioned below:

- a) That the analysis should ensure that only relevant analysis is undertaken.
- b) That the analysis objectives provide a check on comprehensiveness of the analysis
- c) That the analyses should objectively help avoid redundancy.

The analysis chosen for this data was mainly non-parametric tests Friedman Two-Way Analysis of Variance (ANOVA). The statistical software during analysis was Statistica.

MODEL SPECIFICATION

Given data $\{x_{ij}\}_{n \times k}$, that is, a tableau with n rows (the blocks), k columns (the treatments) and a single observation at the intersection of each block and treatment, calculate the ranks within each block. If there are tied values, assign to each tied value the average of the ranks that would have been assigned

without ties. Replace the data with a new tableau $\{r_{ij}\}_{n \times k}$ where the entry r_{ij} is the rank of x_{ij} within block i .

Find the values:

- $$\bar{r}_{.j} = \frac{1}{n} \sum_{i=1}^n r_{ij}$$
- $$\bar{r} = \frac{1}{nk} \sum_{i=1}^n \sum_{j=1}^k r_{ij}$$
- $$SS_t = n \sum_{j=1}^k (\bar{r}_{.j} - \bar{r})^2$$
- $$SS_e = \frac{1}{n(k-1)} \sum_{i=1}^n \sum_{j=1}^k (r_{ij} - \bar{r})^2$$
- $$Q = \frac{SS_t}{SS_e}$$

The test statistic is given by Q . Note that the value of Q as computed above does not need to be adjusted for tied values in the data.

Finally, when n or k is large (i.e. $n > 15$ or $k > 4$), the probability distribution of Q can be approximated by that of a chi-square distribution. In this case the p-value

is given by $P(\chi^2_{k-1} \geq Q)$. If n or k is small, the approximation to chi-square becomes poor and the p-value should be obtained from tables of Q specially prepared for the Friedman test. If the p-value is significant, appropriate post-hoc multiple comparisons tests would be performed.

RESULTS AND DISCUSSION

In this section, the results of the quality, effectiveness and accessibility of the government extension services will be reported. The section has two sub sections. The first sub-section deals with biographical information of the sample population, followed by the descriptive and inferential analyses.

BIOGRAPHICAL INFORMATION

DEMOGRAPHICS

According to Table 1, the female respondents were in minority (38.89%), whilst the male respondents were in majority (61.11%).

TABLE 2: FREQUENCY DISTRIBUTION OF RESPONDENTS IN TERMS OF GENDER

Category	Frequency table: Gender			
	Count	Cumulative Count	Percent	Cumulative Percent
Male	22	22	61.11111	61.1111
Female	14	36	38.88889	100.0000
Missing	0	36	0.00000	100.0000

Table 3, reports on the distribution of the respondents based on qualifications. According to Table 2, the majority (55.55%) of the respondents has the lowest educational qualification and very few (11.11%) respondents have further education and training (FET) qualifications. These results appears to indicate that only the least educated residents of the West Coast District are interested in making their career in emerging farming. It may also be inferred that the more educated the residents, they more marketable in other sections of industries. Furthermore, it may also be deduced that the more educated the residents the more they regard emerging farming as high risk enterprises and thus refrain from being involved in this type of enterprise.

TABLE 3: FREQUENCY DISTRIBUTION OF RESPONDENTS IN TERMS OF QUALIFICATION

Category	Frequency table: Qualification			
	Count	Cumulative Count	Percent	Cumulative Percent
Primary	20	20	55.55556	55.5556
Secondary	12	32	33.33333	88.8889
FET	4	36	11.11111	100.0000
Missing	0	36	0.00000	100.0000

Keys: FET= Further Education and Training

Table 4 provides in-depth information regarding the distribution of gender and qualification. Within each gender composition, the representation varies according to the qualifications achievements by respondents. It appears that the majority of the respondents (55.56%) regardless of their gender have the lowest qualifications. Those respondents with high qualification are in minority (5.56%) regardless of their gender.

TABLE 4: CROSS TABULATION OF DISTRIBUTION OF RESPONDENTS IN TERMS OF GENDER AND QUALIFICATIONS

Summary Frequency Table Marked cells have counts > 10 (Marginal summaries are not marked)					
	Gender	Primary 1	Secondary 2	FET 3	Row Totals
Count	Male	10	10	2	22
Column Percent		50.00%	83.33%	50.00%	
Row Percent		45.45%	45.45%	9.09%	
Total Percent		27.78%	27.78%	5.56%	61.11%
Count	Female	10	2	2	14
Column Percent		50.00%	16.67%	50.00%	
Row Percent		71.43%	14.29%	14.29%	
Total Percent		27.78%	5.56%	5.56%	38.89%
Count	All Grps	20	12	4	36
Total Percent		55.56%	33.33%	11.11%	

DESCRIPTIVE ANALYSIS

a) To measure the start ups and farming experience of land reform farmers

Table 5 presents the frequency distribution of the respondents in terms of their experience. Whilst table 6, represents the cross tabulation relative to gender. In view of the aforementioned tables, it is clear that more (61.11%) respondents are in the category of farmers that have 6yrs and above. It is also clear that those that are entering these enterprises are the lowest as compared to the rest. This appears to indicate that the majority of respondents are reluctant to enter into emerging farming enterprises.

TABLE 5: FREQUENCY DISTRIBUTION OF THE FARMING EXPERIENCE OF RESPONDENTS

Frequency table				
Category	Count	Cumulative Count	Percent	Cumulative Percent
1-3 yrs	2	2	5.55556	5.5556
3-6yrs	12	14	33.33333	38.8889
6yrs+	22	38	61.11111	100.0000
Missing	0	36	0.00000	100.0000

According to table 6, males constitute the majority of respondents {male (5.56%) vs Female (0.00%)} who are interested in starting emerging farming. This may be as results that in the absence of any source of income, males as bread winners looked at the emerging farming as the alternative source of income. It also appears that female gets interested to this sort of enterprises when they have observed as certain level of success but their involvement in this type of business is highly insignificant as compared to the male counterparts { Male (61.11%) vs Female (38.89%)}.

TABLE 6: CROSS TABULATION OF FARMING EXPERIENCE RELATIVE TO THEIR GENDER

Summary Frequency Table Marked cells have counts > 10 (Marginal summaries are not marked)					
	Gender	1-3yrs 1	3-6yrs 2	6yrs + 3	Row Totals
Count	Male	2	6	14	22
Column Percent		100.00%	50.00%	63.64%	
Row Percent		9.09%	27.27%	63.64%	
Total Percent		5.56%	16.67%	38.89%	61.11%
Count	Female	0	6	8	14
Column Percent		0.00%	50.00%	36.36%	
Row Percent		0.00%	42.86%	57.14%	
Total Percent		0.00%	16.67%	22.22%	38.89%
Count	All Grps	2	12	22	36
Total Percent		5.56%	33.33%	61.11%	

b) To measure the linkages of emerging farmers to extension services

According to table 7, the majority of respondents (77.78%) are aware of the availability of these services to them. It can be deduced that very few respondents (22.22%) are not aware of this services.

TABLE 7: FREQUENCY DISTRIBUTION OF RESPONDENTS' KNOWLEDGE REGARDING THE AVAILABLE EXTENSION SUPPORT SERVICES

Category	Frequency table			
	Count	Cumulative Count	Percent	Cumulative Percent
Yes	28	28	77.77778	77.7778
No	8	36	22.22222	100.0000
Missing	0	36	0.00000	100.0000

In view of table 8, males (50.00%) are more knowledgeable of the extension services than the female (27.78%) counterpart. This is not surprising since, it was observed earlier on that males are more experienced and more interested in establishing or starting this type of farming enterprises.

TABLE 8: CROSS TABULATION ON RESPONDENTS' KNOWLEDGE OF EXTENSION SERVICES

	Summary Frequency Table Marked cells have counts > 10 (Marginal summaries are not marked)			
	Gender	Yes 1	No 2	Row Totals
Count	Male	18	4	22
Column Percent		64.29%	50.00%	
Row Percent		81.82%	18.18%	
Total Percent		50.00%	11.11%	61.11%
Count	Female	10	4	14
Column Percent		35.71%	50.00%	
Row Percent		71.43%	28.57%	
Total Percent		27.78%	11.11%	38.89%
Count	All Grps	28	8	36
Total Percent		77.78%	22.22%	

c) To evaluate the frequency of visit by extension services workers to emerging farmers.

Table 9, indicates that the majority (50.00%) of extension officers consults these emerging farming entrepreneurs bi-weekly, this is followed by 27.78% of consultation bi-monthly. The results report that both weekly and monthly consultations are quite rare (11.11%). These results indicate that the frequency of consultation is not regular and in light of the educational capacity of these entrepreneurs, it may be reasonable to expect that the frequency should be at least be high on the weekly basis. This expectation may be because the Western Coastal district has the highest number of land reform farmers relative to other districts (Figure 1), and therefore, the frequency of farmers to extension offices and vice versa may be helpful in ensuring productivity and efficiency in farming due to enhanced capacity building (which accompanies the consultation processes).

TABLE 9: FREQUENCY DISTRIBUTION OF THE CONTACTS TO THE RESPONDENTS

Category	Frequency table			
	Count	Cumulative Count	Percent	Cumulative Percent
Weekly	4	4	11.11111	11.1111
Bi-weekly	18	22	50.00000	61.1111
Monthly	4	26	11.11111	72.2222
Bi-monthly	10	36	27.77778	100.0000
Missing	0	36	0.00000	100.0000

Table 10, shows the cross tabulation of the frequency of consultation by extension officers to emerging farmers. It is clear that weekly and monthly consultations are equal (5.56%) regardless of gender. On the contrary, the bi-weekly consultation favours the male respondents (44.44%) as compared to the female one (5.56%). Bi-monthly consultation appears to favour female respondents (22.22%) in the expense (5.56%) of male counterparts. On the overall, the consultation processes in these enterprises favours the male (72.22%) enterprises than the female enterprises (27.78%). This appears to define why females do not have more interest in establishing farming enterprise in this district. This may be because they are able to observe that very little support is provided to the females who are already in the business and therefore, consider the business environment as less supportive and risky.

TABLE 10: CROSS TABULATION OF THE CONTACTS OF EXTENSION OFFICERS TO THE EMERGING FARMERS

Summary Frequency Table Marked cells have counts > 10 (Marginal summaries are not marked)						
	Gender	Weekly 1	Bi-weekly 2	Monthly 3	Bi-monthly 4	Row Totals
Count	Male	2	16	2	2	22
Column Percent		50.00%	88.89%	50.00%	20.00%	
Row Percent		9.09%	72.73%	9.09%	9.09%	
Total Percent		5.56%	44.44%	5.56%	5.56%	61.11%
Count	Female	2	2	2	8	14
Column Percent		50.00%	11.11%	50.00%	80.00%	
Row Percent		14.29%	14.29%	14.29%	57.14%	
Total Percent		5.56%	5.56%	5.56%	22.22%	38.89%
Count	All Grps	4	18	4	10	36
Total Percent		11.11%	50.00%	11.11%	27.78%	

d) To determine the perception of the respondents regarding the service delivered by extension workers

According to table 11, it appears that the respondents regard the services of the government extension officers' services to be of poor quality, with more respondents regarding the quality to be poor (33.33%) and few respondents regarding the services to very poor (11.11%). Other respondents regard the services to be good and excellent (22.22%).

TABLE 11: FREQUENCY DISTRIBUTION EXTENSION SERVICE RATING BY RESPONDENTS

Frequency table: Q3.6				
Category	Count	Cumulative Count	Percent	Cumulative Percent
Very Poor	4	4	11.11111	11.11111
Poor	12	16	33.33333	44.44444
Average	2	18	5.55556	50.00000
Good	8	26	22.22222	72.22222
Excellent	8	36	22.22222	94.44444
Missing	0	36	0.00000	100.00000

TABLE 12: CROSS TABULATION OF DISTRIBUTION OF EXTENSION SERVICE RATING BY RESPONDENTS

Summary Frequency Table Marked cells have counts > 10 (Marginal summaries are not marked)							
	Gender	Very Poor 1	Poor 2	Average 3	Good 4	Excellent 5	Row Totals
Count	Male	4	6	2	6	4	22
Column Percent		100.00%	50.00%	100.00%	75.00%	50.00%	
Row Percent		18.18%	27.27%	9.09%	27.27%	18.18%	
Total Percent		11.11%	16.67%	5.56%	16.67%	11.11%	61.11%
Count	Female	0	6	0	4	4	14
Column Percent		0.00%	50.00%	0.00%	25.00%	50.00%	
Row Percent		0.00%	42.86%	0.00%	14.29%	28.57%	
Total Percent		0.00%	16.67%	0.00%	5.56%	11.11%	38.89%
Count	All Grps	4	12	2	8	8	36
Total Percent		11.11%	33.33%	5.56%	22.22%	22.22%	

According to table 12, the majority of male respondents confirm that the service rendered by government extension services is very poor. On the contrary, female respondents appear to disagree that the services of these workers are very poor. Both respondents regardless of gender are in agreement that extension services are poor. In addition, both male and female (11.11%) conceded that some extension workers are delivering excellent services. These results appear to provide a picture that respondents have a varied perception regarding the quality of services rendered by extension workers. The varied response may be

interpreted to mean that the emerging farmers do not know how to measure the quality of the services from the extension workers. This is not surprising, as the majority of these farmers are poorly educated and therefore, do not have a scientific understanding farming business.

e) To determine whether the respondents can recommend the extension service to other farmers

The majority of respondents (66.66%) agree that they will recommend the farmers to the extension service workers. On the contrast, only 22.22% indicated that they would not be able to recommend that others farmers should use the services of these workers.

TABLE 13: THE FREQUENCY DISTRIBUTION OF REFERRING EXTENSION SERVICES TO OTHER FARMERS

Category	Frequency table: Q3.8			
	Count	Cumulative Count	Percent	Cumulative Percent
Yes	24	24	66.66667	66.6667
No	8	32	22.22222	88.8889
No comment	4	36	11.11111	100.0000
Missing	0	36	0.00000	100.0000

According to Table 14, the high number of male respondents (38.89%) confirms that they would refer other farmers to government extension workers. Whilst only 27.78% of female respondents agree that they would do the same.

TABLE 14: CROSS TABULATION OF REFERRING EXTENSION SERVICES TO OTHER FARMERS

	Summary Frequency Table Marked cells have counts > 10 (Marginal summaries are not marked)				
	Gender	Yes 1	No 2	No comment 3	Row Totals
Count	Male	14	4	4	22
Column Percent		58.33%	50.00%	100.00%	
Row Percent		63.64%	18.18%	18.18%	
Total Percent		38.89%	11.11%	11.11%	61.11%
Count	Female	10	4	0	14
Column Percent		41.67%	50.00%	0.00%	
Row Percent		71.43%	28.57%	0.00%	
Total Percent		27.78%	11.11%	0.00%	38.89%
Count	All Grps	24	8	4	36
Total Percent		66.67%	22.22%	11.11%	

f) To determine whether the respondents have marketing and financial information from extension officers

Table 15 indicates that the majority (55.55%) of extension officers do not provide marketing information to the emerging farmers. Only 27.78% of the respondents indicate that they have received marketing information from extension officers. In view of the respondents' results, it can be inferred that marketing information (information that is crucial in farming productivity and sustainability) is not adequately provided by these agents. Without adequate marketing information, it may be quite difficult for farmers to make any profit.

TABLE 15: FREQUENCY DISTRIBUTION OF WHETHER EXTENSION OFFICERS PROVIDE MARKETING INFORMATION TO EMERGING FARMERS

Category	Frequency table			
	Count	Cumulative Count	Percent	Cumulative Percent
Yes	10	10	27.77778	27.7778
No	20	30	55.55556	83.3333
No Comment	6	36	16.66667	100.0000
Missing	0	36	0.00000	100.0000

Table 16 shows that both males and females respondents (38.89% and 16.67% respectively) are in agreement that extension workers do not provide emerging farmers with marketing information. This appears to indicate that extension officers have little knowledge regarding marketing.

TABLE 16: CROSS TABULATION ON THE PROVISION OF MARKETING INFORMATION BY EXTENSION WORKERS

Summary Frequency Table Marked cells have counts > 10 (Marginal summaries are not marked)					
	Gender	Yes 1	No 2	No comments 3	Row Totals
Count	Male	6	14	2	22
Column Percent		60.00%	70.00%	33.33%	
Row Percent		27.27%	63.64%	9.09%	
Total Percent		16.67%	38.89%	5.56%	61.11%
Count	Female	4	6	4	14
Column Percent		40.00%	30.00%	66.67%	
Row Percent		28.57%	42.86%	28.57%	
Total Percent		11.11%	16.67%	11.11%	38.89%
Count	All Grps	10	20	6	36
Total Percent		27.78%	55.56%	16.67%	

CONCLUSION

The findings of this study infer that the value of the extension services is of lower quality such that it may be difficult for it to positively impact on the development and the profitability of farming ventures under consideration. The study also found that the critical area where the extension officers are unable to impact is around marketing, technology transfer and finance. This problem persists despite the positive linkages between extension workers and entrepreneurs. In addition, the frequent contacts between the extension workers and entrepreneurs should have had positive impact but on the contrary, the quality of services remained poorly rated. Furthermore, it appears that the national roll out of the extension recovery plan since 2009 by Department of Agriculture Forestry and Fisheries has not precipitated to this district, since the district under consideration has not received any benefit of such intervention. The study recommend that the extension workers in the district should be subjected to special capacity building program that may include amongst others, the use of mentors from universities and also special designed training programs that specifically deals with management of farming enterprises.

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LABOUR MIGRATION AND IMPACT OF REMITTANCES ON LIVELIHOOD PATTERN IN SOME AREAS OF TANGAIL DISTRICT IN BANGLADESH

RAZIA SULTANA

MS STUDENT

**DEPARTMENT OF AGRICULTURAL ECONOMICS
BANGLADESH AGRICULTURAL UNIVERSITY
MYMENSINGH**

DR. M. A. SATTAR MANDAL

PROFESSOR

**DEPARTMENT OF AGRICULTURAL ECONOMICS
BANGLADESH AGRICULTURAL UNIVERSITY
MYMENSINGH**

MD. SAIDUR RAHMAN

ASSOCIATE PROFESSOR

**DEPARTMENT OF AGRICULTURAL ECONOMICS
BANGLADESH AGRICULTURAL UNIVERSITY
MYMENSINGH**

ABSTRACT

The present study was an attempt to analyze the impact of remittances on livelihood pattern of migrant family. In this study, Kalihati Upazila under Tangail district was selected purposively where migrant labours were available. It is based on primary data from three villages of Birbasunda union. The sample of the study consisted of 70 migrant families: 35 from semi-skilled labour migrant households and 35 from unskilled labour migrant households. Tabular as well as statistical techniques were applied to analyze the data. The study revealed that remittance money was the major source of income of the migrant families. Most of the migrant labour had brought positive changes in different types of livelihood capitals, such as financial capital, natural capital, physical capital, human capital, and social capital to their family. The study revealed that migrants paid US \$2343 for jobs, which remunerated them US\$ 3287 and US\$ 2152 per year for semiskilled and unskilled labour respectively. To collect the costs of out going, migrants used not only his own savings, he also used additional funds. They had taken financial assistances from relatives, friends, money lenders and also selling and mortgaging land and jewellers. Irrespective of countries of job destinations, the total financing in terms of loan received from relatives stands at amount of Tk. 140415 (22.01 %) was the highest contribution to financing of migration. The major problems were mal practices of middlemen and government officials and high collection and renewal costs of passport. More consciousness of the migrant as well as the timely government intervention could minimize some of the problems.

KEYWORDS

Cost and return of labour migration, impact, livelihood, remittance.

INTRODUCTION

Migration is a very old phenomenon. From the very beginning of human civilization people migrated for food and security. Now people migrate for economic opportunity and income security. The history of migration from Bangladesh is not more than one and half century (GOB, 2007). Migration from Bangladesh began as early as the 1940s, mainly to Great Britain for settlement, and again in the 1960s, for employment purposes. A sizeable number of Bangladeshi professionals, skilled, semi-skilled, un-skilled labour force is employed in different countries including Middle East. During 1976 to 2008 manpower having strength of about 62 lakh 66 thousand has been exported. A total of eight lakh seventy five thousand Bangladeshi had gone abroad for employment in the last year. Bangladesh has received 8.22 billion dollars as remittances during the FY 2007/2008. Globally migration takes place in more than 100 countries. Nearly 200 million people, or 3 per cent of the world population, live outside their countries of birth. In 2007, officially recorded worldwide remittance flows exceed US\$ 318 billion; of which developing countries received US\$ 240 billion. Among these amount Bangladesh has received US\$ 3.43 billion (BMET, 2009).

Bangladesh's second leading source of foreign exchange is remittances. Currently, garments manufacturing is treated as the highest foreign exchange earning sector of the country. However, if the cost of import of raw material is adjusted, than the net earning from migrant workers' remittances is higher than that of the government sector. In the year 2008, Bangladesh has received US\$ 8.22 billion. It is 10 per cent of our GDP and 10 times more than Foreign Direct Investment (FDI). The number of migrants leaving Bangladesh averaged 250,000 a year between 2001 and 2005, rose to almost 400,000 in 2006, and doubled to 875,000 in 2008 (BBS, 2006).

Remittances are crucial for Bangladesh's economy. The steady flow of remittance from migrant labour has resolved the foreign exchange constraints, improved the balance of payments and helped increase the supply of national savings and investment for capital formation and development. It is an important source of disposable income for thousands of migrant households. Remittances also constituted a very important source of country's development budget. From above discussion it is clear that labour migration and impacts of remittance become a key issue to deal in this century.

A sizeable number of people of Tangail district have been migrating abroad for employment and contributing much towards country's foreign exchange and changing the lifestyle of the respective families. To examine these changes of migrant households, there should have an intensive research. There are some studies on migration and livelihood pattern (Adams, 1991; Afser, 1995; Ali, 1991; Azad, 2004; Castro, 2002; Chaudhury, et. al., 1980; Cohen, et. al., 2005; Connell, et. al., 1995; Haque, 2004; Hasan, 2006; Lee, 1975; Mahmood, et. al., 1995; Mahmud, 1991; Murshed, et. al., 2001; Siddiqui, 2005) but few of them discussed about labour migration and its impact on their livelihood pattern absolutely. The present study was undertaken to generate empirical knowledge about impact of remittances on livelihood pattern in rural area. The overall objective of the study is to better understand the changes occurring in livelihood pattern in the Kalihati upazila in relation to labour migration and remittance. The specific objectives were: i. to identify the socioeconomic characteristics of the migrated labour households; ii. to study the costs and sources of expenses for migration; iii. to study the impact of remittances on household livelihood pattern; and iv. to draw some conclusions on the basis of findings of the study.

METHODOLOGY

The area selected for the study covered 3 villages of Kalihati Upazila. The study area was selected purposively considering the concentration of different categories of migrant labour. Thus, from the 12 villages of Bir Basunda union, three villages Simultia, Singna, and Purba Sunda were selected randomly for collection of primary data. An interview schedule was prepared to collect the required information. Primary data were collected during the period from February to March 2009. Several visits were made during the period of data collection. Mainly tabular analysis was used to obtain specific objectives. Besides paired t statistics was done to find out the significance of the research.

TABULAR ANALYSIS

Tabular analysis is an analysis that is done to obtain the crude association or variations between variables. This technique applied with the help of some statistical measures like sum, average, percentage etc., to show the comparative performance of different categories of labour household. In this study tabular analysis was done to find the variation of income, expenditure, housing condition etc.

STATISTICAL ANALYSIS

In order to arrive at meaningful results, data for the present study were analyzed with the following techniques:

To compare the variation in income and expenditure for the different sample groups at the study areas of Kalihati Upazila, before and after migration paired 't' test were employed.

The formula used for the paired 't' test is given as below

$$|t| = \frac{\bar{d}}{s} \frac{1}{\sqrt{n}} \text{ With } (n-1) \text{ d.f}$$

Where, \bar{d} = mean of change

S = standard deviation of change

n = number of observations

RESULTS DISCUSSION

In case of semi-skilled labour the average age was 26.71 years ranging from a minimum of 20 years to a maximum of 50 years. In case of unskilled labour the average age was 29.2 years, minimum age was 19 years and the maximum age was 35 years. It is also seen that, the aged between 20.01-40 years accounted for 94.28 per cent of the total migrant. That means the middle aged groups were the highest of total migrant labour. In case of respondents, the average age was 32.21 years ranging from a minimum of 19 years to a maximum of 65 years. The average family size was observed 4.39, 5.11, 5.84, 5.50 and 4.50 for the migrant family of Saudi Arabia, Malaysia, U.A.E, Jordan and Kuwait respectively. It was also seen that each and every family was composed of both economically active persons and dependents. The dependency ratio was 2.35, 2.19, 2.02, 2.20 and 1.80 for the Saudi Arabia, Malaysia, U.A.E, Jordan and Kuwait migrant families respectively. The male female ratio was 111:100, 109:100, 105:100, 120:100 and 125:100 for the Saudi Arabia, Malaysia, U.A.E, Jordan and Kuwait migrant families respectively (Sultana, 2009).

TABLE 3.1: LITERACY STATUS OF MIGRANT LABOUR

Literacy level	Migrant Labour (Semi skilled)		Migrant Labour (Unskilled)		All labour	
	No.	Per cent	No.	Per cent	No.	Per cent
Illiterate	0.00	0.00	2	5.71	2	2.86
Able to sign only	20	57.14	33	94.29	53	75.71
Up to primary	10	28.57	0.00	0.00	10	14.29
Secondary and above	5	14.29	0.00	0.00	5	7.14
Total	35	100	35	100	70	100

Source: Sultana, 2009

In the case of both category of labour, only 2.86 per cent were illiterate. About 75.71 and 14.29 per cent of migrant labour had capability to sign and primary level of education respectively. Again, 7.14 per cent of migrant workers had secondary and above level of education. In case of semi skilled labour migrant family, only 8.96 per cent were illiterate while in unskilled labour migrant family it was 22.14 per cent and it was higher than semi skilled labour migrant family. On the other hand 14.18 per cent of semi skilled labour migrant family and 19.29 per cent of unskilled labour migrant family were able to sign only (Table 3.1). Previously, 65.71 per cent labour was employed in semi-skilled labour migrant family while in case of unskilled labour migrant family it was 80 per cent. This indicated more semi-skilled labour was engaged with education. Some of the household members were engaged in business which was about 8.80 per cent. While 6 per cent were involved in agriculture, 2 per cent were in service and 30 per cent were in other occupations.

The process of migration in Bangladesh is relatively difficult and expensive from other countries. The costs of migration include airfare, passport, visa, medical test, clothing, payments to recruitment agencies and intermediaries etc. It was found that total expenses for outgoing could be US\$ 2500 or more. To collect these amounts of money migrant's used not only his own savings, he also used additional funds. They take financial assistances from relatives, friends, money lenders and also selling and mortgaging land, ornaments. That is in order to send family members most of the family fall in to debts. Further more, these families and migrant also have to use the remittances to repay the debt they have made during the process of migration.

TABLE 3.2: COST OF MIGRATION IN DIFFERENT COUNTRIES (Amount in Taka and US\$)

Cost items	Major Countries				
	Saudi Arabia	Malaysia	United Arab Emirates	Jordan	Average
Passport	2746	2437	3376	2200	2690
Visa and Intermediary	143443	97955	129247	105500	119036
Medical test	1371	2925	3729	1200	2306
Air fare	31200	26580	28743	29455	28995
Internal travels	919	868.75	920	2700	1352
Clothing	4089	4500	4235	4500	4331
Other preparation	257	306	380	325	317
Total cost for out migration	184025 (\$2706)	135571 (\$1994)	170630 (\$2509)	145880 (\$2145)	159344 (\$2343)

(Exchange rate: US\$ 1.00= Tk. 68.00)

Source: Sultana, 2009

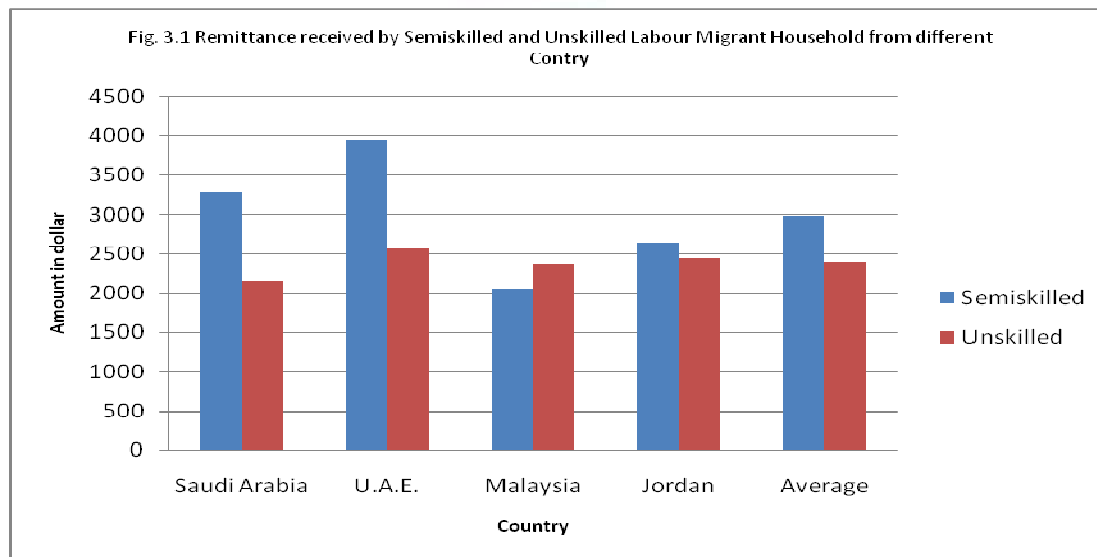
The study revealed that migrants paid US\$ 2706 for jobs in Saudi Arabia, which remunerated them US\$ 3287/year in case of semi-skilled labour and US\$ 2151/year for unskilled labour, and also they paid US\$ 1994 for Malaysia, US\$ 2509 for U.A.E and US\$ 2145 for Jordan and acquired US\$ 2059/year, US\$ 3945/year, US\$ 2647/year respectively in case of semiskilled labour and for unskilled labour US\$2380/year, US\$ 2560/year, US\$2451/year as mentioned

countries respectively; meaning that recruitment costs are equivalent to more or less a year's salary (Table 3.3). That means the highest remittance come from United Arab Emirates (U.A.E) among these four countries (Fig. 3.1).

TABLE 3.3 REMITTANCE RECEIVED BY SEMISKILLED AND UNSKILLED LABOUR MIGRANT HOUSEHOLDS FROM DIFFERENT COUNTRIES

Sl. No.	Country	Level of remittance by category of labour	
		Semiskilled	Unskilled
1.	Saudia Arabia	3287	2151
2.	Malaysia	2059	2380
3.	U.A.E	3945	2560
4.	Jordan	2647	2451
5.	Average	2985	2386

Source: Calculated from Sultana, 2009



IMPACT OF REMITTANCE ON LIVELIHOOD PATTERN OF THE MIGRANTS

Five asset or capital such as financial capital, natural capital, human capital, physical capital and social capital were used for impact analysis. The analysis showed remarkable positive impact of remittances on crop farming in both semi- skilled and un-skilled labour migrant family. In case of semi-skilled migrant family it was 89 per cent and in case of unskilled migrant family it was 81 per cent. That is impact of remittance on unskilled labour migrant family is higher than that of semi-skilled labour migrant family in this regard. Impact on poultry rearing, fishing, homestead gardening, was positive. But the income received from livestock rearing decreased after labour migration. In case of semi-skilled it was 48 per cent and in case of unskilled it was 12 per cent and negative impact also observed on non farm income.

Migrant family at first used their remittances for repayment of loan. Distribution of household expenditure revealed that both semi-skilled and unskilled labour spent more money on food, cloth, health care, housing than they got before migration. They used up to 88.58 per cent of their total income in this purpose. That is most of the remittance money used in consumption purpose rather than production purpose.

Irrespective of labour groups, the land holding size had been increased by 55.86 per cent. In case of semi-skilled labour migrant family land holding size had been increased from 96.65 to 142.48 decimal and in case of unskilled labour migrant family total land had increased from 60.8-103 decimals. In terms of percentages it was 47 per cent and 69 per cent for semi-skilled and unskilled labour migrant family respectively (Sultana, 2009).

With the increase in income, the housing status of all labour groups has been increased. In case of semi- skilled labour migrant family the percentage of tin-shed building owners has been increased 25 per cent, the percentage of tin roofed with tin wall house owners has been increased 75 per cent. In case of semi-skilled labour percentage of tin roofed with non tin fence and straw roofed house owners have decreased in 100 per cent. In case of unskilled labour the percentage of tin-shed building owners has been increased 9 per cent, the percentage of tin roofed with tin fence house owners has been increased 74 per cent. The percentage of tin roofed with non tin fence and straw roofed house owners have been increased in 11 per cent and 6 per cent respectively. All labour groups could use safe drinking water from tube well. The uses of modern amenities like mobile, TV, Jeweler, and other physical assets almira, show case etc have increased manifold after labour migration.

TABLE 3.4 PAIRED SAMPLE TEST FOR SEMI-SKILLED AND UNSKILLED LABOUR MIGRANT FAMILY

Variables	After migration		Before migration		t-value with 34 df	
	Mean and standard deviation		Mean and standard deviation			
	Semi-skilled labour migrant family	Unskilled labour migrant family	Semi-skilled labour migrant family	Unskilled labour migrant family	Semi-skilled labour migrant family	Unskilled labour migrant family
Income	271986 (151851)	201997 (99257.2)	43459 (46676)	37073 (39341.4)	9.51*	16.77*
Land holding	142.48 (109.55)	103 (83.74)	96.66 (89.64)	60.80 (65.30)	3.85*	5.08*
Consumption	17184 (6231.26)	14129.43 (8182.25)	10195.71 (4958.5)	8158.371 (4157.08)	6.36*	4.79*
Education	1062.83 (1328.2)	931.43 (1567.08)	645.71 (936.2)	500.57 (779.43)	3.39*	3.32*
Housing	155007 (253344)	101548 (120453)	28000.71 (40531)	25000.45 (7935.90)	3.20*	4.88*
Health status	2097.14 (4556.9)	2211.43 (3651.41)	780 (1926.7)	600.43 (627.59)	2.60*	2.92*

* Significant at 0.01 level of probability (paired sample) (table value 2.44)

Source: Sultana, 2009

In case of semi-skilled labour migrant family, eighty three per cent of migrant family opined that their overall health conditions have been increased after migration. Eleven per cent of the family reported that their health status remained unchanged. Only six per cent of the family said that their health status was decreased because of irregularities of remittance money. Educational status has been increased sixty nine per cent; skill of the family members has been increased in sixty per cent reported by them. Mobile operation capacity got improved in sixty six per cent after migration while about thirty four per cent responded that no change in mobile operation. In case of unskilled labour migrant family, fifty four per cent of migrant family opined that their overall health conditions have been increased after migration. Thirty one per cent of the family reported that their health status remained unchanged. Only fifteen per cent of the family said that their health status decreased because of irregularities of remittance money. It was reported that educational status has been increased 71 per cent; skill of the family members has been increased forty per cent and mobile operation capacity got improved after migration in fifty four per cent while forty six per cent was responded that no change in mobile operation.

In case of semi skilled labour migrant family, eighty three per cent said that their decision making ability increased after migration, while the rest of seventeen per cent of them reported in favor of no change in their decision making ability. Eighty six per cent families reported that their social prestige has been increased after migration. In case of unskilled labour migrant family, eighty nine per cent said that their decision making ability has been increased after migration, while the rest of eleven per cent of them reported in favor of no change in their decision making ability. Eighty per cent families reported that their social prestige has been increased after migration while twenty per cent said that no change in their social prestige has taken place.

CONCLUSIONS AND RECOMMENDATION

In the light of the findings discussed above a few conclusions may be drawn; (i) Remittance money is the major sources of income for the migrant family; (ii) Comparatively semi-skilled labours have been migrating abroad; and (iii) Two types of impact were visible.

Migration reduce unemployment problem and increase income in most of the migrant households. Migration works as a catalyst in the upliftment of the livelihood of migrants and their family because remittances have increased the consumption of food and cloth, improve health, education and housing facilities of sample families who earlier had little money. Decision making ability of women has been increased which was not possible previously.

This study has shown that, there is general decline in the supply of unskilled categories of labour than semi-skilled labour from Bangladesh. Presently, global financial crisis also slow down the expected remittances (expected remittances was 10 billion US\$). Under such conditions, a number of measures need to be taken such as i) Government should have a proper policy that should guide them to the identification of new market for workers and the continuation of old market with increasing facilities to the labour migrants; ii) Accordingly, training courses have to be organized to cater to such potential markets. Such training programmes should be imparted through government and private sector including non-governmental organizations for the potential labour migrants, so that they could get well paid job and also develop their skills; iii) Government to government relationships for labour agreement are required for the welfare of migrant workers.

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ARE OLDER LEARNERS SATISFIED WITH THEIR INVOLVEMENT IN LEARNING COURSES'?**JUI-YING HUNG****ASST. PROFESSOR****DEPARTMENT OF GOLDEN-AGER INDUSTRY MANAGEMENT****CHAOYANG UNIVERSITY OF TECHNOLOGY****TAIWAN****FENG-LI LIN****ASSOCIATE PROFESSOR****DEPARTMENT OF ACCOUNTING****CHAOYANG UNIVERSITY OF TECHNOLOGY****TAIWAN****WEN-GOANG, YANG****ASSOCIATE PROFESSOR****DEPARTMENT OF LEISURE SERVICE MANAGEMENT AND DEPARTMENT OF MARKETING & LOGISTICS
MANAGEMENT****CHAOYANG UNIVERSITY OF TECHNOLOGY****TAIWAN****ABSTRACT**

In view of Taiwan currently has the occasion into a "super-aged" society and pulse of trends in the development of camouflage from the overall environment. Policy and practice are moving away from passive assistance programs, such as long-term care insurance, towards a focus on concepts such as "positive aging" and "healthy aging". Government agencies are seeking to integrate existing resources and expertise to create a more complete image of the "silver" industry, energy and national competitive advantage of social. This investigation examines research on senior education and senior citizens' needs, and proposes a suitable course curriculum that allows their integration. In conclusion, it proposed integrated with learning and learning needs of senior citizens to meet the curriculum of course simulation.

KEYWORDS

Senior education, Intergenerational learning, Aging School.

INTRODUCTION

In 1993, the number of senior citizens over 65 years of age comprised more than 7% of Taiwan's total population, which is considered the threshold of an aging population. This figure increased to 10.43% in 2008, underlining Taiwan's increasingly changing age structure. At present, the baby boomer generation born after World War II are about to become senior citizens and the phenomenon of population aging will become even more apparent. The ratio of the elderly population is predicted to rise to 11.6% (2,370,000 persons) in 2014, 16.54% (3,920,000 persons) in 2021; and up to 20% by 2025, which equates to one in every five persons being a senior citizen. The ratio will reach that of developed countries, such as the UK, the US and France (Council for Economic Planning and Development, Executive Yuan, 2006). In addition to rapid aging, life expectancy is also increasing. The life expectancies of men and women in Taiwan in 2008 were 75.49 and 82.01, respectively. These changes have given rise to various challenges for government and countries with aging populations, including helping senior citizens to achieve the goal of active aging, as well as planning and management of elderly human resources (Wu, Chen & Yang, 2008).

Population aging is an inevitable change in many countries. The United Nations considers health and well-being as two important issues relating to the elderly (Ministry of Interior, 2009:3). In 1991, the United Nations launched the "Proclamation on Aging," which declared five major principles relating to the elderly: "independence, participation, care, self-realization, and dignity". It also announced 1999 as the "International Year of Older Persons," to encourage countries to move towards a society that is accepting of all age groups. The World Health Organization (WHO) proposed an active aging policy structure in its report, defining active aging as seeking optimal development opportunities in the aging process for individual health, social participation and social safety, to enhance the quality of life of the elderly (WHO, 2002). In 2007 WHO gathered the experimental results of the global "Age-Friendly Cities Project, AFCP" and announced eight development indexes: house, traffic, outdoors space and building planning, social participation, communication and message media, citizen participation and employment, social respect, social support and medical services, hoping to actively enhance the daily lives of the elderly, eliminate obstacles in their environment, and increase their opportunities for social participation (Ministry of Interior, 2009:3). It hopes to (1) provide the elderly with diversified lifelong learning channels by integrating society, education, medicine and relevant resources; (2) encourage the elderly to participate in learning by encouraging colleges and institutes to provide appropriate continuing education courses; (3) ensure the learning rights of the elderly and motivate their desire to learn by organizing suitable educational materials and methods and by developing and promoting diversified courses. These goals are targeted to help seniors towards active and successful aging.

Research into education and learning activities among the aged in various countries has found that the preferred learning style is that which involves attending colleges. This model operators in partnership with colleges, using their qualified teachers and facilities to provide the elderly high quality diversified education at a low cost. This benefits not only the seniors, but also the teachers and students obtain a rich experience from intergenerational learning. In order to encourage colleges and institutes to provide education for the elderly as a social service, in 2008 the Ministry of Education identified 13 colleges in its strategy to provide a "short term hosted learning program for the elderly". To further the benefits of this policy and in line with the "service program of friendly care for the elderly" proposed by the Ministry of Interior in 2009, the Ministry of Education will continue to promote and encourage colleges to run the "Happy Learning Courses Program".

"Happy Learning Courses" are education courses aimed at providing seniors with high quality diversified education. They integrate college software and hardware facilities, teachers and learning resources to operate as an important learning channel for the elderly in Taiwan. Planning and practice in aged education courses must take into account the physical, psychological and mental states of the elderly, and this article aims to share and discuss the experience of our department in meeting these needs through Happy Learning Courses. We hope that this study will provide a reference for colleges and providers in the planning and hosting of future learning programs for the elderly.

PRACTICE METHODS AND TYPES OF ELDERLY LEARNING

PRACTICE METHODS IN ELDERLY EDUCATION

After a comprehensive survey of practicing aged education institutions in Taiwan, Huang (2008:162-166) categorized the practice methods of aged education of the past 20 years into the following: senior citizen centers operated by department of social politics, community colleges for the elderly or aged learning centers held by education sectors, senior universities held by non-government organizations and elderly education institutions operated by religious groups. The four types of aged education practice methods are illustrated below: a. Senior citizen centers held by department of social politics; b. Community colleges or aged education learning centers held by education sectors; c. Senior universities held by non-government organizations and d. Elderly education institutions held by religious groups.

Announced by the Ministry of Education in 2006, "Moving towards aged society: white paper on senior education policy," is the most physical, profound and systematic policy statement that has allowed aged education policy and promotion in Taiwan to move toward a new milestone. In order to accomplish the four objectives of lifelong learning, health and happiness, self-dignity and social participation, the white paper specifically established 11 physical action approaches for elderly education policies. "Establish learning locations for elderly education" is one example of this approach, and in 2008 the Ministry of Education planned to establish "Learning Resource Centers" to offer daytime courses for senior citizens in 368 towns and cities across Taiwan. At the same time, since 2008, the Ministry of Education has encouraged and counseled colleges to create "learning project plans" for aged education learning channels and opportunities to develop more diversified elderly education and lifelong learning.

TYPES OF ELDERLY EDUCATION

There are numerous ways of categorizing different types of aged education. Eisen (1998) used "credit and non-credit courses" as the vertical axis and "learner-centered and teacher-centered" as the horizontal axis. Aged learning types were divided into four quadrants: credit study, convenience, personal interest, and socialization. The main characteristics of courses in the first quadrant are credit courses with a teacher-centered basis, including diploma courses, specialty courses, certification courses, general education, and continuing education. The courses in the second quadrant emphasize convenience, and remote education is a known representative of this type. The third quadrant includes socialization courses, and provides the most diversified aged learning services. The main characteristic of the fourth quadrant is the emphasis on choice of learning according to learner interests; there is a wide range of course formats, including libraries, networks, clubs, volunteers' associations and retirees' commissions. The subject of this paper, Happy Learning Courses, is similar to a hostel for the elderly. It can be categorized as aged learning in the third quadrant, with non-credit learning courses designed on a teacher-centered basis.

COURSE DESIGN OF HAPPY LEARNING COURSES – TAKE THE CASE OF CHAOYANG UNIVERSITY OF TECHNOLOGY IN TAIWAN

COURSE KEY DESIGNING HINTS

The main concept of course designing in this study is based on the selection patterns of intergeneration learning and activities proposed by Ames and Youatt (1994), including: a. Emphasis on directivity: "intergeneration learning" stresses directivity, focusing on one generation helping another in their learning, such as older learners providing children and adolescents with life perspectives and sharing their experiences; b. "Intergeneration learning" courses are directed and planned by organizations for specific purposes, such as to allow different generations to make contact with each other to enhance understanding and cultivate positive active attitudes, and these courses usually are encouraged by government policies; c. Emphasis on learning contents: intergeneration learning usually does not stress learning contents and there purpose is not to the dissemination of course material, instead, the learning results emphasized are guidance, counseling and assistance between different generations.

The academic calendar at Happy Learning Courses includes events and activities that are based on the responsibilities and events of university students. These include new student registration, opening ceremony, the dedicated mentor and senior system, student ID issuance, inter-school (department) competition, field visits, Christmas events (e.g. caroling, charity sales and Christmas parties), graduation photos, closing ceremony, certificates of completion, awards for perfect attendance and yearbooks. These important events form the most unforgettable memories of college life in the hope of linking the college education experience of older students in the program to experience a rich and diverse college life, participants can also gain useful knowledge and skills to assist in healthy living, and form valuable life memories through positive experience, contributing towards the goal of healthy aging.

COURSE DESIGN FEATURES

The Happy Learning Courses program divides courses into six core groups: health promotion, retrospective treatments, spiritual communication, life application, education experience, and intergeneration interaction (Table 1).

TABLE 1: PLANNING KEYS OF CORE GROUPS OF HAPPY LEARNING COURSES

Core groups	Course target
Health promotion	Teaching the elderly about healthy aging, allowing them to learn basic skills and habits for independent health management and to enhance their quality of life in order to prevent or decrease the occurrence of chronic diseases and other complications.
Retrospective treatments	Encouraging the elderly to remember and share personal experiences through a group process of retrospection, using positive thinking to enhance self-confidence and self-dignity.
Spiritual communication	Through a process of communication and encouragement, helping the elderly to maintain spiritual positive thinking and openness when facing issues related to aging.
Life application	Focusing on situations that can be encountered in the daily lives of the elderly, for example: fraud, table manners, and practical English. Also teaching the elderly overcome difficulties in life arising from aging, for example: life auxiliary application and barrier-free house design to bring more enjoyment and convenience to their lives.
Experience education	Through field education, helping elders to expand their horizons and experience the outdoors, ranging from nature to cultural locations, such as museums, art museums and shooting sites of TV operas, in order to achieve the goal of learning through leisure.
Intergeneration interaction	Allowing elders to re-live the passion and energy of youth through interaction with students in group activities and lectures, as well as stimulating their brainpower, thinking and memory abilities through mind-related games, which can help fight the onset of senile dementia and memory loss.

Course planning follows the university course model, which preliminarily divides courses into essential component courses and more flexible, elective courses. Furthermore, in order to allow the older students in the "Happy Learning Courses" program to experience interactions with younger students, the division of courses adds uniqueness to the planning of courses and value creativity after their active participation. The course design method is based on course style (dynamic and static), activity method (educational absorption and thought sharing) and practice environment (in-school and on the field). Courses with different characteristics are combined in order to allow participants to learn content effectively through a variety of designs and methods, contributing towards the goal of mental and physical health in aging.

THE ANALYSIS OF COURSE SATISFACTION

BASIC DATA ANALYSIS

In this study, learning satisfaction surveys were issued to elder participating in Happy Learning Courses in Chaoyang University of Technology in Taiwan. There were 169 questionnaires issued, and 152 valid questionnaires were returned, giving a recovery rate of 89.9%. This section processes the descriptive statistics analysis for the recovered questionnaires, using a frequency allocation table and percentage analysis to present the demographic information of the participants

in order to understand their background, including gender, age, and educational level. The descriptive statistics of the elderly participants in Happy Learning Courses are shown in Table 2.

TABLE 2: THE BASIC VARIABLE ANALYSIS OF THE ELDERLY DEMOGRAPHIC (n=152)

Background variables	Basic Information	No. of people	Percentage
Gender	Male	36	23.7%
	Female	116	76.3%
Age	Over 60 but not yet 70	74	48.7%
	Over 70 but not yet 80	57	37.5%
	Over 80	21	13.8%
Education level	Illiterate	24	15.8%
	Elementary school graduated (studied)	46	30.3%
	Graduated from junior high school	43	28.3%
	Graduated from high (vocational) school	24	15.8%
	Graduated from university (college)	15	9.9%

As shown in Table 2, the gender distribution of elderly participants in Happy Learning Courses is unequal, with females accounting for 76.3%, while male account for only 23.7%. In terms of age, the majority of participants are "over 60 but not yet 70" (48.7%), followed by "over 70 but not yet 80" (37.5%) and "over 80" (13.8%). "Elementary school graduated (studied)" is the most common education level (30.3%).

SATISFACTION ANALYSIS OF MOTIVATION, INFORMATION CHANNELS AND PARTICIPATION FEES AT HAPPY LEARNING COURSES

The most common learning motivations of elderly participants in Happy learning Courses are the expectation to experience college life, an attractive curriculum design, and the possibility of applying with friends. A few participants were lacking in daily activities at home, which led them to apply. The applicants become aware of Happy Learning Courses through posters posted by public authorities and staff from the local elderly courses. A small number obtained relevant information from newspapers, the internet, and broadcast media. In regards to participant satisfaction with fees, 91% considered the fees reasonable, 6% thought that there was room for raising the price to between NT \$ 1,000 ~ \$ 1,500, and 3% of the participants believed the cost was too high.

THE CURRENT STATUS SATISFACTION ANALYSIS OF HAPPY LEARNING COURSE PARTICIPANTS

This section shows the analysis of the overall learning satisfaction of elderly participants in Happy Learning Courses over six main categories: health promotion, nostalgia therapy, spiritual communication, daily application, education experience, intergenerational interaction, and overall satisfaction (Table 3):

TABLE 3: LEARNING SATISFACTION ANALYSIS OF HEALTH PROMOTION (n=152)

Course name	Average	Standard deviation	Rank
Health Promotion	4.4	.72	4
Nostalgia Therapy	4.5	.58	3
Spiritual Communication	4.2	.70	5
Daily Application	4.2	.83	5
Education Experience	4.9	.54	1
Intergenerational Interaction	4.7	.71	2

* represents the highest average point

In this final section, this study evaluates the overall satisfaction of elderly participants in Happy Learning Courses held by the School on the items "satisfaction with teaching contents," "satisfaction with activity time control," "satisfaction with planning and conduct of activities," "satisfaction with staff (student services)," "satisfaction with the arrangements of the school classroom," "satisfaction with refreshments provided," "satisfaction with accommodation arrangements" and "overall satisfaction for this activity." (Table 4)

TABLE 4: OVERALL COURSE SATISFACTION ANALYSIS (n=152)

Course name	Average	Standard deviation	Rank
Satisfaction with teaching contents	4.7	.47	3
Satisfaction with activity time control	4.5	.52	5
Satisfaction with planning and conduct of activities	4.8	.44	2
Satisfaction with staff (student services)	4.8	.62	2
Satisfaction with arrangements of the school classroom	4.6	.65	4
Satisfaction with refreshment provided	4.6	.70	4
Satisfaction with accommodation arrangements	4.5	.64	5
Overall satisfaction for this activity	4.9	.57	1

Note: * represents the highest average point

CONCLUSION AND SUGGESTIONS

CONCLUSION

Schedule

Every morning, elderly participants in Happy Learning Courses begin with a blood pressure and body temperature check conducted by school staff at 8:00am. To allow for the slower pace of the elderly, the schedule is somewhat loose, with the first class starting at 8:20am to allow participants some spare time to go to the bathroom or chat with other students after the health check.

Curriculum planning at Happy Learning Courses needs to take into account elderly participants' physical and mental clock to avoid body overloading, such as sedentary, limb paralysis and confined space. This can lead to a loss of motivation and attention, and have a detrimental effect on learning, detracting from the original purpose of the courses.

Curriculum Planning

According to the main idea of "Happy Learning Education" promoted by the Ministry of Education to provide the local elderly with local real estate, public and educational resources. Since those who participated in Happy Learning Courses held by universities and colleges are mostly local residents, in practice-oriented implementation the content and core objectives of curriculum design should focus on the integration of both the institution's resources and local cultural features for a more unified, systematic approach. Happy Learning Courses should also implement a "customer-oriented" focus when planning the curriculum and in activity design to increase participant learning satisfaction and promote Happy Learning Courses through positive word of mouth.

Diet

Diet is an important component of healthy aging and quality of life in longevity. Studies by the World Health Organization have shown that it is important to maintain healthy eating habits in addition to regular exercise. The reduce the intake of greasy and fried foods, which are not recommended for the elderly, we particularly ask the caterers not to use too much oil and salt.

SUGGESTIONS*The importance of invisible spiritual interaction and appreciation of life meaning courses*

The knowledge base, living history, and cultural heritage shared by the elderly provide a valuable learning model for young people. Therefore, elderly education services that promote interaction between elderly and younger students can encourage the elderly to share their life stories and relive nostalgic memories and other experiences with younger students. This can help the elderly to remember and rethink memories that may otherwise have been missed or forgotten, and to share their experiences orally through the process of re-organization and interaction with others. Sharing life stories could help the elderly to adopt a more positive attitude towards the issues in their lives, and encourages young people to have greater respect and appreciation in their own lives.

Allow students in relevant departments the opportunity to experience practical learning

to strengthen the implementation of the "intergenerational learning" in elderly education, organizations and institutions such as universities, community colleges, and the Happy Learning Resource Center work to increase practical opportunities for older students to interact with other generations of learners, and to achieve learning objectives such as "practice while learning" and "learning from practicing." Practical intergenerational learning can also help to reduce stereotyping, and encourages elderly people to be more proactive and independent, as well as benefiting from younger students' vitality and new ideas.

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ECONOMIC GROWTH, INCOME INEQUALITY, AND POVERTY: EVIDENCE FROM BANGLADESH, 1981-82 TO 2009-10

MD. MAIN UDDIN
RESEARCH SCHOLAR
GRADUATE SCHOOL OF ECONOMICS AND MANAGEMENT
TOHOKU UNIVERSITY
AOBA-KU, SENDAI-SHI
JAPAN

ABSTRACT

It is commonly understood that poverty can be reduced through increasing economic growth, improving income distribution or through a combination of both. Economic growth may be followed by a high income inequality and thus an effort to alleviate poverty through economic growth may be hampered. This paper examines the inter-relationships between economic growth, income inequality and poverty within the framework of the Bangladesh economy using the data for the period between 1981-82 and 2009-10. The empirical results indicate that economic growth not only reduces poverty but also increases income inequality. As a result, the effectiveness of economic growth in reducing poverty is decreased to an extent by rising income inequality. The effect of sectoral growth on poverty indicates that agriculture and industry effectively reduce poverty while power, gas, water and sanitary services have insignificant effect on poverty reduction. In contrast, the growth of public administration and defence tends to increase poverty marginally. Based on the aforementioned findings, the study suggests that Bangladesh should achieve an economic growth which reduces poverty fast and at the same time produces less income inequality.

KEYWORDS

Bangladesh economy, economic growth, income inequality, poverty.

INTRODUCTION

It is widely accepted that poverty reduction can be accomplished by economic growth and/or income distribution. Growth can significantly reduce poverty as it is often followed by more output, more income and consequently more wellbeing of the people. However, growth may increase income inequality where the benefit of growth goes to a few rich rather than the many poor and poverty reduction through economic growth may be hampered. Therefore, the basic issue in reducing poverty through economic growth is not only how to make an economy grow, but also who make it grow, a few or the many. Bangladesh is believed to have performed well over the years as far as the indicators are concerned. Economic growth rate crossed the 6 percent mark in recent years from a feeble 4 percent or below in the 1980s and 5 percent plus in the second half of the 1990s (Bayes, 2010). The country is thus moving from low to moderate economic growth. But how this growth benefited the poor has been a central issue and thus the quality of economic growth, apart from quantity, has recently emerged as an area of attention.

The objective of this paper is to examine the interactions between economic growth, income inequality and poverty. The study investigates how economic growth and income inequality affect poverty. It also looks into the effect of sectoral growth on poverty. The results show that poverty which seemed a never-ending problem in Bangladesh witnessed a significant reduction. But the efficiency of poverty reduction through economic growth has been hampered by a rising income inequality. The paper is organized as follows. Section 2 reviews the analytical arguments regarding the relationship between economic growth, poverty and income distribution. Section 3 describes the methodology for estimating growth, inequality and poverty relations. The next section presents the main findings and analysis. Section 5 concludes.

REVIEW OF LITERATURE

The inter-relationship between economic growth, income inequality and poverty is that economic growth which produces less income inequality reduces poverty faster. The benefit of growth usually spreads among people which in turn increases their ability to spend more on the essentials that they could not do when they had low level of income. Generally economic growth and poverty reduction move together. However, growth *per se* may not reduce poverty as expected when it is followed by an increasing income inequality. Hence, the link between economic growth, income inequality and poverty has been an ongoing issue in the literature of economic development.

Economic growth may increase income inequality because the income of people working in higher value-added sectors such as manufacturing will generally rise faster than those in the lower value-added sectors such as agriculture. Kuznets (1955) argues that growth is accompanied by a worsening income distribution in the early stages of development. The majority of a country's population would remain in agriculture, whilst a minority would move into manufacturing and therefore earn higher incomes. The resulting divergence of incomes would not be permanent as most people would eventually move into higher value-added activities.

Todaro and Smith (2009) state whether economic growth and poverty reduction are conflicting or not is still a debatable issue. A body of opinion held that rapid growth is bad for the poor, because they would be bypassed and marginalized by the structural changes of modern growth. If the poor get less share of national income, it leads to an increasing share of the rich and finally widens income inequality between these groups. Therefore, a better income distribution may help to reduce poverty in which there is less variation of income among various income groups. Bourguignon (2004) argues that poverty can be reduced by improving income distribution. Hanmer and Naschold (2000) also argue that growth is less effective in reducing poverty in high inequality countries. In some high inequality countries, particularly those with low rates of growth, this means that changes in income distribution may be more effective in reducing poverty than growth.

Lin (2003) finds that economic growth effectively reduces poverty in China. However, the study also reported that income inequality that is created by the increased economic growth reduces the effectiveness of poverty reduction. In his study, Ravllion (2006) finds a negative relationship between economic growth and poverty in India and China i.e. an increased economic growth in those countries is followed by a reduction of poverty. The study also finds that income inequality decreased the effectiveness of poverty reduction. He indicates that a combination of economic growth and income inequality reduction can better fight poverty alleviation. War (2006) studied the effect of sectoral growth on poverty which suggests that poverty reduction is helped well by the growth of agriculture and services sectors. Hidayat and Patunru (2007) when studied in Indonesia find that economic growth is not only followed by an increased income inequality but also by poverty reduction.

The survey of literature suggests that economic growth is an important means for poverty reduction. But the relationship between economic growth and poverty reduction is strongly determined by the pattern of income inequality. If the existing income inequality is high, growth has less impact on poverty. As a result, the same policy prescription may not work for all countries. For some countries, the growth maximizing policies may be adequate but for other countries, there may be a need to have pro-poor growth policies with a focus on reducing inequality (Kakwani & Pernia, 2000). The theoretical links among economic growth, income inequality and poverty can be complementing each other. Thus, an empirical investigation on such relationships can help understand how these variables interact.

METHODOLOGY

The study requires data on growth, inequality and poverty. The rise in gross domestic product is considered for economic growth. Income inequality is shown by Gini coefficients. Poverty line is defined as a daily per capita intake of 2122 kilo calories and the percentage of population living below this standard is termed as poor. All data are collected from secondary sources. The data cover the period between 1981-82 and 2009-10.

The ordinary least squares (OLS) linear regression models, both two-variable and multi-variable, are used to analyze and understand the extent of relationship among the variables considered. A two-variable regression model is sometimes appropriate as an empirical tool and learning how to interpret the simple regression model is good practice for studying multiple regression (Wooldridge, 2009). After data on relevant variables are collected, the following econometric methods are used to estimate the parameters in the econometric models. To find out the effect of economic growth on income inequality, we estimate a model relating income inequality (*incineq*) to economic growth (*ecngth*). The linear model explaining income inequality is

$$\log(\text{inineq}) = \beta_0 + \beta_1 \log(\text{ecngth}) + u \dots\dots\dots (1)$$

In this model, β_0 is the intercept and β_1 is the elasticity of income inequality with respect to economic growth and u is the error or disturbance term. We estimate another model relating poverty (*pov*) to economic growth (*ecngth*) to see how economic growth changes poverty. The population model is

$$\log(\text{pov}) = \beta_0 + \beta_1 \log(\text{ecngth}) + u \dots\dots\dots (2)$$

Where β_1 is the elasticity of poverty with respect to economic growth. In order to find out the joint and individual effect of economic growth and income inequality on poverty, we estimate the following population model relating poverty (*pov*) to economic growth (*ecngth*) and income inequality (*incineq*).

$$\log(\text{pov}) = \beta_0 + \beta_1 \log(\text{ecngth}) + \beta_2 \log(\text{inineq}) + u \dots\dots\dots (3)$$

In this model, β_1 and β_2 are the elasticity of poverty with respect to economic growth and income inequality respectively. Finally, we develop a model to understand the effect of sectoral growth on poverty. Only four sectors namely agriculture, industry, power, gas, water and sanitary services, and public administration and defence are considered. The other sectors are either highly correlated with these sectors or have trivial effect on poverty. The model relating poverty (*pov*) to the growth of agriculture (*agr*), industry (*indus*), power, gas, water and sanitary services (*pgwss*) and public administration and defence (*pad*) is

$$\log(\text{pov}) = \beta_0 + \beta_1 \log(\text{agr}) + \beta_2 \log(\text{indus}) + \beta_3 \log(\text{pgwss}) + \beta_4 \log(\text{pad}) + u \dots\dots\dots (4)$$

Where $\beta_1, \beta_2, \beta_3$ and β_4 are the elasticity of poverty with respect to the growth of agriculture, industry, power, gas, water and sanitary services and public administration and defence respectively.

RESULTS AND DISCUSSION

IMPACT OF ECONOMIC GROWTH ON INCOME INEQUALITY

In this section the estimated results of the models are shown with their explanations. The estimated equations are indicated by using "hat." Standard errors appear in parentheses below the estimated coefficients. Figures in brackets beneath the standard errors are probabilities. This convention is followed in all equations. Using the data on economic growth and income inequality, the estimated model shows the following results

$$\widehat{\log(\text{inineq})} = 3.36 + .255 \log(\text{ecngth})$$

Std. error (.1298) (.0854)

Prob. [.000] [.031]

R-squared = .64, Adjusted R-squared = .57

According to the model, income inequality is positively related to economic growth. The estimated elasticity implies that a 1% increase in economic growth increases income inequality by .255%. The statistical significance of regression coefficient indicates that economic growth is a significant predictor of income inequality ($p < .05$). The measure of goodness-of-fit as shown by adjusted R-squared indicates that 57% variation in income inequality is explained by economic growth. Alternatively, 43% variation in income inequality occurs due to the factors other than economic growth.

The model confirms that the Bangladesh economy experiences an increase in income inequality with growth. The economy is still highly dominated by agriculture and the poor living in rural areas commonly depend on agriculture. But the return from agriculture is less than that of industry and service sectors. There also exists an unequal distribution of land ownership. Again, the withdrawal of subsidies from agriculture inputs in various phases imposed a tax on the marginal farmers. These farmers have limited access to credit facilities. As a result, the major benefit of agriculture growth goes to a few rich farmers and land owners. On the other hand, the urban poor are engaged in low paid industry and service sectors. Industry sector is capital intensive and the growth of this sector increases income inequality. The pattern of income distribution in Bangladesh shows that the bottom 10% population received only 2.76% of national income in 1981-82 which decreased to 2% in 2009-10 indicating a net decrease of about 28% during this period. On the other hand, the top 10% population received 29.53% of national income in 1981-82 which increased to 35.84% in 2009-10 indicating a net increase of 21.37% in the same period. Given this distribution of income, economic growth brings benefit to few people which results in a high income inequality between the rich and the poor.

IMPACT OF ECONOMIC GROWTH ON POVERTY

Equation 2 is used to identify the effect of economic growth on poverty. The estimation of parameters produces the following results.

$$\widehat{\log(\text{pov})} = 5.16 - .874 \log(\text{ecngth})$$

Std. error (.2447) (.1611)

Prob. [.000] [.003]

R-squared = .86, Adjusted R-squared = .83

The coefficient comes up with the anticipated sign. Poverty is negatively related to economic growth which means a high economic growth is followed by a low level of poverty. The estimated elasticity of poverty with respect to economic growth implies that a 1% increase in economic growth lowers poverty by .874%. The statistical significance of regression coefficient indicates that economic growth is a very significant predictor of poverty ($p < .01$). The measure of goodness-of-fit indicates that 83% variation in poverty is explained by economic growth.

Although economic growth increases income inequality, evidence shows it also reduces poverty. It implies the poor are able to get a certain share of national income with the growth of the economy. The effort of successive governments in bringing the poor and vulnerable people under various social safety nets helped to reduce poverty to an extent. Besides, Bangladesh is a pioneer of micro-credit services with the help of which many poor in rural areas came out of poverty. In recent years, many micro-credit institutions started working in the urban areas with the objective of poverty alleviation. As a result, the combined effect of all these efforts helped the economy to grow and the growth in turn helped many to come out of poverty.

IMPACT OF ECONOMIC GROWTH AND INCOME INEQUALITY ON POVERTY

A two-predictor regression model is fitted to the data to understand the combined effect of economic growth and income inequality on poverty. The estimated model shows the following results.

$$\widehat{\log(\text{pov})} = 6.33 - .785 \log(\text{ecngth}) + .348 \log(\text{ineq})$$

Std. error (3.127)	(.2955)	(.9267)
Prob. [.113]	[.057]	[.727]

R-squared = .86, Adjusted R-squared = .79
F-statistic = 12.27, Prob. (F-statistic) = .01

According to the model, poverty is negatively related to economic growth and positively to income inequality. Put it alternatively, a high economic growth is associated with a low level of poverty while a high income inequality is followed by a high level of poverty. The parameter estimation of economic growth implies, holding the effect of income inequality fixed, a 1% increase of economic growth decreases poverty by .785%. In contrast, *ceteris paribus*, the coefficient of income inequality implies that a 1% increase in income inequality increases poverty by .348%.

The statistical significance indicates the model is jointly significant at 5% level of significance ($p < .05$). This test alone does not say which predictor has significant effect on poverty and thus it is crucial to look at the estimate of individual coefficients and their probability values. The individual coefficients indicate that economic growth is a significant predictor of poverty ($p < .10$) while income inequality fails to be so even at 15% level of significance. The measure of goodness-of-fit indicates that 79% variation in poverty is explained by economic growth and income inequality. In other words, only 21% variation in poverty is left to other variables.

The finding suggests economic growth and income inequality have opposing effect on poverty. This occurs because income inequality increases to a great extent with economic growth and economic growth is a significant predictor of income inequality. But when economic growth and income inequality are taken together, the effect of economic growth on poverty reduction dominates the inequality effect. And the effort of poverty reduction through economic growth is partially cancelled out by the increasing income inequality.

IMPACT OF SECTORAL GROWTH ON POVERTY

Equation 4 is used to identify the effect of sectoral growth on poverty reduction. The estimation of parameters produces the following results.

$$\widehat{\log(\text{pov})} = 4.745 - .305 \log(\text{agr}) - .353 \log(\text{indus}) - .128 \log(\text{pgwss}) + .113 \log(\text{pad})$$

Std. error (.313)	(.107)	(.085)	(.108)	(.124)
Prob. [.004]	[.104]	[.053]	[.359]	[.458]

R-squared = .96, Adjusted R-squared = .87
F-statistic = 11.34, Prob. (F-statistic) = .08

As the model shows, poverty is negatively related to the growth of agriculture, industry, power, gas, water and sanitation (utilities) and positively to public administration and defence. In other words, while the growth of agriculture, industry and utilities is followed by a reduction of poverty, the growth of public administration and defence is associated with an increase of poverty. The parameter estimation of agriculture, for example, implies that holding the effect of other variables constant, a 1% increase in the growth of agriculture decreases poverty by .305%.

The model remains jointly statistically significant ($p < .10$). But the estimation of individual coefficients indicates agriculture and industry are significant predictors of poverty at 10% and 5% respectively while other sectors fail to be so at the standard levels of significance. The measure of goodness-of-fit indicates that 87% variation in poverty is explained by the variables included in the model. This result also justifies the non-inclusion of other sectors in the model.

These findings indicate that the growth of agriculture and industry are beneficial to poverty reduction. The Bangladesh economy is vastly dominated by agriculture on which a good number of rural poor remain dependent. Thus, any growth of this sector helps to reduce poverty to an extent. The effect of industry sector growth on poverty can be explained as follows. This sector consists of large and small scale industries. The large industry is highly dominated by readymade garment manufacturing which employs a good number of rural and urban poor. The poor women who would otherwise remain unemployed found a new avenue of generating additional income to improve their standard of living after they had joined this sector. The small industry which mainly consists of handlooms, carpet-making, shoe-making, coir, bamboo and cane products, earthenware contributes a lot in alleviating poverty.

CONCLUSION

Early studies on the relationship between growth and poverty believed that benefits of economic growth automatically trickle down to the poor. The recent studies view that income distribution largely determines how much the poor benefit from economic growth. The present study confirms that economic growth significantly reduces poverty. However, income inequality tends to rise with economic growth which affects the poverty reduction capacity of growth. As a result, the objective of poverty reduction through economic growth is partially cancelled out by the corresponding increase of income inequality. The study also discovers that the growth of agriculture and industry reduces poverty considerably while the growth of utility sector has insignificant effect on poverty reduction. In contrast, the growth of public administration and defence marginally increases poverty.

The study finds that economic growth and income inequality are intrinsically linked and they matter for poverty reduction. There is no doubt that growth is good for poverty reduction. But it must be considered how much benefit the poor get out of growth in their existing share of income because growth effect on poverty reduction may sometimes be dominated by income inequality effect. For Bangladesh, growth effect on poverty reduction dominates income inequality effect. Yet income inequality matters as long as poverty reduction is concerned. Thus, any policy for poverty reduction should be directed toward achieving an economic growth which reduces poverty fast and at the same time produces less income inequality.

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APPENDIX

TABLE 1: ECONOMIC GROWTH, INCOME INEQUALITY, AND POVERTY, 1981-82 TO 2009-10

Year	GDP growth (Annual average percent)	Gini coefficients	National poverty (percent of population)
1981-82	2.70	39	73.0
1985-86	4.30	38	55.7
1991-92	3.77	39	47.5
1995-96	4.54	43	47.5
1999-00	5.34	45	44.3
2004-05	5.40	47	40.0
2009-10	6.22	46	31.5

Note: Poverty line in 1985-86 is estimated based on daily per capita intake of 1800 kilo calories.

Sources: Own estimates and

- (1) BBS, *Twenty Years of National Accounting of Bangladesh 1972-73 to 1991-92*, 1993
- (2) BBS, *Statistical Yearbook of Bangladesh*, various issues
- (3) BBS, *Household Income and Expenditure Survey*, various issues
- (4) BB, *Monthly Economic Trends* 2011

TABLE 2: SECTORAL GROWTH RATES (ANNUAL AVERAGE PERCENT) OF GDP AT CONSTANT MARKET PRICES, 1981-82 TO 2009-10

Year	Agriculture	Industry	Construction	Power, gas water & sanitation	Transportation & communication	Trade services	Housing services	Public administration & defence	Banking & insurance
1981-82	1.48	1.39	10.38	16.25	3.76	3.82	3.06	4.71	11.67
1985-86	2.96	2.60	7.65	20.30	4.89	4.83	3.11	17.15	11.22
1991-92	2.06	4.71	6.03	20.05	5.09	3.55	3.31	7.21	2.37
1995-96	1.49	8.42	8.33	6.07	4.29	4.81	3.40	7.18	4.45
1999-00	4.34	5.39	8.88	4.18	5.79	6.32	3.75	5.77	5.33
2004-05	2.88	6.84	8.38	8.21	7.09	6.55	3.52	6.42	6.97
2009-10	4.50	8.18	6.54	6.07	8.05	6.74	3.78	7.63	9.44

Sources: Own estimates based on

- (1) BBS, *Twenty Years of National Accounting of Bangladesh 1972-73 to 1991-92*, 1993
- (2) BBS, *Statistical Yearbook of Bangladesh*, various issues
- (3) BB, *Monthly Economic Trends* 2011

IMPACT OF ABSENCE OF ANTI-COUNTERFEITING LAWS AND PRESENCE OF LOW PRICE ON CONSUMERS' ATTITUDES TOWARD THE NON-DECEPTIVE COUNTERFEITS IN A DEVELOPING CONTEXT

IMRAN ANWAR MIR
RESEARCH SCHOLAR
DEPARTMENT OF MANAGEMENT SCIENCES
IQRA UNIVERSITY
ISLAMABAD

ABSTRACT

Counterfeiting trade is posing a serious threat to the genuine industry all over the world, as it is rapidly growing and expanding in scope. This threat becomes more critical when consumers knowingly buy the counterfeits or fake products. This study examines the impact of low price of non-deceptive counterfeits and absence of anti-counterfeiting laws on consumers' attitude towards the non-deceptive counterfeits and their purchase intentions. To verify the proposed model empirical evidence was collected from a convenience sample of 375 shoppers by using road request survey. Results reveal that lower price of the non-deceptive counterfeits and absence of anti-counterfeiting laws affects both consumers' attitudes toward the non-deceptive counterfeits and their purchase intentions positively. The findings of this study are useful for both policy makers and industry practitioners as they clearly indicate reason of rapid growth and expansion of counterfeiting trade in a developing context.

KEYWORDS

Absence of Anti-counterfeiting Laws, Attitude, Low Price, Non-deceptive counterfeits, Purchase Intentions.

INTRODUCTION

The rapid growth of counterfeiting trade is becoming a serious threat to the genuine business all over the world (Bian and Veloutsou, 2007). It captures round about seven percent of the global trade (Ergin, 2010). Since 2005, counterfeiting trade has expanded in value upto \$ 360 billion. It grows approximately at the rate of 22% per annum. Even at the rate of 15 percent per annum counterfeiting trade is expected to grow up to \$960 billion in value by 2015 (Frontier economics, 2011). Previous studies found low price and easy availability as the main reasons for the rapid growth of counterfeits. Consumers prefer to buy counterfeits because of their low price (Bloch, Bush, and Campbell, 1993; Dodge, Edwards, and Fullerton, 1996; Albers-Miller, 1999; Prendergast, Chuen, and Phau, 2002; Harvey and Walls, 2003; Gentry, Putrevu, and Shultz II, 2006; Ergin, 2010). Easy availability of counterfeits provides an opportunity to consumers to buy them (Penz and Stöttinger, 2005; Phau, Sequeira, and Dix, 2009; Stumpf, Chaudhry, and Perretta, 2011). Besides these factors consumers' insensitivity to ethics and word of mouth are important reason persuading consumers to buy counterfeits. Many consumers have favorable attitude towards counterfeits and show little ethical concerns (Lee and Workman, 2011). Word of mouth has positive effect on consumers' attitude towards the counterfeits (Mir, 2011). However, above all these factors absence and weak implementation of anti-counterfeiting laws across the countries is the main force behind the rapid growth of counterfeits. Counterfeits are produced in China, Russia, Argentina, Chile, Egypt, India, Israel, Lebanon, Thailand, Turkey, Ukraine, Venezuela, Brazil, Paraguay, and Mexico. The major reason of counterfeiting trade in these countries is the frail anti-counterfeiting law enforcement (Chaudhry and Zimmerman, 2009). Undelivered punishment to counterfeit traders and buyers encourage the continuation of supply and consumption of illicit products in these countries (Chaudhry and Stumpf, 2011). However, the impact of absence of anti-counterfeiting laws on consumers' attitudes toward the counterfeits has not been addressed sufficiently and most of the work done reflects the western and developed countries perspective. This study intends to fill this gap in literature by recording the impact of absence of anti-counterfeiting laws on consumers' attitudes toward the counterfeits in a developing context. Like other cultural contexts, the purchasing of counterfeits such as pirated CDs is illegal in Pakistan but Pakistani consumers do not follow this legal restriction and are fully involved in the purchasing of counterfeit CDs (Butt, Bhutto, and Siddiqui, 2011). "Pakistan ranks amongst those countries of the world where fake goods and adulterated foodstuffs are sold openly in markets. The sale of counterfeit products, in particular, has become so widespread that according to some circles almost 65% of consumer goods having sold in the country are look-alikes of original products" (Khawaja and Bashir, 2008).

The purpose of this study is to examine the impact of absence of anti-counterfeiting laws on consumers' attitudes toward the counterfeits in Pakistan. Pakistan is passing through a bitter economic crisis. In economic crisis, low price may be an important factor motivating consumers to buy the counterfeits. Therefore, along with absence of law this study also examines the impact of low price of counterfeits on consumers' attitudes towards counterfeits and their purchase intentions. This study is distinctive as it examines the impact of a micro factor (low price) and macro-environmental factor (law) on consumers' attitude towards the counterfeits. Most of the previous studies focused on either micro factors or macro factors. Counterfeiting trade becomes a serious problem when consumers knowingly buy the counterfeits. Such counterfeits are known as non-deceptive counterfeits (Grossman and Shapiro, 1988; Bloch, Bush, and Campbell 1993). The focus of this study is on non-deceptive counterfeits only. As in case of non-deceptive counterfeits, consumers are not betrayed, but they are aware of the fake nature of product. This study treats study weak implementation of anti-counterfeiting laws, failure to punish counterfeiters, government ignorance and unconscious or deliberate negligence as absence of law. More specifically, this study intends to address the following question.

RQ: Does lower price of non-deceptive counterfeits and absence of anti-counterfeiting laws affect consumer attitude towards the non-deceptive counterfeits and their purchase intentions positively.

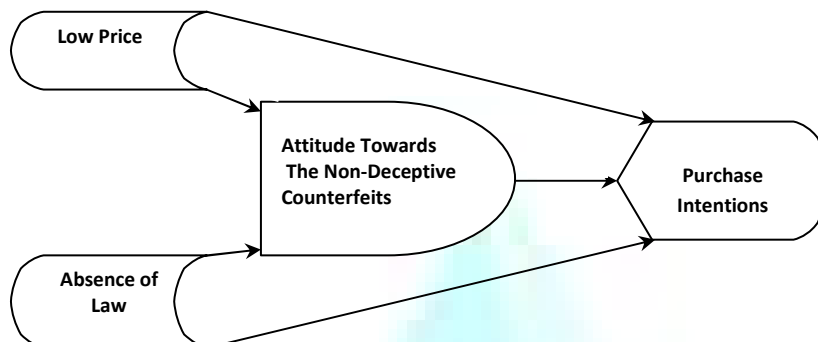
UNDERLYING THEORIES AND CONCEPTUAL MODEL

ATTITUDE TOWARDS COUNTERFEITS

Attitude is an important construct as it explains variations in intentions. Bearden, Woodside, and Clapper (1976) stated that an individual's attitude towards choice objects and situational influence could explain substantial amount of his or her intentions and behavior. Attitude of an individual is his or her inner evaluations of objects, events, and world based on their beliefs (Fishbein and Ajzen, 1975). Attitude affects individuals' intentions that in reaction affect their behavior (Ajzen and Fishbein, 1980). Purchase intentions of an individual are his or her possible plan to purchase the product (Dodds, Monroe, and Grewal, 1991). Purchase intentions are used to predict the purchase behavior of consumer. However, it is not completely a reliable predictor of purchase behavior (Kotler and Keller, 2006). Present study postulates that consumers' attitudes toward the non-deceptive counterfeit products have positive impact on their purchase intentions of the non-counterfeits. Phau and Teah (2009) stated that consumer attitude towards the counterfeits affect their purchase intentions. Some previous studies have found positive relationship between consumer attitude towards the counterfeits and their purchase intentions. For instance, Yoo and Lee (2009) found that consumers' positive attitude towards the counterfeits positively affects their purchase intentions of counterfeits. Generally, consumers hold positive attitude towards the counterfeits (de Matos, Ituassu, and Rossi, 2007; Lee and Workman, 2011). Consumers' positive attitude towards the counterfeits is the results of certain socio-economic, personal, demographic, situational, and psychographic factors. Vida (2007) found that socio-economic variables affect the consumer attitudes towards the counterfeiting that in response affect their willingness to purchase counterfeits. However, the present study focuses on only two factors i.e. low price of the non-deceptive counterfeits and the absence of anti-counterfeiting laws. Cheng, Fu, and Tu (2011) found that when consumers are financially unable to purchase the genuine products at higher price, they turn to counterfeits, which are available at lower prices. Chaudhry and Zimmerman (2009) stated that weak enforcement and improper implementation of anti-counterfeiting laws encourage production and consumption of

counterfeits across the countries. Present study assumes besides the indirect impact, low price of the non-deceptive counterfeits and the absence of anti-counterfeiting laws has direct influence on the consumer purchase intentions. Figure 1 shows the relationships between the constructs of the study.

FIG. 1: PROPOSED MODEL OF CONSTRUCTS OF THE STUDY



LOW PRICE

Previous researches on the causes of counterfeiting trade show that majority of consumers want to purchase authentic products but higher price of authentic products force them to buy the counterfeits or fakes (Chuchinprakarn, 2003; Chaudhry et al., 2009). Low price of the counterfeits motivates consumers to buy them (Dodge, Edwards, and Fullerton, 1996; Albers-Miller, 1999; Prendergast, Chuen, and Phau, 2002; Harvey and Walls, 2003). Consumers like to buy counterfeits especially when there is a significant difference in prices of the real and fake products (Gentry, Putrevu, and Shultz II, 2006; Ergin, 2010). Present study posits that low prices of the non-deceptive counterfeits have a positive impact on consumer attitudes toward the counterfeits. Staake and Fleisch (2008) found that alike deceptive counterfeits lower prices of the non-deceptive counterfeits positively affects the consumer attitude towards such products. Attitude explains the significant amount of purchase intention and behavior (Bearden et al., 1976), but it cannot explain them 100 percent. Therefore, present study also theorizes that low price of the counterfeits directly impacts the consumers' purchase intentions. Why do consumers prefer to buy low priced counterfeits rather than authentic products? Previous studies identified certain reasons. First, when consumers have low-income level they buy counterfeits (Prendergast et al., 2002; Stumpf et al., 2011). Second, some consumers desire to adopt affluent lifestyles but are financially unable to purchase the premium brands which affluent people use, so they buy the counterfeits of original brands to meet their desires (Gistri et al. 2009). Third, some consumers are price sensitive and they prefer to purchase the low priced counterfeits (Haque, Khatibi, and Rahman, 2009; Gino, Norton, and Dan, 2010).

ABSENCE OF LAW

Consumers' positive attitude towards the counterfeits and pirated products is the outcome of weak enforcement and improper implementation of anti-counterfeiting laws across the countries (Chaudhry and Zimmerman, 2009). Undelivered punishment to sellers and consumers of counterfeits encourage continued production and consumption of fake products (Chaudhry and Stumpf, 2011). This study posits that absence of anti-counterfeiting laws has positive impact on consumers' attitude towards the non-deceptive counterfeits. Present study treats weak enforcement and improper implementation of anti-counterfeiting laws as the absence of law. Although the Trade Marks Act 1994 clearly increased penalties for those involved in counterfeiting yet law enforcement in this area in UK remains random. Unsystematic law enforcement in the area of counterfeiting encouraged counterfeiting business grew in scope and covered a large area from clothes, CDs, shampoos to vehicle components in UK (Vagg and Harris, 2000). In some countries like USA, counterfeiting problem is expanding in scope either due to lack of proper legal system or due to lack of proper law enforcement. In most of the countries, counterfeiting related laws are not properly implemented due to incompetency and corruption (Hilton, Choi, and Chen, 2004). To discourage counterfeit business in USA Congress passed the Trade Market Counterfeiting Act (TCA) of 1984. However, it failed to stop counterfeiters from transporting the counterfeits into USA. The main reason of this failure is a small chunk of counterfeiters received penalties (Amendolara, 2005). Like other countries, same situation is in Pakistan. Consumers continue to purchase counterfeits and pirated CDs due to the lack of anti-counterfeiting law enforcement (Butt et al., 2011). In case of China situation is worst, as most of the Chinese consumers are unacquainted of legal issues related to counterfeiting (Safa and Jessica, 2005). This study also postulates that absence of anti-counterfeiting law has direct impact on consumers' purchase intentions of the non-deceptive counterfeits.

On the bases of proposed model and above discussion, following hypotheses are stated:

- H₁. Lower the price of non-deceptive counterfeits, positive the attitude towards them
- H₂. Lower the price of non-deceptive counterfeits, positive the impact on purchase intentions
- H₃. Absent the anti-counterfeiting laws, positive the attitudes toward non-deceptive counterfeits
- H₄. Absent the anti-counterfeiting laws, positive the impact on purchase intentions
- H₅. Positive the attitudes toward non-deceptive counterfeits, positive the impact on purchase intentions.

METHOD

A road request (Mall intercept survey) survey was conducted in the Capital city of Pakistan. Shoppers were intercepted at shopping malls and requested to fill the questionnaire. Survey was conducted in two phases. In phase one, 150-convenience sample was surveyed to examine the validity and reliability of the measurement instrument of the study constructs. The exploratory factor analysis (EFA) section of this study shows the details of phase one. In second phase, 375-convenience sample of shoppers consisting of 58.9 percent male and 41.1 percent females were surveyed. Maximum respondents had income level between Rs.21000-31000 per month. Majority of respondents' ages were between 21 and 27. Average respondents were Graduates. The impact of counterfeiting was examined across different product categories particularly foci of this study was digital products such as cameras, mobile devices, Data traveler devices, digital diaries etc. These products were mentioned in the questionnaire and all the terms used in the questionnaire were defined and explained in the opening statement.

To measure the consumers' attitudes toward the non-deceptive counterfeits scales were adapted from de Matos et al. (2007), Yoo, and Lee (2009). To measure the Low price construct items were adapted from Lee and Workman (2011), Yoo and Lee (2009) and de Matos et al. (2007). To measure the absence of law construct items were adapted from Chaudhry and Stumpf (2011), Lee and Workman (2011) and Phau and Teah (2009). To measure the purchase intentions items were adapted from de Matos et al. (2007). Low price, absence of law and attitude constructs were measured on five point likert scale whereas purchase intentions were measure on three point comparative scale.

EXPLORATORY FACTOR ANALYSIS

For the purpose of exploratory factor analysis (EFA) data was collected from a convenience sample of 150 shoppers. Data from Smaller sample size such as 150 respondents is adequate for EFA if the factor loadings of maximum items is greater than 0.80 (Tabachnick and Fidell, 2007). Kaiser-Meyer-Olkin (KMO) test was conducted which examines the adequacy of sample. Its value should be between 0 and 1. However, value closer to 1 reflects that the patterns of correlation among the items of constructs are compact. In the present study KMO value is .637 which shows that patterns of correlation among the items are comparatively

compact (Field, 2000). Only those items were included in the questionnaire for main survey whose factor loadings were more than 0.60. Cronbach alpha was used to measure the reliability of the items of the constructs. Table 1 shows the factor loadings of the items, reliability, Eigen value, KMO, and other important values of the EFA.

TABLE 1: MEASUREMENT ITEMS OF STUDY CONSTRUCTS

Constructs	Measurement	Factor Loadings	Reliability
Attitude	Non-deceptive counterfeit products attract me as they are available at lower prices	.814	.679
	Buying non-deceptive counterfeit products benefits the economically stretched consumers	.821	
	There is little chance of being caught when purchasing a non-deceptive counterfeit product	.686	
	I prefer to buy non-deceptive counterfeit products because genuine products are over priced	.845	
Purchase Intentions	I think about a non-deceptive counterfeit product as a choice when buying personal and household products	.741	.705
	I will buy a non-deceptive counterfeit product	.755	
Low Price	I prefer to buy non-deceptive counterfeit products because price of genuine brands is very high	.770	.720
	Without non-deceptive counterfeit products many people will not be able to buy certain products	.782	
	I Like to purchase non-deceptive counterfeit products if I cannot afford genuine products.	.816	
	Low priced non-deceptive counterfeit products generally benefit the lower income consumers	.722	
Absence of Law	Non-deceptive products are available in my local area	.788	.684
	In every shop, non-deceptive counterfeit products are available	.798	
	There is no legal problem in obtaining a non-deceptive counterfeit Product	.781	
	Legal enforcement agencies do not bother the selling and buying of non-deceptive counterfeit products	.817	
	Law enforcement agencies do not discourage the sale of non-deceptive counterfeit Products	.815	
Percentage of variance			26.133
Eigenvalue			3.920
KMO			.637
Barlett's test of sphericity			.000

RESULTS AND HYPOTHESES TESTING

Responses of 375 shoppers surveyed in the second phase of this study were used for model and hypotheses testing. Enter method of regression was applied to examine the impact of low price of non-deceptive counterfeits and the absence of anti-counterfeiting laws on consumers' attitude towards the non-deceptive counterfeits and their purchase intentions. Table 2 shows the overall details of regression results. First, the impact of low price of non-deceptive counterfeits and absence of anti-counterfeiting laws on consumer attitude towards the non-deceptive counterfeits was examined. $F_{(2, 372)} = 53.952$ and $R = .474$ indicate that model is significant at the 5 percent level of significance as $p < .05$. $R^2 = .225$ indicates that low price of non-deceptive counterfeits and absence of anti-counterfeiting laws account 22.5 percent variation in consumers' attitudes toward the non-deceptive counterfeits. Low price of non-deceptive counterfeits with $p = .002$ ($p < .05$), $\beta = .474$ and $t = 10.260$ supports the hypothesis (H_1) that lower the price of non-deceptive counterfeits, positive the attitude towards them. Similarly, absence of anti-counterfeiting laws with $p = .000$ ($p < .05$), $\beta = -.147$ and $t = -3.181$ supports the hypothesis (H_3) that absent the anti-counterfeiting laws, positive the attitudes toward non-deceptive counterfeits. In other words, these results verify the statement that the presence of low price and absence of anti-counterfeiting laws positively affect the consumer attitudes toward the non-deceptive counterfeit products across the different product categories in developing countries like Pakistan.

Second, the direct impact of low price of non-deceptive counterfeits and absence of anti-counterfeiting laws on consumers' purchase intentions was examined. $F_{(2, 372)} = 36.162$ and $R = .403$ indicate that model is significant at the 5 percent level of significance as $p < .05$. $R^2 = .163$ indicates that low price of non-deceptive counterfeits and absence of anti-counterfeiting laws account 16.3 percent variation in consumers' purchase intentions of the non-deceptive counterfeits across different product categories. Low price of non-deceptive counterfeits with $p = .000$ ($p < .05$), $\beta = .406$ and $t = 8.451$ supports the hypothesis (H_2) that lower the price of non-deceptive counterfeits, positive the impact on purchase intentions. Similarly, absence of anti-counterfeiting laws with $p = .026$ ($p < .05$), $\beta = -.107$ and $t = -2.238$ supports the hypothesis (H_4) that absent the anti-counterfeiting laws, positive the impact on purchase intentions.

Third, the relationship between consumers' attitudes toward the non-deceptive counterfeits and their purchase intentions was measured. $F_{(1, 373)} = 65.931$ and $R = .388$ indicate that model is significant at the 5 percent level of significance as $p < .05$. $R^2 = .150$ indicates that positive attitude towards the non-deceptive counterfeits accounts 15 percent positive variations in consumers' purchase intentions of the non-deceptive counterfeits. Consumers attitude towards the non-deceptive counterfeits with $p = .000$ ($p < .05$), $\beta = .388$ and $t = 8.120$ supports the hypothesis (H_5) that positive the attitudes toward non-deceptive counterfeits, positive the impact on purchase intentions.

TABLE 2: IMPACT OF LOW PRICE OF NON-DECEPTIVE COUNTERFEITS AND ABSENCE OF ANTI-COUNTERFEITING LAWS ON CONSUMER ATTITUDE AND PURCHASE INTENTIONS

Interaction between variables	β	t	R	R^2	df1	df2	F	P
Attitude	1.874	10.179	.474	.225	2	372	53.952	.000
Low Price	.474	10.260						.000
Absence of Law	-.147	-3.181						.002
Purchase intentions	1.027	7.791	.403	.163	2	372	36.162	.000
Low Price	.406	8.451						.000
Absence of Law	-.107	-2.238						.026
Purchase Intentions	.783	9.048	.388	.150	1	373	65.931	.000
Attitude	.388	8.120						.000

DISCUSSION

Counterfeiting trade is appearing as a serious threat to the genuine industry across the countries (Bian and Veloutsou, 2007). It is rapidly growing and expanding in scope. Various factors such as low price and easy availability of counterfeits, materialism and so on have been identified as main reasons for the growth of counterfeits across the different cultural contexts. Chaudhry and Zimmerman (2009) stated that major cause of rapidly growing and expanding counterfeiting trade in different countries is due to their frail anti-counterfeiting law enforcement. Undelivered punishment to counterfeit traders and buyers encourage the supply and consumption of counterfeits (Chaudhry and Stumpf, 2011). Besides fragile anti-counterfeiting legal system, low price of counterfeits is counted as a main reason behind the growth of counterfeiting trade. Consumers across the cultural contexts like to buy counterfeits because of their low prices (Bloch et al., 1993; Dodge, et al., 1996; Albers-Miller, 1999; Prendergast et al., 2002; Harvey and Walls, 2003; Gentry et al., 2006; Ergin, 2010). Present study examined the impact of these two vital factors on consumer attitude towards the non-deceptive counterfeits in the Pakistani context. "Pakistan ranks amongst those countries of the world where fake goods and adulterated foodstuffs are sold openly in markets. The sale of counterfeit products, in particular, has become so widespread that according to some circles almost 65% of consumer goods having sold in the country are look-alikes of original products" (Khawaja and Bashir, 2008). Pakistani consumers do not follow the anti-counterfeiting laws and are fully involved in the purchase of counterfeit CDs (Butt et al., 2011). Counterfeiting becomes a

serious threat especially when consumers knowingly buy illicit products (Mir, 2011). Such illicit products are named as non-deceptive counterfeits (Bloch et al., 1993).

The results of the present study reveal that the low price of non-deceptive counterfeits have positive affect on both consumers' attitude towards the non-deceptive counterfeits and their purchase intentions. This finding is consistent with previous studies conducted in different cultural contexts. Consumers hold positive attitude towards the fake products, as they are available significantly at lower prices. Consumers prefer to purchase fake products, as original products are expensive (Gentry et al., 2006; Chaudhry et al., 2009; Ergin, 2010). Similarly, results reveal that weak anti-counterfeiting law enforcement, deliberate negligence of law enforcement agencies to halt the counterfeiting supply and consumptions lays the positive effects on consumer attitudes towards the non-deceptive counterfeits and motivate them to purchase and consumer fake products without any fear. This finding is in line with the findings from western contexts. Unsystematic law enforcement in the area of counterfeiting encouraged counterfeiting business grew in scope and covered a large area from clothes, CDs, shampoos to vehicle components in UK (Vagg and Harris, 2000). To discourage counterfeit business in USA Congress passed the Trade Market Counterfeiting Act (TCA) of 1984. However, it failed to stop counterfeiters from transporting the counterfeits into USA. The main reason of this failure is a small chunk of counterfeiters received penalties (Amendolara, 2005). In short, empirical findings answered the research question posed in this study that lower price of non-deceptive counterfeits and absence of anti-counterfeiting laws affect consumer attitude towards the non-deceptive counterfeits and their purchase intentions positively. The results of this study imply that governments should implement the anti-counterfeits laws and regulations strictly to halt this phenomenon. However, at the same time genuine industry should not make unnecessary increase in the prices of their products. High prices of genuine products force most of the consumers to embrace the counterfeits particularly in developing countries like Pakistan.

CONCLUSION

This study examined the impact of absence of anti-counterfeiting laws and low price of non-deceptive counterfeits on the consumers' attitudes toward the non-deceptive counterfeit products and their purchase intentions. The empirical evidence verified that both of these factors motivate consumers to purchase and consumer fakes particularly non-deceptive counterfeits. The findings of this study are useful for both policy makers and industry practitioners as they clearly indicate reasons of rapid growth and expansion of counterfeiting trade in developing and developed contexts.

This study is not without limitations. First, this study used convenience sampling that makes the generalization of findings skeptical. Second, weak law enforcement, negligence of government agencies to halt the counterfeiting supply and consumption and other related variables were treated as a single construct i.e. absence of law. Future studies should examine the impact of these factors separately.

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MOBILITY AND MIGRATION OF FEMALE SEX WORKERS: NEED FOR STRATEGIC INTERVENTIONS

GOVERDAN KUMMARIKUNTA
RESEARCH SCHOLAR IN SOCIAL WORK
SOLAPUR UNIVERSITY
SOLAPUR

DR. CHANNAVEER R.M.
CHAIRMAN
DEPARTMENT OF SOCIAL WORK
DAVANGERE UNIVERSITY
DAVANGERE


ABSTRACT

Globalization has affected all walks of life. Infrastructural facilities and access to services available in the cities could make conspicuous impact on the life style of people. The sex work area is no exception to this phenomenon. Free movement of female sex workers through migration and mobility has caused new constraints in the implementation of the health services. Of late, the migration and mobility trends are common phenomenon in the sex work profession. The principal aim of the study is to review the research studies to verify the associational trend of migration and mobility of female sex workers with HIV/AIDS and STI infections. The present study is based on the evidence-based approach to scan the studies pertaining to the migration and mobility of female sex workers. There are vulnerabilities and risks of HIV/AIDS and STI infections associated with the migration and mobility. This trend has been a neglected aspect of the research in the field of sex work profession and sexual health. The present paper could attempt to make an evidence-based presentation of the research studies to explain the association between migration and mobility with HIV/AIDS and STI infections. The study could conceptually establish the association of HIV/AIDS and STI with the migration and mobility trend, which is becoming a common phenomenon in the sex industry due to promotion of clientele networking. This knowledge facilitate the strategic interventions on the part of the government machinery and the NGOs to improve the public health system to address the emerging service need of the migrant and mobile female sex workers.

KEYWORDS

Mobility, Migration, Female Sex work, Intervention.

CONTEXT

 Globalization has brought the market at centre stage of human society. Consequently, there is radical transformation in the social, economic, educational, health, security and political domains of society across the world. The demographic factors indicate that the growth of town and cities is increasing more than ever. There is a trend of mobility and migration towards urban India. People are moving for education, employment and health services to the cities across the world. Although the rural population is large in India, the growing trend of urbanization is increasing at an alarming rate. The global and local contexts are able to attract people for various activities. Neo-liberal economic environment has changed the course of action of the female sex work in particular and sex work in general. Globalization has made deeper impact on the sex work activity in the developed, developing and underdeveloped countries. India as a giant developing nation 'Asia' is no exception to this. Human beings are in search of new pleasures from time to time. Sex activity is the most dominant pleasurable activity across the world. Changing structure and functions of family, community and society are able to influence the desires and aspirations, which exert on the choices and options of individuals. There is growing trend of eco-tourism and sex-tourism throughout the world. Such offers are commercially promoted by the market forces. Hence, globalization is a major cause for the emergence of mobility and migration trends in sex work activity. This context is changing the scenario for the HIV/AIDS and STI infections.

INTRODUCTION

Sex workers are highly mobile populations, moving both within and across district and states, as individually or with other sex worker in the world (J Vandepitte, 2006). Mobility and migration are key facilitating factors in the transmission and spread of HIV and sexually transmitted infections in Asia in general and India in particular. There is a dichotomy between predominantly internal migration, notable urbanisation and external migration among the individuals and groups such as sex workers. These groups are mobile and characterised by different behaviours, access to service and risk exposure to HIV and STI (UNDP, 2010). Most of the migration among female sex workers is to large urban centres and some specific areas that are "hot spot" for HIV transmission (Halli, S 2008). Sex workers are both commercial and mobile (Rakhi Dandona, 2005). It is estimated that around 2.4 million people in India are living with HIV. Most HIV transmission in India is heterosexual (Chandrasekaran et al., 2006), and research has indicated that a substantial proportion of this transmission involves sexual networks that include female sex workers (FSWs) (Nagelkerke et al., 2002). FSWs in India work in a variety of settings and arrangements (Nag 2006).

For programmers working within a particular geographic area, it is important to understand the mobility context so that interventions are appropriately designed and targeted; specific strategies for reaching mobile and migrant FSWs working within different settings will be required. For example, in the case of India, women practicing sex work in brothels are usually mobile and easily identifiable, but might be difficult to reach, if the brothel madams do not offer support to the programme. Mobile FSWs operating on the street and other public places can be contacted directly, without the need for permission from agents, but might be less easily identifiable as they arrive to the nearby towns for sex work and move back home. Moreover, a programme needs to take into account that women who are mobile have different levels of vulnerability and risk for contracting sexually transmitted infections including HIV. The extent to which a mobile sex worker is able to work autonomously will impact on her ability and freedom to negotiate condom use or regulate the number and type of clients. Moreover, women come from different socio-demographic and economic backgrounds, which will likely influence their willingness and motivation to practice safe sex.

This paper reviews the existing literature on mobility and migration of female sex work in India, and risk and vulnerability factors of HIV and STI transmission among female sex workers.

METHODOLOGY OF STUDY

The study conducted a Medline search to identify all papers published since 1986 on sex work in India, using the text words: 'India' AND ('sex work mobility' OR 'sex work migration'). Bibliographies of identified articles were hand searched. In addition, we searched for reports, presentations or abstracts that discuss or mention mobility and migration. More specifically, we researched the websites of National AIDS Control Organization (NACO) of the Government of India; and the main funding organization on HIV prevention and care in India, namely Avahan – India Initiative of the Bill and Melinda Gates Foundation. Subsequently, we searched Google using the combination of words like; sex work mobility in India and sex work migration in India. In addition to the articles and reports found

through these systematic searches, we also reviewed books, reports or papers on FSWs found in various libraries in India or from other HIV / AIDS specialists in India. The articles, reports, presentations and abstracts that contained discussions or mentions mobility and migration of sex work were thoroughly referred as review for the study.

MIGRATION, MOBILITY AND RISK

Movement of people from one place to another is an age-old phenomenon, its current scale and characteristics make it an issue of rising global importance. International migration, defined as individuals living outside of their country of origin for more than one year, is characterized by increasing regulation by states, an increasing proportion of migration to developed countries, and stronger ties between migrants and their home countries due to inexpensive travel and communications. Halli S, et al, said migration (across state borders) and mobility (within state borders) of people is common in India and can take many different forms. Migration and mobility of sex workers is strongly associated with the lack of an enabling legal and policy environment in relation to HIV and sex work. It has high levels of stigma and discrimination and strongly indicative of implications for service delivery system for HIV/AIDS and STI clientele population.

The role of commercial sex in the global HIV epidemic has been especially prominent in selected countries in Southeast Asia. Typically, the transmission path has been from drug users to sex workers, from sex workers to clients, and finally from clients to wives and regular sexual partners in the general population (Gangakhedkar et al., 1995). In a review of sexual behaviour in India with risk of HIV/AIDS transmission by Moni Nag, indicates that the risk of transmission of HIV and other sexually transmitted diseases is higher in sexual relationships with multiple sexual partners and without the use of condom. Also, the author mentioned that there is a widespread belief in India that prostitutes are primarily responsible for the origin and spread of AIDS and it can be mostly controlled by testing all of them for HIV and isolating those who are found positive.

A cross sectional study was conducted in China to understand the risk and behaviours and HIV/STI rates among female sex workers. The study recruited 270 FSWs. Out of which, a total of 117 (43.3%) FSWs moved to another city during the year. Risk factors are increased mobility included being from another city within Yunnan, China (adjusted hazard ratio (AHR) 1.67, 95% CI 1.09-2.56), being outside Yunnan (AHR 1.58, 95% CI 1.04-2.54). Also, the study found out that HIV-positive subjects were less likely to change residence, earned less per client, had more clients each month, and used condoms more consistently with regular partners. About half of the HIV-positive women changed their residence during the follow-up period, compared to two thirds of HIV-negative subjects. The author concluded, those working in higher risk entertainment venues, who tended to be more drug-using and HIV-positive sex workers, were less mobile. The reason for mobility was most commonly related to increasing income. The study further documented high rates of HIV/STIs in the cohort which, when combined with the high rates of mobility, implies that HIV may spread to low-risk areas through mobile FSWs.

On the other hand, trafficking as a global phenomenon delves on the social disadvantages of migrant and mobile population. A study conducted by Charistine Joffres et al, mentioned the majority of trafficked persons are young women or children who have been forced into sex work as a result of poverty, often before they were 18 years old. An increasing demand for younger children and virgins, partly fuelled by the fear of HIV/AIDS; the emergence of new sources and destinations for trafficked persons and increased commercial sexual exploitation (CSE) and the transmission of HIV and other sexually transmitted disease.

A review was conducted by Binod et al on Nepal's migrant women and men and their risk to HIV/STI. Results of analyses of community-based surveys, risk-group surveys, and service statistics consistently showed that men and women who had worked in Mumbai have a much higher prevalence of HIV than those who worked in other parts of India or only within Nepal. The review shows that studies drawing samples from communities in Achham, Doti, and Kailali reported that about 6–10% of men returned from Mumbai compared to up to 4% men working in other parts of India and up to 3% of those working in Nepal were HIV-positive. This pattern of higher proportions of HIV-positive cases among Mumbai returnees than other people was reflected among men attending voluntary counselling and testing (VCT) clinics and also among sex workers surveyed in Kathmandu. Of men who took services from the VCT clinics during 2001–2003, 12.5% of 32 Mumbai returnees compared to 8.5% of 106 India returnee and 2.3% of 210 internal migrants were HIV-positive. Among sex workers surveyed in the Kathmandu Valley, HIV positivity was higher among Mumbai returnees (73%, n=12, in 2001) compared to India returnees as a whole (44%, n=9, in 1999/2000 and 42%, n=33, in 2001); and these rates were several-fold the prevalence of HIV (17% in 1999–2000 and 16% in 2000) in the overall samples of sex workers. While the total samples (300 each year) were adequate, statistics for returnee sex workers were based on very small denominators and hence prone to uncertainty. Further, it is well-known that Nepalese sex workers who are rescued, escaped, or abandoned, because of HIV-positive status, from brothels are often condemned by families and communities and hence again get involved in sex work for survival. However, no estimates are available about the volume of returnees and those who resume sex work. It is also less clear that where these returnee sex workers, and perhaps the migrant men, contracted the virus. Some returnees might have contracted the virus in the home country, but many of them might have returned with the virus. The returnees reflected the situation of Mumbai where HIV infections among FSWs increased sharply from 1% in 1989 to 51% by 1993 and stayed above this level thereafter. No information was available on differentials in the prevalence of HIV by country of origin of sex workers in Mumbai. Although this pattern reflected the epidemic pattern seen in the far-west districts, these findings are based on clinical data and, therefore, cannot be generalized to the migrant community at large.

A clinical study conducted in 2001 among women of migrant communities of Kailali found only one HIV case (0.3%) among 900 women who were tested. Although the prevalence of HIV was very low in this sample compared to that of migrant men in Doti and Achham, as many as 11% of these women were diagnosed with one or more untreated sexually transmitted infection(s). Since migrant returnees tend to have unsafe sex with their wives and other sex partners, infections among women are likely to rise. More migrants than non-migrants reported the involvement in risky sexual behaviours when away from home. In a 1994 survey in 11 mid- and far-western districts, 49% of male and 40% of female seasonal labour migrants reported premarital or extramarital sex when they were away. In sex work tool kit paper by WHO (2004) mentioned that several factors heighten sex workers' vulnerability to HIV. Many sex workers are migrants and otherwise mobile within nation states and are thus, difficult to reach via standard outreach and health services. They face cultural, social, legal and linguistic obstacles to accessing services and information. Equally important, many women in sex work experience violence on the streets, on the job or in their personal lives, which increases their vulnerability to HIV and other health concerns. For example, research from Bangladesh, Namibia, India and elsewhere shows that many sex workers, particularly those who work on the streets, report being beaten, threatened with a weapon, slashed, choked, raped and coerced into sex (WHO, 2004).

In Karnataka the situation indicates that on average, mobile FSWs moved to four different locations for sex work in the two years prior to the survey. 84 percent of the FSWs sampled for the survey reported that they had moved to at least one in past two years. Locations and that they had moved to at least one location outside the district in the one in which they lived. On an average, female sex workers moved 3.5 times in last two years to other locations. 2.8 percent moved across district for sex work. The greater mobility showed associations with a consistent decrease in condom use; increased exposure to sexually transmitted infections; and increased perceived risk of HIV. It is likely that since FSWs move to maximize trade opportunities, they use less discretion in using condoms when they are mobile (Shiva S Halli et al, 2007).

CULTURAL DISADVANTAGES AND RISK

Prostitution as a profession has a long history in India. Nag (2006) distinguishes between Devadasis (women dedicated to gods, who engage in sex work), hereditary FSWs, singing/dancing FSWs, brothel-based FSWs, floating (flying or street) FSWs, call girls, male sex workers and child sex workers. These women have multiple sexual partners and migrate to the nearby towns and major destinations for sex work.

In Karnataka the migrant sex workers especially the female migrants in general are at increased risk of involvement in HIV/STI related risk behaviours. Migrant women who had ever engaged in commercial sex are at especially increased risk of exposure to HIV/STD infection. HIV prevention information and skills of preventive measures need to be delivered to them to avert their risk practice and correct their misconceptions. Situation analyses and negotiation skill training to initiate and promote condom use among them should be included in the prevention intervention program as they may be most relevant to this population (Halli S et al, 2007).

There is an emerging need to understand the cultural events like Jattras (religious festivals). Jattras represent venues for female sex workers (FSWs) to meet potential clients in an environment of anonymity. Data from a survey conducted among 1499 mobile FSWs in Karnataka, India were analysed using bivariate and

multivariate analysis. Overall, 31% of mobile FSWs reported attending jattras in the previous year. Women who sold sex at jattras tended to practice sex work in public places, in their own homes or on highways. Jatra attendees reported lower condom use with their last commercial sexual partners at their usual places of sex work. Jatra-related mobility was a significant predictor of non-condom use at their usual place of residence, after controlling for socio demographic, sex work-related, HIV vulnerability and programme exposure variables. Moreover, only 13% of FSWs used condoms consistently at jattras (Halli S et al, 2010).

SOCIAL DISADVANTAGES AND VULNERABILITY

It was examined on the association between alcohol use and sexual risk in two critical migrant populations living within the same geographical areas--migrant men and female sex-workers (FSWs). Data are drawn from two independent surveys of migrant FSWs and male workers in 14 districts of four high HIV prevalent Indian states. In the paper we have examined the independent effects of degree of mobility and alcohol use prior to sex on HIV risk behaviours. Nearly two-thirds of FSWs and a similar proportion of male migrant workers, as well as nine out of ten clients of FSWs consume alcohol. More than half of the FSWs and their clients consumed alcohol prior to sex. The practice of alcohol use prior to sex among both FSWs and their clients has a significant association with inconsistent condom use during paid as well as unpaid sex, and these effects are independent of degree of mobility. The results suggest a need for developing an in-depth understanding of the role of alcohol in accentuating HIV risk particularly among migrant populations who move frequently from one place another (Verma R.K. et al., 2010). Migration for work takes people away from the social environment of their families and community. This can lead to an increased likelihood to engage in risky behaviour. Concerted efforts are needed to address the vulnerabilities of the large migrant population. Furthermore, a high proportion of female sex workers in India are mobile. The mobility of sex workers is likely a major factor contributing to HIV transmission by connecting high-risk sexual networks (Sudip Muzumder, 2008).

The scenario in Nagaland highlights the lives of mobile population at the time of entry into sex work was socio-culturally and economically vulnerable as evidenced by the early age of sexual debut, low levels of education, unemployment, absence of protective male partners, and poor relationships with families. Participants experienced high levels of mobility, insecure accommodation, the need to financially support family, and the demand to give a portion of their income to others. The use of alcohol and other drugs, including heroin, was widespread. For these women, sex work can be seen as a pragmatic option for earning sufficient income to live. The women's lives would be improved by strategies to promote their health, ensure their safety, and protect their rights as long as they are engaging in sex work. This is likely to benefit not only the sex workers but also their children, their families, and the wider community (Bowen KJ, 2010).

STRATEGIC INTERVENTIONS

The present study through an evidence-based analysis of the research studies conducted in India and abroad, proposes appropriate interventions.

- The development of alternative employment opportunities is vital to protect against the entry into sex work and to support women who want to exit sex work.
- Condom availability and accessibility at jattras should be a priority for HIV prevention programmes, and such programmes should make efforts to introduce outreach activities at jattras.
- There is a dire need to understand the pattern and extent of migration and mobility among the sex workers. This facilitates the logistics to be mobilized to avail access to health services for the sex workers.
- The PHCs and Sub-Centers need to monitor the migration and mobility patterns in their jurisdiction.
- The district health administration need to prepare a migration and mobility mapping with regard to female sex workers in particular and sex workers in general. This would enable the administration to equip with monitoring and evaluation of the focuses and targeted programs for the migrant and mobile sex workers.

CONCLUSION

The research studies indicate that the mobility and migration of female sex workers has the influence in transmission of HIV/AIDS among the sex workers as well to the bridge population. Mobility and migration of the sex workers are considered as dependent variable to explain the extent of variation in HIV/AIDS and STI transmission. There is need of further research at micro and macro level. Interdisciplinary studies could yield better results to understand pragmatically the emergence of migration and mobility of female sex workers. The pattern of mobility and migration, risk of HIV among mobile and migrant sex workers and HIV transmission among female sex workers in India is rightly observed in the study. There is a need for further evidence-based analysis on migration and mobility of female sex workers, which takes account of HIV risk for researchers and programmers.

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BUSINESS DEVELOPMENT & GREEN MARKETING**DR. R. KARUPPASAMY****DIRECTOR****DEPARTMENT OF MANAGEMENT STUDIES AND RESEARCH****SNS COLLEGE OF TECHNOLOGY****COIMBATORE****C. ARUL VENKADESH****ASST. PROFESSOR****DEPARTMENT OF M.B.A.****COIMBATORE INSTITUTE OF ENGINEERING & TECHNOLOGY****VELLIMALAIPATTINAM, NARASIPURAM (POST)****ABSTRACT**

Business development means different things to different people. That's why it is appropriate to define the term beforehand. For some it simply means prospecting, to others it can mean developing a new product or technology, while to others it can mean investing or divesting corporate assets. All have their own right to claim that their activity is business development, that's why it is necessary to dissect the term. "Business development is about bringing discontinuity into the normal operations of an organization. It's about bringing, doing or developing new things the organization didn't do before." Business Development professionals frequently have had earlier experience in financial services, investment banking or management consulting; although many find their route to this area by climbing the corporate ladder in functions such as operations management or sales. Skills and experience for business-development specialists usually consist of a mixture of the following (depending on the business requirements): Marketing, Legal, Strategy, Finance, Proposal management or capture management, Sales experience. The "pipeline" refers to flow of potential clients which a company has started developing. Business-development staff assign to each potential client in the pipeline a percent chance of success, with projected sales-volumes attached. Planners can use the weighted average of all the potential clients in the pipeline to project staffing to manage the new activity when finalized. Enterprises usually support pipelines with some kind of CRM (customer relationship management) tool or CRM-database, either web-based (such as the salesforce.com software-as-a-service solution) or an in-house system. Sometimes business development specialists manage and analyze the data to produce sales management information (MI). Such MI could include: Reasons for wins/losses, Progress of opportunities in relation to the sales process, Top performing salespeople/sales channels, Sales of services/products. For larger and well-established companies, especially in technology-related industries, the term "business development" often refers to setting up and managing strategic relationships and alliances with other, third-party companies. In these instances the companies may leverage each others' expertise, technologies or other intellectual property to expand their capacities for identifying, researching, analyzing and bringing to market new businesses and new products, business-development focuses on implementation of the strategic business plan through equity financing, acquisition/divestiture of technologies, products, and companies, plus the establishment of strategic partnerships where appropriate. The effective green marketing requires applying good marketing principles to make green products desirable for consumers. Now the question that remains, however, is, what is the future of green marketing? Historically green marketing has been a misunderstood concept. The rising price, growing pollution and resource consumption in Asia and political pressure to address climate change are driving innovation toward healthier, more-efficient, high performance products. In shorts all marketing will incorporate elements of green marketing. At the same time to avoid green marketing myopia, the future success of product dematerialization i.e. shift from "sales of goods" to the "sales of services", and more sustainable services will depend on credibly communicating and delivering consumer- desired value in the market place. Only then, product dematerialization will steer business on to a more sustainable path.

KEYWORDS

Green marketing, Business development, green product, eco-friendly business.

INTRODUCTION

In this contemporary world, an ecological issue such as global warming interests both the marketing practitioners as well as the consumers. The term "green marketing" simply denotes all the activities intended to generate as well as facilitate any exchange in order to satisfy human needs such that satisfying these needs happen with the most minimal input on the environment. Companies all across the globe have started differentiating their products and services by using go-green concern and have started utilizing ecological marketing approach as a mere competitive edge. This green marketing approach is largely used as a gimmick by the gigantic corporate houses in order to make a difference in the consumer's point of view when it comes to major market decisions. "According to the American Marketing Association, green marketing is the marketing of products that are presumed to be environmentally safe. Thus green marketing incorporates a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising." Green or Environmental Marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment. Yet defining green marketing is not a simple task where several meanings intersect and contradict each other; an example of this will be the existence of varying social, environmental and retail definitions attached to this term. Other similar terms used are Environmental Marketing and Ecological Marketing.

The term Green Marketing came into prominence in the late 1980s and early 1990s. The American Marketing Association (AMA) held the first workshop on "Ecological Marketing" in 1975. The proceedings of this workshop resulted in one of the first books on green marketing entitled "Ecological Marketing".

The first wave of Green Marketing occurred in the 1980s. Corporate Social Responsibility (CSR) Reports started with the ice cream seller Ben & Jerry's where the financial report was supplemented by a greater view on the company's environmental impact. In 1987 a document prepared by the World Commission on Environment and Development defined sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their own need", this became known as the Brundtland Report and was another step towards widespread thinking on sustainability in everyday activity. Two tangible milestones for wave 1 of green marketing came in the form of published books, both of which were called Green Marketing. They were by Ken Peattie (1992) in the United Kingdom and by Jacquelyn Ottman (1993) in the United States of America. [citation needed]

According to Jacquelyn Ottman, (author of Green Marketing: Opportunity for Innovation) from an organizational standpoint, environmental considerations should be integrated into all aspects of marketing — new product development and communications and all points in between. The holistic nature of green also suggests that besides suppliers and retailers new stakeholders be enlisted, including educators, members of the community, regulators, and NGOs. Environmental issues should be balanced with primary customer needs. [citation needed] The past decade has shown that harnessing consumer power to effect positive environmental change is far easier said than done.

The so-called "green consumer" movements in the U.S. and other countries have struggled to reach critical mass and to remain in the forefront of shoppers' minds. While public opinion polls taken since the late 1980s have shown consistently that a significant percentage of consumers in the U.S. and elsewhere profess a strong willingness to favor environmentally conscious products and companies, consumers' efforts to do so in real life have remained sketchy at best.

One of green marketing's challenges is the lack of standards or public consensus about what constitutes "green," according to Joel Makower, a writer on green marketing.

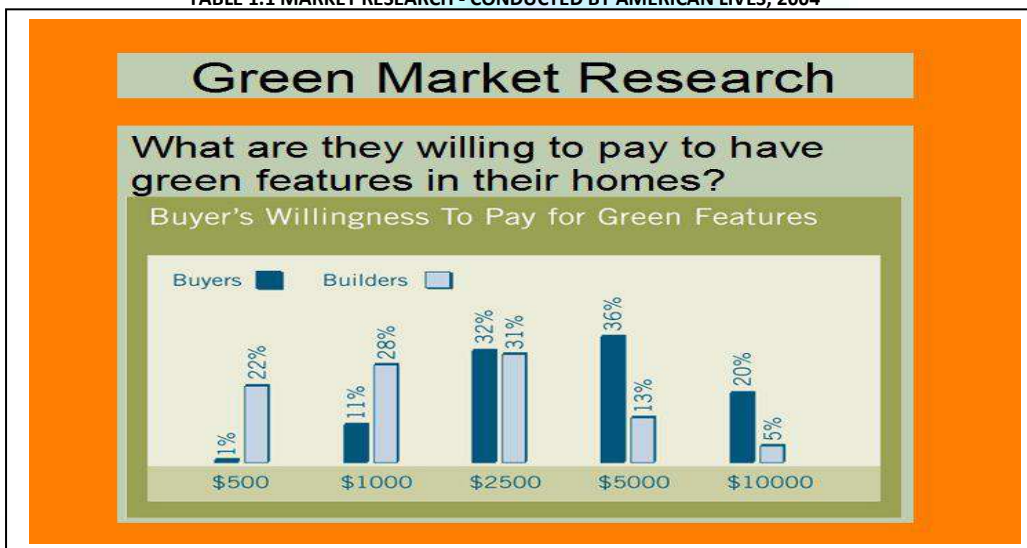
FIG 1.1: GREEN BUSINESSES – ENERGY SAVING CAMPAIGN OF SUN CHIPS



HISTORY

In essence, there is no definition of "how good is good enough" when it comes to a product or company making green marketing claims. This lack of consensus—by consumers, marketers, activists, regulators, and influential people—has slowed the growth of green products, says Makower, because companies are often reluctant to promote their green attributes, and consumers are often skeptical about claims. Despite these challenges, green marketing has continued to gain adherents, particularly in light of growing global concern about climate change. This concern has led more companies to advertise their commitment to reduce their climate impacts, and the effect this is having on their products and services. The first wave of Green Marketing occurred in the 1980s. Corporate Social Responsibility (CSR) Reports started with the ice cream seller Ben & Jerry's where the financial report was supplemented by a greater view on the company's environmental impact. In 1987 a document prepared by the World Commission on Environment and Development defined sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their own need", this became known as the Brundtland Report and was another step towards widespread thinking on sustainability in everyday activity. Two tangible milestones for wave 1 of green marketing came in the form of published books, both of which were called Green Marketing. They were by Ken Peattie (1992) in the United Kingdom and by Jacquelyn Ottman (1993) in the United States of America.

TABLE 1.1 MARKET RESEARCH - CONDUCTED BY AMERICAN LIVES, 2004



WHY GREEN BUSINESS IS IMPORTANT

Economics is the study of how people use their limited resources to try to satisfy unlimited wants. [McTaggart, Findlay and Parkin 1992, 24] Thus mankind has limited resources on the earth, with which she/he must attempt to provide for the worlds' unlimited wants. (There is extensive debate as to whether the earth is a resource at man's disposal, for example, see Gore 1993.) While the question of whether these wants are reasonable. Important, this issue will not be addressed in this paper. In market societies where there is "freedom of choice", it has generally been accepted that individuals and organizations have the right to attempt to have their wants satisfied. As firms face limited natural resources, they must develop new or alternative ways of satisfying these unlimited wants. Ultimately green marketing looks at how marketing activities utilize these limited resources, while satisfying consumers wants, both of individuals and industry, as well as achieving the selling organization's objectives. According to a recent McKinsey survey: "consumers say they are very concerned about climate change, and they connect the dots back to their own purchases, according to a 2007 mckinsey survey of 7,751 people in brazil, Canada, China, France, Germany, India, the united kingdom, and the united states. Indeed, the poll shows that 87 percent of consumers worry about the environmental and social impact of the products they buy.

The life stage of product would include the following:

Stage- I	Development stage: traditionally characterized as the acquisition of raw materials, component parts, and subassemblies. The alternative approach advocated here encourage manufacturer to check the environmental programs of suppliers, to require minimal packaging of inputs, and to consider sources of materials that could be easily replenished or are recyclable.
Stage-II	Production stage: manufacturing companies are encourage to reduce emission, toxicity and waste , and to conserve water and energy. They are also encourage to seek and develop alternative uses for waste products, to revise the manufacturing process, to minimize waste generation, to minimize energy use or to attempt to find alternative sources of energy.
Stage-III	Consumption stage: minimization of packaging, conservation of energy and minimization of waste from product maintenance and service are strongly urged.
Stage-IV	The final stage of a product is its disposal, green marketing introduce the concepts of reuse and recyclability, in addition to the concept of waste reduction.

WHY ARE FIRMS USING GREEN MARKETING?

When looking through the literature there are several suggested reasons for firms increased use of Green Marketing. Five possible reasons cited are:

1. Organizations perceive environmental marketing to be an opportunity that can be used to Achieve its objectives [Keller 1987, Shearer 1990];
2. Organizations believe they have a moral obligation to be more socially responsible [Davis 1992, Freeman and Liedtka 1991, Keller 1987, McIntosh 1990, Shearer 1990];
3. Governmental bodies are forcing firms to become more responsible [NAAG 1990];
4. Competitors' environmental activities pressure firms to change their environmental Marketing activities [NAAG 1990]; and
5. Cost factors associated with waste disposal, or reductions in material usage forces firms to Modify their behavior [Azzone and Manzini 1994].

OPPORTUNITIES – GREEN MARKETING

It appears that all types of consumers, both individual and industrial are becoming more concerned and aware about the natural environment. In a 1992 study of 16 countries, more than 50% of consumers in each country, other than Singapore, indicated they were concerned about the environment [Ottman 1993]. A 1994 study in Australia found that 84.6% of the sample believed all individuals had a responsibility to care for the environment. A further 80% of this sample indicated that they had modified their behavior, including their purchasing behavior, due to environmental reasons [EPA-NSW 1994]. As demands change, many firms see these changes as an opportunity to be exploited. Given these figures, it can be assumed that firms marketing goods with environmental characteristics will have a competitive advantage over firms marketing non-environmentally responsible alternatives.

There are numerous examples of firms who have strived to become more environmentally responsible, in an attempt to better satisfy their consumer needs.

- McDonald's replaced its clam shell packaging with waxed paper because of increased consumer concern relating to polystyrene production and Ozone depletion [Gifford 1991, Hume 1991].
- Tuna manufacturers modified their fishing techniques because of the increased concern over driftnet fishing, and the resulting death of dolphins [Advertising Age 1991].
- Xerox introduced a "high quality" recycled photocopier paper in an attempt to satisfy the demands of firms for less environmentally harmful products.

This is not to imply that all firms who have undertaken environmental marketing activities actually improve their behavior. In some cases firms have misled consumers in an attempt to gain market share. In other Polonsky: An Introduction To Green Marketing cases firms have jumped on the green bandwagon without considering the accuracy of their behavior, their claims, or the Effectiveness of their products.

This lack of consideration of the true "greenness" of activities may result in firms making false or misleading green marketing claims.

FIG 1.2: GREEN MARKETING AD OF TUMI INC.

Tumi's Cheap Shot at Green Marketing

Posted by: Burt Helm on May 06, 2008



Introducing
ALPHA
COLLECTION

GO GREEN, GET GREEN

Help Plant 100,000 Trees

Receive a \$100 Tumi Gift Certificate
with a single, full-priced Tumi purchase of \$495 or more.

shop alpha › shop travel › shop business › shop handbags ›
tumi's environmental commitment ›

Tumi introduces Alpha, the definitive collection for business and travel, with a special event that benefits you and your world. The "Go Green, Get Green" event rewards you with a \$100 Tumi.com Gift Certificate with your on-line purchase of a single, full-price Tumi item of \$495 or more. Working with Global ReLeaf, Tumi is committed to combating climate change by planting and caring for trees around the world. "Go Green, Get Green" runs from April 18 - June 15, 2008. All Tumi.com gift certificate redemptions must be made on-line by June 30, 2008.

Over at [Seth's Blog](#), Seth Godin gripes about a Tumi ad, pictured, that never explains why more luggage equals more trees, or acknowledges that manufacturing luggage likely cancels out the trees' contribution to the environment. He writes:

"The easiest marketing promise to make is to say you'll do something green if people consume what you sell. That you'll support one green cause or another. No one is in charge of checking out your story, and my guess is that 90% of the time, it leads to a net negative—more landfill, more carbon, more waste."

CHALLENGES/ISSUES WITH GOING GREEN MARKETING

No matter why a firm uses green marketing there are a number of potential problems that they must overcome. One of the main problems is that firms using green marketing must ensure that their activities are not misleading to consumers or industry, and do not breach any of the regulations or laws dealing with environmental marketing. For example: Marketers in the US must ensure their green marketing claims can meet the following set of criteria, in order to comply with the FTC's guidelines.

Green marketing claims must;

- Clearly state environmental benefits;
- Explain environmental characteristics;
- Explain how benefits are achieved;
- Ensure comparative differences are justified;
- Ensure negative factors are taken into consideration; and
- Only use meaningful terms and pictures.

Another problem firm's face is that those who modify their products due to increased consumer concern must contend with the fact that consumers' perceptions are sometimes not correct. Take for example the McDonald's case where it has replaced its clam shells with plastic coated paper. There is ongoing scientific debate which is more environmentally friendly. Some scientific evidence suggests that when taking a cradle-to-grave approach, polystyrene is less environmentally harmful. If this is the case McDonald's bowed to consumer pressure, yet has chosen the more environmentally harmful option. When firms attempt to become socially responsible, they may face the risk that the environmentally responsible action of today will be found to be harmful in the future. Take for example the aerosol industry which has switched from CFCs (chlorofluorocarbons) to HFCs (hydro fluorocarbons) only to be told HFCs are also a greenhouse gas. Some firms now use DME (dimethyl ether) as an aerosol propellant, which may also harm the ozone layer [Debets 1989]. Given the limited scientific knowledge at any point in time, it may be impossible for a firm to be certain they have made the correct environmental decision. This may explain why some firms, like Coca-Cola and Walt Disney World, are becoming socially responsible without publicizing the point. They may be protecting themselves from potential future negative backlash, if it is determined they made the wrong decision in the past. While governmental regulation is designed to give consumers the opportunity to make better decisions or to motivate them to be more environmentally responsible, there is difficulty in establishing policies that will address all environmental issues.

For example, guidelines developed to control environmental marketing address only a very narrow set of issues, i.e., the truthfulness of environmental marketing claims [Schlossberg 1993]. If governments want to modify consumer behavior they need to establish a different set of regulations. Thus governmental attempts to protect the environment may result in a proliferation of regulations and guidelines, with no one central controlling body. Reacting to competitive pressures can cause all "followers" to make the same mistake as the "leader."

A costly example of this was the Mobil Corporation who followed the competition and introduced "biodegradable" plastic garbage bags. While technically these bags were biodegradable, the conditions under which they were disposed did not allow biodegradation to occur. Mobil was sued by several US states for using misleading advertising claims [Lawrence 1991]. Thus blindly following the competition can have costly ramifications. The push to reduce costs or increase profits may not force firms to address the important issue of environmental degradation. End-of-pipe solutions may not actually reduce the waste but rather shift it around. While this may be beneficial, it does not necessarily address the larger environmental problem, though it may minimize its short term affects. Ultimately most waste produced will enter the waste stream, therefore to be environmentally responsible organizations should attempt to minimize their waste, rather than find "appropriate" uses for it.

CONCLUSION

Our understanding to green marketing is still in its infancy, perhaps due to the multidisciplinary nature of the enterprises. Marketing scholars focus on a host of business-strategy and public policy issues, including eco-level and market segmentation and the role of structural factors and economic incentives in influencing consumer behaviour. For environmental economists, green marketing signifies a broader trend in the evolution of environmental policies that focus on information disclosure. Political economists focus on collective action dilemmas inherent in green marketing at the consumer and producer level. Clearly there are many lessons to be learned to avoid confusion i.e. what you can say as "Green Marketing Myopia". The green marketers must understand the fact that they have to satisfy two objectives: improved environmental quality and customer satisfaction. Misjudging either or overemphasizing the former at the expenses of the latter may cause a fatal result for companies. Research indicates that many green products have failed because of green marketing myopia; marketers myopic focus on their product's greenness over the broader expectations of consumers. For example Whirlpool (in 1994) launched the "Energy Wise" refrigerator, the first CFC free cooler and one that was 30% more efficient than the U. S. Department of Energy's highest standard. For its innovation Whirlpool won the prestigious "Golden Carrot", a \$30 million award package. Unfortunately, Energy Wise's sales languished because the CFC-free benefit and energy saving did not offset its \$100 to \$150 price premium and the refrigerator did not offer additional features or new styles that consumers desired. Roper ASW's 2002 "Green Gauge Report" finds that the top reasons consumers do not buy green products included beliefs that they require sacrifices- inconvenience, higher cost, lower performance- without significant environmental benefits.

The effective green marketing requires applying good marketing principles to make green products desirable for consumers. Now the question that remains, however, is, what is the future of green marketing? Historically green marketing has been a misunderstood concept. The rising price, growing pollution and resource consumption in Asia and political pressure to address climate change are driving innovation toward healthier, more-efficient, high performance products. In short all marketing will incorporate elements of green marketing. At the same time to avoid green marketing myopia, the future success of product dematerialization i.e. shift from "sales of goods" to the "sales of services", and more sustainable services will depend on credibly communicating and delivering consumer- desired value in the market place. Only then, product dematerialization will steer business on to a more sustainable path.

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IMPACT OF SOCIO-ECONOMIC PROFILE ON SATISFACTION OF BANK OFFICIALS OVER TRAINING AND DEVELOPMENT PROGRAMMES IN BANKS

JASPREET KAUR
ASST. PROFESSOR
DEPARTMENT OF COMMERCE
SRI AUROBINDO COLLEGE OF COMMERCE & MANAGEMENT
LUDHIANA

DR. R. JAYARAMAN
SR. PROFESSOR & HEAD
DEPARTMENT OF ENTREPRENEURSHIP STUDIES
MADURAI KAMARAJ UNIVERSITY
MADURAI

ABSTRACT

This study assesses the pattern of different socio economic characteristics like age, sex, educational qualification, job experience in banking sector, income, and current status of Bank officials of selected bank officials in both sectors i.e. public sector banks and private sector banks were of same composition. The level of satisfaction among respondents over outcome of Training and Development programmes was considerably high and similar in both the sectors of banks. The level of satisfaction in private sector was found to be independent of respondent socio economic profile while in public sector banks it was significantly associated with age, sex and education level. Thus, training and development programmes in banks should be further strengthened so as to improve upon further the overall functioning of the banking sector in India.

KEYWORDS

Public Sector Banks, Private Sector Banks, Socio economic profile, Satisfaction, Training and Development.

INTRODUCTION

It is important that in a service industry like banking, suitable training policies are developed for the better functioning of the system. Human Resource Development is the most important need for a service industry like banking. The banks continued, until recently, their generalist orientation in the matter of recruitment. But, the best talent especially specialist, could not be attracted. While radical changes in the staff' structure are not easy, Public Sector Banks can effect improvements in the existing practices of recruitment, training and redeployment. The focus must shift from generalist orientation of the staff to specialist orientation. Training policy should have a shared vision of all the stakeholders and should be communicated to all concerned.

Training policy is considered as the training vision of the organization which helps to draw short term and long term training strategy for achieving organizational objectives through training intervention. Training policy helps in drawing the training roadmap keeping in view the resources, constraints and dynamics of internal and external organizational factors. Training policy addresses many key issues like whom to train, when to train, how to train and also the roles and responsibilities of various stakeholder.

REVIEW OF LITERATURE

Cannel (2002) in the study investigated that those working in small businesses, part time employees and people with lower educational qualifications, whatever the sector or size of the employer are less likely to receive training than people in large companies or the public sector. So are part time employees and people with lower educational qualifications whatever the sector or size of employer. For all learners and especially the less qualified, on the job training is the favourite method of training. **Ibrahim (2004)** checked whether demographic variables have any role to play in influencing the perception of effectiveness of a training program. A comparative study of differences between pre training and post training results to find out the effectiveness of the training program was also carried out in the same study. The measures used in the study were skills and knowledge gained trainee's reactions to the training course, perceived usefulness of the training course and trainee's efforts to gain skills and knowledge. **Kishore (2010)** examined that the effectiveness of training program from the perspective of the trainees. The objective of the study was to compare the pre training expectations of the trainees with the post training experience and also highlighted that there is a possibility that the demographic characteristics like age, gender and education may affect their on the effectiveness of training program. Such demographic variable too have been included in the study so that their impact can be examined on the perception of training effectiveness. The reason for evaluating training programs deals with justifying the existence of training department and also gaining information about how to improve future training programs. **OECD (1991)** concludes that it is generally workers with more education who receive training. Professional categories such as managers and higher skilled manual workers have higher probability of receiving training. Training associated with new hiring is greater for younger workers; but there is an opposite tendency in some studies to find that training increases with age, peaking in the 25-44 age class.

OBJECTIVE OF THE STUDY

1. To determine the level of satisfaction among respondents regarding overall training and development of employees in the banks
2. To assess the impact of Socio-Economic Profile on Satisfaction of Bank Officials over Training and Development Programmes in Banks

METHODOLOGY

Two stage stratified random sampling technique was used to select the sample for the study. Banks provided the first stage of the sampling design while respondents became the ultimate and second stage of the same. Four Public Sector Banks and an equal number of Private Sector Banks in Punjab were randomly selected for the study. The selected banks include State Bank of India, Punjab and Sind Bank, Punjab National Bank and Bank of Baroda from Public Sector and HDFC, ICICI, AXIS and Yes Bank from Private Sector. Fifty employees from the each bank were randomly selected. In this way, total number of respondents came to 200 from public sector banks and an equal number from private sector banks. Primary data were collected from the selected respondents on a specially structured pre-tested questionnaire through personal interview method. The collected data were analyzed by applying various simple as well as advance statistical techniques, such as frequencies, percentages, averages, standard deviations, chi-square test, unpaired t-test, Analysis of Variance and Tukey Post Hoc multiple comparisons test. The data were collected during 2009-10.

SOCIO-ECONOMIC PROFILE OF THE RESPONDENTS

The socio-economic profile of the bank officials participating in Training and Development programmes may have the different pattern in public sector and private sector banks in India. In order to have an in-depth view of the pattern of socio-economic profile, the comparative analysis was done between public sector and private sector officials. The socio-economic profile includes age, sex, education, job experience, monthly income and current status of the bank officials. The pattern of socio-economic profile is also relevant to be studied so that their impact on satisfaction of bank officials with the Training and Development programmes may be examined.

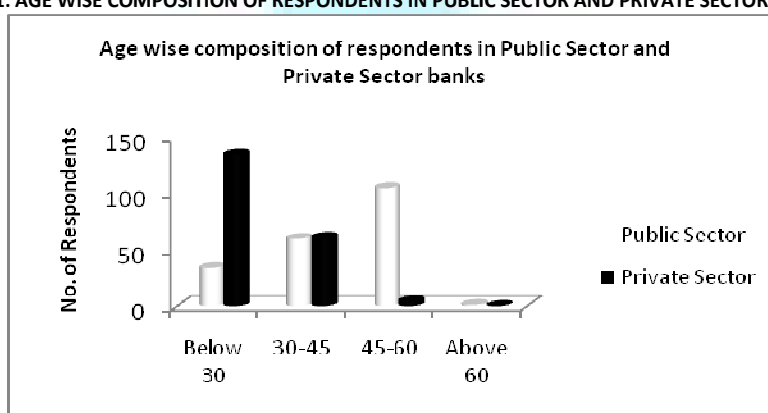
AGE

It can be seen from Table 1 that the highest proportion i.e. 52.50 percent of the selected public sector bank officials belonged to the age group of 45-60 years while the same was 67.50 per cent in the age group of below 30 years in private sector banks. The value of chi-square showed that the pattern of age differed significantly among public and private sector banks as far as the bank officials involved in Training and Development programmes in the banking sector are concerned. The calculate value of chi-square came to be as high as 154.95 at 2 degree of freedom which was highly significant. This indicated that public sector banks initiated training programmes at the later stage when public sector faced stern competition from private sector banks.

TABLE 1: AGE WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS

Socio-Economic Characteristic	Public Sector		Private Sector		χ ² - value	d.f.
	No.	%age	No.	%age		
Age (years)					154.95** p<0.01	2
Below 30	34	17.00	135	67.50		
30-45	60	30.00	61	30.50		
45-60	105	52.50	4	2.00		
Above 60	1	0.50	0	0.00		

FIG. 1: AGE WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS



SEX

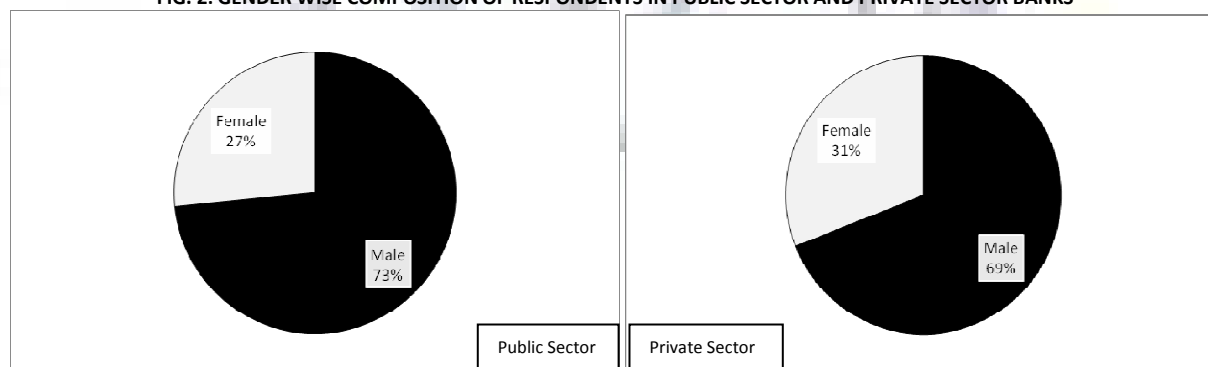
Table 2 presents the sex-wise composition of the respondents from different banks. Of the total 200 respondents in public sector banks, 73.50 percent were male and the remaining 26.50 percent were female. Similarly, in private sector banks, the proportion of male respondents came to be 69.00 percent while that of female respondents 31.00 percent.

TABLE 2: GENDER WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS

Socio-Economic Characteristics	Public Sector		Private Sector		χ ² - value	d.f.
	No.	%age	No.	%age		
Sex					0.99	1
Male	147	73.50	138	69.00		
Female	53	26.50	62	31.00		

The χ² value was 0.99 with one degree of freedom. The value of chi-square was found to be non-significant. Therefore, there was no significant difference between Public Sector Banks and Public Sector Banks regarding the composition of sex in the work force.

FIG. 2: GENDER WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS



EDUCATIONAL STATUS

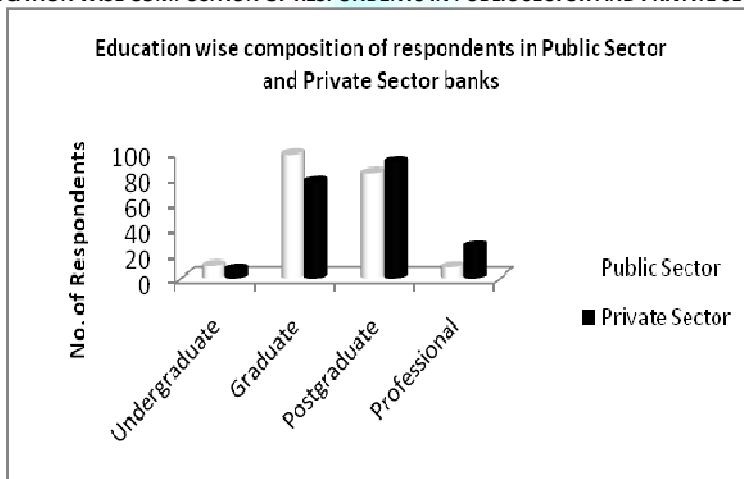
Table 3 presents the education wise composition of the respondents of the study. About 95 per cent of the respondents were having either a degree level education or more in banks. In the case of Public Sector Banks, out of 200 respondents 5 percent were having Pre-degree education, 49 percent were graduates and 4.50 percent were having some sort of Professional Diploma. As much as 41.50 percent of them were enjoying the Postgraduate level of education.

TABLE 3: EDUCATION WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS

Socio-Economic Characteristics	Public Sector		Private Sector		χ^2 - value	d.f.
	No.	%age	No.	%age		
Education					11.30** p< 0.01	3
Undergraduate	10	5.00	7	3.50		
Graduate	98	49.00	76	38.00		
Postgraduate	83	41.50	92	46.00		
Professional	9	4.50	25	12.50		

In the case of Private Sector Banks out of the total respondents of 200, only 3.50 percent were having Pre-Degree level education while 12.50 percent of them were Professional Diploma holders. The Table further revealed that 38.30 percent of the Private Sector Banks were performing their duties with graduation level of education while the remaining 46.00 percent were enjoying postgraduate level of education. In case of Public Sector Banks the highest proportion i.e. 49.00 percent were having graduate level of education while in case of Private Sector Banks; the highest proportion i.e.46.00 percent were having postgraduate level of education. The professional diploma holders with graduation or post graduation were also higher in Private Sector Banks (12.50%) as compared to that in Public Sector Banks (4.50%).

FIG. 3: EDUCATION WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS



For further analyzing whether there is any difference between the two categories of banks on the education wise composition of employees, the chi-square test was conducted. The chi-square value was 11.30 with d.f. 3 at 0.01 significance level. The χ^2 value indicated that there existed significant difference between the Public Sector Banks and Private Sector Banks regarding the education level of the respondents.

JOB EXPERIENCE IN BANKING SECTOR

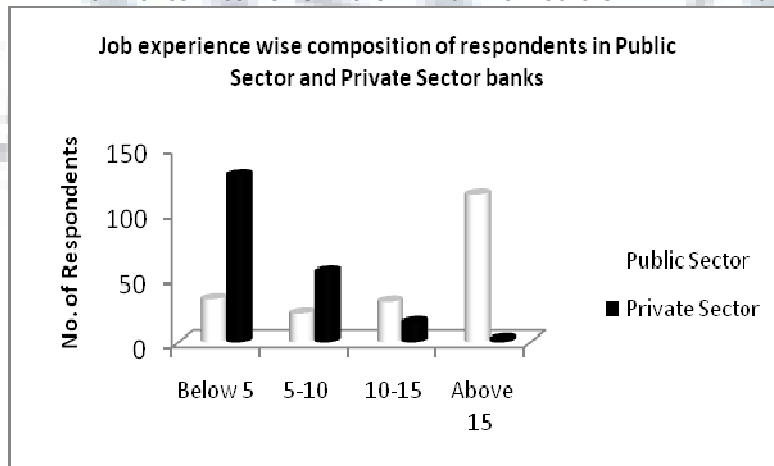
Table 4 revealed that the highest proportion i.e. 57.00 percent of Public Sector Banks respondents were having a total banking experience above 15 years, followed by 16.50 percent with less than 5 years of experience, 15.50 percent with 10-15 years and the remaining 11.00 percent with 5-10 years of bank experience. Contrary to this, the highest proportion i.e. 64.50 percent of the Private Sector Banks respondents were having an experience of less than 5 years, followed by 27.00 percent with 5-10 years, 7.50 percent with 10-15 years and only 1 percent with more than 15 years of experience of job in the bank.

TABLE 4: JOB EXPERIENCE WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS

Socio-Economic Characteristics	Public Sector		Private Sector		χ^2 - value	d.f.
	No.	%age	No.	%age		
Job Experience (year)					171.50** p< 0.01	2
Below 5	33	16.50	129	64.50		
5-10	22	11.00	54	27.00		
10-15	31	15.50	15	7.50		
Above 15	114	57.00	2	1.00		

The proportion of respondents in Private Sector Banks declined with the job experience while it was almost having a direct relationship with the job experience in Public Sector Banks. This may be due to the much longer life of Public Sector Banks in India as compared to the Private Sector Banks due to the nationalization policy implementation in the early 60s.

FIG. 4: JOB EXPERIENCE WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS



The chi-square value worked at as high as 171.50 with 2 d.f. at 0.0001 significance value. It can be safely concluded that the Public Sector Banks respondents are having more banking experience compared to Private Sector Bank respondents.

INCOME OF THE RESPONDENTS

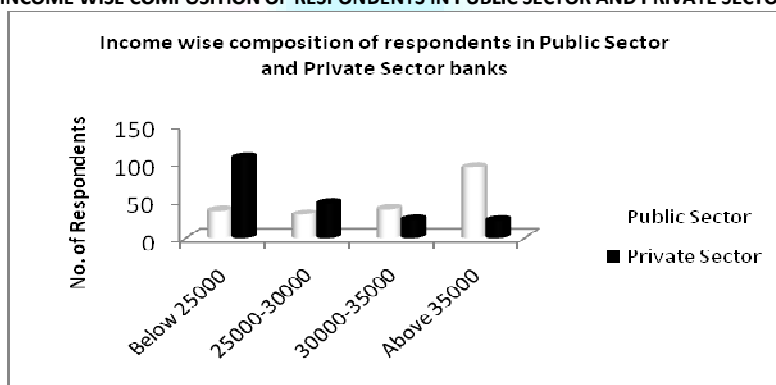
The distribution of respondents according to their monthly income has been presented in Table 5. The results clearly revealed that the highest proportion i.e. 47.00 percent of the Public Sector Banks respondents enjoying the monthly income of above Rs. 35000, followed by 19.00 percent having Rs. 30000 to Rs. 35000 as monthly income. There were only 33.00 percent of them who had a monthly income below Rs. 30000. On the other hand, the highest proportion i.e. 53.50 percent of the Private Sector Banks respondents was living with less than Rs. 25000 per month, followed by 23.00 earning Rs. 25000 to Rs. 30000 per month. There were only 11.50 percent of them who were enjoying a monthly income of above Rs. 35000.

TABLE 5: INCOME WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS

Socio-Economic Characteristics	Public Sector		Private Sector		χ ² - value	d.f.
	No.	%age	No.	%age		
Monthly Income (Rs.)					85.27** p< 0.01	3
Below 25000	36	18.00	107	53.50		
25000-30000	31	15.50	46	23.00		
30000-35000	38	19.00	24	12.00		
Above 35000	94	47.00	23	11.50		

This showed that pattern of monthly income was quite different among respondents working in Public Sector and Private Sector Banks. This may be commented upon the pattern of income distribution among both sectors of banks under study that either the Public Sector Banks respondents are highly paid or the Private Sector Banks respondents are being exploited by paying them very less. However, in the era of sky racking prices, the emoluments need to be rationalized with the price index.

FIG. 5: INCOME WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS



The value of chi-square worked at 85.27 at 3 degree of freedom, significant at 0.0001 level. This indicated that the pattern of income distribution among Public Sector Banks and Private Sector Banks respondents differed significantly.

CURRENT STATUS OF BANK OFFICIALS

Table 6 showed that of the 200 respondents from Public Sector Banks, 57.50 per cent were non-officers and the remaining 42.50 percent were among the officers cadre. The Officer cadre includes the Chief Managers, Senior Managers, Deputy Managers and Assistant Managers and other high level officers. The Private Sector Banks respondents constituted 32.00 percent non-officers and the remaining 68.00 percent the officers. The Private Sector Banks, in general, have less proportion of clerical staff as compared to the Public Sector Banks. In Public Sector Banks, there are fixed norms for the recruitment of different types of staff while this is not so in Private Sector Banks.

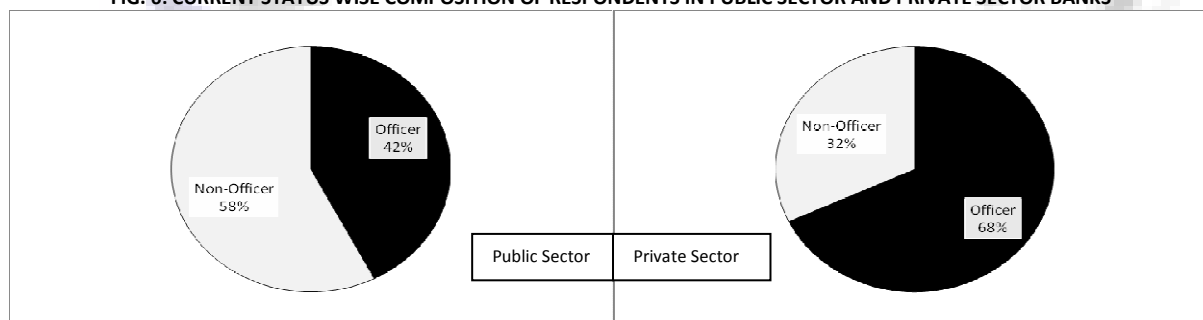
TABLE 6: CURRENT STATUS WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS

Socio-Economic Characteristics	Public Sector		Private Sector		χ ² - value	d.f.
	No.	%age	No.	%age		
Current Status					26.30** p< 0.01	1
Officer	85	42.50	136	68.00		
Non-Officer	115	57.50	64	32.00		

The Pattern of staff composition was significantly different in both sectors of banks as conveyed by the value of chi-square i.e. 26.30 at one d.f. and significant at one percent level. However, the emergence of the Private Sector Banks has created certain interesting situations in the banking arena. Each bank has got its own job titles for the job positions. Seldom are they comparable. Some of the job titles include Senior Manager, Manager, Deputy Manager, Assistant Manager, Officer, Executive - Operations, Non Resident Services Manager, Personal Banker, Senior Officer, Relationship Officer, Cash Officer, Sales Manger, Probationary Officer, Six Sigma Trainee, Asset Desk Counsellor, Senior Executive, Single Window Operator, Teller, Senior Assistant and Management Trainee.

Therefore, it is obvious from the profile analysis that the pattern of different socio-economic characteristics of the selected bank officials in both the sectors of banks was significantly different, except in case of sex composition. The trainees in Private Sector Banks were younger, highly qualified, less experienced and less paid as compared to the older, less qualified, greater experienced and highly paid trainees in Public Sector Banks.

FIG. 6: CURRENT STATUS WISE COMPOSITION OF RESPONDENTS IN PUBLIC SECTOR AND PRIVATE SECTOR BANKS



LEVEL OF SATISFACTION OF BANK OFFICIALS OVER THE TRAINING AND DEVELOPMENT PROGRAMMES

The respondents were asked to express their level of satisfaction over the overall outcome of the Training and Development programmes they attended. The level of satisfaction of respondents was asked after recording their opinion about objectives, methods and basics of the programmes. Their responses were recorded on 'extremely satisfied, very satisfied, moderately satisfied, a little satisfied and not satisfied' scale. These attributes were assigned weights as 5, 4, 3, 2 and 1 respectively in order to get the mean level of satisfaction. The results, so obtained, are presented in Table 7.

TABLE 7: LEVEL OF SATISFACTION AMONG RESPONDENTS REGARDING OVERALL TRAINING AND DEVELOPMENT OF EMPLOYEES IN THE BANK

Level of Satisfaction	Public Sector		Private Sector	
	No.	%age	No.	%age
Extremely Satisfied	40	20.00	45	22.50
Very Satisfied	100	50.00	81	40.50
Moderately Satisfied	44	22.00	48	24.00
A little Satisfied	13	6.50	9	4.50
Not Satisfied	3	1.50	17	8.50
Mean Level	3.81	Very	3.64	Very
SD	0.88	Satisfied	1.13	Satisfied
t-value		1.62		

The analysis showed that highest proportion i.e. 50.00 and 40.50 percent of the respondents in Public Sector and Private Sector Banks respectively were very satisfied over the outcome of the Training and Development programmes in their banks. As much as 20.00 and 22.50 percent of them respectively were found to be extremely satisfied. There were only 1.50 percent in Public Sector Banks who were not satisfied over the outcome while this proportion was 8.50 percent in case of Private Sector Banks.

The average level of satisfaction came to be 3.81 in case of Public Sector Banks and 3.64 in case of Private Sector Banks. This average score is nearer to 4, which is a score assigned to very satisfied level. Hence, on overall level, the respondents in both sectors of banks were very satisfied over the outcome of Training and Development programmes they attended organized by their banks. The unpaired t-value (1.62) was found to be non-significant which indicated that the level of satisfaction over the outcome of Training and Development programmes was similar in both sectors of banks under study. The analysis brought out that the Training and Development programmes are a major success in the banks.

RELATIONSHIP BETWEEN LEVEL OF SATISFACTION AND SOCIO-ECONOMIC PROFILE

It has been established from the analysis discussed so far that the pattern of socio-economic profile differed significantly among respondents selected from Public Sector Banks and Private Sector Banks, but their level of satisfaction over the outcome of Training and Development programmes was the same. This showed that there must exist a significant relationship between the level of satisfaction and respondents' socio-economic profile. Therefore, an attempt is made here to explore the behavior of socio-economic characteristics towards satisfaction. The results have been presented in Table 8.

TABLE 8: LEVEL OF SATISFACTION IN RELATION TO SOCIO-ECONOMIC PROFILE OF THE BANK OFFICIALS

Socio-Economic Characteristics	Public Sector			Private Sector		
	Total	Mean	SD	Total	Mean	SD
Age (years)						
Below 30	34	3.53	0.82	135	3.61	1.23
30-45	60	4.00	0.90	61	3.69	0.92
>45	106	3.78	0.87	4	3.75	0.50
F-ratio		3.22*	1 VS 2#		0.11	
Sex						
Male	147	3.88	0.92	138	3.57	1.19
Female	53	3.60	0.79	62	3.81	0.99
t-value		1.97*			1.39	
Education						
Undergraduate	10	4.20	0.42	7	4.29	0.49
Graduate	98	3.59	0.89	76	3.54	1.26
Postgraduate	83	3.99	0.85	92	3.73	1.02
Professional	9	4.00	1.00	25	3.44	1.23
F-ratio		4.08**	1 vs 2, 2 VS 3#		1.41	
Job Experience (year)						
Below 5	33	3.48	0.91	129	3.65	1.19
5-10	22	3.86	1.08	54	3.65	1.08
10-15	31	4.03	0.75	15	3.53	0.92
Above 15	114	3.82	0.85	2	3.50	0.71
F-ratio		1.70			0.06	
Monthly Income (Rs.)						
Below 25000	36	3.56	0.91	107	3.50	1.23
25000-30000	31	3.90	0.79	46	3.91	0.84
30000-35000	38	3.82	0.93	24	3.67	1.09
Above 35000	94	3.85	0.88	23	3.70	1.18
F-ratio		1.18			1.43	
Current Status						
Officer	85	3.69	0.96	136	3.55	1.22
Non-Officer	115	3.89	0.81	64	3.83	0.90
t-value		1.53			1.61	

** and * denote significance at 1% and 5% level respectively. # denotes significant pair

AGE: The level of satisfaction among respondents from Public Sector Banks came to be 3.53, 4.00 and 3.78 in the age group of below 30 years, 30-45 years and above 45 years respectively. The analysis of variance (ANOVA) indicated there was significant difference in the level of satisfaction and age as conveyed by the F-ratio, which was 3.22 and significant at 5 percent level. Further the Post Hoc multiple comparisons test revealed that the difference was significant between below 30 years and 30-45 years of age group. No difference could be found between below 30 years and above 45 years as well as between 30-45 years and

above 45 years of age group in the Public Sector Banks. This showed that middle age group has the highest level of satisfaction. This may be due to their career advancing age that may be benefitted through their participation in Training and Development programmes.

In Private Sector Banks, the level of satisfaction worked at 3.61, 3.69 and 3.75 in the age group of below 30 years, 30-45 years and above 45 years respectively. The F-ratio conveyed that there was no significant difference in the level of satisfaction in different age groups. Hence, age has no relationship with the level of satisfaction in Private Sector Banks. The reasons may include the less number of respondents in the older age groups and the participation of respondents in Training and Development programmes at the early stage of recruitment in the Private Sector Banks. However, the Training and Development programmes were started late in the Public Sector Banks.

SEX: The Table further revealed that the level of satisfaction among male respondents was 3.88 and among female respondents were 3.60 in Public Sector Banks. The unpaired t-value was 1.97, significant at 5 percent level. This indicated that the level of satisfaction of male respondents was significantly higher than that of female respondents in Public Sector Banks. This may be due to the readiness of male respondents to attend the programmes even at farther away places from home city as compared to the female respondents in Public Sector Banks.

In Private Sector Banks, the level of satisfaction was 3.57 and 3.81 among male and female respondents respectively. The calculated unpaired t-value (1.39) showed that the level of satisfaction of male and female respondents was similar in Private Sector Banks. This may be due to the majority of respondents from young age groups, who are always attempting for the advancement of their career.

EDUCATION: In Public Sector Banks, the level of satisfaction came to be 4.20, 3.59, 3.99 and 4.00 in case of undergraduate, graduate, postgraduate and diploma holder respondents respectively. The F-ratio calculated by employing ANOVA indicated that the difference in level of satisfaction between different education categories was significant. The Post Hoc multiple comparisons test showed that the level of satisfaction was significantly higher among undergraduate respondents as compared to the graduate respondents while the level of satisfaction among postgraduate respondents was significantly higher than the graduate respondents. The behavior of graduate respondents towards training programmes was weaker than the other categories in Public Sector Banks. The undergraduate respondents, being with low level of education, may get the career advancement riding on the shoulders of training programmes while postgraduate respondents, being with high level of education, may be ambitious in Public Sector Banks.

In Private Sector Banks, the level of satisfaction was 4.29 among undergraduate respondents while the same was 3.54 among graduate respondents, 3.73 among postgraduate respondents and 3.44 among diploma holders. The calculated F-ratio (1.41) was non-significant indicating that the level of satisfaction was almost the similar in all the education based categories of respondents in Private Sector Banks.

JOB EXPERIENCE: The level of satisfaction worked at 3.48, 3.86, 4.03 and 3.82 among respondents having bank services experience of less than 5 years, 5-10 years, 10-15 years and more than 15 years respectively in Public Sector Banks. The F-ratio came to be 1.70, which was non-significant. This conveyed that there is no relationship between level of satisfaction and job experience in Public Sector Banks. Similar was the pattern in case of Private Sector Banks respondents. The level of satisfaction came to 3.65 each among those having an experience of less than 5 years and 5-10 years, 3.53 among having experience of 10-15 years and 3.50 having experience of more than 15 years. The F-ratio was as low as 0.06, which indicated that no relationship could be established between level of satisfaction and job experience in Private Sector Banks.

INCOME: In Public Sector Banks, the level of satisfaction of respondents belonging to different income groups came to be 3.56, 3.90, 3.82 and 3.85 in case of less than Rs. 25000, 25000-30000, 30000-35000 and more than Rs. 35000 as monthly income of respondents. The non-significant F-ratio (1.18) revealed that there was no relationship between the level of satisfaction and monthly income of the respondents in Public Sector Banks. Similar was the pattern in Private Sector Banks also. The respondents in the income range of below Rs. 25000 acquired 3.50 level of satisfaction while the same was 3.91 in case of income range of Rs. 25000-30000, 3.67 in income range of Rs. 30000-35000 and 3.70 in the income range of above Rs. 35000 per month. The non-significant F-ratio (1.43) conveyed that there was no relationship between level of satisfaction and income level of the respondents in Private Sector Banks.

CURRENT STATUS: The level of satisfaction worked at 3.69 and 3.89 among officers and non-officers respectively in Public Sector Banks while the corresponding figures were 3.55 and 3.83 in case of Private Sector Banks. Both the t-values, 1.53 in case of Public Sector Banks and 1.6 in case of Private Sector Banks, were statistically non-significant. This revealed that status has nothing to do with the level of satisfaction in both the sectors of banks under study.

CONCLUSIONS

Overall, it is highlight of the analysis that the pattern of different socio-economic characteristics of the selected bank officials in both the sectors of banks was significantly different, except in case of sex composition. The trainees in Private Sector Banks were younger, highly qualified, less experienced and less paid as compared to the older, less qualified, greater experienced and highly paid trainees in Public Sector Banks.

The level of satisfaction among respondents over outcome of Training and Development programmes was considerably high and with equal extent in both the sectors of banks. Age, sex and educational level of respondents exerted significant impact on their level of satisfaction over the outcome of Training and Development programmes in Public Sector Banks while the level of satisfaction remained independent of job experience, income level and current status of the respondents. It is glaring finding of the study that in Private Sector Banks, no socio-economic characteristic of the respondents could exert significant impact on their level of satisfaction. This indicated that that level of satisfaction over the outcome of Training and Development programmes is independent of the socio-economic profile of respondents in Private Sector Banks. Therefore, Training and Development programmes came out with required results in banks and these should be further strengthened so as to improve upon further the overall functioning of the banking sector in India.

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ECONOMIC GLOBALIZATION CATASTROPHE AND ITS UPSHOT ON INDIAN ECONOMIC MARKETS

K.LOGESHWARI
PROFESSOR
SCHOOL OF MANAGEMENT STUDIES
KARPAGAM UNIVERSITY
COIMBATORE

ABSTRACT

Financial globalization is the integration of a country's local financial system with international financial market and institution. This integration typically requires that government liberalize the domestic financial sector and the capital account. Financial globalization is not a new phenomenon, but today's depth and breath are unprecedented. Capital flows have existed for a long time. In fact, according to some measures, the extent of capital mobility and capital flows a hundred year ago is comparable to today's as opined by Bordo, Eichengreen and Irwin. At the time, however, only few countries and sectors participated in financial globalization and capital flows particular in financial globalization and capital flow tended to flow migration and were generally directed towards supporting trade flow. It's also defined as an amalgamation of domestic financial system of a particular country with the international organization as well as financial market. Massive growth have been noticed in global economy in the last couple of years, and in the field of technology, more precisely in transport and communication there was a silent revolution which made the globalization of finance an obvious choice. The international monetary fund (IMF) and world bank are the two international institutions of finance which were set up to endorse world trade to keep up with the growth of Financial Globalization.

KEYWORDS

Market, globalization, integration, capital, amalgamation, monetary, international.

FOREWORD

There are different focuses that are pushing toward an increasing financial globalization. These forces are governments, borrowers, investors, and financial institutions. Government allow globalization by liberalizing restrictions on the domestic financial sector and capital account of the balances payment. There has been a gradual lifting of restrictions in developed and emerging countries during the last 30 years. Firm and even households abroad and thus relaxing their financial advantages of financial constraints and smoothing consumption and investment. International investors have taken advantages of financial globalization to achieved across-country risk diversification.

Financial institutions have also played an important role in globalization. The gains in information technology have diminished the importance of geography, allowing international cooperation to services several market from one location. Moreover, the increased competition in developed countries has led banks and other non-bank financial firms to look for expanding their market shares into new business and market and the liberalization of the regulatory system in developing countries has opened the door for international firms to participate in local market for developing countries is the development of their financial system. That is more complete, deeper, more stable and better regulated financial development. First financial globalization implies that new sources of capital and more capital become available allowing countries to better smooth consumption, deeper financial market and increasing the degree of discipline. Second, financial globalization lead to crises in countries with sound fundamentals. Imperfection in international financial market and external factors that determine capital flows make open economic more prone to crises. Furthermore; countries that integrate into world financial market become exposed to corruption.

IMPACT OF FINANCIAL GLOBALIZATION

Although, there is rich history of trans-country capital movement, but the impact of financial globalization is definitely huge in the composition of natural and international capital market. The banking system was mostly stirred and it had to experiences dis-remediation massive improvement in global economy and technology, specification in the filed of transport and communications, led to the beginning that support world trade to continue the trend of financial globalization

Instruments of this nature increase the probability of foreclosure. More importantly; shock waves from the US financial market have spread throughout the globe with many countries on the brink of recession. According to the current an available assessment of the IMF the global economy is projected to contract by 4.3% percent in 2011. the real fact that nobody much of those MBS would return on their balance sheets, banks effectively stopped lending to each other, drying up liquidity substantially, both in US and in the Europe.

WHAT MEASURES ARE REQUIRED?

The US government has spent more than a trillion dollars in trying to prevent the collapse of US financial markets. US congress can provide approved the emergency Economic stabilization Act to give authority to the US treasury to buy troubled mortgage related securities. And if the treasury finds the right buyers for the banks that it partially owns, and then it could also end up making money. In Europe, the bank of England pledge direct support to the country's major financial institutions. Central banks around the world (Fed, ECB, Canada, Sweden, Switzerland and China) introduced co-ordinate interest rate cuts to lower the cost of borrowing, with the aim of restoring confidence in the global economy.

IMPACT ON INDIAN ECONOMY

In India, the impact of the crisis has been deeper than what was estimated by our policy makers although it is less serve than in other emerging market economics. Impact has been restricted due to several reasons such as,

- Indian financial sector particularly our banks have no direct exposure to attain the assets and its off balance sheet activities have been limited. The credit derivatives market is in a budding stage.
- Foreign exchange reserves provide confidence in our ability to manage our balance of payments not withstanding lower export demand and dampened capital flows.
- Head line inflation, has measured by the sale price index (WPI) has declined sharply. Customer price inflation too has begun to moderate.
- India's merchandise exports are round 23.9%-of GDP, which is relatively modest.

Increased substantially to 3.8 per cent of GDP in 2009-2010 as compared to 0.5 per cent in 2008-2009. This led to net accretion of US\$ 13.4 billion in foreign exchange reserves on balance of payment basis, as against the net outflow of US\$20.1 billion in 2008-2009. Major determinates of balances of payment such as external demand, international oil and commodity prices, pattern of capital flows and the exchange rate changed significantly during the course of the year with the turnaround in export and revival in capital flows, external sector concerns receded gradually in the second half of 2009-2010 as per the latest data available, the highlights of balances of payment development during the first half (H1-April-september 2010) of 2010-2011 were higher trade and current account deficits as well as capital flows visa-vis the first half of 2009-2010

STOCK MARKET

The economy and the stock market are closely related as the buoyancy of the economy gets reflected in the stock market. Due to the impact of the global economy recession, Indian stock market crashed the high of 21,045 to a low of around 15,950 points in sensx and nifty points are high as 6338 and low is 4721 points. Indian stock market has stumbled down mainly because of the substitution effect of:

1. Driving up of overseas financing for Indian banks and Indian Corporate.
2. Constraints in raising funds in a bearish domestic capital market and
3. Decline in the internal accruals of the corporate.

FOREX MARKETS

In India, the current economy crisis was largely insulated by the several of foreign institutional investment (FFI), external commercial borrowing (ECB) and trade credit. The two main functions of the foreign exchange market are to determine the price of the different currencies in terms of one another and to transfer currency risk from more risk-averse participants to those more willing to bear it. As in any market essentially the demand and supply for a particular currency at any specific point in time determines its prices (exchange rate) at that point. However, since the value of a country's currency has significant bearing on its economy, foreign exchange markets frequency witness government intervention in one form or another, to maintain the value of a currency at or near its "desired" level

MONEY MARKETS

The money market consists of credit market, debt market and government securities market. All these market are in some or other way related to the soundness of banking systems as they are regulated by the reserve Bank of India. Emerging market is used to evaluate the socio economic scenario of the county in terms of the growth of the market and industrial development. According to the recent survey, there are around 28 emerging market in the world out of which India ranks in the second place. The increase in foreign investment has also cast a favorable effect on the emerging market in India. Due to the increase in demand well known global companies are investing in the India market. The foreign institutional investment (FII) amount has reached around US\$10 billion mark. In case of the foreign direct investment (FDI) there has been a significant increase of around 85.1% from US\$ 25.1 billion to US\$ 46.5 billion.

TABLE 1: QUARTERLY ESTIMATES OF EXPENDITURE OF GDP AT MARKET PRICES (Rs. Crore)

S. no	Industry	2008-2009				2009-2010		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3
1	Private final consumption	640588	635771	712521	666654	651167	671041	737013
	Expenditure	-61.45	-60.14	-61.46	-55.26	-58.89	-59.43	-60.01
2	Government final consumption	109412	97746	158446	146522	120618	124054	142205
	Expenditure	-10.49	-9.25	-13.67	-12.15	-10.91	-10.99	-11.58
3	Gross fixed capital formation	340421	368983	368009	393747	354595	396011	400706
	Expenditure	-32.65	-34.9	-31.74	-32.64	-32.07	-35.07	-32.63
4	Change in stock	14573	14821	14837	15581	15032	8097	8696
	Expenditure	-1.4	-1.4	-1.28	-1.29	-1.36	-0.72	-0.71
5	Valuables	11506	15095	17763	14309	13626	11618	11657
	Expenditure	-1.1	-1.43	-1.53	-1.19			
6	Exports of goods and services	279297	288863	265107	261662	235184	239340	252435
	Expenditure	-26.79	-27.33	-22.87	-21.69	-21.27	-21.2	-20.55
7	Less: Imports of goods and services	334024	381617	349232	304329	304509	341377	315413
	Expenditure	-32.04	-36.1	-30.12	-25.53	-27.54	-30.23	-25.68
8	Discrepancies	-19245	17454	-28152	12274	19928	20398	-9099
	Expenditure	(-1.85)	-1.65	(-2.43)	-1.02	-1.8	-1.81	(-0.74)
9	Gross domestic product at market prices	1042528	1057115	1159298	1206421	1105641	1129182	1228201

Source: Central Statistical Organization

Note: figurers in brackets show rates of the quarterly GDP at market prices.

Q1, Q2, Q3, & Q4 DENOTES PERIODS APRIL- JUNE, JULY – SEPT., OCT- DEC. & JAN- MARCH RESPECTIVELY

During 2008-2009 the point of change is 14,587 takes in first quarter, in second quarter of 2008-2009 the point of change 1,02,183 is been increased due the import of goods and services is been increased, in third quarter of 2008-2009 the point has been decreased the reason is increase in government consumption and the decreases in export and import of goods and services and fourth quarter of 2008-2009 the points of change taken places is increased of goods and services and in fourth quarter of 2008-2009 the points of change taken places is increased due to the imports of goods and services and in the year 2009-2010 (April to December 2010), points is been in increasing trend because of the changes in discrepancies.

BALANCE OF PAYMENTS

Balance of payment (BOP) comprises current account, capital account, errors and omissions and changes in foreign exchange reserves. Under current account of the Bop, transactions are classified into merchandise (exports and imports) and invisibles. Invisible transactions are further classified into three categories, namely

- Services –travel, transportation, insurance, government not included elsewhere (GNIE) and miscellaneous (such as, communication, construction, financial, software, news agency, royalties, management and business services),
- Income, and
- Transfers (grants, gifts, remittances, etc.) which do not have any quid pro quo.

TABLE 2: BALANCE OF PAYMENTS

S.no & Item	2005-06	2006-07	2007-08	2008-09PR	2009-10	2009-10 H1	2010-11H1
1	2	3	4	5	6	7(April-sep.09)pr	8 (april-sep.2010)p
1) Current account							
1.exports	1,05,152	1,28,888	1,66,162	1,89,001	1,82,235	82,569	1,10,518
2.imports	1,57,056	1,90,670	2,57,629	3,08,521	3,00,609	1,38,419	1,77,457
3.trade balance	-51,904	-61,782	-91,467	-119,520	-118,374	-55,850	-66,939
4.invisibles(net)	42,002	52,217	75,731	91,605	79,991	42,511	39,058
a)nonfactordservice	23,170	29,469	38,853s	53,916	35,726	19,098	19,510
b)income	-5,855	-7,331	-5068	-7,110	-8,040	-3,279	-6,509
c)transfers	24,687	30,079	41,945	44,798	52,305	26,692	26,057
5.goods and services balance	-28,734	-32,313	-52,614	-65,604	-82,648	-36,752	-47,429
6.current account balance	-9,902	-9,565	-15,737	-27,915	-38,383	-13,339	-27,881
2)Capital Account							
1. Capital Account Balance	25,470	45,203	1,06,585	6,768	53,397	22,964	36,661
a)External Assistance(net)	1,702	1,775	2,114	2,114	2,893	1,023	2,993
b)Exteranal Borrowings(net)	2,508	16,103	22,609	7,862	2,808	728	5,974
c)Short termDebit	3,669	6,612	15,930	-1,985	7,558	-49	6,749
d)banking capital (net)	1,373	1,913	11,759	-3,246	2,084	1,045	834
Nonresidential deposit(net)	2,789	4,321	179	4,290	2,924	2,865	2,163
e)Foreign investment(net)	15,528	14,753	43,326	5,758	51,167	30,275	29,137
A)FDI(net)	3,034	7,693	15,893	19,816	18,771	12,330	5,340
B)Portfolio(net)	12,494	7,693	15,893	19,816	18,771	12,330	5,340
f)other flows(net)a	660	4,047	10,847	-4,090	-13,113	-10,058	-9,026
3)Errors and omission	-516	968	1,316	1,067	-1,573	-92	-1,750
4)Over allbalance (b)	15,052	36,606	92,164	-20,080	13,441	9,533	7,030
5)Reserves(increase-)/decrease(+)	(-)15,052	(-)36,606	(-)92,164	20,080	(-)13,441	(-)9,533	(-)7,030

Source Reserve bank of India (RBI)

Pr-Partially Revised

P-Preliminary

Includes among others delayed export receipts and rupee debt service & Overall balance includes total current account balance, capital account balance and errors and omissions.

Balance of payments developments during 2009-10 indicate that despite lower also sharp increase in capital flows, which led to accretion in foreign exchange reserves. The current account deficit of 2.8 per cent of the gross domestic product (GDP) in 2009-10 vis-à-vis 2.3 per cent in 2008-09, however remained well within manageable limits. The net capital flows

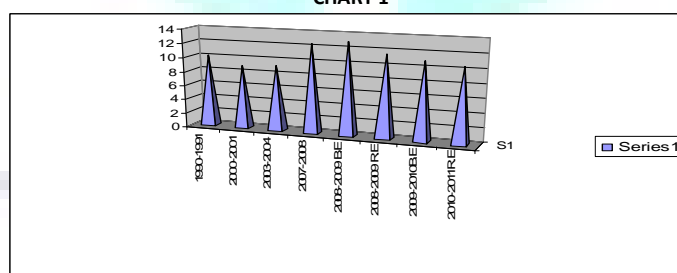
IMPORT SERVICES-CRITICAL ASPECTS

The export in April December 2010 up 29.5 percent import up 19 percent. There are predictions of international economists that the usage of services in labor market, could have unintended side effect within the services sectors. The import services industries are those market sectors that offer transport, telecommunication, and solutions to finance, insurance coverage as well as assistance, which is important to world trade. Portable, global business, there are a few places you can go on the internet to learn about import and export opportunities with reflecting sharper in the import in relation to exports.

TAXATION

The economic slowdown has rigorously scratched the center's tax collections with indirect taxes demeanor the impact .The tax –GDP ratio registered a steady increases from 8.97 percent to 12.56 percent between 2000-2001 and 2009-2010 as show in the figure .But this has reversed as the tax-GDP ratio has fallen to 10.57% during current fiscal year mainly on account of reduction in customs and excise tax due to effect of economic slowdown.

CHART 1



Source: Economic survey, Government of India

CONCLUSION

Financial Globalization while allowing Institution to get benefit from the global capital market. As a global economy goes through a recession, there will be a negative impact on employment growth, redistribution and inequality reduction .Increase in standard of living risks remain higher especially in emerging and development countries Government should use policy tools to ensure that the low –income households do not disproportional bear the costs of economic slowdowns. The effects on financial crisis on the labour market and distribution tend to persist well into the period of economic recovery, therefore it important that the government put in place appropriate social safety nets to help lower income households through the recovery period. In the face of these challenges, we have to remain devoted to providing opportunities for women and men to obtain upright and dynamic work in conditions of liberty, security, and human seamliness, its important for emerging and developing economics have benefits from financial globalization so the solution to the current crisis is not shut doors for foreign capital, especially not as regards long term foreign investment. Such inflow of capital leads to productivity growth and transfer of technology, which is crucial for better labour market outcomes and economic development.

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FOREIGN EXCHANGE DERIVATIVES TRADING SCENARIO: A NEW PARADIGM IN THE ERA OF CURRENCY

DR. P. S. RAVINDRA
ASSOCIATE PROFESSOR & HEAD OF THE DEPARTMENT
MIRACLE SCHOOL OF MANAGEMENT
MIRACLE EDUCATIONAL SOCIETY GROUP OF INSTITUTIONS
MIRACLE CITY, BHOGAPURAM

E.V.P.A.S.PALLAVI
ASST. PROFESSOR
SCHOOL OF MANAGEMENT STUDIES
M.V.G.R. COLLEGE OF ENGINEERING
VIJAYNAGAR CAMPUS, CHINTALAVALLASA

ABSTRACT

In India, the economic liberalization in the early nineties provided the economic rationale for the introduction of FX derivatives. Business houses started actively approaching foreign markets not only with their products but also as a source of capital and direct investment opportunities. With limited convertibility on the trade account being introduced in 1993, the environment became even more conducive for the introduction of these hedge products. Hence, the development in the Indian forex derivatives market should be seen along with the steps taken to gradually reform the Indian financial markets. As these steps were largely instrumental in the integration of the Indian financial markets with the global markets. The present study encompasses with evaluation and essential development of foreign exchange derivatives, FX derivative products, its trading scenario.

KEYWORDS

Foreign Currency Swaps, Foreign Exchange, Rupee forwards, Rupee currency options, Trading of FE Derivatives.

INTRODUCTION

Instruments traded in the financial markets are getting more and more complex. This leads to more complex derivative structures that are harder to analyze and risk managed. These instruments cannot be traded or managed without the relevant systems and numerical techniques. The global economy is becoming more and more interlinked with trading between countries skyrocketing. Due to the world trade, foreign exchange forwards, futures, options and exotics are becoming increasingly common place in today's capital markets.

Globally, operations in the foreign exchange market started in a major way after the breakdown of the Bretton Woods system in 1971, which also marked the beginning of floating exchange rate regimes in several countries. Over the years, the foreign exchange market has emerged as the largest market in the world. The decade of the 1990s witnessed a perceptible policy shift in many emerging markets towards reorientation of their financial markets in terms of new products and instruments, development of institutional and market infrastructure and realignment of regulatory structure consistent with the liberalized operational framework. The changing contours were mirrored in a rapid expansion of foreign exchange market in terms of participants, transaction volumes, decline in transaction costs and more efficient mechanisms of risk transfer.

The gradual liberalization of Indian economy has resulted in substantial inflow of foreign capital into India. Simultaneously dismantling of trade barriers has also facilitated the integration of domestic economy with world economy. With the globalization of trade and relatively free movement of financial assets, risk management through derivatives products has become a necessity in India also, like in other developed and developing countries. As Indian businesses become more global in their approach, evolution of a broad based, active and liquid forex derivatives markets is required to provide them with a spectrum of hedging products for effectively managing their foreign exchange exposures.

The global market for derivatives has grown substantially in the recent past. This tremendous growth in global derivative markets can be attributed to a number of factors. They reallocate risk among financial market participants, help to make financial markets more complete, and provide valuable information to investors about economic fundamentals. Derivatives also provide an important function of efficient price discovery and make unbundling of risk easier.

The picture of derivatives markets in EMEs that one gets from the existing literature is highly fragmented. Most evidence is limited to individual countries, types of derivatives or specific episodes of market development. One reason for this fragmentation is the lack of a unified database; another is the lack of familiarity with existing data sources. This article represents a first attempt to review derivatives markets in emerging market economies (EMEs) on a comprehensive basis.

THE ESSENCE OF DEVELOPING FOREIGN EXCHANGE DERIVATIVES

Forex derivatives surfaced as a contentious issue for Indian corporates and banks two years ago and have grown more menacing with each passing day. In certain extreme cases, the companies involved have even had to shut down, leading to a highly chaotic environment. Section 45 U(a) of the Reserve Bank of India Act defines "derivative" as "an instrument to be settled at a future date, whose value is derived from change in interest rate, foreign exchange rate, credit rating or credit index, price of securities (also called "underlying"), or a combination of more than one of them and includes interest rate swaps, forward rate agreements, foreign currency swaps, foreign currency-rupee swaps, foreign currency options, foreign currency-rupee options or such other instruments as may be specified by the bank from time to time." A foreign exchange derivatives contract means a financial transaction or an arrangement in whatever form and by whatever name called, whose value is derived from price movement in one or more underlying assets, and includes a transaction which involves at least one foreign currency other than the currency of Nepal or Bhutan. It is pertinent to note here the relationship between the forex and forex derivatives in order to understand the implications of the two.

The genesis of the problem, to my understanding, stems from the steep movement of the dollar vis-a-vis the rupee in a short time span it fell to as low as Rs 39 per dollar and shot up to Rs 52 in less than a year's time. During 2007, companies entered into derivative structures to reduce their interest costs and to protect their top lines by safeguarding export receipts. Many companies had gone for dollar loans also, as all export-oriented firms have foreign exchange exposure. The appreciation of the rupee eroded the revenues and profits of exporters as they made fewer rupees for every dollar earned abroad. On the other hand, they had to service the dollar loans, on which they incurred a higher interest outflow.

To offset the losses due to the rupee appreciation, corporates entered into derivatives trade. One popular option was a currency swap in the Japanese yen or the Swiss franc, with embedded option protection. The deal was structured in such a way that the option protection knocked out (disappeared) if the dollar depreciated beyond a point against the franc/yen. The choice of Japanese yen or the Swiss franc was natural since these were considered the most stable currencies against the dollar. In the last 25 years, for instance, the Swiss franc has never moved below 1.11 to the dollar and hence corporates hedged the swap by buying options where the knock-out will get activated if the Swiss franc moved below 1.10 to a dollar. Corporates made money on these positions last fiscal, boosting their other income and profits. The problem began when the dollar began to depreciate against all currencies, including the yen and the franc.

The US dollar depreciated nearly 35% when compared to the euro, Japanese yen and Canadian dollar. While it depreciated more than 40% against the Australian and New Zealand Dollar in these 7-8 years. Even against the South African rand and Swiss franc, it fell 40%. Further, in-depth analysis of dollar when compared with other global currencies on a longer time span of over 7-8 years shows how the US dollar has depreciated up to 42% as compared with other currencies, whereas in India it has depreciated only around 5%. It is here that the clue lies as to how the participants in the derivatives trade got trapped, based on the historical movement of the dollar over a seven-year time period.

The Indian forex derivatives market is still in its infancy, though the growth potential is huge. The development of a vibrant forex derivatives market in the country would critically depend on the growth in the underlying spot/ forward markets, growth in the rupee derivative markets along with the evolution of a supporting regulatory structure. Factors such as market liquidity, investor behavior, regulatory structure and tax laws will have a heavy bearing on the behavior of market variables. Increasing convertibility on the capital account would accelerate the process of integration of Indian financial markets with international markets.

Introduction of derivative products tailored to specific corporate requirements would enable corporates to completely focus on their core businesses and de-risk the currency and interest rate risks while allowing them to gain despite any upheaval in the financial markets. Increasing convertibility on the rupee and regulatory impetus for new products should see a host of innovative products and structures, tailored to business needs. The possibilities are many and include INR options, currency futures, exotic options, rupee forward rate agreements, both rupee and cross currency swap options, as well as structures composed of the above to address business needs as well as create real options. In order to develop this critical market, it is important to see how effectively we can address the present issue plaguing the Indian corporate and banking sector. If we can address these issues, these forex derivative instruments can truly achieve their intended purpose acting as insurance for hedging purposes by the Indian corporate world.

EVOLUTION OF INDIAN FOREIGN EXCHANGE MARKET

EARLY STAGES: 1947-1977

The evolution of India's foreign exchange market may be viewed in line with the shifts in India's exchange rate policies over the last few decades from a par value system to a basket-peg and further to a managed float exchange rate system. During the period from 1947 to 1971, India followed the par value system of exchange rate. Initially the rupee's external par value was fixed at 4.15 grains of fine gold. The Reserve Bank maintained the par value of the rupee within the permitted margin of ± 1 per cent using pound sterling as the intervention currency. Since the sterling-dollar exchange rate was kept stable by the US monetary authority, the exchange rates of rupee in terms of gold as well as the dollar and other currencies were indirectly kept stable. The devaluation of rupee in September 1949 and June 1966 in terms of gold resulted in the reduction of the par value of rupee in terms of gold to 2.88 and 1.83 grains of fine gold, respectively. The exchange rate of the rupee remained unchanged between 1966 and 1971.

With the breakdown of the Bretton Woods System in 1971 and the floatation of major currencies, the conduct of exchange rate policy posed a serious challenge to all central banks world wide as currency fluctuations opened up tremendous opportunities for market players to trade in currencies in a borderless market. In December 1971, the rupee was linked with pound sterling. Since sterling was fixed in terms of US dollar under the Smithsonian Agreement of 1971, the rupee also remained stable against dollar. In order to overcome the weaknesses associated with a single currency peg and to ensure stability of the exchange rate, the rupee, with effect from September 1975, was pegged to a basket of currencies. The currency selection and weights assigned were left to the discretion of the Reserve Bank. The currencies included in the basket as well as their relative weights were kept confidential in order to discourage speculation. It was around this time that banks in India became interested in trading in foreign exchange.

FORMATIVE PERIOD: 1978-1992

The impetus to trading in the foreign exchange market in India came in 1978 when banks in India were allowed by the Reserve Bank to undertake intra-day trading in foreign exchange and were required to comply with the stipulation of maintaining 'square' or 'near square' position only at the close of business hours each day. The extent of position which could be left uncovered overnight (the open position) as well as the limits up to which dealers could trade during the day was to be decided by the management of banks. The exchange rate of the rupee during this period was officially determined by the Reserve Bank in terms of a weighted basket of currencies of India's major trading partners and the exchange rate regime was characterised by daily announcement by the Reserve Bank of its buying and selling rates to the Authorized Dealers (ADs) for undertaking merchant transactions. The spread between the buying and the selling rates was 0.5 per cent and the market began to trade actively within this range. ADs were also permitted to trade in cross currencies (one convertible foreign currency *versus* another). However, no 'position' in this regard could originate in overseas markets.

By the late 1980s and the early 1990s, it was recognised that both macroeconomic policy and structural factors had contributed to balance of payments difficulties. Devaluations by India's competitors had aggravated the situation. Although exports had recorded a higher growth during the second half of the 1980s (from about 4.3 per cent of GDP in 1987-88 to about 5.8 per cent of GDP in 1990-91), trade imbalances persisted at around 3 per cent of GDP. This combined with a precipitous fall in invisible receipts in the form of private remittances, travel and tourism earnings in the year 1990-91 led to further widening of current account deficit. The weaknesses in the external sector were accentuated by the Gulf crisis of 1990-91. As a result, the current account deficit widened to 3.2 per cent of GDP in 1990-91 and the capital flows also dried up necessitating the adoption of exceptional corrective steps. It was against this backdrop that India embarked on stabilisation and structural reforms in the early 1990s.

POST-REFORM PERIOD: 1992 ONWARDS

This phase was marked by wide ranging reform measures aimed at widening and deepening the foreign exchange market and liberalization of exchange control regimes. A credible macroeconomic, structural and stabilisation programme encompassing trade, industry, foreign investment, exchange rate, public finance and the financial sector was put in place creating an environment conducive for the expansion of trade and investment. It was recognised that trade policies, exchange rate policies and industrial policies should form part of an integrated policy framework to improve the overall productivity, competitiveness and efficiency of the economic system, in general, and the external sector, in particular.

In addition, several initiatives aimed at dismantling controls and providing an enabling environment to all entities engaged in foreign exchange transactions have been undertaken since the mid-1990s. The focus has been on developing the institutional framework and increasing the instruments for effective functioning, enhancing transparency and liberalizing the conduct of foreign exchange business so as to move away from micro management of foreign exchange transactions to macro management of foreign exchange flows. An Internal Technical Group on the Foreign Exchange Markets (2005) set up by the Reserve Bank made various recommendations for further liberalization of the extant regulations. Some of the recommendations such as freedom to cancel and rebook forward contracts of any tenor, delegation of powers to ADs for grant of permission to corporates to hedge their exposure to commodity price risk in the international commodity exchanges/markets and extension of the trading hours of the inter-bank foreign exchange market have since been implemented.

Along with these specific measures aimed at developing the foreign exchange market, measures towards liberalizing the capital account were also implemented during the last decade, guided to a large extent since 1997 by the Report of the Committee on Capital Account Convertibility. Various reform measures since the early 1990s have had a profound effect on the market structure, depth, liquidity and efficiency of the Indian foreign exchange market.

FOREIGN EXCHANGE DERIVATIVE PRODUCTS

Derivatives play a crucial role in developing the foreign exchange market as they enable market players to hedge against underlying exposures and shape the overall risk profile of participants in the market. Banks in India have been increasingly using derivatives for managing risks and have also been offering these products to corporates. In India, various informal forms of derivatives contracts have existed for a long time though the formal introduction of a variety of instruments in the foreign exchange derivatives market started only in the post-reform period, especially since the mid-1990s. Cross-currency derivatives with the rupee as one leg were introduced with some restrictions in April 1997. Rupee-foreign exchange options were allowed in July 2003. The foreign exchange derivative products that are now available in Indian financial markets can be grouped into three broad segments, *viz.*, forwards, options (foreign currency rupee options and cross currency options) and currency swaps (foreign currency rupee swaps and cross currency swaps)

1. FOREIGN EXCHANGE FORWARDS

Authorized Dealers (ADs) are permitted to issue forward contracts to persons resident in India with crystallized foreign currency/foreign interest rate exposure and based on past performance/actual import-export turnover, as permitted by the Reserve Bank and to persons resident outside India with genuine currency exposure to the rupee, as permitted by the Reserve Bank. The residents in India generally hedge crystallized foreign currency/foreign interest rate exposure or transform exposure from one currency to another permitted currency. Residents outside India enter into such contracts to hedge or transform permitted foreign currency exposure to the rupee, as permitted by the Reserve Bank.

2. OPTIONS

A. Foreign currency rupee options

ADs approved by the Reserve Bank and ADs (Category-I) who are not market makers are allowed to sell foreign currency rupee options to their customers on a back-to-back basis, provided they have a capital to riskweighted assets ratio (CRAR) of 9 per cent or above. These options are used by customers who have genuine foreign currency exposures, as permitted by the Reserve Bank and by ADs for the purpose of hedging trading books and balance sheet exposures.

Corporates in India can use instruments such as forwards, swaps and options for hedging cross-currency exposures. However, for hedging the USD-INR risk, corporates are restricted to the use of forwards and USDINR swaps. Introduction of USD-INR options would enable Indian forex market participants manage their exposures better by hedging the dollar-rupee risk. The advantages of currency options in dollar rupee would be as follows:

- i. Hedge for currency exposures to protect the downside while retaining the upside, by paying a premium upfront. This would be a big advantage for importers, exporters (of both goods and services) as well as businesses with exposures to international prices. Currency options would enable Indian industry and businesses to compete better in the international markets by hedging currency risk.
- ii. Non-linear payoff of the product enables its use as hedge for various special cases and possible exposures. e.g. If an Indian company is bidding for an international assignment where the bid quote would be in dollars but the costs would be in rupees, then the company runs a risk till the contract is awarded. Using forwards or currency swaps would create the reverse positions if the company is not allotted the contract, but the use of an option contract in this case would freeze the liability only to the option premium paid upfront.
- iii. The nature of the instrument again makes its use possible as a hedge against uncertainty of the cash flows. Option structures can be used to hedge the volatility along with the non-linear nature of payoffs.
- iv. Attract further forex investments due to the availability of another mechanism for hedging forex risk. Hence, introduction of USD-INR options would complete the spectrum of derivative products available to hedge INR currency risk.

B. Cross-currency options

The Reserve Bank of India has permitted authorized dealers to offer cross currency options to the corporate clients and other interbank counter parties to hedge their foreign currency exposures. Before the introduction of these options the corporates were permitted to hedge their foreign currency exposures only through forwards and swaps route. Forwards and swaps do remove the uncertainty by hedging the exposure but they also result in the elimination of potential extraordinary gains from the currency position. Currency options provide a way of availing of the upside from any currency exposure while being protected from the downside for the payment of an upfront premium. These contracts were allowed with the following conditions:

- These currency options can be used as a hedge for foreign currency loans provided that the option does not involve rupee and the face value does not exceed the outstanding amount of the loan, and the maturity of the contract does not exceed the un-expired maturity of the underlying loan.
- Such contracts are allowed to be freely re-booked and cancelled. Any premia payable on account of such transactions does not require RBI approval.
- Cost reduction strategies like range forwards can be used as long as there is no net inflow of premia to the customer.
- Banks can also purchase call or put options to hedge their cross currency proprietary trading positions. But banks are also required to fulfill the condition that no 'stand alone' transactions are initiated.
- If a hedge becomes naked in part or full owing to shrinking of the portfolio, it may be allowed to continue till the original maturity and should be marked to market at regular intervals.

There is still restricted activity in this market but we may witness increasing activity in cross currency options as the corporates start understanding this product better.

3. CURRENCY SWAPS:

A. Foreign Currency Rupee Swap

A person resident in India who has a long-term foreign currency or rupee liability is permitted to enter into such a swap transaction with ADs (Category-I) to hedge or transform exposure in foreign currency/foreign interest rate to rupee/rupee interest rate.

B. Cross-Currency Swaps

Entities with borrowings in foreign currency under external commercial borrowing (ECB) are permitted to use cross currency swaps for transformation of and/or hedging foreign currency and interest rate risks. Use of this product in a structured product not conforming to the specific purposes is not permitted.

Available data indicate that the most widely used derivative instruments are the forwards and foreign exchange swaps (rupee-dollar). Options have also been in use in the market for the last four years. However, their volumes are not significant and bid offer spreads are quite wide, indicating that the market is relatively illiquid. Another major factor hindering the development of the options market is that corporates are not permitted to write/sell options. If corporates with underlying exposures are permitted to write/sell covered options, this would lead to increase in market volume and liquidity. Further, very few banks are market makers in this product and many deals are done on a back to back basis. For the product to reach the farther segment of corporates such as small and medium enterprises (SME) sector, it is imperative that public sector banks develop the necessary infrastructure and expertise to transact in options. In view of the growing complexity, diversity and volume of derivatives used by banks, an Internal Group was constituted by the Reserve Bank to review the existing guidelines on derivatives and formulate comprehensive guidelines on derivatives for banks.

With regard to forward contracts and swaps, which are relatively more popular instruments in the Indian derivatives market, cancellation and rebooking of forward contracts and swaps in India have been regulated. Gradually, however, the Reserve Bank has been taking measures towards eliminating such regulations. The objective has been to ensure that excessive cancellation and rebooking do not add to the volatility of the rupee. At present, exposures arising on account of swaps, enabling a corporate to move from rupee to foreign currency liability (derived exposures), are not permitted to be hedged. While the market participants have preferred such a hedging facility, it is generally believed that equating derived exposure in foreign currency with actual borrowing in foreign currency would tantamount to violation of the basic premise for accessing the forward foreign exchange market in India, i.e., having an underlying foreign exchange exposure.

TRADING OF FOREIGN EXCHANGE DERIVATIVES

Turnover of derivatives has grown more rapidly in emerging markets than in developed countries. Foreign exchange derivatives are the most commonly traded of all risk categories, with increasingly frequent turnover in emerging market currencies and a growing share of cross-border transactions. As the global reach of the financial centres in emerging Asia has expanded, the offshore trading of many emerging market currency derivatives has risen as well. Growth in derivatives turnover is positively related to trade, financial activity and per capita income.

A. THE SIZE AND STRUCTURE OF DERIVATIVES MARKETS IN EMES

Derivatives markets in EMEs remain small compared to those in advanced economies. Average daily turnover of derivatives in 33 Emerging Markets Economies (EMEs) for which data are available was \$1.2 trillion in April 2010 (6.2% of those economies' GDP), compared to \$13.8 trillion (36% of GDP) in advanced economies. Though small, derivatives markets in EMEs have expanded rapidly: average daily turnover has increased by 300% since 2001, and by 25% over the past three years, despite the crisis in 2008–09. This was higher than the growth of turnover in advanced economies (250% since 2001, and 22% since 2007).

OTC derivatives are relatively more important in emerging markets than in advanced economies. In EMEs, derivatives are traded in almost equal proportions over the counter and on exchanges. By comparison, in advanced economies almost two thirds of derivatives are traded on exchanges and 38% over the counter. Furthermore, the relative size of the exchange-traded derivatives market is distorted by two special cases with well developed derivatives exchanges, Brazil and Korea, which together account for nearly 90% of all emerging market turnover of exchange-traded derivatives.

Derivatives in EMEs are used mainly to hedge or speculate on exchange rate and, to a lesser extent, equity market risk. FX derivatives account for 50% of total turnover in emerging markets, equity-linked derivatives for 30% and interest rate derivatives for the rest. By contrast, derivatives in advanced economies are used by and large to trade interest rate risk (77% of total turnover), with FX derivatives and in particular equity-linked derivatives being less important. These differences reflect above all the depth and liquidity of bond and money markets in developed countries, and the relatively limited concern with exchange rate risk in advanced compared to emerging market economies.

B. OTC DERIVATIVES MARKETS

Over-the-counter derivatives represent the most developed segment of the derivatives market in EMEs. The average daily turnover of OTC derivatives in April 2010 was \$625 billion, or roughly 3% of EMEs' (annual) GDP. The OTC market in EMEs is dominated by FX derivatives, which account for nearly 90% of total turnover, versus 50% in advanced economies. Despite these differences, trading of OTC derivatives in EMEs has converged towards advanced economy patterns in terms of instruments, counterparties and currencies being traded.

C. OTC FOREIGN EXCHANGE DERIVATIVES

The turnover of OTC foreign exchange derivatives in EMEs – \$535 billion per day in April 2010 (Table 1) – increased 24% between 2007 and 2010. This represents a slowdown compared to the previous three-year period, when turnover almost doubled, but was much faster than the growth in advanced economies (just 5.6%). No doubt the recent financial crisis has taken some of the shine off the use of OTC foreign currency derivatives in advanced economies, particularly FX swap markets, where growth over the entire three-year period was only 0.3%. At the same time, the financial crisis had a relatively small impact on FX derivatives markets in emerging market economies. In terms of FX instruments, the OTC markets in EMEs have already converged to the advanced economies' pattern. In both groups of countries, FX swaps comprise the lion's share of turnover (over 70%), followed by outright forwards (19%), options and currency swaps (Table 2). The relative size of FX spot and derivatives markets has also converged. The ratio of FX derivatives to spot transactions increased in EMEs to 1.9 in 2010 (Table 2), continuing the steady rise evident since 1998. Meanwhile, the ratio of derivatives to spot transactions in advanced economies declined to 1.6 in 2010.

Turning to the question of who is trading derivatives in emerging markets, we see that trades with other financial institutions such as pension funds and hedge funds – increased the most, to 30% of total turnover in 2010 (Table 2). At the same time, the shares of trade with other reporting dealers (usually commercial and investment banks) and non-financial customers declined to 58% and 12%, respectively. The shift towards trading with financial customers represents the resumption of a trend that started in 1998, when the share of this counterparty type was as low as 15%. The trend is present across all foreign exchange instruments, especially the three largest categories. Increased dealing with other financial institutions (to nearly 50% of total turnover) can also be seen in developed countries.

TABLE 1: GEOGRAPHICAL DISTRIBUTION OF OTC FOREIGN EXCHANGE DERIVATIVES TURNOVER¹ (Daily averages in April)

	In billions of US dollars			Percentage share ²
	2004	2007	2010	2010
Total emerging market economies	222	430	535	100
<i>Total advanced economies</i>	1,546	2,546	2,689	503
Asia	184	354	442	83
Hong Kong SAR	70	143	194	36
Singapore	91	153	175	33
China	...	1	11	2
India	3	24	14	3
Korea	10	18	25	5
Other	9	16	22	4
Latin America	7	14	21	4
Brazil	1	1	5	1
Mexico	5	11	12	2
Other	1	3	4	1
Central and eastern Europe	19	43	50	9
Poland	5	7	6	1
Russia	6	16	19	4
Turkey	2	3	11	2
Other	6	17	13	2
Other emerging market economies	12	19	22	4
South Africa	8	12	2	2
Other	4	8		

¹ Outright forwards, FX swaps, currency swaps, currency options and other FX products. The category "other FX products" covers highly leveraged transactions and/or trades whose notional amount is variable and where decomposition into individual plain vanilla components was impractical or impossible. Adjusted for local inter-dealer double-counting (i.e. "net gross" basis). ² As a percentage of total emerging market economies.

Source: Triennial Central Bank Survey.

TABLE 2: FOREIGN EXCHANGE DERIVATIVES TURNOVER BY INSTRUMENT, COUNTERPARTY & LOCATION (Daily averages in April, in billions of US dollars and percentages)

	Emerging market economies				Advanced economies	
	2004	2007	2010	% Share	2010	% share
OTCFXderivatives²	159	299	380	100	2,110	100
Outrightforwards ³	21	47	73	19	402	19
FXswaps ³	125	231	277	73	1,488	71
Currency swaps	3	4	7	2	36	2
Currencyoptionsandothers ⁴	10	18	24	6	184	9
With reporting dealers	91	184	221	58	809	38
With other financial institutions	44	70	115	30	1,029	49
With non-financial customers	20	45	44	12	271	13
Local	61	108	127	33	700	33
Cross-border	94	191	254	67	1,410	67
<i>Memo: Spot transactions³</i>	<i>119</i>	<i>188</i>	<i>203</i>	<i>100</i>	<i>1,287</i>	<i>100</i>
<i>Local</i>	<i>52</i>	<i>84</i>	<i>84</i>	<i>42</i>	<i>484</i>	<i>38</i>
<i>Cross-border</i>	<i>67</i>	<i>104</i>	<i>119</i>	<i>58</i>	<i>803</i>	<i>62</i>
<i>Derivatives/spot ratio⁵</i>	<i>1.3</i>	<i>1.6</i>	<i>1.6</i>	<i>1.9</i>	<i>1.6</i>	<i>-</i>

¹ Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). ² Due to incomplete reporting, components do not always add up to totals. ³ Previously classified as part of the so-called traditional FX market. ⁴ The category "other FX products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible. ⁵ Ratio of foreign exchange derivatives to spot transactions.

Source: Triennial Central Bank Survey.

D. CURRENCY COMPOSITION OF OTC DERIVATIVES IN EMERGING MARKETS:

According to the 2010 Triennial, the US dollar remains the pre-eminent global currency in OTC derivatives markets of EMEs. In the FX derivatives markets, the dollar was one of the currencies in more than 95% of transactions in 2010 (Table 3). This fraction was virtually unchanged from the 2007 survey, thus confirming the dollar's ongoing status as the leading currency for international financial transactions, paralleling its continued leading role in critical areas of international trade and finance (Goldberg (2010)). Even for the currencies of central and eastern European countries, which have strong economic linkages with the euro area, the dollar is the cross-currency for FX derivatives transactions more frequently than the euro. It is also striking that the dominance of the US dollar is much greater in emerging market venues than elsewhere – worldwide, 85% of the transactions are dollar-denominated.

TABLE 3: OTC FOREIGN EXCHANGE DERIVATIVES TURNOVER BY CURRENCY (Daily averages in April, percentage shares)

	2004	2007	2010
US dollar	95.5	95.2	94.7
Euro	19.3	15.1	15.8
Japanese yen	16.6	14.0	9.7
Australian dollar	7.5	5.7	8.0
Pound sterling	7.9	6.7	4.3
Swiss franc	1.5	2.4	1.2
Hong Kong dollar	12.4	17.3	15.9
Korean won	6.3	6.2	8.3
Singapore dollar	4.9	6.2	6.7
Chinese renminbi	0.4	1.6	4.8
Indian rupee	2.0	4.5	4.4
Russian rouble	1.1	2.0	2.6
Mexican peso	1.9	2.7	1.8
South African rand	3.1	2.2	1.6
Brazilian real	0.7	0.2	1.0
Polish zloty	1.7	1.2	0.9
Emerging market currencies	43.5	55.0	60.4

¹ Outright forwards, FX swaps, currency swaps, currency options and other FX products. Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%. Because not all of the currencies are listed in the table, the total of the listed percentage shares is less than 200%. Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis).

Source: Triennial Central Bank Survey.

Another interesting development is that emerging market currencies gained share in EMEs' FX derivatives trading. The percentage of transactions in EMEs involving emerging market currencies on one side increased to 60% in 2010 from 55% in 2007 (out of a potential 200%). By contrast, the turnover of global reserve currencies other than the US dollar such as the euro, yen, pound sterling and Swiss franc – generally declined in relative terms in 2010. In particular, the share of the Swiss franc halved, probably reflecting the unwinding of derivatives positions which had hedged Swiss franc loans made in emerging Europe before the crisis. The Australian dollar was an exception among advanced economy currencies, as its share in total turnover in EMEs increased to around 8%, which is quite similar to its share in advanced economies. This undoubtedly reflected Australia's position as a major supplier of commodity exports to much of emerging Asia.

Within interest rate derivatives turnover, the US dollar also plays an important, though not quite as dominant, role, constituting nearly 20% of all turnover in emerging markets. However, the dollar's share is much higher than that of currencies of other major advanced economies – for instance, the share of euro interest rate derivatives turnover stands at just 8%. Interest rate derivatives in emerging markets are distinguished by the outsized growth of turnover in the Korean won, which in 2010 constituted more than one quarter of all turnover of interest rate derivatives in emerging markets.

CONCLUSION

The Indian forex derivatives market is still in a nascent stage of development but offers tremendous growth potential. The development of a vibrant forex derivatives market in India would critically depend on the growth in the underlying spot/forward markets, growth in the rupee derivative markets along with the evolution of a supporting regulatory structure. Factors such as market liquidity, investor behavior, regulatory structure and tax laws will have a heavy bearing on the behavior of market variables in this market.

Increasing convertibility on the capital account would accelerate the process of integration of Indian financial markets with international markets. Some of the necessary preconditions to this as suggested by the Tarapore committee report are already being met. Increasing convertibility does carry the risk of removing the insularity of the Indian markets to external shocks like the South East Asian crisis, but a proper management of the transition should speed up the growth of

the financial markets and the economy. Introduction of derivative products tailored to specific corporate requirements would enable corporate to completely focus on its core businesses, de-risking the currency and interest rate risks while allowing it to gain despite any upheavals in the financial markets.

Increasing convertibility on the rupee and regulatory impetus for new products should see a host of innovative products and structures, tailored to business needs. The possibilities are many and include INR options, currency futures, exotic options, rupee forward rate agreements, both rupee and cross currency swaptions, as well as structures composed of the above to address business needs as well as create real options. A further development in the derivatives market could also see derivative products linked to commodities, weather, etc which would add great value in an economy where a substantial section is still agrarian and dependent on the vagaries of the monsoon.

The growth of derivatives turnover in emerging markets remains more rapid than in advanced economies. The largest emerging market derivatives markets are now located in Korea, Brazil and the two Asian financial centres of Hong Kong and Singapore. About half of the derivatives turnover in emerging markets occurs over the counter, compared to one third in advanced economies. FX derivatives are by far the most commonly traded. Growth of FX derivatives turnover appears to be positively related to trade, financial activity and per capita GDP.

Derivatives turnover in emerging markets is becoming more and more global. Not only is an increasing share of emerging market transactions cross border as opposed to domestic, but the two large financial centres of emerging Asia continue to grow in importance as home to an increasingly large share of OTC derivatives trades not involving the local currency.

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REGIONAL DIVERGENCE IN PER CAPITA INCOME IN DISTRICTS OF RAJASTHAN

DR. REKHA MEHTA
ASSOCIATE PROFESSOR
DEPARTMENT OF ECONOMICS
JAI NARAIN VYAS UNIVERSITY
JODHPUR

ABSTRACT

This paper deals with the level of disparity at district level in Rajasthan Co- variances is calculated from Per Capita Income of different districts. This study calculates the level of growth from the growth rate and whether the poor districts are able to grow faster than the rich districts or the gap of disparity had increased or not in the last few years? It also analyse the position of convergence and divergence in different districts of Rajasthan. The analysis has been done for the period of 1991-2007. The study covers each and every district of Rajasthan. So it covers a total number of 32 districts. The districts like Hanumangarh, Ganganagar, karauli, kota, Baran and Chhitorgarh experience the highest growth rate among other districts within the state. The results reveal that the beta coefficients are positive. Thus there is divergence instead of convergence in the trend in PCNDDP. Though the planners in the state try to implement policies and programme to achieve a balanced growth of economy as a whole, there is still a scope to put efforts in this regard. The private sector can also play an important role to achieve the balanced growth in the state so that the share of the income generated in the state gets distributed across the district equitably.

KEYWORDS

Regional Divergence, Growth Rates, Co-Variations, Per Capita Income, Districts of Rajasthan.

INTRODUCTION

Indian economy is one of the developing economies among the Asian nation. It experiences average annual GDP growth rate of 5.6% in last two decades. In last few years its Average annual growth rate remains 7.6%. In the world map the nation is counted as 15th largest importer and 18th largest exporter. It had world second largest labour force. The services sector contributes the maximum of 54% in GDP where as agriculture gave 28% and Industrial sector had 18% sharing in GDP. Our telecommunication industry is the world fastest growing industry whereas Automobiles rank second largest. It ranks 51st in global Competitiveness and 16th in financial market in the world. But above this all the nation is facing so many social-economic problems like Unemployment, poverty, Illiteracy, Corruption and the most important regional disparity or regional inequality.

Regional inequality is a major socio economic problem through-out the world. Around the world research are going on to reduce the disparity. So many plans and programs were implemented to reduce the gap of disparity. In India lots of efforts are going on too to reduce the level of disparity. Why this problem is that much serious? The reason is because of this disparity there will be inequality of income distribution. Result the real benefits of the nation development will not reach up to the individual. Any effort is successful only when it took place in right direction. Means the flow is from the micro to macro level instead of macro to micro level. So instead of decreasing the disparity at state level we should tackle it at more micro level like district level.

This paper deals with the level of disparity at district level in Rajasthan. The main focus is over to the gap of per capita income within different district of Rajasthan. This study will calculate the level of growth and whether the poor districts are able to grow faster than the rich districts or are the gap of disparity had increased or not in the last few years? Or we say in the language of economics it is an attempt to find out the position of convergence in economic growth in different districts of Rajasthan. How the wind of Industrialization, globalization and privatization affect the level of disparity in different district of Rajasthan. So the calculation took place in the time period of 1991-2007 which comes under post reform period. Government of Rajasthan is doing huge effort to achieve the target of balanced growth but seems lack of desired results.

The review of literature reveals that the most of the studies have been undertaken at state level. The present study entitled, "Regional Divergence in PCI in different districts of Rajasthan." In this paper wherever growth rate is mentioned, it relates to per capita net district domestic product unless mentioned specifically related to any other variable.

This paper is divided into seven sections. First section is the introductory one. Second section deals with objectives of the study. Third section consists of review of literature. The sources of data and the methodology are explained in fourth section. Theoretical aspect of the study is explained in the fifth section. Sixth section comprises of empirical analysis of the study. Findings, the final section of the paper presents conclusions and policy implications of the study.

OBJECTIVE OF THE PAPER

This paper is an attempt to achieve the following objectives:

- To analyse the position of convergence and divergence in different districts of Rajasthan.
- To calculate the growth level of different districts after the reform period.
- Co- variances should be calculated from PCI of different districts.
- To reach at a justifiable conclusion for the present paper.

REVIEW OF LITERATURE

A number of studies have been undertaken so far in this area of research. Few of them were mentioned below with their results. This will add to make the present study a more meaningful and fruitful. Some of these studies are by Dholakia (1994) considered 20 states for analysis of the economic performance for the time period 1960-61 to 1989-90. He found that there is an existence of convergence of long-term economic growth rates for the states. He found the year 1980-81 as the breaking year in the real income trend where onwards the lagging states started picking up faster. Marjit and Mitra (1996) explain that there is divergence in per capita income across Indian states over the period 1960-94. The scatter between base period PCNSDP and the annual average growth rates were same in the states. They did not show any negative relationship and an upward trend was observed among the states. K. K. Subrahmanian and Syam Prasad (1997) His paper deals with relationship between inequality, growth and poverty. He used Gini-coefficient as the best statistical instrument to measure the inequality in various states. He concluded that 1% rise in the Gini- coefficient shows that kerala faces a 5.02 % rise in its growth rate while 2% raise in Gini – coefficient results an only rise of 5% growth rate per annum in kerala. To him only high rate of growth is not sufficient to reduce the poverty. It could only be reduce by transferring the income from rich to poor.

Ghosh (1998) also found evidence of divergence in Per Capita Income (PCI) across Indian states. Dasgupta (2000) found a phenomenon of divergence in PCI across 21 Indian states during 1960- 96. He observed that the share of different sectors in State Domestic Product showed a tendency to converge towards the national average, indicating convergence of structural parameters. However, regression equations across states did not confirm any strong conclusion regarding absolute convergence. Ahluwalia (2000) found that not all the rich states got richer relative to the poor ones and not all the poor states got poorer. Means his study supported the law of convergence. The poor states are able to catch-up with the rich states with the help of adopting high-technology. Prabir De and Buddhadeb Ghosh(2005) His paper explains that the findings are statistically very significant to warrant major changes in future regional policies in order to

remove rising regional disparities in both infrastructure and income in different SAARC nation. This also has a strong bearing on the success of poverty removal policies as the poor are regionally concentrated in such a diverse and heterogeneous region of the world.

T.khomiakova(2008) used two research methods –exploratory spatial data and structure divergence analysis. The study supports that GSDP per capita continue to diverge in the post- reform period in 30 states in India. The local indicator that is spatial auto correlation suggests that there is low cluster of GSDP per capita in 30 states of India. Whereas the structural divergence analysis the sectorwise divergence. The services and Industry sector persists positive spatial auto-correlation of income but there is negative spatial auto-correlation between Agriculture sector and Income. Finally concluded that the divergence in Indian states in mainly caused by structural divergence. Diwaker (2009) explains the dimensions of intra-regional disparities, inequality and deprivation in poor households of the state. The disparity among the districts in terms of per capita income is majorly seen in central region of the states. The incidence of poverty is highest in eastern region. The real challenge is to address the intra-regional horizontal and vertical disparities at the district level which are hardly explicit in macro level data for the state as a whole.

SOURCES OF DATA AND METHODOLOGY

The data for the present study have been taken from the official website of Rajasthan government statistic department, i.e., www.directorate of economics and statistics. The data on Per Capita Net District Domestic Product on the website are available at the old series. The data of new series is not yet been released. The analysis has been done for the period of 1991-2007. The study covers each and every district of Rajasthan. So it covers a total number of 32 districts. Some districts formation took place within the research period. So their data's are not available completely like Hanumangarh and karauli their data's are available after 1993 and 1996 respectively. Graphs and tables have been used to make study more meaningful and fruitful.Average growth rate have been calculated of these 32 districts from PCNDDP in the time period of 1991-2007. Coefficient of variance (co-variance) has been calculated of each and every district of every year.

THEORETICAL ASPECT OF THE STUDY

There are several static and dynamic instrument to measure to calculate the level of regional inequality like Maximum to Minimum ratio, Coefficient of variation (C.V.), Relative mean deviation, Gini index and theil index. σ (sigma) convergence and β (beta) convergence. Here in our study we use Coefficient of variation for measuring the regional inequality. It is a measure of dispersion around the mean. The measure of standard deviation (S.D) gives an absolute measure of dispersion whereas the C.V. measures the relative dispersion. The C.V. is helpful in comparing the two series of data. The least value of C.V. shows less variability and more consistent while more value shows more variability and less consistent. The formula of C.V. is calculation is mentioned below-

$$\text{Coefficient of Variation (C.V.)} = \frac{\sigma}{X} \times 100$$

Convergence in economics (also sometimes known as the catch-up effect) is the hypothesis that poorer economies' per capita incomes will tend to grow at faster rates than richer economies. As a result, all economies should eventually converge in terms of per capita income. Developing countries have the potential to grow at a faster rate than developed countries because diminishing returns (in particular, to capital) aren't as strong as in capital rich countries. Furthermore, poorer countries can replicate production methods, technologies and institutions currently used in developed countries

This term was derived in 1956 from a neo classical economic growth model by Solow and Swan. According to this model the growth in output per worker has positive relationship with rate of saving and negative relationship with growth rate of labour force because of technological progress and depreciation of capital. The model concluded that the nation with low per capital stock and low per capita income will grow with a faster rate. This is the convergence of per capita income and growth rate due to diminishing marginal productivity assumption.

EMPIRICAL ANALYSIS OF THE STUDY

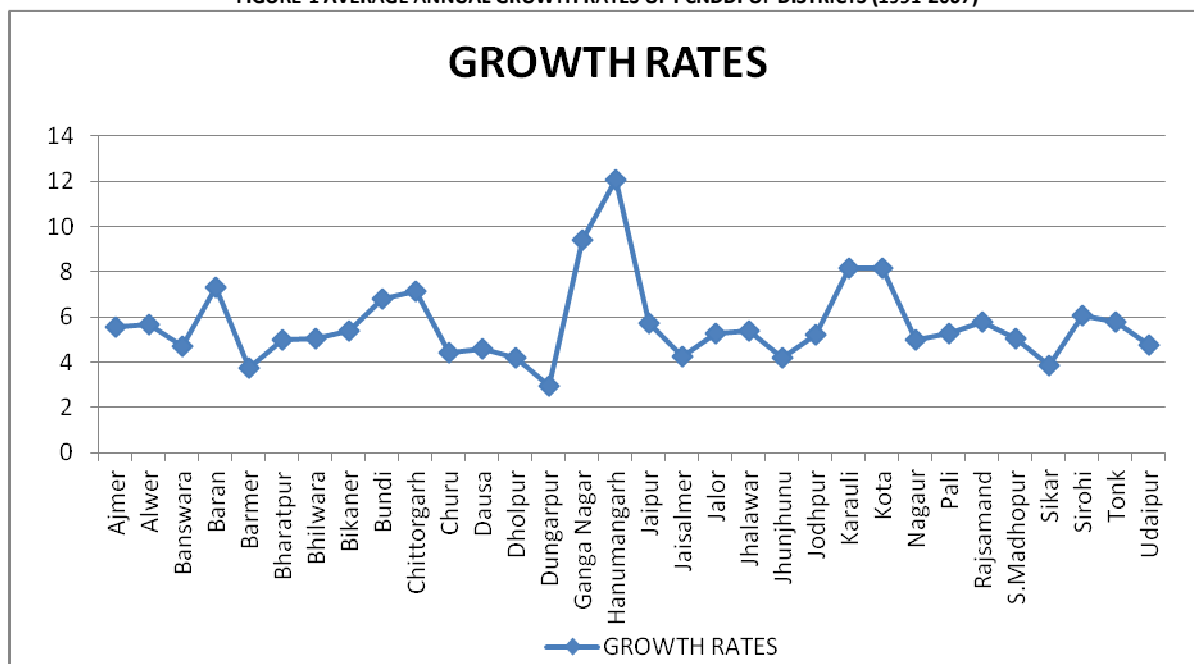
The first table shows us the growth rates of PCNDDP of different districts of Rajasthan from 1991-2007. The districts like Hanumangarh, Ganganagar, karauli, kota, Baran and Chhitorgarh experience the highest growth rate among other districts within the state.

TABLE-1
AVERAGE ANNUAL GROWTH RATES OF PCNDDP OF DISTRICTS (1991-2007)

DISTRICTS	GROWTH RATES
Ajmer	5.58
Alwer	5.68
Banswara	4.72
Baran	7.3
Barmer	3.75
Bharatpur	5.02
Bhilwara	5.06
Bikaner	5.4
Bundi	6.8
Chittorgarh	7.14
Churu	4.41
Dausa	4.59
Dholpur	4.19
Dungarpur	2.98
Ganga Nagar	9.38
Hanumangarh	12.07
Jaipur	5.73
Jaisalmer	4.28
Jalor	5.26
Jhalawar	5.38
Jhunjhunu	4.2
Jodhpur	5.22
Karauli	8.17
Kota	8.15
Nagaur	4.98
Pali	5.26
Rajsamand	5.76
S.Madhampur	5.03
Sikar	3.88
Sirohi	6.06
Tonk	5.79
Udaipur	4.77

SOURCE – COMPUTED (On the basis of data available from the Directorate of Economics and Statistics)

FIGURE-1 AVERAGE ANNUAL GROWTH RATES OF PCNDDPOF DISTRICTS (1991-2007)



SOURCE: - TABLE-1

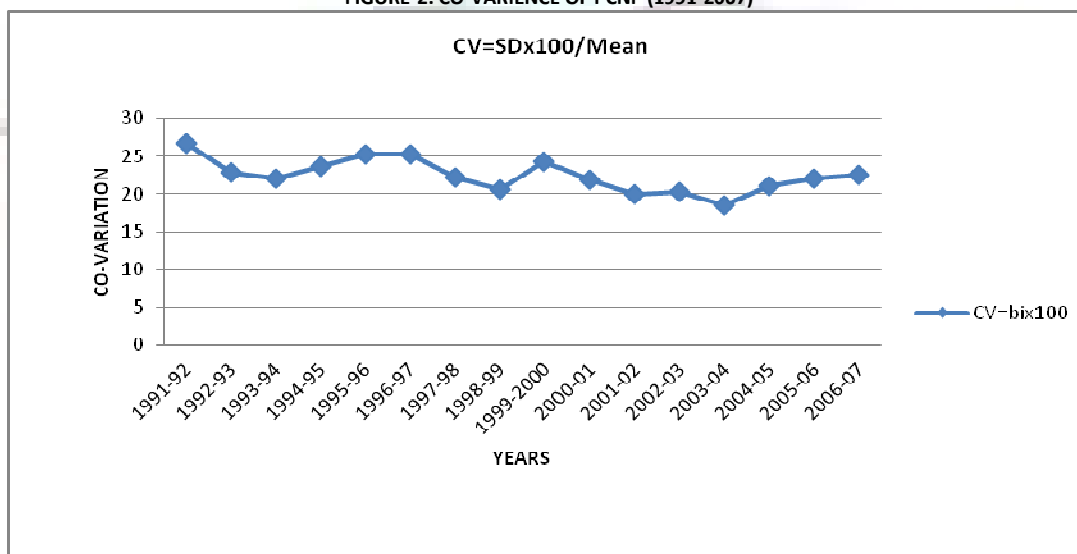
The graph plotted above clears that Hanumangarh is the district which shows highest growth rate while its formation took place in the year of 1993. The up and down of graph shows the variation of equality in the districts. Some districts are facing good growth rate while others are facing the lowest of growth rate of even 2.98. Planning programs are needed to cover this grate range of inequality. Then finally the graph will have a vertical slope for the growth rate of districts of Rajasthan.

TABLE-2 CO-VARIENCE OF PCNDDP (1991-2007)

years	CV=SDx100/mean
1991-92	26.74
1992-93	22.84
1993-94	22.07
1994-95	23.73
1995-96	25.31
1996-97	25.23
1997-98	22.31
1998-99	20.55
1999-2000	24.33
2000-01	21.85
2001-02	19.96
2002-03	20.31
2003-04	18.61
2004-05	21.09
2005-06	22.13
2006-07	22.56

SOURCE – COMPUTED (On the basis of data available from the Directorate of Economics and Statistics)

FIGURE-2: CO-VARIENCE OF PCNP (1991-2007)



SOURCE: - TABLE-2

Coefficient of variation was 26.7per cent in 1990-1991 and it decrease to 19.96 per cent in 2001-2002 which again increase to 22.56 in 2006-2007.

Statistical equations in the analysis are obtained as mentioned below-

α CONVERGENCE EQUATIONS:

$$1. \quad \begin{array}{l} \text{C.V of PCNDDP} \\ (1990-91 \text{ to } 2006-07) \end{array} = 24.824 + 0.276 t^* \quad R^2 = .364 \\ \quad \quad \quad \quad \quad \quad \quad \quad (26.304) \quad (2.829)$$

Note: Figures in brackets are t values

The results reveal that the beta coefficients are positive. Thus there is divergence instead of convergence in the trend in PCNDDP.

σ CONVERGENCE EQUATIONS:

$$2. \quad \begin{array}{l} \text{Log of S.D. of PCNDDP} \\ (1990-91 \text{ to } 2006-07) \end{array} = 7.117 + .0779 t^* \quad R^2 = .862 \\ \quad \quad \quad \quad \quad \quad \quad \quad (88.16.) \quad (9.339)$$

Note: Figures in brackets are t values

The results reveal significant divergence in levels of PCNDDP across the selected districts. R^2 is high and t – statistic for the positive slope coefficient are statistically significant.

β CONVERGENCE EQUATIONS:

$$3. \quad \begin{array}{l} \text{GR PCNDDP} \\ (1990-91 \text{ to } 2006-07) \end{array} = 41.433 + 5.607^* \quad R^2 = .938 \\ \quad \quad \quad \quad \quad \quad \quad \quad (-18.497) \quad (21.049)$$

Note: Figures in brackets are t values

The results reveal that Beta coefficient for the period 1990-81 to 2006-07 are found to be positive and hence statistically significant.

FINDINGS, CONCLUSIONS AND POLICY IMPLICATIONS OF THE STUDY

The districts like Hanumangarh, Ganganagar, karauli, kota, Baran and Chhitorgarh experience the highest growth rate among other districts within the state. Coefficient of variation was 26.7 per cent in 1990-1991 and it decrease to 19.96 per cent in 2001-2002 which again increase to 22.56 in 2006-2007. There is a tendency of showing an increase in the dispersion of per capita net district domestic product across the district. Alpha convergence equations also have positive coefficient. Sigma convergence tests reveal significant divergence in levels of PCNDDP across the selected district. Rate of divergence has increased since the time of initiation of economic reforms in the country. R^2 is found to be quite high and t – statistic for the positive slope coefficient are statistically significant. Beta coefficient for the economic reforms period is positive and statistically significant. The results of this study which have been obtained reveal that there is significant divergence in levels of PCNDDP across the selected districts. Though the planners in the state try to implement policies and programme to achieve a balanced growth of economy as a whole, there is still a scope to put efforts in this regard. The private sector can also play an important role to achieve the balanced growth in the state so that the share of the income generated in the state gets distributed across the district equitably.

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CONTRIBUTION OF INFORMATION TECHNOLOGY INDUSTRY IN PROMOTING INDIA AS BRAND INDIA

DR. DEEPAKSHI GUPTA
ASSOCIATE PROFESSOR
BUSINESS MANAGEMENT DEPARTMENT
CHANDIGARH GROUP OF COLLEGES
GHARAUN

DR. NEENA MALHOTRA
ASSOCIATE PROFESSOR
PUNJAB SCHOOL OF ECONOMICS
GURU NANAK DEV UNIVERSITY
AMRITSAR

ABSTRACT

Brand is a differentiating identity of a product, service or company, which includes name, term, sign, symbol or design or combination of them. India now has the second fastest growing large economy in the world, surpassed only by China. India today is home to many world-class corporations that enjoy global brand recognition and are busy in expanding overseas as top global companies. IT and ITES (TCS, Infosys and Wipro etc.), Ranbaxy, Hero Honda, Bajaj, Tata, all are Indian brands with global presence. The present paper examines that Indian information technology companies have started gaining acceptance in international markets for their quality products. Information technology industry in India has reasonably continued its robust growth of about 59.5 percent during the year 2009. Various aspects of information technology industry like composition, revenue, exports, employment opportunities and share in global information market etc. are studied under this paper. Challenges faced by this sector and steps undertaken by government of India are also discussed.

KEYWORDS

Brand, Information Technology, International Markets.

INTRODUCTION

What's in a name, said Shakespeare. What explains Hindustan Liver, McDonald's, P&G, Coca-cola and Mahindra to be among the 100 global brands? Is it their sales revenue? No. Is it their market shares? No. Is it their profitability and their years of existence? No. Then what does it explain? The answer is Brand. Now the next question is, what a Brand? And the answer is 'a brand is the identity of a particular product, services and business.' In broader term brand is a differentiating identity of a product, service or company (which includes name, term, sign, symbol or design or combination of them) and how it relates to key components, i.e. employees, investors, customers, partners. From the psychological aspect brands are perceptions. It relates to the thoughts, feelings, perceptions, images, experiences, beliefs, attitudes etc. E.g. 'BMW' is associated with 'the driving'. The Volvo brand stands for 'safety'. Building brands requires the same care that one would use for developing any major asset such as new products or services, new factories or new information technology system. Brand is a company's vital asset in the long term. It is also a bond between the customers of products/services and the company. A brand assures reliability and quality of the product/services. Brands are the instruments with which companies seek to build and retain customer loyalty. Hence, brands are not simply about whether customers know their names, but are about whether customers know what those brand names stand for (www.icfai.org; www.enwikipedia.org).

THE NEED FOR A GLOBAL MINDSET

In global competition to produce, to develop, promote and to sale the brand product/service to global customer, the organisations must develop "global mindset". It is essential to understand the today's business dynamics and to develop suitable strategies for introducing, promoting and retaining the brand in global market. Some key elements of this global mindset are as follows:-

- Being open-minded
- Comfort with diversity
- Interest in history, geography and global phenomena
- Integrity
- Abstract thinking
- Risk-taking capability
- People management
- Cultural sensitivity (www.vikalpa.com)

PRINCIPLES FOR BUILDING STRONG BRANDS

Brands are usually an organization's most valuable single asset. Different studies suggest that for consumer good, brands often represent 50 to 80 percent of the market capitalization of their parent organizations and for industrial goods around 20 to 30 percent. Now a days for organizations, it is necessary to build a good brand name, which includes following features –

- Brand name must easy to know
- Be easy to recognize
- Be easy to remember
- Be easy to pronounce
- Be attractive, so that attract attention
- Be easy to translate into all languages
- Suggest the company or product image
- Distinguish the product's positioning relative to the competition
- Stand out among a group of other brands
- And must be protected under trademark.

Thus, brand name must right for organization, market, customers and meet organization's key criteria. (www.enwikipedia.org ;www.icfai.org)

ARGUMENTS IN FAVOUR OF BRAND

Now a days brand is a hot topic. The arguments in favour of brand are as following:

1. Brands added emotions and trust which help to create a relationship between brands and consumers.
2. Brands create aspirational lifestyles based on these consumer relationships. Associating oneself with a brand, transfers these lifestyle onto consumers.
3. Products and services have become so like that they fail to distinguish themselves by their quality, efficacy, reliability, assurance and care. Brands add all these things to the products and services.
4. The combination of emotions, relationships, lifestyles and values allows brand owners to charge a price premium for their products and services
5. A strong brand can raise prices as well as barriers to new entrants. (www.incitrio.com ; www.icfai.org; www.enwikipedia.org)

ECONOMIC CHANGES IN INDIAN ECONOMY

From 1947 to the late 1970s, the economy was characterized by central government planning and import substitution industries, and economic production was transformed from primarily agriculture, forestry, fishing, and textile manufacturing to various heavy industries, transportation and telecommunications. In the 1980s, government adopted liberalization measures - such as privatization of government industries and reduced tariffs on imported capital goods - have been credited for 1990s economic growth rates. From 1951 to 2000, the Indian business in services sector such as information technology, banking, communications, hotels, and other services has increased from 27 to 48 percent of gross domestic product (GDP), but most of this growth occurred in the 1990s. India now has the second faster growing large economy in the world, surpassed only by China. India today is home to many world-class corporations that enjoy global brand recognition and are busy expanding overseas as top global companies IT and ITES (TCS, Infosys and Wipro), Ranbaxy, Bajaj, Hero Honda, Tata all are Indian brands with global presence. These Indian brands have started gaining acceptance in international markets for their quality products (www.ibef.org; www.humanrightsinitiative.org).

INFORMATION TECHNOLOGY INDUSTRY IN INDIA- GROWTH STRUCTURE AND PERFORMANCE

Now-a-days, India has come up in the three hot fields of beauty, cricket and information technology. In general, information technology covers all aspects of managing and processing information. The last decade of 20th century has witnessed information technology to have revolutionary effect on the lives of people. During this period, Indian engineers and scientists have earned high degree of esteem around the world for their highly professional and innovative contributions. Developed countries like USA, Germany and Japan have shown keen interest, in hiring Indian software professionals in their information technology sector. On the domestic front also, information technology industry has shown highest growth rates consistently over the last many years as compared to any other industry. India is among the three countries that have built super computer on their own; the other two are USA and Japan. India is among six countries, which has launched satellites and done so even for other countries like Germany and Belgium. India's INSAT is among the world's largest domestic satellite communication systems. India has the third largest telecommunication network, among the emerging economies.

The first year of this millennium was a year of turbulence, tragedy, terrorism and slows down in the world economy. However, the Indian information technology industry has weathered this storm as well. It is indeed creditable that the information technology industry in India has continued its robust growth since 1998. In 1984, under the rule of Prime Minister Rajiv Gandhi, various efforts were made to develop information technology industry in India. The National Association of Software and Service Companies, known as NASSCOM, was registered under the Societies Act, 1860, in 1988. NASSCOM provides facts and figures about the growth of the information technology industry in India and to facilitate the business and trade in software and services. NASSCOM is a global trade body with over 980 members, of which over 150 are global companies from the USA, UK, EU, Japan and China. The share of information technology industry is 5.5 percent of gross domestic product (GDP) in Indian economy according to NASSCOM (www.imdr.edu; www.nasscom.org).

GROWTH AND PERFORMANCE OF INFORMATION TECHNOLOGY INDUSTRY IN INDIA

The information technology industry has emerged as one of the fastest growing industries in India. As a proportion of Gross Domestic Product, the information technology industry revenue has grown from 1.2 percent in 1998 to an estimated 5.5 percent in 2008. India's domestic market is estimated to grow by 20 percent growth in 2008-09. Hardware segment is estimated to grow by 17 percent to be Rs. 541 billion, information technology services segment is estimated to grow by 20 percent to be Rs. 380 billion. Whereas software products and BPO segment is estimated to grow by 15 percent to be Rs. 103.3 billion. Export growth is expected at 16-17 percent in 2008-09.

According to the latest findings of NASSCOM, the aggregate revenues of the sector are expected to reach USD 60 billion in 2008-09. Industry will continue to net hire and focus on value creation, provide direct employment to 2.23 million and indirect job creation estimated to eight million employees. Indian information technology sector is developing as the biggest source of revenue and employment generator. The growth of information technology industry will also develop the other industries of the economy. This industry has a number of customers in India, as well as also in abroad. The USA (60 percent) and the UK (19 percent) remain the largest, information technology export markets in 2008. The industry footprint is steadily expanding to other geographies - with exports to continental Europe in particular is growing at a CAGR of more than 51 percent over 2004-2008 (www.nasscom.org).

TABLE 1: INDIA'S GDP AND INFORMATION TECHNOLOGY INDUSTRY GROWTH

Years	GDP Growth (USD Billion)	IT Growth (USD Billion)	%age share of IT Industry in GDP
1997-98	411.570	5.0	1.2
1998-99	440.597	6.0	1.4
1999-00	461.914	8.2	1.8
2000-01	473.050	12.1	2.6
2001-02	494.997	13.4	2.7
2002-03	573.167	16.1	2.8
2003-04	669.442	21.5	3.2
2004-05	783.141	28.2	3.6
2005-06	877.224	37.4	4.3
2006-07	1098.945	47.8	4.3
2007-08	1232.946	64.0	5.2

Source: (i) www.adb.org & (ii) www.nasscom.org

INDIA'S GDP AND INFORMATION TECHNOLOGY INDUSTRY GROWTH

Indian information technology industry has grown manifold during the period 1997-98 to 2007-08 as shown in table 1. The size of Indian information technology industry has increased from USD 5.0 billion in 1997-98 to USD 64.0 billion in 2007-08. The share of information technology industry in Gross Domestic Product has increased from 1.2 percent in 1997-98 to 5.2 percent in 2007-08. Thus, information technology industry is considered as a key industry for the development of Indian economy.

FACTORS CONTRIBUTED IN THE GROWTH OF INFORMATION TECHNOLOGY INDUSTRY

A large number of factors have facilitated the fastest growth and development of information technology industry in India is:

- Abundant human capital
- Relatively low cost of technical labour
- Contribution of IITs and other leading engineering colleges in India
- Creation of global household brands
- Special attention to technology based industries and R&D by government
- Foreign Investment in information technology industry
- Mathematical and logic expertise
- Entrepreneurial culture
- The legal system in India is relatively simple and clear procedure
- Reverse brain drain
- Reasonable technical innovations
- Strong tertiary education
- Government support and policies
- The quality inherent in the Indian information technology and business process industry is excellent. Various quality control and process management tools are used to improve the quality and to establish credibility.
- Familiarity with English language (India has the second largest pool of English speaking scientific professionals in the world. It is second only to the USA) (www.nasscom.org.).

TABLE 2: GROWTH OF SOFTWARE AND SERVICES INDUSTRY IN INDIAN DOMESTIC AND FOREIGN MARKET

Years	Domestic MKT. (USD bn.)	Percentage Growth	Foreign MKT. (USD bn.)	Percentage Growth	Total IT MKT. (USD bn.)
1999	1.7 (39.5)	-	2.6 (60.5)	-	4.3
2000	1.9 (32.2)	11.8	4.0 (67.8)	53.8	5.9
2001	2.5 (28.7)	31.6	6.2 (71.3)	55.0	8.7
2002	2.6 (25.2)	4.00	7.7 (74.8)	24.2	10.3
2003	3.0 (23.8)	15.4	9.6 (76.2)	24.7	12.6
2004	3.9 (23.4)	30.0	12.8 (76.6)	33.3	16.7
2005	4.8 (21.8)	23.1	17.2 (78.2)	34.4	22.0
2006	6.1 (20.7)	27.1	23.4 (79.3)	36.0	29.5
2007	8.2 (20.9)	34.4	31.1 (79.1)	32.9	39.3
2008	11.6 (22.3)	41.5	40.4 (77.7)	29.9	52.0
2009	12.5 (21)	7.76	47.0 (79)	16.3	59.5

Source: (i) Nasscom-Mckinsey study, (ii) Hardware sector is not included; & (iii) Figures in brackets show percentage share of IT industry.

GROWTH OF SOFTWARE AND SERVICES INDUSTRY IN INDIAN DOMESTIC AND FOREIGN MARKET

Information technology industry caters both the domestic as well as foreign market. But it is the software and services sector which has made impressive growth in the foreign as well as domestic market. Table 2 conveys that the size of IT software and services sector in domestic market in 1999 was just USD 1.7 billion, which has increased to USD 12.5 billion in 2009. But the percentage share of domestic market has declined from 39.5 percent in 1999 to 21 percent in 2009. The foreign market of software and services sector has grown rapidly. In 1999 the growth of foreign market was just USD 2.6 billion, which has grown near about USD 47.0 billion in 2009. The decline in the share of domestic market is due to foreign market's expansion and less absorption capacity of Indian economy for information technology services. While India has been able to establish arena, yet India has not been able to make a dent in the software product market. In spite of all this, Indian total information technology market has increased from USD 4.3 billion in 1999 to USD 59.5 billion in 2009, which is itself an achievement.

GROWTH OF INFORMATION TECHNOLOGY SOFTWARE AND SERVICES EXPORTS

India has exported its information technology services to more than hundred countries around the world, but there is a heavy reliance on the USA market, which accounts for 62 percent of the total software exports. The leading software-exporting firms include the companies like Tata Consultancy Services, Infosys Technologies and Wipro Technologies etc.

TABLE 3: GROWTH OF INFORMATION TECHNOLOGY SOFTWARE AND SERVICES EXPORTS (USD Billion)

Years	IT Software & Services Exports	Percentage Growth
1999-00	3.4	-
2000-01	5.3	55.9
2001-02	6.2	16.9
2002-03	7.1	14.5
2003-04	9.2	29.6
2004-05	17.7	92.4
2005-06	23.6	33.3
2006-07	31.4	33.1
2007-08 (E)	40.3	28.3

Source: (i) www.nasscom.org, (ii) www.mitgov.in, (iii) E-Estimated, (iv) Software also includes ITES-BPO

Table 3 shows that the exports of information technology software and services have increased from USD 3.4 billion in 1999-00 to USD 5.3 billion in 2000-01. Further these exports have increased to USD 17.7 billion in 2004-05 and USD 31.4 billion in 2006-07. The estimated exports of information technology software and services are USD 40.3 billion in 2007-08. The yearly growth rate of these exports have slightly declined during 2001-02 and 2002-03 but from 2003-04 onwards, the growth rate of exports of information technology software and services have increased significantly. During 2007-08, the growth rate was 28.3 percent.

COMPOSITION OF INFORMATION TECHNOLOGY INDUSTRY IN INDIA

Composition of total information technology industry mainly comprises of software, ITES-BPO and hardware segment. Total software and services segment includes IT services and products, ITES-BPO, engineering services, R&D and software products. This segment is growing faster than the hardware segment in India.

TABLE 4: COMPOSITION OF INFORMATION TECHNOLOGY INDUSTRY IN INDIA (USD Billion)

USD BILLION	2003	Total % age share	2004	Total % age share	2005	Total % age share	2006	Total % age share	2007	Total % age share	2008	Total % age share	2009 (E)	Total % age share
IT Services & Products	9.9	61.6	10.4	48.2	13.5	48.1	17.8	47.6	23.3	48.7	31.0	48.4	35.2	49.1
-Exports	7.1 (71.7)	44.1	7.3 (70.2)	33.8	10.0 (74.1)	35.6	13.3 (74.7)	35.6	17.8 (76.4)	37.2	23.1 (74.5)	36.1	26.9 (76.4)	37.5
-Domestic	2.8 (28.2)	17.5	3.1 (29.8)	14.4	3.5 (25.9)	12.5	4.5 (25.3)	12.0	5.5 (23.6)	11.5	7.9 (25.5)	12.3	8.3 (23.6)	11.6
ITES-BPO	2.7	16.8	3.4	15.8	5.2	18.5	7.2	19.3	9.5	19.9	12.5	19.5	14.8	20.5
-Exports	2.5 (92.6)	15.5	3.1 (91.2)	14.4	4.6 (88.5)	16.4	6.3 (87.5)	16.8	8.4 (88.4)	17.6	10.9 (87.2)	17.0	12.8 (86.5)	17.9
-Domestic	0.2 (7.41)	1.3	0.3 (8.8)	1.4	0.6 (11.5)	2.1	0.9 (12.5)	2.4	1.1 (11.6)	2.3	1.6 (12.8)	2.5	1.9 (12.8)	2.6
Engineering services and R&D, software products	NA	NA	2.9	13.4	3.9	13.9	5.3	14.2	6.5	13.6	8.6	13.4	9.5	13.4
-Exports	NA	NA	2.5 (86.2)	11.6	3.2 (82.1)	11.4	4.0 (75.5)	0.7	4.9 (75.4)	10.3	6.4 (74.4)	10	7.3 (76.8)	10.2
-Domestic	NA	NA	0.4 (13.8)	1.9	0.7 (17.9)	2.5	1.3 (24.5)	3.5	1.6 (24.6)	3.3	2.2 (25.4)	3.4	2.3 (24.2)	3.2
Total software & services	12.6	78.3	16.7	77.6	22.5	80.1	30.3	81.0	39.3	82.2	52.0	81.2	59.6	83.2
-Exports	9.6 (76.2)	59.7	12.9 (77.2)	60	17.7 (78.8)	63.0	23.3 (77.9)	63.1	31.1 (79.1)	65.1	40.4 (77.7)	63.1	47.0 (78.9)	65.6
-Domestic	3.0 (23.8)	18.6	3.8 (22.8)	17.6	4.8 (21.3)	17.1	6.7 (22.1)	17.9	8.2 (20.9)	17.2	11.6 (22.3)	18.1	12.6 (21.1)	17.6
Hardware	3.6	22.3	4.9	22.7	5.6	19.9	7.1	19.0	8.5	17.7	12.0	18.7	12.1	16.9
-Exports	0.3 (8.3)	1.8	0.5 (10.2)	2.3	0.5 (8.9)	1.8	0.6 (8.5)	1.6	0.5 (5.9)	1.0	0.5 (4.2)	0.7	0.3 (2.5)	0.4
-Domestic	3.3 (91.7)	20.5	4.4 (89.8)	20.4	5.1 (91.1)	18.1	6.5 (91.5)	17.4	8.0 (94.1)	16.7	11.5 (95.8)	18	11.8 (97.5)	16.5
Total IT Industry	16.1		21.6		28.1		37.4		47.8		64.0		71.7	

Source: (i) www.nasscom.org., 2009, (ii) Figures in brackets show percentage share & (iii) NA – Not Available (iv) E – Estimated

The total information technology industry has grown from USD 16.1 billion in 2003 to USD 64 billion in 2008. Table 4 shows that Indian information technology primarily comprises of software and services segment which accounts for 82.2 percent of total information technology industry in 2008. The percentage share of ITES-BPO segment has grown from 16.8 percent in 2003 to 19.5 percent in 2008. It means that there is more opportunity for this segment to develop in future. India's percentage share in engineering services, R&D and software products are throughout approximately 13.4 percent from various years. Hardware segment has accounted for 18.7 percent of total information technology industry in 2008. It is estimated that in 2009 total information technology software and services segment will account for USD 59.6 billion, hardware segment will account for USD 12.1 billion and total information technology industry will account for USD 71.7 billion respectively as per estimates.

CONTRIBUTION OF INFORMATION TECHNOLOGY INDUSTRY IN EMPLOYMENT

Apart from wealth creation and large export earnings, Indian information technology industry has also provided large scale employment to educated and skilled work-force. This is the fastest growing sector which is providing large employment opportunities. The very success of information technology industry in India is infact due to the availability of highly skilled work-force. Indian education system gives more emphasis on mathematical skills and proficiency in English language and this has created skilled work-force ideally suited to the information technology industry. Indian universities are pumping out 1, 20,000 engineering graduates in a year. The NASSCOM - McKinsey report 2005 states that the Indian information technology industry will demand for 8,50,000 information technology professionals and 1.4 million ITES-BPO professionals by 2010 respectively.

TABLE 5: LEVEL OF KNOWLEDGE PROFESSIONAL EMPLOYEES IN INFORMATION TECHNOLOGY SECTOR (Employees numbers in 000's)

Years	IT Services and Software Exports	Domestic Market	BPO Export	Total Employee	Percent Growth
2000	110	132	42	284	-
2001	162	198	70	430	51.4
2002	170	246	106	522	21.4
2003	205	285	180	670	28.3
2004	296	318	216	830	23.8
2005	390	352	316	1,058	27.5
2006	513	365	415	1,293	22.2
2007	690	378	553	1,621	25.4
2008	860	450	700	2,010	24.0
2009	946	500	789	2,235	11.2

Source: (i) www.nasscom.org., 2009, & (ii) Figures do not include employees in the hardware sector.

LEVEL OF KNOWLEDGE PROFESSIONAL EMPLOYEES IN INFORMATION TECHNOLOGY SECTOR

Table 5 conveys that in information technology industry, number of employees is increasing. In 2000, the number of employees in information technology sector was 284 thousands, whereas in 2009 it has reached at 2,235 thousands. But the percentage growth of employees in information technology industry has declined from 51.4 percent in 2001 to 11.2 percent in 2009 respectively. In 2009, 946 thousand employees are engaged in IT services and software exports. In domestic market, 500 thousands employees and 789 thousands employees are employed in BPO export sector. Hence, information technology is emerging as one of the biggest employment generating industries.

MARKET VERTICALS IN DOMESTIC AND OFFSHORE

Vertical markets include services for banking, finance, services and insurance, manufacturing, telecom, healthcare, customer interaction and support, finance and accounting, knowledge services, human resource management, construction and utilities, airlines and transportation, retail etc. Information technology industry provides its services to different sectors and earning a large amount of revenue.

TABLE 6: DOMESTIC MARKET VERTICALS (In Percentage)

Vertical	Domestic Market (2009)
-BFSI	41
-Hi-Tech/Telecom	20
-Manufacturing	17
-Retail	8
-Healthcare	3
-Airlines Transportation	3
-Construction and Utilities	3
-MPE	2
-Other	3

Source: www.nasscom.org, 2009

Table 6 shows the contribution of information technology industry in domestic market verticals that is, BFSI (banking, finance, services and insurance) (41 percent), Hi-tech/telecom (20 percent), in manufacturing (17 percent) and retail (8 percent). Health care, airlines and transportation, constructions and utilities are the growing segment in the domestic market.

TABLE 7: OFFSHORE MARKET VERTICALS (In Percentage)

Vertical	Offshore Market (2008)
-Customer Interaction and Support	43.5
-Finance and Accounting	22.1
-Vertical Specific BPO Services	17.1
-Knowledge Services	8.1
-Other Horizontal Services	4.1
-Human Resource Management	3
-Procurement Services	1.4

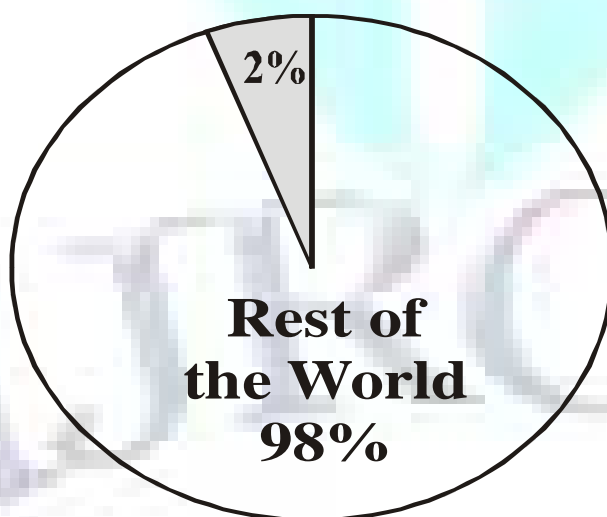
Source: www.nasscom.org, 2008

Table 7 conveys information on offshore market verticals in 2008. Offshore market verticals include customer interaction and support, finance and accounting, knowledge services, human resource management. Offshore market verticals have attained USD 10.9 billion in 2008. Table 7 conveys the contribution of information technology industry in offshore market verticals is customer interaction and support (43.5 percent), finance and account (22.1 percent), vertical specific BPO services (17.1 percent) and knowledge services (8.1 percent).

INDIA'S SHARE IN GLOBAL INFORMATION TECHNOLOGY MARKET

Growing domestic as well as foreign market has facilitated rapid development of Indian information technology industry. The size of domestic market was USD 1.9 billion in 2000 and which has become USD 12.5 billion in 2009. In 2000, the foreign market of information technology stood at USD 4.0 billion which has become USD 47.0 billion in 2009.

FIG. 1: INDIA'S SHARE IN WORLD INFORMATION TECHNOLOGY MARKET



Source: Ganguly, Debtyoti and Sandipan Roy, 2004, *I.T./ITES Business Paper*

Despite, the growth of information technology industry in India, its share in world market stands at only two percent in figure 1. In spite of all this, the large size of world market will throw tremendous opportunities for Indian information technology industry for future growth.

INDIA'S TOP MOST EXPORTER COMPANIES IN GLOBAL MARKET

India's IT exports are increasing rapidly. The Indian information technology companies such as Tata Consultancy Services, Infosys Technologies, Wipro Technologies, Hindustan Computer Limited Technologies, Patni Computer Systems, Mphasis, Mahindra Tech., I-Flex Solutions etc are producing world class IT products and services. Three Indian information technology companies – TCS, Infosys and Wipro have all crossed the billion dollar mark. Now a days Indian information technology companies are recognizing among world class information technology companies. India can sustain its global leadership position, grow

its offshore IT and BPO industries at an annual rate greater than 25 percent, and generate export revenues of about USD 60 billion by 2010 (Does not include exports of software products) (www.mckinsey.com).

TABLE – 8: INDIA’S TOP EXPORTER INFORMATION TECHNOLOGY COMPANIES IN GLOBAL MARKET

Rank	Company	Rs Crore	USD Million
1	Tata Consultancy Services	7449	1644
2	Infosys Technologies	6806	1502
3	Wipro Technologies	5426	1198
4	Satyam Computer Services	3377	745
5	HCL Technologies	2664	588
6	Patni Computer Systems	1548	342
7	I-Flex Solutions	1110	245
8	Mahindra British Telecom	913	202
9	Polaris Software Lab	697	154
10	Perot Systems TSI (India)	657	145
11	Hexaware Technologies	583	129
12	Larsen and Toubro	557	123
13	MASTEK	546	121
14	iGATE Global Solutions (Formerly Mascot System)	534	118
15	Siemens Information Systems	502	111
16	Mphasis BFL	465	103
17	Tata Infotech	463	102
18	NIIT Technologies	448	89
19	Flextronics Software Systems	424	94

Source: Balakrishnan, Pulapre (2006) based on NASSCOM Data (www.nasscom.org)

Table 8 conveys the exports of Indian information technology companies to the foreign countries in 2004-05. Tata Consultancy Services Company, Infosys Technologies, Wipro Technologies and HCL Technologies are exporting USD 1644 million, USD 1502 million, USD 1198 million and USD 588 million to the rest of the world. The Indian IT industry has already created a brand image in the global market. A large number of Indian software and IT services companies have acquired international quality certification. Out of top 400 companies, more than 250 have acquired ISO 9000 certification. (http://faculty.washington.edu.)

TABLE – 9: RANKING OF INDIAN INFORMATION TECHNOLOGY COMPANY AT GLOBAL LEVEL

IT Companies

Rank	Rank	Rank	Rank	Rank	Rank	Company	Country
1999	2000	2001	2002	2003	2004		
2	5	1	7	2	1	Hewlett-Packard	US
4	2	2	1	3	2	IBM	US
6	0	4	3	1	3	Dell	US
1	1	3	2	5	4	Microsoft	US
0	0	7	6	0	5	SAP	Germany
0	4	6	4	4	6	Cisco Systems	US
3	3	5	5	6	7	Intel	US
0	9	9	9	7	8	Oracle	US
0	0	0	0	0	9	Infosys Technologies	India

Source: PWC SURVEY on "The world's most respected company"

Table 9 shows the ranking of information technology company worldwide. A survey conducted by PWC on "The world's most respected company survey" shows an Indian information technology company in the top most world's ten information technology companies has first time occupied rank in the form of Infosys. Indian firms have started to arrive in the global market (www.vservicesolution.com).

INDIA’S IT EXPORT TO DIFFERENT COUNTRIES

Countries like USA and Europe (Incl. UK) are the main exporting countries of Indian information technology industry accounting for about 60 percent and 31 percent respectively in 2008. Table 10 conveys that India's export in USA is decreasing whereas in other countries its exports are increasing.

TABLE 10: INDIA’S EXPORT TO DIFFERENT COUNTRIES (In Percentage)

Markets	2005	2006	2007	2008
America	68.30	67.18	61.40	60
Europe (Incl. UK)	23.10	25.13	30.10	31
Rest of the world (Incl. APAC)	8.60	7.69	8.50	9

Source: www.nasscom.org, 2009

TABLE – 11: INDIA'S IT EXPORT TO EU COUNTRIES

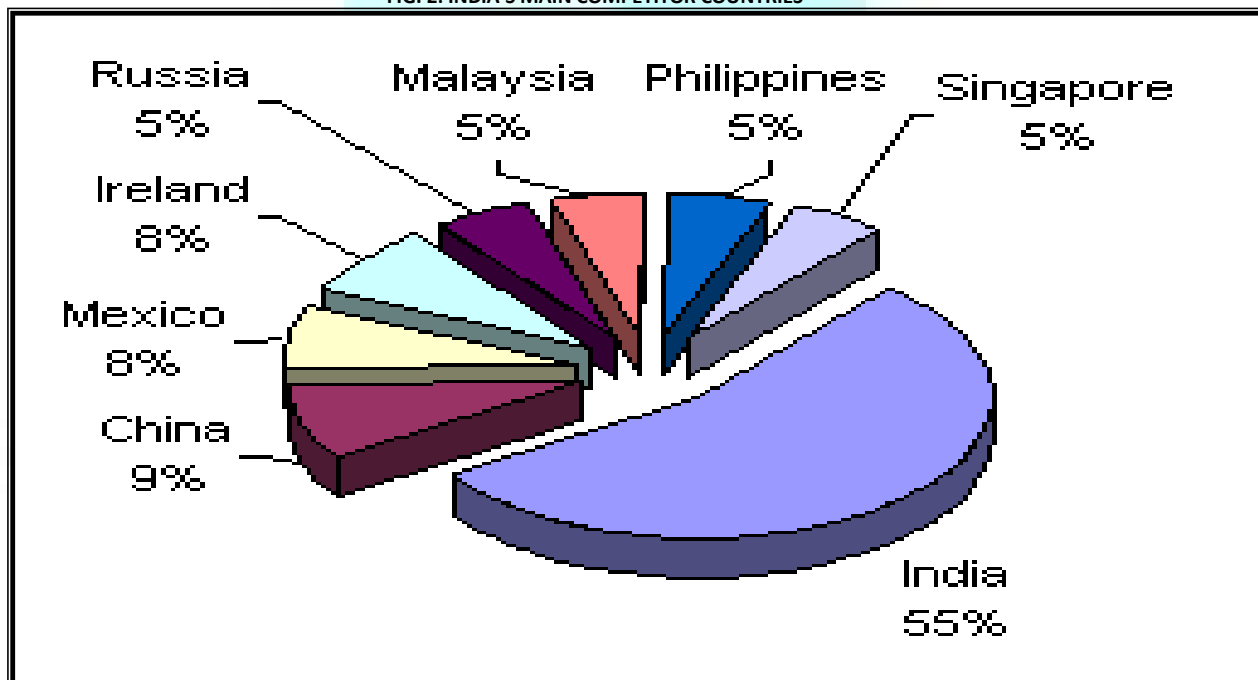
Country	Computer Software/Services 2006-07 US\$ Million	Computer Software/Services 2007-08 US\$ Million
United Kingdom	6474.53	6668.59
Netherlands	580.65	916.17
German F Rep	526.20	1173.31
Belgium	319.32	246.46
Finland	283.95	205.35
France	240.71	233.95
Ireland	223.60	94.99
Sweden	156.48	88.76
Denmark	107.73	96.42
Spain	67.62	282.85
Italy	32.82	104.40
Austria	14.40	99.87
Greece	6.14	19.92
Portugal	3.31	6.27
Luxemburg	1.13	12.65
Others	75.86	1269
Grand Total	9114.45	11518.88

Source: www.indialawoffices.com

Table 11 depicts the India's IT export to major EU countries during 2007-08. India is exporting to United Kingdom, Netherlands, German, and Belgium USD 6668.59 million, USD 916.17 million, USD 1173.31 million, USD 246.46 million in 2007-08.

India is currently the leading destination for offshore outsourcing. The countries like China, Russia are the tough competitors of India in this market. Figure 2 conveys that India is contributing near about 55 percent in outsourcing. Other countries – China (9 percent), Mexico (8 percent), Ireland (8 percent), Russia (5 percent) and Malaysia (5 percent) are the follower countries of India in outsourcing.

FIG. 2: INDIA'S MAIN COMPETITOR COUNTRIES



Source: www.nasscom.in

GOVERNMENT POLICIES FOR INFORMATION TECHNOLOGY INDUSTRY IN INDIA

Indian information technology industry, which was started by small group of entrepreneurs, without any government intervention, has grown into a large and growing industry providing all types of services and high end products. The government initially adopted non-interventionist role but provided all facilities and incentives as requested by the industry and its representative body, NASSCOM, from time to time. The stature of this industry has grown so large that government has come up with a long term information technology policy. Importance of information and communication technologies for economic growth was recognized far back in 1970, when Department of Electronics was set-up in 1970. National Informatics Centre was established in 1977 and Electronic Commission was set-up in 1991.

These steps were taken to promote the use of information based resources in facilitation of plan formulation and implementation, governance and for using information technology for social economic growth of the country. In order to promote the growth of export led information technology industry, Government of India has set-up Information Technology Task-Force in 1998 which has submitted three reports. In view of strategic importance of information technology industry, a new ministry was set up by merging DOE, NIC and Software Export Promotion Council in 1999 (www.iisc.ernet.in).

The Task-Force for information technology industry, set-up in 1998 has so far submitted three reports which form the basis for government policies for promoting information technology industry in the country. In the action plan III, Government has drafted a long term national information technology policy for the country. The main focus is on adding value, taking information technology to masses so as to not only promote external demand, but also internal demand proliferating the use of information technology in the country.

Government of India has taken important steps in promoting the growth of Indian information technology industry particularly in its initial stage during eighties and nineties. In 1998, the 'National Task Force' on information technology and software development was set-up by the Government of India. The report of the Task-Force, i.e. Information Technology Action Plan made many recommendations for promoting information technology industry, as well as for promoting extensive use of information technology in all sectors of Indian economy. To develop information technology industry, one to three percent of budget of every government department is earmarked.

Information technology policies are mainly based on the recommendations of NASSCOM. The thrust of the policies is to provide key infrastructure for proliferating IT enabled services through out the country, liberalizing import of capital equipment by software and BPO companies, providing world class info-infrastructure with an extensive spread of Fiber Optic Networks, Satcom Networks and Wireless Network so as to ensure fast national wide onset of Internet, Extranets and Intranets. In order to encourage ITES business government has facilitated expansion of band width requirement, Inter Connectivity of Networks of different services providers, International Telecommunication links PSTN. Government of India has set the target of providing information technology for all by 2008.

The substantial tax benefits like exemption in income tax, excise duties, custom duties etc., have been given to this industry. Banks are providing finance to information technology industry at low rate of interest. SOFTEX forms to promote export of computer software are made very simple. RBI has permitted the import of software through internet and permitted the use of International Credit Card (ICC) for import of software through internet (upto USD 15,000) in advance even before the software is downloaded. To maintain India's domination in information technology industry, government of India is giving priority to Research and Development (R&D) centers in order to maintain its high quality at global level and to promote innovations and inventions in information technology sector.

Thus, the Government of India through Task-Force has adopted many effective policies to remove bottlenecks in the promotion of information technology services. The main aim of government of India is to excite and energize the people of India, creating the faith in them that information technology vitally aids personal and national growth. The Indian information technology sector continues to be one of the sunshine sectors of the Indian economy showing robust growth. According to a report of NASSCOM-Mckinsey, the export component and domestic component are expected to reach, USD 175 billion and USD 50 billion in 2020. Together the both markets are likely to bring opportunities in revenue USD 225 billion in 2020 (www.mit.gov.in; www.television.com; www.indiabudget.nic.in).

CONCLUSION AND POLICY IMPLICATIONS

India's key strengths are its large domestic market, its young and growing population (near about 59 percent), a strong private sector with experience in market institutions, and a well developed legal and financial system. In addition, India has highly trained English speaking engineers, businessmen, scientists and other professionals, who have been the engine behind the growth of the service sector. There is a highly bifurcated higher education system. The premier part consists of seven Indian Institutes of Technology, six Indian Institutes of Management, the Indian Institute of Sciences, the Indian Statistical Institute and the All Indian Institutes of Medical Sciences which are world class. Despite, huge success of Indian information technology industry, there are still many constraints in the expansion of information technology sector.

- Majority of Indian information technology firms, are small in size, hence cannot explore full potential of global opportunities in this sector. Thus, the industry needs a facilitating environment so that a large number of small firms can grow into large and medium size firms.
- Most of the present information technology firms are concentrated in few regions. Thus, there is need for locational diversification for future development.
- India's booming IT industry is set to face stiff competition from China and the Philippines in the next few years.
- Indian information technology industry is also dependent on USA, UK and Western Europe market for exports, which is another drawback of this industry. India has to increase its exports in new markets such as Brazil, Russia.
- Another constraint is poor infrastructure – in terms of power supply, roads, ports and airports. This increases the cost of doing business at global market.
- The international environment has become more competitive, demanding and fast paced. Hence, product life cycles have become shorter. Thus there is more international competitive pressure.
- Suppliers have to respond immediately to customer demand and delivered to the customer in a matter of hours or days, rather than weeks or months. This has led to a speed-up in production and distribution systems. But Indian market system is lacking behind in efficient communications and information system, plus excellent logistics to get goods and services in and out of countries.
- To compete at global level and to produce quality goods, there is need to invest in human capital. No doubt that India has abundant labour-force but there is still lack of efficient and skilled labour-force. Hence just to provide basic education is not sufficient, but secondary, technical and higher education and a system of life-long learning must be provided.

Hence, both the government and the industry must have to take effective steps for promoting research and development (R&D) and quality standards in information technology industry keeping in view its global competitors. To introduce, promote, retain and distinguish its brands in global market, Indian information technology industry will have to maintain the quality and reliability of its product and services. In order to remain competitive globally, Indian information technology industry needs to provide high quality product/service to global clients at reasonable price within short time period. At last India should reformulate its IT policy in the light of the emerging international economic environment, to accelerate global development and diffusion of technologies and keep pace with more demanding international standards for cost, quality and productivity (<http://planningcommission.nic.in>; www.un.org).

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AN EMPIRICAL STUDY ON SOCIO-ECONOMIC EMPOWERMENT OF WOMEN THROUGH SELF HELP GROUPS

ANURADHA.PS
ASSOCIATE PROFESSOR
DEPARTMENT OF COMMERCE
CHRIST UNIVERSITY
BANGALORE


ABSTRACT

Self Help Groups (SHGs) is one of the most dominant approaches of micro finance in India to tackle poverty. Self Help Groups have been a popular grassroots strategy to eradicate rural poverty through the advancement of socio-economic interests of the weaker sections, non-bankable and neglected segments of the society. This paper empirically analyzes the success with which the SHG model has been able to reach the women and attempts to assess the socio-economic changes in women which has considerably resulted in socio-economic empowerment of women. 205 SHG members responded to the survey instrument. The survey instrument contained factors namely, women's ability to influence or make decision, increased self confidence, better status and role in household etc. Likert-type scale consisting of 18 items was developed, for which Cronbach's alpha coefficient of reliability was observed as 0.83. Statistical techniques, namely, Principal Component Analysis and Varimax Rotation Methods have been extensively applied in the study. The study exemplifies the impact of Self Help Groups in instilling positive orientation among the rural women and empowering them socially and economically and has been instrumental towards contributing to the inclusive growth of the Indian economy.

KEYWORDS

Self Help Groups, empowerment, inclusive growth.

INTRODUCTION

 f the 1.3 billion people who live in absolute poverty around the globe, 70 percent are women. For these women, poverty doesn't just mean scarcity and want. It means rights denied, opportunities curtailed and voices silenced. The empowerment of women is essential for the success of any development programmes and to ensure this, Women's potentialities and possibilities must be explored. Women empowerment as well as their participation on the basis of equality in all spheres of society is fundamental to the advancement of human rights, social justice and sustainable development. Women's empowerment has five components: women's sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally.

Micro finance programmes are currently being promoted as a key strategy for addressing both poverty alleviation and women's empowerment. Self Help Groups is one such strategy of the Micro finance programmes which has been found to be very promising and has played a valuable role in reducing the vulnerability of the poor, through asset creation, income and consumption smoothing, provision of emergency assistance, and empowering and instilling positive orientation among rural women by giving them control over assets and increased self-esteem and knowledge. Self Help Group is a small, economically homogeneous and affinity group of rural poor comprising of 10-20 members who voluntarily contribute to a common fund to be lent to its members as per the group decision. Micro savings and micro credit management systems, the two most important functions of micro finance have emerged as an effective mechanism among rural women and has become an accepted part of rural finance. The SHGs have taken a form of a transformation for women's amicable expansion in India.

REVIEW OF LITERATURE

The researcher has reviewed several studies. Few of them have been presented below: Kapur (2001) in her study tried to discuss, analyse and answer the challenging questions as to why despite all the efforts and progress made, still there continues to be so much of gender discrimination and what strategies, actions and measures to be undertaken to achieve the expected goal of empowerment. She opined that women's empowerment is much more likely to be achieved if women have total control over their own organisations, which they can sustain both financially and managerially without direct dependence on others. Narasaiah (2004) in her study mentioned that the change in women's contribution to society is one of the striking phenomena of the late twentieth century. According to him micro-credit plays an important role in empowering women. Giving women the opportunity to realise their potential in all spheres of society is increasingly important. Malhotra (2004) in her book has examined how women entrepreneurs affect the global economy, why women start business, how women's business associations promote entrepreneurs, and to what extent women contribute to international trade. It explores potential of micro-finance programmes for empowering and employing women and also discusses the opportunities and challenges of using micro-finance to tackle the feminisation of poverty. According to her, the micro-finance programmes are aimed to increase women's income levels and control over income leading to greater levels of economic independence. They enable women's access to networks and markets, access to information and possibilities for development of other social and political role. They also enhance perceptions of women's contribution to household income and family welfare, increasing women's participation in household decisions about expenditure and other issues leading to greater expenditure on women's welfare.

SIGNIFICANCE OF THE STUDY

It is estimated that more than 25 million rural women of India have been benefited by the Self Help Groups (SHG). The role of SHG is very significant in the present day context both in motivating women to save some money atleast and use that amount as investment in income generating activities. Thus it may be rated as the most successful anti poverty programmes. Since so much has been said about the programme and contribution to women's empowerment and the expectation to be high, the need for taking a look at the present status has been felt.

SCOPE OF THE STUDY

The study covers the Self Help Groups operating under the Taluk of Hosakote in Bangalore (Rural) District, Karnataka.

OBJECTIVES OF THE STUDY

1. To study the socio-economic changes of women after joining the Self Help Groups.
2. To examine the impact of women empowerment through SHGs.

METHODOLOGY OF THE STUDY

The proposed study is an empirical one. Both primary and secondary data have been used during the study. For collection of primary data, direct interview method has been used. Interview schedules have been prepared, to assess the impact of the micro finance programs through Self Help Groups on women

empowerment. Secondary data have been collected from available literatures in form of books, journal, magazines, published materials, research articles and annual reports of the micro finance agencies under study. The socio-economic conditions of the respondents from the sample areas were also personally observed and evaluated on the basis of informal talks with them.

Reliability test was conducted to find the Cronbach alpha value. The covariance matrix is calculated and used in the analysis. Factor Analysis has been used to analyze the data. Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy test was performed. Communalities were calculated using the Extraction Method of the Principal Component Analysis Method and finally Varimax with Kaiser Normalization of Rotation Method was also used.

RESEARCH FINDINGS AND SUBSEQUENT INTERPRETATION

Data collected on the impact of women in rural areas after joining as a member in SHG (on a likert scale of 1 to 3) attaches to the factors (which will be referred to as variables, for Statistical correctness) identified under the heading of changes on socio-economic status after joining SHGs, was subjected to Principal Component Analysis.

The Kaiser-Meyer-Olkin measure of sampling adequacy is used to assess the adequacy of the correlation matrices for factor analysis. The value of KMO at 0.814 indicates that use of Factor Analysis in study is appropriate. The SPSS output for KMO is given in table 1:

TABLE 1

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.814
Bartlett's Test of Sphericity	Approx. Chi-Square	1314.888
	Df	153
	Sig.	.000

Communalities were extracted for all the 18 variables under study and it was observed that Change in share in family income accounts for 76.2% of variance, Relationship with husband accounts for 73.5% of variance and Interaction with outsiders accounts for about 72,1% of variance.

Initial Eigen values were computed to extract components by using the Vaimax rotation method & the partial information from the SPSS output of the Principal Component Analysis have been shown in Table 2:

TABLE 2

Component	Initial Eigen values		
	Total	% of Variance	Cumulative %
1	5.651	31.395	31.395
2	1.833	10.182	41.577
3	1.433	7.963	49.540
4	1.242	6.898	56.438
5	1.202	6.676	63.113
6	.844	4.688	67.802

The author has considered Eigen values > 1 (indicated in bold). The first five components have Eigen values >1 and therefore 5 components are extracted. The Total variance explained is 63.1%

The following table is a partial SPSS output displaying the Rotated Component Matrix for the women. A Component Matrix is a matrix showing simple correlation coefficient (termed as Factor loading) between a PC and a variable. This loading gives a measure of the extent to which a variable is involved in a Principal Component (PC).

On analyzing and interpreting table 2 it can be seen that the variables can be grouped as 5 Principal Components, which explain 63.1% of the total variability in the data. Each of these five PCs corresponds to Eigen value > 1.

TABLE 3

Original variables	Principal Components				
Change in personal financial position	.118	.060	.066	.793	-.212
Change in share in family income	.188	.081	.190	.818	.119
Recognition in family	.359	.311	.053	.606	.111
Recognition in community	.630	.282	.117	.331	-.122
Interaction with outsiders	.122	.017	-.082	.088	-.832
Literacy/education	.630	.177	.433	.120	-.031
Access to health services	.744	.094	.194	.194	.075
Access to credit sources	.540	.009	-.175	.219	.461
Asset building	.247	.116	.451	.018	.460
Voicing your concern	.709	.350	.206	.078	-.048
Nutrition awareness	.460	.619	.121	-.024	-.093
Decision making related to child centered	-.165	.575	.251	.347	.175
Decision making related to money centered	.154	.820	.021	.014	.031
Participation in Development programmes	.186	.732	.109	.079	.027
Increase in confidence level	.246	.535	.032	.316	-.075
Ownership of House	.143	.084	.803	.138	-.081
Ownership of land	.057	.018	.695	.026	.294
Improved Relationship with husband	.199	.176	.802	.137	-.052

The highest loading of each variable has been made bold (to facilitate understanding) in the above table. Factor Analysis is conducted and Eighteen variables have been reduced to five variables and they have been identified with the following factors which is as follows:

1. Socially viable: Recognition in community, literacy level, Access to credit and health, voicing concern has been suitably named as Socially viable. The formation of Self Help Groups and the active involvement of women in various activities has paved the way in recognizing the women folk in the society and highlights the fact that women do not confine their role only to household activities but also can enhance their role and are empowered socially if opportunities are given to them. Such opportunities are given through SHGs.
2. Personality outlook: Nutrition awareness, decision making related to child centered & money centered, participation in development programmes and Increase in confidence level have been suitably grouped under "Personality outlook". The SHG members have been educated and trained with respect to very important aspects of decision making and these skills are applied by them in their routine activities influencing their day to day life. There has been a positive transformation in their lives which has contributed immensely for their well being and to the society.
3. Economically strong: Ownership of physical assets like house and land and the variable improved relationship with husband has been associated with the factor and has been named as "Economically strong". The economic position of the women SHG members has improved significantly after joining the SHG

programme. This asserts the fact that marginalized and weaker sections of the society are also bankable. They can borrow and repay the credit taken from the funds generated within the self help groups.

4. Living standards: Three variables namely change in personal financial position, change in share in family income and recognition in family have been named under the factor "living standards". The SHGs have improved the living standards of the women to a certain extent and the women have contributed to their family financially and are recognized in the family.
5. Accessibility: Better interaction to outsiders, access to credit and asset building has been named under the factor "Accessibility". The formation of the SHGs has enabled the women members to interact with outsiders and easy access to credit facilities.

From the above analysis, it is inferred that all the above factors (variables) play a significant role in changing the socio-economic conditions of women through the formation of Self Help Groups and contributes to the women empowerment, thereby leading to sustainable development. Self help groups have paved the way to bring the rural people in the main stream of social and economic progress of the society. The SHG can contribute to changes in economic conditions, social status, decision making and increases women in out door activities. These SHGs play a very important role in social change. SHG not only changes the outer form of a community or a society but also the social institutions as well as ideas of the people living in the society. In other words it also applies to change the material aspects of life as well as in the ideas, values and attitudes of the people.

CONCLUSION

Microfinance programmes like the Self-Help Bank Linkage Programme (SHG) in India have been increasingly hailed for their positive economic impact and the empowerment women. True women empowerment takes place when women challenge the existing norms and culture, to effectively improve their well being analyze the activities through which the Self Help Groups impact the lives of women in India. If women empowerment is to be pursued as a serious objective by SHG programmes in particular and the larger microfinance community in general, greater emphasis needs to be placed on training, education and creating awareness in order to achieve a larger and more lasting empowerment.

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OPERATIONAL ADEQUACY OF WORKING CAPITAL MANAGEMENT OF SELECTED INDIAN AUTOMOBILE INDUSTRY - A BIVARIATE DISCRIMINANT ANALYSIS

DR. N. PASUPATHI

ASST. PROFESSOR

SCHOOL OF MANAGEMENT STUDIES

BANNARI AMMAN INSTITUTE OF TECHNOLOGY

SATHYAMANGALAM

ABSTRACT

The study in general aims at making a study of the management performance relating to working capital in the selected units of the automobile industry in India. It covers seventeen major units in the automobile industry (five in commercial vehicles sector, three in passenger cars and multiutility vehicles sector and nine in two and three wheelers sector). For the purpose of the study, necessary data on working capital and other related variables were collected for the period 1992-93 to 2006-07. The financial statements used were mainly the Profit and Loss accounts and Balance Sheets published in the annual reports of the respective units. The study used a variety of financial ratios to accomplish the objectives. It employed discriminant analysis to examine adequacy of working capital. The operational adequacy of the working capital of the selected units has also been assessed by employing the discriminant analysis based on the size of working capital in terms of monthly operational requirements and sales requirements as independent variables. The construction of discriminate function suggests that the size of net working capital in terms of monthly operational requirements appeared to be stronger than sales requirements in all the years. The discriminate Z values were estimated and the good risk and poor risk enterprises may also be identified by computing the cut-off values. The comparison of good and poor risk units as per the current ratio and as per the discriminant score shows that the misclassification of units is noticed in all the years. It can be concluded that in the years 1992-93 to 2006-07 Ashok Leyland Ltd in commercial vehicles sector, Mahindra and Mahindra Ltd in passenger cars and multiutility vehicles sector and Bajaj Auto Ltd in two and three wheelers sector units maintained adequate size of the working capital throughout the period under study.

KEYWORDS

Working Capital Management, Indian Automobile Industry.

INTRODUCTION

Working capital is the portion of an enterprise's total capital which is employed in short-term operations, i.e., current assets. A typical list of these assets in order of liquidity includes cash in hand and at bank, short-term investment, payments in advance, accounts receivables, raw materials inventory, inventory of goods in process and finished goods inventory. The management of all these current assets assumes greater importance because the sum total of investment in current assets forms over one-half of an enterprise's total assets. Besides, liquidity and profitability, the two desired goals of financial management are directly affected by working capital management performance. As the size of working capital increase, both the enterprise's risk and return would decrease and vice-versa. Since, the current assets (working capital) affect the risk return trade off to be achieved by the enterprise, the study of structure, sources and utilization appears to be one of the important areas of investigation on working capital management.

METHODOLOGY

OBJECTIVES OF THE STUDY

The present study in general aims at making a comparative study of working capital management performance in commercial vehicles, passenger cars and multiutility vehicles and two and three wheelers sectors of Indian automobile industry. The specific objectives of the study are:

1. To analyze and evaluate Working Capital Management policies of selected units during the period from 1992-93 to 2006-07.
2. To analysis the operational adequacy of the working capital of the selected units has also been assessed by employing the discriminant analysis based.
3. To assess the discriminant analysis be useful in assessing the short-term liquidity position of enterprises
4. To examine the comparison of good and poor risk units as per the current ratio and as per the discriminant score.
5. To assess the discriminant analysis be useful in assessing the short-term liquidity position of enterprises

SELECTION OF SAMPLE

Keeping in view the scope of the study, it is decided to include all the companies under automobile industry working before or from the year 1992-93 to 2006-07. But, owing to several constraints such as non-availability of financial statements or non-working of a company in a particular year etc., the researcher is compelled to restrict the number of sample companies to 17. Therefore, this study is ex post facto based on survey method making a survey of seventeen companies in Indian automobile industry. There are 26 companies operating in the Indian Automobile Industry. The companies under automobile industry are classified into three sectors namely; commercial vehicles, passenger cars and multiutility vehicles and two and three wheelers. The details of the sector with the available companies of Indian automobile industry are presented in Table 1.

All the three sectors have been selected for the purpose of the study. The selected sectors include 26 companies. Out of 26 companies, 5 are under commercial vehicles, 8 under passenger cars and multiutility vehicles and 13 under two and three wheelers sector. Out of 26 companies of the selected sectors, 15 years data is available for 17 companies only. Therefore, all the 17 companies are included in the sample. It accounts for 69.23 per cent of the total companies available in the Indian automobile industry. The selected 17 companies include 5 under commercial vehicles, 3 under passenger cars and multiutility vehicles and 9 under two and three wheelers sectors.

REVIEW OF PREVIOUS STUDIES

Mukhopadhyay (2004)¹ in his study made an attempt to study the effectiveness and adequacy of working capital and short-term solvency in an engineering company for the period of ten years from 1993-94 to 2002-03. The study concluded the working capital management should not be treated as an isolated management function but it is the part and parcel of overall corporate management functions and impact of corporate management policy and strategy effects working capital management practice of the firm. It is thus necessary to work out and analyze cause-effect relationship of very function of the management to assess its impact on the working capital management.

Narware (2004)² in his study found that out of nine indicators representing working capital management selected for the study, three variables were negatively associated with the selected profitability measures whereas the remaining ones recorded positive association with the profitability.

Santanu Ghosh and Santi Gopal Maji (2004)³ in their study examined that the efficiency of working capital management practice and ability improve their efficiency up to the industrial average in 20 large cement companies operating in India for the period of ten years from 1992-93 to 2001-02 with three index suggested by Bhattacharya. The study observed that the Indian cement industry did not perform remarkably well during this period. Some of the sample firms

had successfully improved efficiency during these years; the existence of a very high degree of inconsistency in this matter clearly points out the need for adopting sound working capital management policies by these firms and identifies the forces for inefficiency.

Sudarshan (2004)⁴ examined the status of inventory holding in Chemicals and Pharmaceutical Central Public Enterprises. The analysis reveals that Chemical and Pharmaceutical Central Public Enterprises could reduce the inventory holding in terms of number of days of consumption, cost of production and cost of sales in order to improve their working capital efficiency. Further, the enterprises did not enjoy economics of scale in respect of inventory holding in relation to sales. However, still there is scope for further improvement. The study suggested that the proper control over inventories improves the operational efficiency and profitability of the enterprises.

An investigation into the effectiveness of working capital management of an organization with particular reference to its short-term liquidity and solvency and impact on commercial operations of the organization was made by **Mukhopadhyay(2004)**⁵ in his study entitled "Working capital management in Heavy Engineering firm". The study concluded that working capital management should not be treated as an isolated management function but it is the part and parcel of overall corporate management functions and impact of corporate management policy and strategy effects working capital management practice of the firm. It is thus necessary to work out and analyze cause-effect relationship of every function of the management to assess its impact on the working capital management

Sudarsana Reddy, Sivarami Reddy and Mohan Reddy (2004)⁶ in their study evaluated the performance of the debtors' management of the paper industry in Andhra Pradesh. For this purpose, the analysis of trends in sales and debtors, debtors' size, turnover, collection period and aging of receivables had been carried out. The foregoing analysis reveals that the sample mills adopted liberal credit policy, which had a favourable effect on sales with the exception of Sirpur. The size of trade debtors as a percentage of current assets have shown declining trend. But the collection period of debtors slowly increased in all the mills except in Sirpur. The increasing debtors' collection period was an indication of slackness in collection efforts of the mills. To reduce the collection period, the collection and follow up efforts of trade debtors shall be rationalized and the slackness should altogether be removed.

Sudipta Ghosh (2005)⁷ in his study made an attempt to evaluate the performance of Stewarts & Lloyds of India Limited. The data of Stewarts & Lloyds of India Limited used in this study have been collected from published Annual Reports of the company. The study covers a period of five years from 1996-97 to 2000-2001. The results of the study showed the overall performance of the company regarding inventory management is satisfactory in terms of efficient utilization of inventories during the period of study. The study suggested that the help of an efficient inventory management, a proper balance between these two extreme situations should be maintained for smooth operation of the business.

Amit K. Chakraborty (2005)⁸ in his study made an attempt to examine the working capital management of Andrew Yule and Company Limited during the period from 1993-94 to 2002-03. The study revealed that the short-term liquidity position of the company is not satisfactory at all. But the acid test ratio indicates very good short-term liquidity position of the company. The cause of this attitude of the ratio is due to exclusion of the inventory from the total current assets. Further the study concluded that the inventory contributes only (average) 17.92 percent in gross working capital, which indicates proper utilization and maintenance of inventory.

Patel (2005)⁹ a case study Analysis of Working Capital of Colour-Chem Limited. A ratio analysis and Altman's 'Z' model has been used. It studied the position and efficiency of working capital for the period of 19 years from 1981 to 1999. The study concluded that the company is in a position to pay its current obligations and efficiently utilizes its current assets. The model suggests that the company never become sick in future.

Rais Abramo and Ali Ghufuran (2005)¹⁰ in their analytical study indicated that components, financing and structure of working capital and impact of working capital on profitability in eight Marketing Cooperative Societies for a period of three years from 1997-98 to 1999-2000. The study concluded that 6 societies for their investment in working capital following aggressive approach, low dependencies for their financing of working capital as long-term funds, the liquidity position of all the societies is not satisfactory except one and negative impact on working components.

Jain and Praveen Kumar (2006)¹¹ viewed that working capital management practices assume vital importance in the smooth day-to-day functioning of business firms. While excess working capital can have an adverse impact on profitability, inadequate working capital can hold up production or sales operations of well managed business firms. Good working capital management is more crucial now than ever before in view of turbulence in the current business environment where competition is stiff and profit margins are low.

Ioannis Lazaridis and Dimitrios Tryfonidis (2006)¹² investigated the relationship of corporate profitability and working capital management. The purpose of this study was to establish a relationship that is statistically significant between profitability, the cash conversion cycle and its components for listed firms in the Athens Stock Exchange. The results of the study showed that there was statistical significance between profitability, measured through gross operating profit, and the cash conversion cycle. The study concluded that managers can create profits for their companies by handling correctly the cash conversion cycle and keeping each different component (account receivables, accounts payables and inventory) to an optimum level.

Amir Jafar and Debasish Sur (2006)¹³ concluded the study on the efficiency of the working capital management in the National Thermal Power Corporation (NTPC), the only 'Navaratha' Public Enterprise in the Indian power sector, during the period 1983-84 to 2002-03. This study reveals that the company achieved a higher level of efficiency in managing its working capital during the post-liberalization era by adapting itself to the new environment emanated from liberalization globalization and competitiveness.

Sanjay J. Bhayani (2006)¹⁴ made an attempt to study the impact of assets utilization on profitability of Indian Industry. For the purpose of study 24 Indian Industry has been selected which comprises 641 Indian firms. The results of the study indicate that fixed assets turnover and profitability has shown a positive relationship. So, it indicates that high fixed assets turnover higher profitability. Further, the results of analysis of multiple determinations make it clear that 40.70 percent of total variation in the corporate profitability was accounted for by the joint variation in the efficiency of inventory and receivable management.

Sukhdev Singh (2006)¹⁵ in his study made an attempt to examine the Inventory control practices in Indian Farmers Fertilizer Cooperative Limited (IFFCO) by using various financial ratios. The inventory control practices revealed that correlation between sales and inventory ranges from very high to moderate among inventory items and the correlation is significant in case of all the components of inventory except stores and spares. The growth rate of stock of raw material, work-in-progress, finished goods and total inventory is more than the ideal situation and provides clues for improvements. The stock of stores and spares requires the immediate attention of management in order to stop ruthless purchases.

Anand and Malhotra (2007)¹⁶ in their study discussed the Cash conversion efficiency, Days operating cycle and days of working capital in 339 Indian non financial companies for the period of three years from 2001-02 to 2003-04 for each company and for 98 industry groups. They concluded that there exists some relationship between working capital management and profitability on an aggregate basis suggest that there is a significant negative relation between cash flows from operating activities and average days of account receivables. Further, it is believed that immense use of benchmarking and performance evolution of working capital management of corporate India.

Ghosh (2007)¹⁷ in his study reviewed that the four different industries: (i) Working capital management in Pharmaceutical industry, (ii) Working Capital Management in Cement Industry, (iii) Working Capital Management in National Fertilizer Limited and (iv) Working Capital Management in Textile Industry: it includes the following objectives such as to determine size and source of working capital with a survey made in 98 small scale textile firms of Punjab. It concluded that in addition to the own capital, bank loans is the most prominent source of working capital among most of the survey units.

Sharma (2007)¹⁸ in his study analysis that various procedures and techniques of financial analysis adopted by the textile industry of the accounting and control of various constituents of current assets in all aspects of textile units in India for a period from 2002-2006. It may be remarked that the existing system of current assets accounting in all the textile companies selected for this study as not been satisfactory and needs improvement in all the directions immediately. Today, manufacturing units of several other industries are using modern techniques of current assets accounting and the textile industry should not lag behind.

Azhagaiah and Gejalakshmi (2007)¹⁹ in their study makes an attempt to examine the working capital management efficiency of the Indian Textile Companies during 1995-1996 to 2005-2006. For measuring the efficiency of working capital management three - index values - performances utilizations and efficiency indexes are calculated. Using industry norm as target - efficiency level of the individual firms, this study also tests the speed of achieving that target level of

efficiency by an individual firm during the period of study. Findings of the study indicate that Indian Textile Industry as a whole performs remarkably well during the period. The liquidity is strong, performance and utilization of current assets are satisfactions and adoption of sound WCM policy has been successful.

Pradeep Singh (2008)²⁰ in his study made an attempt to examine the inventory and working capital management of Indian Farmers Fertilizer Co-operative Limited (IFFCO) and National Fertilizer Limited (NFL). He concluded that the overall position of the working capital of IFFCO and NFL is satisfactory. But there is a need for improvement in inventory in case of IFFCO. However inventory was not properly utilized and maintained by IFFCO during study period. The management of NFL must try to properly utilize the inventory and try to maintain the inventory as per the requirements, so that liquidity will not interrupted.

DATA ANALYSIS AND INTERPRETATION

The present study attempts to apply linear discriminant analysis with only two sets of independent variables. The sample units were classified in two categories as per their liquidity ratios. Group A consisted of those units where current ratios were found to be at least 1.5:1 and rest of the units have been classified in Group B. In this study, adequacy of the size of net working capital has been treated as dependent variable and sizes of net working capital in terms of monthly operational requirements (X_1) and sales requirements (X_2) have been treated as independent variables. The object is to determine weights for X_1 and X_2 , that is the values of 'a' and 'b' in

$$Z = aX_1 + bX_2$$

where, Z is the discriminant index.

As per the rule, the selected units falling in the good and poor risk group are presented in Table 2. After classifying the selected units in to the good and poor risk classes, the discriminant function of the selected years are estimated and presented in Table 3 where the co-efficient for 'a' and 'b' indicate the size of net working capital in terms of monthly operational requirements and sales requirements. The table reveals that the size of net working capital in terms of monthly operational requirements appeared to be stronger than sales requirements in all the years.

The discriminant co-efficient given in Table 3 was multiplied with the mean values of each industry ratio in order to obtain the discriminant score of each units. Table 4 presents the data relating to the discriminant score of all the units. With the help of the discriminant scores, the cut-off value was calculated as follows.

$$\text{Cut of Value} = \frac{n_1z_1 + n_2z_2}{n_1 + n_2}$$

where n_1 and n_2 are the size of samples and z_1 and z_2 represent the mean of the discriminant score of group A and group B respectively. The cut-off values have also been presented in Table 3. Actual Z scores of the individual units were then compared with the discriminating Z scores. In case where the Z scores were found to be more than the discriminating Z scores, it can be said that the sizes of net working capital were more than the operational and sales requirements.

It is evident from Table 4 that during the year 1992-93 to 1995-96, considering discriminant Z score, in case of Scooters India Ltd, the size of working capital was found to be very low considering the operational and sales requirements. In rest of the cases, size of working capital was found to be in excess in relation to operational and sales requirements.

In 1996-97 the cut-off Z score was found to be 2.23. In case of Ashok Leyland Ltd, Tata Motors Ltd, Swaraj Mazda Ltd, Hindustan Motors Ltd, Mahindra and Mahindra Ltd, Bajaj Auto Ltd and Kinetic Engineering Ltd, the size of working capital was found to be in excess to meet their operational and sales requirements. In case of Eicher Motors Ltd, it had satisfactory size of working capital as its Z score was less than 2.23 but was not low to be inadequate. In rest of the cases, size of working capital was found to be inadequate in relation to operational and sales requirements.

In 1997-98, the cut off Z score was 0.41. Considering this discriminant score, in the case of Hindustan Motors Ltd and Tata Motors Ltd, Z scores were found to be less than 0.41 but were not too low to be inadequate. In the case of Bajaj Tempo Ltd, Eicher Motors Ltd, Maruti Udyog Ltd, LML Ltd, Maharashtra Scooters Ltd, TVS Motor Company Ltd, Kinetic Motors Ltd, Hero Honda Motors Ltd and Majestic Auto Ltd, the size of working capital was found to be very low. In rest of the cases it was found that working capital was in excess as Z scored by the individual units were more than the cut off Z score.

In 1998-99, the cut off Z score was found to be 1.43. In case of Eicher Motors Ltd and Maruti Udyog Ltd, the working capital positions were found to be quite satisfactory. In case of Tata Motors Ltd, Bajaj Tempo Ltd, Hindustan Motors Ltd, LML Ltd, Maharashtra Scooters Ltd, TVS Motor Company Ltd, Kinetic Motors Ltd, Hero Honda Motors Ltd and Majestic Auto Ltd, the size of working capital was found to be too low and in rest of the case the sizes of working capital was in excess to meet their respective operational and sales requirements.

In 1999-2000, the cut off Z score was 2.81. Considering it as discriminating Z score, it was found that in the case of Ashok Leyland Ltd, Swaraj Mazda Ltd, Mahindra and Mahindra Ltd, Baja Auto Ltd, Kinetic Engineering Ltd and Scooters India Ltd, the size of working capital was found to be in excess to meet their respective operational and sales requirements and in the rest of the cases the size of working capital was found to be too low.

In 2000-01, the cut off Z score was 2.09. In case of Ashok Leyland Ltd, Mahindra and Mahindra Ltd, Bajaj Auto Ltd, Maharashtra Scooters Ltd, Kinetic Engineering Ltd and Scooters India Ltd, the size of working capital was found to be in excess to meet their respective operational and sales requirements and in the rest of the cases the size of working capital was found to be too low.

In 2001-02, the cut off Z score was 2.76. In the case of Bajaj Tempo Ltd and Kinetic Motors Ltd, Z score was found to be less than 2.76 but was not too low to be inadequate. In other words size of working capital was found to be quite satisfactory. In the case of Tata Motors Ltd, Eicher Motors Ltd, Hindustan Motors Ltd, Maruti Udyog Ltd, LML Ltd, TVS Motor Company Ltd, Hero Honda Motors Ltd and Majestic Auto Ltd, the size of working capital was found to be very low. In rest of the cases, it was found that working capital was in excess as Z scored by the individual units was more than the cut off Z score.

In 2002-03, the cut off Z score was found to be 1.81. Considering it as discriminating Z score it was found that in the case of Ashok Leyland Ltd, Bajaj Auto Ltd, Maharashtra Scooters Ltd, Kinetic Motors Ltd, Kinetic Engineering Ltd and Scooters India Ltd, the size of working capital was found to be in excess to meet their respective operational and sales requirements and in the rest of the cases, the size of working capital was found to be too low.

In 2003-04, the cut off Z score was 1.25. Considering it as discriminating Z score it was found that in the case of Maruti Udyog Ltd, Bajaj Auto Ltd, Maharashtra Scooters Ltd and Scooters India Ltd the size of working capital was found to be in excess to meet their respective operational and sales requirements and in the rest of the cases, the size of working capital was found to be too low.

In 2004-05, the cut off Z score was found to be 1.83. In case of Ashok Leyland Ltd, Maruti Udyog Ltd, Bajaj Auto Ltd, Maharashtra Scooters Ltd, Scooters India Ltd, the size of working capital was found to be in excess to meet their operational and sales requirements. In case of Hero Honda Ltd it had satisfactory size of working capital as its Z scores was less than 1.83 but was not too low to be inadequate. In rest of the cases, size of working capital was found to be inadequate in relation to operational and sales requirements.

In 2005-06, the cut off Z score was 0.98 considering it as discriminating Z score it was found that in the case of Ashok Leyland Ltd, Mahindra and Mahindra Ltd, Maruti Udyog Ltd and Bajaj Auto India Ltd, the size of working capital was found to be in excess to meet their respective operational and sales requirements and in the rest of the cases the size of working capital was found to be low.

In 2006-07, the cut off Z score was 0.43. In the case of Bajaj Tempo Ltd and Eicher Motors Ltd, Z scores was found to be less than 0.43 but was not too low to be inadequate. In other words size of working capital was found to be quite satisfactory. In case of Hindustan Motors Ltd, LML Ltd, Maharashtra scooters Ltd, Kinetic Motors Ltd and Majestic Auto Ltd, the size of working capital was found to be very low. In rest of the cases it was found that working capital was in excess as Z scored by the individual units were more than the cut off Z score.

CONCLUSION

In the years 1992-93 to 2006-07 Ashok Leyland Ltd in commercial vehicles sector, Mahindra and Mahindra Ltd in passenger cars and multiutility vehicles sector and Bajaj Auto Ltd in two and three wheelers sector units maintained adequate size of working capital in relation to sales and output requirements throughout the period under study.

The number of good and risk units as per the current ratio and as per the discriminant score are presented in Table 5. It is clear from the table that the misclassification of units is noticed all the years. Generally one unit in the good risk group has been misclassified as poor risk under the criteria of discriminant score. Such industries are Ashok Leyland Ltd in 2003-04, Eicher Motors Ltd in the years 1997-98 and 1998-99, Maruti Udyog Ltd in 2002-03, TVS Motor Company Ltd in 1997-98 and Hero Honda Motors Ltd in the years 2003-04 and 2004-05. It is also inferred that the poor risk industries appeared to be good risk under the criteria of discriminant score. Such unit is Ashok Leyland Ltd in the year 2006-07, Tata Motors Ltd in 1992-93, 1993-94, 1994-95, 1995-96, 1996-97 and 2006-07, Bajaj Tempo Ltd in 1992-93, 1993-94, 1994-95 and 1995-96, Eicher Motors Ltd in 1992-93, 1993-94, 1994-95 and 1995-96, Swaraj Mazda Ltd in 1992-93, 1993-94, 1994-95, 1995-96, 1996-97, 1997-98, 1998-99, 1999-2000, 2001-02 and 2006-07, Hindustan Motors Ltd in 1992-93, 1993-94, 1994-95 and 1995-96, Mahindra and Mahindra Ltd in 1992-93, 1995-96, 2000-01, 2001-02, 2005-06 and 2006-07, Bajaj Auto Ltd in 1992-93 and 2003-04, LML Ltd in 1992-93, 1993-94, 1994-95 and 1995-96, Maharashtra Scooters Ltd in 1992-93, 1993-94, 1994-95 and 1995-96, TVS Motor Company Ltd in 1992-93, 1993-94, 1994-95, 1995-96 and 2006-07, Kinetic Motors Ltd in 1992-93, 1995-96 and 2002-03, Hero Honda Motors Ltd in 1993-94, 1994-95 and 1995-96 Kinetic Engineering Ltd in 1993-94, 1994-95, 1995-96, 2002-03 and 2006-07. Majestic Auto Ltd in the years 1992-93, 1993-94, 1994-95, 1995-96.

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TABLES

TABLE 1: TOTAL NUMBER OF COMPANIES AVAILABLE IN INDIAN AUTOMOBILE INDUSTRY

S.No	Sectors	Total companies available	15 years data available companies
1	Commercial Vehicles	5	5
2	Passenger Cars and Multiutility Vehicles	8	3
3	Two and Three Wheelers	13	9
	Total	26	17

Source: Prowess Database, 2007

Table 2: Good and poor risk units in terms of current ratio
(Group A consists of those units whose current ratio is atleast 1.5:1 and remaining units in Group B)

Year	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07
Group A	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	MUL
	HHML	MML	MML	BAL	HML	EML	EML	MML	BAL	BAL	MUL	MUL	MUL	MUL	BAL
Group B	KEL	BAL	BAL		MML	MML	MML	BAL	MSL	MSL	BAL	MSL	BAL	BAL	HHML
		KML	KML		BAL	BAL	BAL	KEL	KEL	KEL	MSL	HHML	MSL	MSL	SIL
				KEL	TMCL	KEL	SIL	SIL	SIL	SIL	SIL	SIL	HHML	HHML	
				KEL	KEL	SIL	SIL						SIL	SIL	
	$n_1 = 3$	$n_1 = 4$	$n_1 = 4$	$n_1 = 2$	$n_1 = 5$	$n_1 = 7$	$n_1 = 6$	$n_1 = 5$	$n_1 = 5$	$n_1 = 5$	$n_1 = 5$	$n_1 = 5$	$n_1 = 6$	$n_1 = 6$	$n_1 = 4$
Group B	TML	TML	TML	TML	TML	TML	TML	TML	TML	TML	TML	TML	TML	TML	ALL
	BTL	BTL	BTL	BTL	BTL	BTL	BTL	BTL	BTL	BTL	BTL	BTL	BTL	BTL	TML
	EML	EML	EML	EML	EML	SML	SML	EML	EML	EML	EML	EML	EML	EML	BTL
	SML	SML	SML	SML	SML	HML	HML	SML	SML	SML	SML	SML	SML	SML	EML
	HML	HML	HML	HML	MUL	MUL	MUL	HML	HML	HML	HML	HML	HML	HML	SML
	MML	MUL	MUL	MML	LMLL	LMLL	LMLL	MUL	MML	MML	MML	MML	MML	MML	HML
	MUL	LMLL	LMLL	MUL	MSL	MSL	MSL	LMLL	MUL	MUL	LMLL	BAL	LMLL	LMLL	MML
	BAL	MSL	MSL	LMLL	TMCL	KML	TMCL	MSL	LMLL	LMLL	TMCL	LMLL	TMCL	TMCL	LMLL
	LMLL	TMCL	TMCL	MSL	KML	HHML	KML	TMCL	TMCL	TMCL	KML	TMCL	KML	KML	MSL
	MSL	HHML	HHML	TMCL	HHML	MAL	HHML	KML	KML	KML	HHML	KML	KEL	KEL	TMCL
	TMCL	KEL	KEL	KML	MAL		MAL	HHML	HHML	HHML	KEL	KEL	MAL	MAL	KML
	KML	MAL	MAL	HHML	SIL			MAL	MAL	MAL	MAL	MAL			KEL
	MAL	SIL	SIL	KEL											MAL
	SIL			MAL	SIL										
		$n_2 = 14$	$n_2 = 13$	$n_2 = 13$	$n_2 = 15$	$n_2 = 12$	$n_2 = 10$	$n_2 = 11$	$n_2 = 12$	$n_2 = 12$	$n_2 = 12$	$n_2 = 12$	$n_2 = 12$	$n_2 = 11$	$n_2 = 11$

ALL – Ashok Leyland Ltd; TML – Tata Motors Ltd; BTL – Bajaj Tempo Ltd; EML – Eicher Motors Ltd; SML – Swaraj Mazda Ltd; HML – Hindustan Motors Ltd; MML – Mahindra and Mahindra Ltd; MUL – Maruti Udyog Ltd; BAL – Bajaj Auto Ltd; LMLL – LML Ltd; MSL – Maharashtra Scooters Ltd; TMCL – TVS Motor Company Ltd; KML – Kinetic Motors Ltd; HHML – Hero Honda Motors Ltd; KEL – Kinetic Engineering Ltd; MAL – Majestic Auto Ltd; SIL – Scooters India Ltd

Source: Computed

TABLE 3: DISCRIMINANT FUNCTIONS FOR THE PERIOD 1992-93 TO 2006-07

Year	Function	Remark
1992-93	$Z = 0.319a - 0.068b$	$a > b$
1993-94	$Z = 1.279a - 0.393b$	$a > b$
1994-95	$Z = 1.492a - 0.459b$	$a > b$
1995-96	$Z = 0.388a - 0.052b$	$a > b$
1996-97	$Z = 2.485a - 1.036b$	$a > b$
1997-98	$Z = 0.692a - 0.484b$	$a > b$
1998-99	$Z = 1.633a - 0.891b$	$a > b$
1999-00	$Z = 2.675a - 1.115b$	$a > b$
2000-01	$Z = 2.295a - 0.956b$	$a > b$
2001-02	$Z = 2.811a - 1.171b$	$a > b$
2002-03	$Z = 1.505a - 0.627b$	$a > b$
2003-04	$Z = 0.935a - 0.389b$	$a > b$
2004-05	$Z = 1.515a - 0.631b$	$a > b$
2005-06	$Z = 1.799a - 0.981b$	$a > b$
2006-07	$Z = 1.605a - 0.494b$	$a > b$

Note: The expression $a > b$ is to be read "a is stronger than b".

Source: Computed

TABLE 4: DISCRIMINANT Z VALUES FOR THE SELECTED UNITS (1992-93 TO 2006-07)

Units	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07
Ashok Leyland Ltd	1.86	4.05	7.81	1.91	7.48	1.46	4.17	5.49	5.59	6.73	3.01	1.12	2.79	1.75	1.25
Tata Motors Ltd	0.63	2.07	1.30	0.13	2.38	0.36	0.36	-0.91	-2.51	0.50	-0.95	0.10	0.47	0.90	0.46
Bajaj Tempo Ltd	0.45	1.10	1.47	0.24	1.26	0.17	0.81	1.90	1.71	1.90	1.01	0.52	0.62	-0.40	-0.23
Eicher Motors Ltd	0.29	1.07	1.55	0.50	2.12	0.29	1.13	1.64	0.90	0.18	-0.01	0.21	0.26	-0.02	-0.14
Swaraj Mazda Ltd	-0.13	-0.74	-0.62	0.32	2.66	0.48	1.93	2.98	1.63	2.80	0.33	0.33	0.67	0.45	1.67
Hindustan Motors Ltd	0.17	1.23	1.35	0.48	3.05	0.38	0.80	1.83	1.12	0.88	0.68	-0.04	-0.42	-0.87	-0.25
Mahindra and Mahindra Ltd	0.52	2.95	2.84	0.26	4.20	0.60	2.47	4.18	2.55	3.34	1.43	0.20	0.65	1.05	1.40
Maruti Udyog Ltd	0.47	-0.51	-2.66	-0.01	0.75	0.05	1.08	0.16	0.42	0.79	1.70	1.38	2.54	2.70	2.35
Bajaj Auto Ltd	0.45	1.98	4.17	0.96	5.70	1.00	4.24	11.48	5.54	8.28	3.21	1.52	7.25	6.10	7.12
LML Ltd	-0.50	-1.71	0.06	0.15	0.33	0.07	0.74	1.86	0.50	-2.01	-0.37	-0.44	-0.80	-1.91	-6.65
Maharashtra Scooters Ltd	0.68	2.41	4.40	0.59	1.58	0.12	0.76	2.62	4.04	9.38	10.71	12.18	7.74	4.89	-8.00
TVS Motor Company Ltd	-0.31	-0.27	0.42	-0.01	0.78	0.24	-0.05	1.00	0.55	0.80	-0.04	-0.03	0.17	-0.34	0.68
Kinetic Motors Ltd	0.21	1.57	1.56	0.22	0.80	0.16	0.81	1.45	1.85	1.13	2.20	0.72	0.13	-1.74	-3.38
Hero Honda Motors Ltd	0.34	0.58	0.29	0.01	0.01	0.12	0.10	-0.37	1.03	-1.51	1.13	0.92	1.54	1.44	1.82
Kinetic Engineering Ltd	0.86	2.59	2.26	0.48	3.41	0.59	1.92	5.54	4.32	6.33	3.00	0.91	1.39	-0.85	2.88
Majestic Auto Ltd	0.03	0.21	0.43	0.55	0.48	0.22	0.42	-1.08	-1.76	-4.02	-1.83	-1.03	1.42	-0.04	-0.30
Scooters India Ltd	-30.03	-141.22	-103.53	-26.67	0.93	0.61	2.62	7.99	7.98	11.50	5.56	2.67	4.76	3.50	6.70
Discriminant Z Score	-1.41	-7.21	-4.52	-1.17	2.23	0.41	1.43	2.81	2.09	2.76	1.81	1.25	1.83	0.98	0.43

Source: Computed

TABLE 5: CLASSIFICATION MATRIX

Year	As per Current Ratio		As per Discriminant Score	
	Adequate	Inadequate	Adequate	Inadequate
1992-93	3	14	16	1
1993-94	4	13	16	1
1994-95	4	13	16	1
1995-96	2	15	16	1
1996-97	5	12	7	10
1997-98	7	10	6	11
1998-99	6	11	6	11
1999-00	5	12	6	11
2000-01	5	12	6	11
2001-02	5	12	7	10
2002-03	5	12	6	11
2003-04	5	12	4	13
2004-05	6	11	5	12
2005-06	6	11	7	10
2006-07	4	13	10	7

Source: Computed

DEFORESTATION AND ENVIRONMENTAL SUSTAINABILITY: A STUDY OF INTERDEPENDENCE

DR. MD. TARIQUE
READER
DEPARTMENT OF ECONOMICS
ALIGARH MUSLIM UNIVERSITY
ALIGARH

ABSTRACT

This paper tries to analyse the implications of forest management vis-a-vis sustainable development. The entire paper is divided into five segments. The first part presents the introduction which discusses the importance of forest and its bearing on mankind, the meaning of sustainable development and sustainable forest management. The second portion is devoted to the effects of deforestation. In the third segment an economic theoretical base for the forest management has been provided. To understand the theoretical model for forest depletion, the logic of inter-temporal choice has been applied which treats one unit of a commodity consumed in current period (t_0) and one unit of the same consumed at a later period (t_1) as entirely two different commodities. So, it is a matter of constrained choice of the same commodity over a time period. However, at a later stage, the social cost involved in the use of natural resource like forest has also been taken into account for price determination. The fourth section proceeds on the data analysis which tries to demonstrate the inter-relationship between forest cover and the variables like Human Development Index (HDI), Human Poverty Index (HPI), GDP (Per Capita), Poverty, No. of threatened species, GEF benefit index for biodiversity and environmental sustainability. For this cross-section data has been taken and correlation matrix calculated. Finally, the fifth and the last section is given to the concluding observations.

KEYWORDS

Deforestation, Forest management and Environmental Sustainability.

INTRODUCTION

Humanity and evolution of civilisation have been profoundly influenced by the presence or absence of forest or their relative abundance or scarcity. Forests are a renewable resource and they play a vital role in enhancing the quality of environment by influencing the life support system.

During the process of development, our civilisation has faced three different stages of forests:

- 1) Civilisation dominated by forests,
- 2) Civilisation overcoming forests and
- 3) Civilisation dominating forests.

The decades after Second World War could be placed under the third stage. These periods are characterised by growth and progress all over the world. Material progress has been achieved at the cost of exploitation of natural resources. Though, we are still in the third stage, but the pace of deforestation has a bit slowed down since 1990s with the Millennium Development Goals (MDGs) declaring goal-7 as to 'Ensure Environmental Sustainability' and the target to achieve this is to integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources. The first two indicators to monitor the progress are- Proportion of land area covered by forest and the ratio of area protected to maintain biological diversity to surface area. Different figures for world (India) with regard to % of total forest area covered by land in 2005, the total forest in 2005, total change in forest area over a period 1990 to 2005 and average annual rate of change in forest area over 1990-2005 are 30.3 (22.8) %, 39520000 (677000) sq. km., -1253000 (37600) sq. km. and -0.2 (0.4) % respectively (Human Development Report 2007-08).

There have been four major reasons for deforestation, often in combination with each other- excessive cutting down of trees for timber, over grazing, fuel wood consumption and clearance of land for living & cultivation. Today vast stretches of forest are lost as a price for development. Narmada Valley Project and all other such projects have submerged thousands of hectares of virgin tropic ever green forests. Whatever be the cause, this deforestation has serious consequence on the quality of life. The influence of forest on environment may be localised or far reaching. The climate, rainfall, relative humidity, wind, soil, etc. are all influenced by forests. Hence indiscriminate deforestation disturbs ecological balance and deteriorates quality of life.

Thus the current global distresses with the forest cover and hence the environment rests on the belief that deforestation and environmental alteration has crossed the limit to a point where the well being of not only the future generation but of current generation is also being threatened. Here one draws closer to the issue of environmental sustainability which is the process of making sure current processes of interaction with the environment and are pursued with the idea of keeping the environment as pristine as naturally possible based on ideal-seeking behaviour. An "unsustainable situation" occurs when natural capital (the sum total of nature's resources) is used up faster than it can be replenished. Sustainability requires that human activity only uses nature's resources at a rate at which they can be replenished naturally. Inherently the concept of sustainable development is intertwined with the concept of carrying capacity. Theoretically, the long-term result of environmental degradation is the inability to sustain human life. Such degradation on a global scale could imply extinction for humanity. This can be understood with the help of following table-1:

TABLE - 1: LEVEL OF CONSUMPTION AND ENVIRONMENTAL SUSTAINABILITY

Consumption of Renewable Resources	State of Environment	Sustainability
More than nature's ability to replenish	Environmental Degradation	Not sustainable
Equal to nature's ability to replenish	Environmental Equilibrium	Steady state economy
Less than nature's ability to replenish	Environment Renewal	Environmentally sustainable

It is in this backdrop that the present paper tries to analyse the implications of forest management vis-a-vis sustainable development. The entire paper is divided into five segments. The first part presents the introduction which discusses the importance of forest and its bearing on mankind, the meaning of sustainable development and sustainable forest management. The second portion is devoted to the effects of deforestation. In the third segment an economic theoretical base for the forest management has been provided. To understand the theoretical model for forest depletion, the logic of inter-temporal choice has been applied which treats one unit of a commodity consumed in current period (t_0) and one unit of the same consumed at a later period (t_1) as entirely two different commodities. So, it is a matter of constrained choice of the same commodity over a time period. However, at a later stage, the social cost involved in the use of natural resource like forest has also been taken into account for price determination. The fourth section proceeds on the data analysis which tries to demonstrate the inter-relationship between forest cover and the variables like Human Development Index (HDI), Human Poverty Index (HPI), GDP (Per Capita), Poverty, No. of threatened species, GEF benefit index for biodiversity and environmental sustainability. For this cross-section data has been taken and correlation matrix calculated. Finally, the fifth and the last section is given to the concluding observations.

EFFECTS OF DEFORESTATION

Forest cover is helpful in maintaining the temperature level and preventing them from rising. A portion of the solar radiation is reflected back into the space by earth's atmosphere. The rest reaches the surface of the earth as not much is absorbed by the atmosphere. The forests present on the earth's surface will reflect

a portion of this sun's rays again back into outer space and absorb the rest. This is called the 'albedo effect'- a phenomenon that refers to the proportion of sunlight that the earth surface reflects back into space.

In the absence of forests, the entire heat that is not absorbed by the atmosphere but strikes the earth's surface are reflected by the earth's surface, leading to a rise in atmospheric temperature. But if the forest coverage is thick and wide, these forests would absorb the heat and prevent the rise in temperature. Secondly, the ultra violet rays from the sun are absorbed by the ozone layer. But due to certain pollutants like fluoro carbons, the ozone layer is becoming thin or holes are formed in the ozone layer. Under such conditions the forests would serve as a natural filter of the ultra violet radiation that threatens the health of the people.

Thirdly, the destruction of forests, particularly tropical forests could change the global climate and destabilise polar ice caps. The tropical rain forests are reservoirs of carbon, which is stored in living vegetation. Releasing this carbon by cutting trees and then burning them or leaving them to decay will add to the concentration of CO₂ in the atmosphere. The amount of CO₂ in the atmosphere has increased considerably in the past century. Forest clearance account for nearly fifty percent of the added CO₂ which traps heat that would otherwise pass through the atmosphere into outer space. This 'green house effect' means that the predicted doubling in the atmospheric concentrations of CO₂ will result in an average rise of about 5^o F in the earth's atmosphere. The warming will not be uniform around the globe: the North and the South poles forest to have temperature increases to the extent of 18^oF; this may cause some melting of the polar ice packs, raising ocean levels and changing rainfall patterns around the world. When large areas of forests are destroyed less rain falls on the deforested region. Deforestation removes the sponge that holds rain water and sends half of it back to the atmosphere directly by transpiration.

One method, by which forests influence human activities, indirectly but strongly, is through the part they play in regulating the water cycle. The maintenance of dense and uniform woodland, particularly over hilly areas, is a major factor which can guarantee water supply during the dry season and also the best means of preventing floods in drainage basins at other times. Countries situated in Mediterranean climates and those in tropical countries, especially India, and the Far East, have long experienced disastrous floods, caused by unwise deforestation of the slopes above river valleys.

Soil is also protected by the forests. When the trees are cut and root mat destroyed, soil erosion takes place due to full force of rains. Heavy rain removes nutrients by washing away the thin top layer of soil and air also squeezes out of soil due to compacted soil. Minerals and air are necessary for the growth of plants. The final result is a reduction in the productivity of agricultural crops.

Forests are also helpful in minimising the impact of air pollution, water pollution and noise pollution. By maintaining water flow of rivers, reducing sedimentation in the rivers and streams, by reducing surface runoff of rain water, reducing silting of reservoirs; forests to a great extent protect the habitat from serious water pollution problem.

Apart from these, the forests are home to a large variety of animals and birds. Deforestation has resulted in the extinction of some of the species of animals and birds. The list of number of threatened species in different countries is mentioned in table-2b. So, protection of forest is necessary from the point of view of maintaining ecological balance.

The ultimate objective of planned development is to ensure human well - being through sustained improvement in the quality of life of the people, particularly the poor and the vulnerable segments of the population. There is, however, a need to balance the harmful effects of human activity on global warming against the need for poverty reduction and economic growth in developing and least developed countries. The issue of global social justice cannot be delinked from the issue of global public goods like the atmosphere. The costs and benefits to the people living in different countries and their respective contributions must be dealt with in an integrated way. It is here that a determined effort is required for sustainable forest management (SFM) which is the management of forests according to the principles of sustainable development. Sustainable forest management uses very broad social, economic and environmental goals.

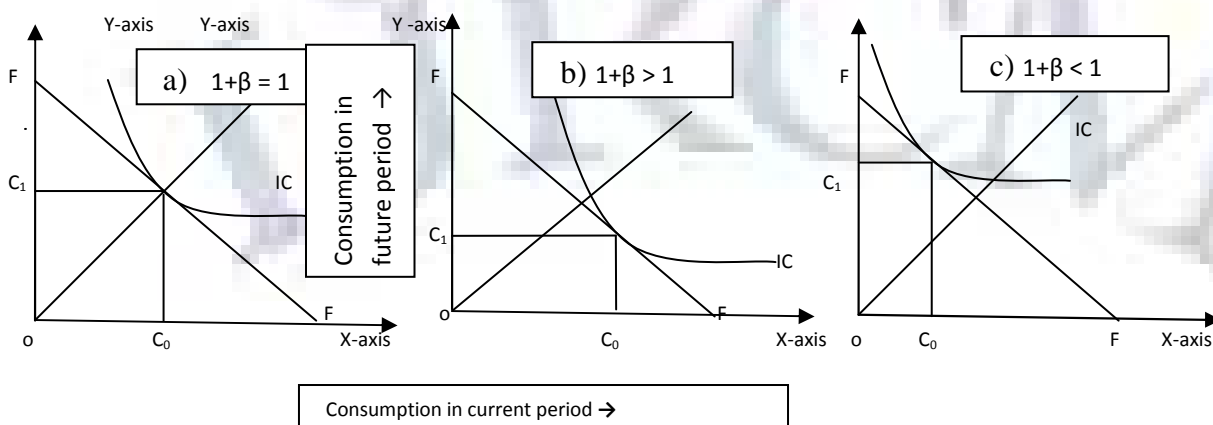
THEORETICAL BASE FOR FOREST MANAGEMENT

The growing concern about the increasing scarcity of fossil fuels and other raw materials has provided various theories and models of natural resource use. In majority of these works, an optimal depletion of exhaustible and renewable resources have been highlighted. The early classical and neo-classical theories emphasised only on relative scarcity of natural resources used as productive inputs in the economic process and held the optimistic view that market forces would dictate optimal rate of exploitation effectively and automatically. Theories based on this optimistic view that the economic system would automatically adopt itself in the long run to natural resource scarcity constraint, focussed on the optimal rate of depletion over time of those resources used as energy and material inputs in the economic process.

To facilitate an understanding of the theoretical model of forest depletion, an understanding of logic of inter-temporal choice is must. The analysis of inter-temporal choice treats one unit of a commodity consumed in the current period (t₀) as one unit of the same commodity consumed in future period (t₁) as two different commodities. The analysis therefore involves the choice of the same good over a time period and is therefore analogous to the constrained choice between alternative commodities in the traditional static consumer demand theory. Indifference curves can hence be used to express relative preferences between consumption in the two time periods.

The slope of such indifference curves- being the marginal rate of substitution of current for future consumption- will reflect the rate at which future consumption will be sacrificed for current consumption. Let the slope of the indifference curve be denoted by '1+β', where β is the marginal rate of time preference proper. Since individuals have a general preference for present consumption over future use, the value of future commodity flows should be discounted, to make it comparable with the current period quantities.

FIGURE-1a, b & c: INTER TEMPORAL ALLOCATION OF FOREST STOCK UNDER DIFFERENT LEVELS OF SOCIAL TIME PREFERENCE



In the above figures- 1-a, b and c; it has been shown that how a given amount of forest stock (OF) can be consumed either in current period (t₀) shown on the X-axis or may be left out for future consumption (t₁) shown on the y-axis. Equilibrium point is obtained with the interaction of indifference curve (IC) and forest constraint line (FF). Figure 1-a is a case of marginal rate of time preference such that 1+ β = 1 so that β = 0, and hence forest reserves are equally allocated between two time periods. OC₀ is consumed in present period and an equal amount OC₁ is left for future generation. In figure 1-b, the indifference curve reflects

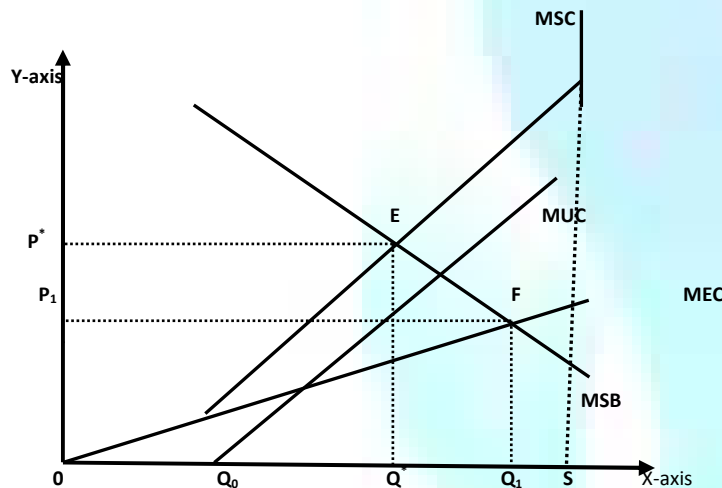
a positive time preference of $1 + \beta > 1$ i.e. $\beta > 0$, leading to a high level of forest depletion in current period. Figure 1-c shows that maximum is left for future period and a small amount is being consumed in the current period. In this case $1 + \beta < 1$ i.e. $\beta < 0$ and time preference is in favour of future period.

However, the above explanation doesn't take into account the costs involved into the use of forest resources and hence fails to explain the determination of prices consistent with optimal use of forest reserves. Pricing of forest use need demand and supply information on its use. The demand curve is a normal downward sloping curve which shows diminishing marginal social benefits with increased consumption. Regarding the supply curve, it is believed that forest reserves being a natural resource has perfectly inelastic supply at any given time period. But it is not so. For this calculation of Marginal Social Cost (MSC) is needed which has two components- Marginal Extraction (or harvesting) Cost (MEC) and Marginal User Cost (MUC).

Marginal Extraction Cost is the cost incurred to extract or harvest an additional unit of resource whereas Marginal User Cost is the resultant of fixed amount of forest stock at any given time. So the current consumption of forest stock at any time is at the expense of future benefits withdrawn i.e. it involves an opportunity cost. The entire analysis can be well understood with the help of figure-2 given below. On the X-axis is availability of forest reserves and on the Y-axis, the price or cost is depicted. Suppose the total availability of forest cover at any time is 'OS' which is in excess of the quantity that would be demanded by the society in future. So the current consumption will not rob the society of future benefits so long as the current consumption is less than or equal to the surplus amount (OQ₀). However, when resource extraction exceeds OQ₀ level, the current consumption or resource extraction will rob the society of their future benefits. This loss of future benefits due to current consumption can be termed as 'User Cost' or opportunity cost. User Cost of each successive unit (Marginal User Cost) of current consumption is the (discounted) value of the future consumption that is foregone. Since the demand curve for future resource use (MSB curve) is downward sloping, each successive unit of current consumption incurs a progressively greater loss of future benefits. Hence the Marginal User Cost (MUC) curve is upward sloping. The user cost can be seen as an externality i.e. a cost imposed on future generations by the production and consumption activities of the present generation. The real cost to the society of consuming a unit of resource in the current period is the sum of marginal extraction cost and marginal user cost. MSC is upward sloping.

The principle of optimality says that the society will gain maximum net benefit from the available forest stock at a point where marginal benefits and marginal costs of consumption are equal i.e. $MSC = MSB$. This point is E where Q* level of depletion of forest reserve takes place and SQ* is left for the future generation. The optimal resource price is P*. If pricing decision is done on the basis of only MEC, the rate of forest depletion will increase to the level of Q₁. Thus, inclusion of MUC in the pricing decision of forest reserve use will reduce the rate of depletion and hence the burden on future generation can be lessened to a considerable extent. That's why; the present generation must be ready to pay progressively for the use of forest reserves to protect the interests of future generation. The developmental process can only then be sustainable.

FIGURE-2: OPTIMAL FOREST RESERVE UTILISATION AND PRICING



DATA ANALYSIS: INTERDEPENDENCE BETWEEN FOREST COVER AND OTHER VARIABLES

For the study the data has been taken for thirty one countries. The criteria being adopted for the selection of countries are HDI index, HPI index, GDP index, forest cover, rate of depletion in forest cover, extinction of plant & animal species and level of environmental sustainability. The entire data has been put in two tables-2a and 2b. The maximum and minimum values under each column have been highlighted by bold figures.

A simple look at the data reveals that the Japan has the maximum percentage of land area covered by forests. The country is very high on HDI and GDP index. The threatened plant species are very low (Only 12) and CO₂ emission is moderate with entire population having an access to safe drinking water which is a measure of environmental sustainability. The income inequality (shown by the Share of poorest quintile in National consumption or income) is also low. However, Iceland, a country having highest HDI index is having only 0.5% of land area as forest cover. In terms of total forest coverage area Brazil is highest but the rate of deforestation is also highest over there. Since 1970, over 600,000 square kilometers (232,000 square miles) of Amazon rainforest have been destroyed. In many tropical countries, the majority of deforestation results from the actions of poor subsistence cultivators. However, in Brazil only about one-third of recent deforestation can be linked to "shifted" cultivators. Historically a large portion of deforestation in Brazil can be attributed to land clearing for pastureland by commercial and speculative interests, misguided government policies, inappropriate World Bank projects, and commercial exploitation of forest resources. Favourable taxation policies, combined with government subsidized agriculture and colonization programmes, encourage the destruction of the Amazon. Brazilian deforestation is strongly correlated to the economic health of the country: the decline in deforestation from 1988-1991 nicely matched the economic slowdown during the same period, while the rocketing rate of deforestation from 1993-1998 paralleled Brazil's period of rapid economic growth. During lean times, ranchers and developers do not have the cash to rapidly expand their pasturelands and operations, while the government lacks funds to sponsor highways and colonization programmes and grant tax breaks and subsidies to forest exploiters. However, On July 5, 2007 current Brazilian president Luiz Inácio Lula da Silva, spoke at the International Conference on Biofuels in Brussels announcing that the government targets of leaning towards ethanol and biodiesel in fuel production and establishing more than 200,000 square kilometres of conservation units to protect the forest had allowed the rate of deforestation to fall by more than 50% in the three years since 2004. The country has medium HDI and GDP index. The number of threatened animal and plant species are also very large. The country has controlled the CO₂ emission and with high level of access to save drinking water, but income inequality is very high. The average annual rate of deforestation is also high in Latin American and sub-Sahara African countries during the period 1990-2005, with a very high rate of - 2.5% for Honduras. Between 1990 and 2005, 37.1 percent of the forests of Honduras disappeared. Worse, since the close of the 1990s, Honduras's rate of forest loss has increased by 9 percent. Honduras's high rate of deforestation stems from its poverty. Despite its natural wealth, both mineral and biological, Honduras is one of the poorest countries in Central America. Deforestation results from agricultural colonization by subsistence farmers, clearing for cattle pasture, collection of fuelwood (65 percent of the country's energy comes from fuelwood), mining activities, timber harvesting, and forest fires. While the government has increasingly taken a pro-environment stance by establishing protected areas and generally cracking down on some illegal forest activities—corruption notwithstanding—its biggest challenge is gaining support from people who rely on forests for subsistence activities. Where the government fails or lags, a

blossoming grassroots environmental movement has stepped in and is seen by many conservationists as a key to the future of the country's environment. In 2005, Father Andres Jose Tamayo, a Honduran priest who established the Movement of Olancho—a green group that has fought illegal loggers—won the prestigious Goldman prize for his environmental efforts in the country. The effects of deforestation are evident during tropical storms and hurricanes that periodically batter the country. In 1998, Hurricane Mitch killed thousands and caused widespread damage to infrastructure. Aerial surveys following the storm revealed that mudslides were worst in deforested areas. Hillsides forested with natural vegetation—which anchors soils—suffered less damage. For these countries the HPI, HDI, GDP and GEF index are quite low. In most of the countries where the forest area cover is low and rate of deforestation is high, poverty ratio is very high.

In Asia, the highest rate of deforestation is being found in Philippines which is -2.2% during the period 1990-2005. Widespread logging was responsible for much of the historical forest loss in the Philippines. Despite government bans on timber harvesting following severe flooding in the late 1980s and early 1990s, illegal logging continues today. Illicit wood cut from secondary and primary forests is routinely smuggled to other Asian countries. After temporarily lifting the log export ban in the late 1990s, the government has increasingly tried to crack down on timber smuggling and forest degradation, but with limited success. Indonesia also is experiencing one of the highest rates of tropical forest loss in the world. Indonesia was densely forested as recently as 1950. Forty percent of the forests existing in 1950 were cleared in the following 50 years. In round numbers, forest cover fell from 162 million ha to 98 million ha. The rate of forest loss is accelerating. On average, about 1 million ha per year were cleared in the 1980s, rising to about 1.7 million ha per year in the first part of the 1990s. Since 1996, deforestation appears to have increased to an average of 2 million ha per year. Deforestation in Indonesia is largely the result of a corrupt political and economic system that regarded natural resources, especially forests, as a source of revenue to be exploited for political ends and personal gain. Illegal logging has reached epidemic proportions as a result of Indonesia's chronic structural imbalance between legal wood supply and demand. More than 20 million hectares of forest have been cleared since 1985, but the majority of this land has not been put to productive alternative uses. The Indonesian Government is facing mounting pressure domestically and internationally to take action, but progress is slow and not all policy reforms in process are necessarily good news for forests.

India's coverage for forest is also not satisfactory. It is only 22.8% equivalent to 677000 sq. Kms. (about 67,701,000 hectares). At least it should be one third of the entire coverage area. Out of these only 38 million ha of forests are well stocked (crown density above 40%). This resource has to meet the demand of a population of more than one billion people and around 450 million cattle. As such, country has to meet the needs of 16% of the world's population from 1.7 % of the world forest resources. The same forest has also to cater for the 19% of the world cattle population. Between 1990 and 2000, India gained an average of 361,500 hectares of forest per year. This amounts to an average annual reforestation rate of 0.57%. Between 2000 and 2005, the rate of forest change decreased by 92.3% to 0.04% per annum. In total, between 1990 and 2005, India gained 5.9% of its forest cover, or around 3,762,000 hectares. Measuring the total rate of habitat conversion (defined as change in forest area plus change in woodland area minus net plantation expansion) for the 1990-2005 intervals, India gained 1.0% of its forest and woodland habitat. With regard to people's involvement in forestry, the 1952 Policy laid down that it would be the duty of the forester to awaken the interest of the people in the development, extension and establishment of tree-lands wherever possible, and to make them tree minded⁴. However, the policy did not provide any strategic appraisal of how to bring about public participation in forest management. Rather, the government continued with British forest policies even after independence. Three reasons have been identified for deforestation and degradation of forests in India: defective forest policy, faulty policy implementation, and poverty⁵. Recent developments have recognized afforestation and reforestation as activities, which could be undertaken under the Clean Development Mechanism (CDM) of the Kyoto Protocol. In a related development, forest management in India experienced a pivotal change in 1990 when a community based approach, named Joint Forest Management (JFM), was adopted as one of the main strategies for protection and management of state forest lands. JFM is a forest management strategy under which the forest department and the village community enter into an agreement to jointly protect and manage forest land adjoining villages and to share responsibilities and benefits. However, the success of JFM in India is yet to be ascertained.

Among African countries, Nigeria has one of the worst environmental records in the world. In recent years, the country has seen widespread social and environmental problems stemming from oil operations in the Niger River delta, and one of the world's highest deforestation rates. Deforestation is a serious problem in Nigeria, which currently has one of the highest rates of forest loss in the world. Since 1990, the country has lost some 6.1 million hectares or 35.7 percent of its forest covers. Worse, Nigeria's most bio-diverse ecosystems—its old-growth forests—are disappearing at an even faster rate. Between 1990 and 2005, the country lost a staggering 79 percent of these forests and since 2000 Nigeria has been losing an average of 11 percent of its primary forests per year—doubles the rate of the 1990s. These figures give Nigeria the dubious distinction of having one of the highest deforestation rates of natural forest on the planet. From 1971 to 1987, Uganda lost 50 percent of its forests, including virtually all of its primary forests. Between 1990 and 2005, Uganda lost 26.3 percent of its remaining forest cover, and deforestation continues today at a rate of 2.2 percent per year, mostly due to subsistence farming, cutting for fuelwood, and colonization by the burgeoning population.

An interrelationship between forest area coverage, rate of deforestation and many other variables can be well understood with the help of correlation matrix as given in table-3. The correlation matrix shows that there exists a Positive correlation between rate of deforestation and GDP index. This reflects that the growth process is responsible to a large extent for the rate of deforestation. A positive correlation between poverty and deforestation also reflects the linkages between these two. A positive correlation between HDI and deforestation may be due to the fact that one third of the weightage is given to GDP, a growth indicator in the calculation of HDI. A positive value of correlation exists with threatened animal species which is obvious that their habitat is decreasing while a similar relation with GEF index reflects a larger variation in biodiversity. The positive correlation between CO₂ and deforestation is a reflection that forest definitely cleans the air. A very high degree of positive correlation between CO₂ emission and GDP index is a reflection that growth process is definitely responsible for higher degree of CO₂ emissions due to urbanisation and industrialisation.

CONCLUSION

The global forested area in 2005 was about 4 billion hectares, covering 30% of total land area. But deforestation continues at about 13 million hectares a year. Reforestation reduced the net loss of forest area to 7.3 million hectares a year during 2000-05, an improvement from losses of 8.9 million hectares a year during 1990-2000. Sub-Saharan Africa and Latin America continued to have the largest forest loss after 1990. Agriculture and deforestation are responsible for one third of green house gas emissions. In many countries soil degradation, along with the loss of agricultural land through urbanisation and population growth, has led to substantial deforestation. The deforestation along with other types of pollution has led to climate change. Climate change has different effects on different regions (depending on geography) and different income groups (depending on livelihood and adaptive capacity). The effects also vary by the extent of adaptation, exposure to temperature change, and socio-economic conditions. Hence, the negative effects will not occur everywhereⁱⁱⁱ. These impacts depend on two main factors: exposure to the effects of climate change and capacity to adapt to them.

Exposure is partly determined by environmental factors. People, flora, and fauna in areas prone to flooding or facing water scarcity have far greater exposure. The level of exposure also depends on the population density or the infrastructure in environmentally sensitive areas. Adaptive capacity is the ability to deal with climate change, such as by building levees to combat flooding or irrigation systems to deal with drought. It is closely associated with society's wealth, educational strength, and access to technology^v.

High exposure and low adaptive capacity occur mostly in developing countries, making them highly vulnerable to climate change. Poverty and political instability make the negative impacts of climate change more severe and weaken the ability to adapt.

The impacts of deforestation and consequently of climate change are costly- so is mitigating the causes of these or adapting to the unavoidable outcomes of change. There is substantial economic and social justification for mitigating deforestation. The costs of mitigation depend on the level at which deforestation stabilise. But the cost of inaction is significantly higher. The range of estimates could be wide, depending on underlying assumptions, on which consensus is lacking. For example, the Stern Review^{vii} estimates that without action the overall costs of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. They would be much higher under a wider range of risks and impacts.

Some steps to reduce deforestation are economically as well as socially desirable. This is important because forests protect biodiversity and provide livelihood for millions of poor people. Air pollution prematurely kills more than two million people a year. In China the health costs attributable to air pollution are estimated at \$68 billion a year, nearly 4% of its economic output^{vi}. And acid rain has contaminated one-third of the country, destroying some \$4 billion worth of crops every year. Though the Chinese authorities have closed some polluting factories, but a sustained solution for that could be provided through reforestation. So, countries need to adapt to the unavoidable effects of climate change that are already affecting the well-being of their people, particularly those who are poor. With poor adaptive capacity, inadequate social protection, and gaps in climate information, developing countries will find it difficult to respond as social insurance spending and total numbers of meteorological stations are lower in these countries. As climate change crosses national borders, a coordinated programme of funding and new technologies is required. But the funding needed for adaptation is enormous, and the amount available for climate adaptation in developing countries is still insufficient.

There is still a window of opportunity to act before the economic and human costs become insurmountable. But action requires measuring and monitoring the state of the environment and human well being and how they are changing. There are still information gaps, and many of the available data are not up to date. The impacts of carbon dioxide emissions are not well quantified, especially in developing countries. The impacts of extreme climate events are poorly tracked. Local impacts are not widely researched. Few projections on aquatic resources are available. Research on adaptation is still not comprehensive across a range of climate and socioeconomic futures. There is much to be learned about the multi-dimensional impact of deforestation and climate change on the life of human beings.

Numbers tell the story. But we still lack many of the numbers to tell the whole story.

TABLE-2 a: FOREST COVERAGE AREA AND OTHER INDICATORS OF DEVELOPMENT

Items→ /Country↓	Forest Area ^{vii}				Human Development Index (HDI) ^{viii} (2005)	Human Poverty Index % (HPI) ^{ix} (2005)	GDP ^x Index (2005)	GEF ^{xi} index (2005)
	%of total land Area (2005)	Total land area (‘000 sq.km.) (2005)	Total change (‘000 sq.km.) (1990-2005)	Average % annual change ^{xii} (1990-2005)				
Iceland	0.5	0.5	0.2	5.6	0.968	-	0.985	-
Norway	30.7	93.9	2.6	0.2	0.968	6.8	1.000	1.6
Australia	21.3	1636.8	-42.3	-0.2	0.962	12.1	0.962	95.8
Japan	68.2	248.7	-0.8	-	0.953	11.7	0.959	41.4
USA	33.1	3030.9	44.4	0.1	0.951	15.4	1.000	90.3
UK	11.8	28.5	2.3	0.6	0.946	14.8	0.969	2.1
Germany	31.7	110.8	3.4	0.2	0.935	10.3	0.949	0.07
Greece	29.1	37.5	4.5	0.9	0.926	-	0.910	3.0
Brunei	52.8	2.8	-0.4	-0.7	0.894	-	0.941	0.5
Argentina	12.1	330.2	-22.24	-0.4	0.869	4.1	0.828	18.5
Mexico	33.7	642.4	-47.8	-0.5	0.829	6.8	0.781	75.8
Malaysia	63.6	208.9	-14.9	-0.4	0.811	8.3	0.783	14.8
Brazil	57.2	4777.0	-423.3	-0.5	0.800	9.7	0.740	100.0
Samao	60.4	1.7	0.4	2.1	0.785	-	0.688	-
Thailand	28.4	145.2	-14.5	-0.6	0.781	10.0	0.745	8.0
China	21.2	1972.9	401.5	1.7	0.777	11.7	0.703	64.8
Ecuador	39.2	108.5	-29.5	-1.4	0.772	8.7	0.629	30.0
Phillipines	24.0	71.6	-34.1	-2.2	0.771	15.3	0.657	33.7
SriLanka	29.9	19.3	-4.2	-1.2	0.743	17.8	0.639	6.6
El-salvadore	14.4	3.0	-0.8	-1.4	0.735	15.1	0.661	0.8
Algeria	1.0	22.8	4.9	1.8	0.733	21.5	0.711	3.0
Indonesia	48.8	885.0	-280.7	-1.6	0.728	18.2	0.609	90.0
Nicaragua	42.7	51.9	-13.5	-1.4	0.710	17.9	0.601	3.6
Honduras	41.5	46.5	-22.4	-2.5	0.700	16.5	0.590	7.9
India	22.8	677.0	37.6	0.4	0.619	31.3	0.591	43.9
Combdia	59.2	104.5	-25.0	-1.3	0.598	38.6	0.552	3.9
Nepal	25.4	36.4	-11.8	-1.6	0.534	38.1	0.458	2.2
Sudan	28.4	675.5	-88.4	-0.8	0.528	34.4	0.507	5.5
Zimbabwe	45.3	175.4	-46.9	-1.4	0.513	40.3	0.503	2.1
Uganda	18.4	36.3	-13.0	-1.8	0.505	34.7	0.447	3.3
Nigeria	12.2	110.9	-61.5	-2.4	0.470	37.3	0.404	6.6

TABLE-2 b: ANIMAL AND PLANT SPECIES AND ENVIRONMENTAL SUSTAINABILITY FACTOR

Items→ /Country↓	Animal Species ^{xiii}		Higher Plants ^{xiv}		Ensure Environmental Sustainability		Share of poorest quintile in National consumption or income (%) (1992-2005)
	Total known species (2004)	Threatened Species ^{xv} (2007)	Total known species (2004)	Threatened Species (2007)	CO ₂ Emission Per Capita (Metric Tons) (2004)	Access to improved sanitation facility (% of population) (2004)	
Iceland	-	-	-	-	-	-	-
Norway	525	32	1715	2	19.1	100	9.6
Australia	1127	568	15638	55	16.2	100	8.6
Japan	763	190	5565	12	9.8	100	10.6
USA	1356	937	19473	242	20.6	100	5.4
UK	660	38	1623	13	9.8	-	6.1
Germany	613	59	2682	12	9.8	100	8.5
Greece	530	95	4992	11	8.7	46	6.7
Brunei	713	48	2500	2	0.0	36	5.1
Argentina	1413	152	9372	42	3.7	91	3.1
Mexico	1570	579	26071	261	4.3	79	4.3
Malaysia	1083	225	15500	686	7.0	94	4.4
Brazil	2290	343	56215	382	1.8	75	2.9
Samoa	-	-	-	-	-	-	-
Thailand	1271	157	11625	86	4.3	99	6.3
China	1801	351	32200	466	3.9	44	4.3
Ecuador	1856	340	19362	1838	2.3	89	3.3
Phillipines	812	253	8931	213	1.0	72	5.4
SriLanka	504	177	3314	280	0.6	91	7.0
El-salvadore	571	29	2911	26	0.9	62	2.7
Algeria	472	71	3164	3	6.0	92	7.0
Indonesia	2271	464	29375	386	1.7	55	7.1
Nicaragua	813	59	7590	39	0.7	47	5.6
Honduras	900	102	5680	110	1.1	69	3.4
India	1602	313	18664	247	1.2	33	8.1
Combdia	648	82	-	31	0.0	17	6.8
Nepal	477	72	6973	7	0.1	35	6.0
Sudan	1254	47	3137	17	0.3	34	-
Zimbabwe	883	35	4440	17	0.8	53	4.6
Uganda	1375	131	4900	38	0.1	43	5.7
Nigeria	1189	79	4715	171	0.8	44	5.0

Source: World Development Indicators 2008 and Human Development Report 2007-08.

TABLE-3: CORRELATION MATRIX BETWEEN VARIOUS VARIABLES LIKE FOREST DENSITY, AVERAGE RATE OF DEFORESTATION, ENVIRONMENTAL SUSTAINABILITY FACTORS, VARIOUS GROWTH INDICATORS AND POVERTY LEVEL

	ANS	ATS	CO2	DEFOR	FA	GDP	GEF	HDI	HPI	POVERTY	SANIT	THPS	TPS
ANS	1.00	0.55	-0.13	0.05	0.34	-0.04	0.72	0.03	-0.19	-0.31	-0.16	0.49	0.84
ATS		1.00	0.47	0.23	0.18	0.43	0.87	0.44	-0.29	-0.01	0.24	0.28	0.58
CO2			1.00	0.49	-0.01	0.86	0.30	0.75	-0.41	0.48	0.65	-0.10	-0.02
DEFOR				1.00	-0.23	0.58	0.24	0.49	-0.34	0.32	0.32	-0.05	0.23
FA					1.00	0.07	0.26	0.13	-0.21	-0.19	0.08	0.36	0.46
GDP						1.00	0.36	0.96	-0.76	0.32	0.81	-0.05	0.14
GEF							1.00	0.39	-0.31	-0.04	0.09	0.22	0.82
HDI								1.00	-0.88	0.22	0.81	0.08	0.21
HPI									1.00	0.10	-0.72	-0.28	-0.31
POVERTY										1.00	0.18	-0.34	-0.30
SANIT											1.00	0.13	-0.06
THPS												1.00	0.37
TPS													1.00

NOTES AND REFERENCES

ⁱ Government of India, 1952, 'National Forest Policy, 1952'.ⁱⁱ Singh, Katar, 1994, *Managing Common Pool Resources: Principles and Case Studies*. New Delhi: Oxford University Press.ⁱⁱⁱ IPCC (Intergovernmental panel on Climate Change), *Climate Change (2007): The Physical Science Basis*. Contribution of working group I to the fourth assessment report of IPCC. Cambridge UK. Cambridge University Press.^{iv} Burton, Ian, Elliot Diringer, and Joe Smith (2006), "Climate Change: International Policy Options", Pew Centre on Global Climate Change, Arlington, Va.^v Stern Nicholas (2006), "The Economics of Climate Change: The Stern Review", London. Cambridge University Press.^{vi} World Bank (2007), "Global Monitoring Report", Washinton D.C.^{vii} It is land under natural or planted stands of trees, whether productive or not.^{viii} A composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living.^{ix} A composite index measuring deprivations in the three basic dimensions captured in the human development index—a long and healthy life, knowledge and a decent standard of living.^x One of the three indices on which the human development index is built. It is based on gross domestic product per capita (in purchasing power parity terms in US dollars)

^{xi} This benefit index for biodiversity is a composite index of relative biodiversity potential based on the species represented in each country and their threat status and diversity of habitat types. The index has been normalized from 0 (no biodiversity potential) to 100 (maximum biodiversity potential).

^{xii} It is the permanent conversion of natural forest area to other uses including agriculture, ranching, settlement and infrastructure.

^{xiii} These include mammals (excluding whales and porpoises) and birds.

^{xiv} These are native vascular plant species.

^{xv} These are no. of species classified by the IUCN as endangered, vulnerable, rare, indeterminate, out of danger, or insufficiently known.



PATTERN OF GROWTH AND INSTABILITY OF INDIA'S EXPORTS (1991-2006)

DR. KULWINDER SINGH
ASST. PROFESSOR
BABA FARID COLLEGE
BATHINDA

DR. SURINDER KUMAR SINGLA
PROJECT ASSOCIATE
CSWAS
PUNJABI UNIVERSITY
PATIALA

ABSTRACT

The paper is mainly devoted to statistical verification of the pattern of growth and instability of India's exports during the post-reform and post-WTO period (1991-2006). Results reveals that growth of India's exports during post-reform and post-WTO period remained to be as high as of 12.79 per cent that is well above the growth of exports of majority of the developed and developing countries. The scene at the instability side is also found to be satisfactory as instability of overall export earnings is recoded as low as of 1.40 per cent per annum. Majority of India's exports (selected commodities) experienced high growth and low earnings instability during concerned period. Further, the analysis of instability of India's export reveals that export instability was primarily due to the dominance of quantity variables in case of majority exports. It is also observed that instability in India's export earnings is mainly due to supply variations. Analysis also reveals that developed countries occupy the lowest position in the instability ranking as compared to developing countries and found to be most stable markets for India's export and thus have strong stabilization effect on India's export earnings. Appropriate domestic policy reforms would be essential for abolition of domestic supply bottlenecks and for maintaining quality and cost competitiveness of exports in global market. Deepening of reforms into specific export sectors would stimulate India's export; result compositional and geographical diversification; help to remove supply bottlenecks operating in the economy and help improving export competitiveness.

KEYWORDS

Economic Reforms, Import substitution inward-oriented strategy Supply bottlenecks, SITC, WTO.

INTRODUCTION

The higher degree of instability in export earnings of countries particularly the developing ones has always been a matter of concern. The instability in export earnings adds uncertainties to planning and the crisis that arises often calls for drastic action that adversely affects development projects. Export stability is important because of its effects on internal economic stability, on rate of economic growth and on the distribution of income and wealth. It is also considered important because of its effects on internal and external policies of many countries (Coppock, 1962). The violent and sudden fluctuations in prices, quantum and total value of exports, according to prevalent view which held that there exists an intimate relationship between foreign trade, national income and investment, have a serious adverse impact on the overall growth of the less developed countries (LDCs). The excessive fluctuations in prices and foreign exchange receipts generate fluctuations in domestic activities which in turn make the process of planned development quite complicated and uncertain, reduce the efficiency with which investment resources are allocated, and create manifold difficulties in estimating the expected return on investment which raises the cost of capital needed for greater risk (Aggarwal, 1982). Keeping such facts in view, most of the underdeveloped countries have been trying hard to stabilize their economies by keeping macro-economic variables stable. However, there has been a heavy fluctuation in foreign trade as well as in other macro economic variables of these countries. India's is among the developing countries, whose economic development programme since 1951 has largely been dependent upon availability of foreign exchange reserves. The availability of foreign exchange reserves is determined by and depends upon export earnings and capital inflows which an economy receives. Therefore, instability in export earnings is expected to hamper the process of economic development (Sharan, 1984) and further contributes to overall economic instability in the country. Since the initiation of the planning process after independence, India too has been suffering from the problem of export earnings instability which resulted in the continuous trade deficits and has also influence the pace of the economic growth of the country.

India like many other developing countries pursued import substitution and inward-oriented strategy even as late 1990s, despite the evidence in support of export-led growth strategy. It is held that assumption behind the import substitution strategy was export pessimism that the exports from developing countries would not grow, and even if they did, terms of trade would go against their interests (Kaundal, 2005). Export pessimism was not just a belief, but also almost an ideology among the resident economic elite of India for decades. Two prominent exceptions to this belief were J.N Bhagwati and T.N Srinivasan both Non-Resident Indian (NRIs) (Bhagwati and Srinivasan, 1976). India's prolonged inward-oriented heavy industrialization strategy fostered a large and diverse industrial sector. Over the time, this sector accumulated impressive technological capabilities, but this system created various types of inefficiencies and slowed down the rate of growth of the economy. This model suffered a crisis in early 1980s, reflected economically in falling production and eroding its position as leading exporter of manufactures in the developing world four decades ago (Kaushik and Paras, 2000). By 1980s, Indian policy makers had accepted the need to liberalize the economy. The process however was reluctant, intermittent, and patchy. It is only during 1990s, after the severe macro economic crisis that export promotion based on outward-oriented (export-led growth) growth strategy was adopted as the only alternative for rapid economic growth. Several serious attempts have been made to free up the trade, domestic competition, and technology inflows in order to attract foreign investment (Joshi and Little, 1996). Trade policy has undergone fundamental shift to correct the early trade regime through the withdrawal of quantitative restrictions, reduction and rationalization of tariffs, liberalisation in the trade and payment regime and improving the access to export incentives, besides a realistic and market based exchange rate (ES, 2002-03). The opening-up of economy, establishment of WTO, and India's participation in WTO as founder member have provided export-friendly environment which further experienced remarkable changes. This new economic environment has provided both challenges as well as opportunities for India's export sector. Due to outward orientation of economy and free trade environment at global level, India's exports now have larger role to play and also larger world market. Such type of larger dependence on exports under the new economic environment demands greater stability on the export earnings because of placing of heavy stake on the export sector by the country.

Therefore, this paper is mainly devoted to statistical verification of the pattern of growth and instability of India's exports during the post-reform and post-WTO period (1991-2006). Examining export earnings instability, role of price and quantity variables and that of demand and supply variables in export earning instability has also been highlighted. The paper has organized into four sections. Section I deals with introduction and Section II explains methodology and data used to examine the export instability. Section III describes the results and discussions related to the pattern of growth and instability of India's selected exports. At the end, section IV highlights the broad conclusions emerging out of the analysis of India's export instability.

METHODOLOGY AND DATA

The growth rates and export instability indices in case of value, volume, and unit prices are obtained by fitting an exponential time trend as follows:

$$X_{it} = a e^{b_{it}} \quad (i=1, 2, 3, \dots, n)$$

Where X_{it} is the value/volume/unit value of the export of the selected commodity. The method of Ordinary Least Square (OLS) is then used to estimate the semi logarithmic equation.

Export instability index (EII) is defined as the standard deviation of the observed deviation from the estimated exponential time trend.

$$\text{Export Instability Index (EII)} = \frac{100}{\bar{X}} \cdot \sqrt{\sum_{i=0}^n \frac{e_{it}^2}{n-k}}$$

Where $e_{it} = X_{it} - \hat{X}_{it}$

i.e. $\hat{X}_{it} = \hat{a}_{it} e^{\hat{b}_{it}} + u_i$

Where,

\bar{X} = mean of the export earnings/volume/unit value

X_{it} = Actual values of export earnings/volume/unit value

\hat{X}_{it} = Estimated values of export earnings/volume/unit value

e_{it} = observed deviation from the exponential trend i.e. difference between actual and estimated values of export earnings/volume/unit value

u_i = Random term

This instability index has two advantages. First, this is scale independent and can be used for cross comparisons. Secondly, it estimates the coefficient of variation corrected for exponential trend which is useful in policy decisions, on long term basis, as these are taken in terms of growth rates rather than in absolute increments.

The components of the variance of the logarithm of earnings around an exponential trend are examined in case of selected exports commodities to assess the relative importance of price and quantity fluctuations given the identity.

Export Earnings = Price x Quantity

$$E = P \cdot Q$$

$$\log E = \log P + \log Q$$

And variance of log E around a fitted constant growth rate trend line is given by the identity

$$\text{var}(\log E) = \text{var}(\log P) + \text{var}(\log Q) + 2\text{cov}(\log P, \log Q)$$

Where variance and co-variance are around the trend lines. The terms on the right hand side are calculated from the price and quantity indices. They are divided through by their sum and expressed as percentages. The term CP and CQ denotes Contribution of Price (CP) and Contribution of Quantity (CQ) respectively in total earning instability in percentages.

$$CP = \frac{100 \cdot \text{var}(\log P)}{\text{var}(\log P) + \text{var}(\log Q) + 2\text{cov}(\log P, \log Q)}$$

$$CQ = \frac{100 \cdot \text{var}(\log Q)}{\text{var}(\log P) + \text{var}(\log Q) + 2\text{cov}(\log P, \log Q)}$$

The term CP may be interpreted as the contribution of variance of price to variance of earning and term CQ as the contribution of the variance of quantity to the variance of earning. These are taken as the proportional contribution of price and quantity instability to earnings instability. The co-variance term, positive or negative, reflects the extent to which price and quantity movements are reinforcing or offsetting. The sign is also an indicator of whether supplies of demand variations have been the dominant source of variability. If co-variance has a negative sign, supply fluctuations are major cause of instability and if otherwise co-variance has positive sign, demand fluctuations are dominant cause of instability. Role of demand and supply variables is examined by the method explained in Appendix I. To determine which commodity/trading partner have contributed excessively to export instability in total export earnings instability and have stabilization/destabilization effect on export earnings, following method is used.

$$CP = \frac{IDX_j \cdot R_j}{\sum_{i=0}^n IDX_i \cdot R_i}$$

In which

CP= Percentage contribution in total export earning

IDX= Instability index

R= mean percentage share in Total Export Earnings

j= is selected commodity/trading partner

i= total commodities/partners (i=n)

CP/R= Stabilization Effect on Export Earnings If more than 1 destabilization effect or excessively contributor to instability on export earnings and if less than 1, stabilization on export earnings.

$$IDX = \frac{100}{n-4} \sum_{t=3}^{n-2} \frac{X_t - MA_t}{MA_t}$$

I

IDX = Absolute Instability Index

n = No. of Years

X_t = Value of Export in year t

$$MA_t = 1/5 \cdot (X_{t-2} + X_{t-1} + X_t + X_{t+1} + X_{t+2})$$

Indices of export value/price/volume have been utilized from the data taken from Commodity Trade Statistics, United Nations for the period 1991-2006. The analysis is operated at disaggregate level i.e. at 3 digit level of Standard International Trade Classification (SITC) Revision 1. The selected principal commodities constitute more than 85 per cent share of India's exports and selected markets constitute more than 80 per cent of India's export on an average during the study period. The selected commodities, on which the instability analysis is based, are: fish (fresh and simply preserved) (SITC-031); rice (SITC-042); fruits (fresh and nuts excluding oil nuts) (SITC-051); tea and mate (SITC-074); feed-stuff for animals excluding unmilled feed-stuff (SITC-081); iron ore and concentrates (SITC-281); petroleum products (SITC-332); organic chemicals (SITC-512); synthetic organic dyestuffs, natural indigo and lakes (SITC-531); medicinal and pharmaceutical products (SITC-541); plastic materials, regenerated cellulose and resins (SITC-581); chemical materials and products (SITC-599); leather (SITC-611); articles of rubber (SITC-629); textile yarn and thread (SITC-651); cotton fabrics (woven) (SITC-652); textile fabrics (woven) (SITC-653); made-up articles, wholly or chiefly of textile material (SITC-656); floor coverings, tapestries, etc. (SITC-657); lime, cement and fabric building materials excluding glass/clay material (SITC-661); pearls and precious and semi-precious stones (SITC-667); ingots and other primary forms of iron and steel (SITC-672); universals plates and sheets of iron or steel (SITC-674); copper (SITC-682); machinery and appliances non electrical parts (SITC-719); electric power machinery and switchgear (SITC-722); road motor vehicles (SITC-732); clothing (except fur clothing) (SITC-841); footwear (SITC-851); and jewellery (gold, silver, platinum jewellery ex watchcases and imitation jewellery) (SITC-897).

PATTERN OF GROWTH AND INSTABILITY OF INDIA'S EXPORTS

The results, related to the pattern of export growth and instability of India's selected thirty commodities, have been presented in the following tables. Table 1 describes the pattern of growth and instability indices of India's exports earnings, volume, and price (unit value) during the post-reforms and post-WTO periods. It is noted that India's overall exports grew at 12.79 per cent per annum and experienced low instability of 1.40 per cent per annum. Among the selected thirty commodities, except the commodities namely fish (SITC-031), fruits (SITC-051), Tea and mate (SITC-074), feed-stuff for animals (SITC-081), cotton fabrics (SITC-652) and floor coverings, tapestries, etc. (SITC-657), all of the remaining selected commodities registered high growth of export earnings. Copper (SITC-682) exports registered highest growth of export earnings followed by petroleum products (SITC-332), plastic materials, regenerated cellulose and resins (SITC-581), universals plates and sheets of iron or steel (SITC-674) during the period under study. On the other side, exports of tea and mate (SITC-074) exhibited lowest export earnings growth, followed by cotton fabrics (SITC-652), feed-stuff for animals (SITC-081), floor coverings, tapestries, etc. (SITC-657) and fish (SITC-031) during the same period.

Due to non-availability of data related to export quantity in case of the commodities namely petroleum products (SITC-332), medicinal and pharmaceutical products (SITC-541), pearls and precious and semi-precious stones (SITC-667) and jewellery (SITC-897) export volume and price growth as well as instability has not been calculated. Out of the remaining twenty-six selected commodities, ten commodities experienced double-digit growth in their volume. Road motor vehicles (SITC-732) exports grew at the fastest growth rate of 75.58 per cent per annum followed by copper (SITC-682) (48.77 per cent), machinery and appliances non-electrical parts (SITC-719) (35.51 per cent), ingots and other primary forms of iron and steel (SITC-672) (23.07 per cent) and universals plates and sheets of iron or steel (SITC-674) (21.78 per cent). Contrary to this, volume of cotton fabrics (woven) (SITC-652) exports recorded the lowest growth of -9.26 per cent per annum followed by clothing (except fur clothing) (SITC-841) (0.31 per cent), textile fabrics (woven) (SITC-653) (1.34 per cent), tea and mate (SITC-074) (1.50 per cent), floor coverings, tapestries, etc. (SITC-657) (2.35 per cent) and iron ore and concentrates (SITC-281) (2.75 per cent) etc. Interestingly, except six commodities namely made-up articles, wholly or chiefly of textile material (SITC-656), cotton fabrics (woven) (SITC-652), electric power machinery and switchgear (SITC-722), clothing (except fur clothing) (SITC-841), textile fabrics (woven) (SITC-653) and iron ore and concentrates (SITC-281), all other not only realized very low but negative export price growth (in case of fourteen commodities) during the study period. All of the commodities with negative price growth have achieved quite high export earnings growth except the commodities namely fruits (SITC-051), fish (SITC-031), and tea and mate (SITC-074). Thus, the growth performance of the selected exports has significant as they were characterised by high earning and volume growth and very low price growth as well during the period under study.

Data show that majority of the exports recorded very low earning instability during the study period as only two commodities namely petroleum products (SITC-332) and copper (SITC-682) witnessed double digit instability index value. Similarly, twelve commodities which carried value of the volume instability index less than 5.00 experienced very low export volume instability. Only four commodities namely road motor vehicles (SITC-732) (116.75 per cent), (SITC-) (17.72 per cent), electric power machinery and switchgear (SITC-722) (13.86 per cent) and cotton fabrics (woven) (SITC-652) (10.34 per cent) recorded high export volume instability. Export price instability index carried the value from -52.57 per cent to 127.48 per cent. Out of the twenty-four commodities, only nine commodities such as fish (SITC-031), synthetic organic dyestuffs, natural indigo and lakes (SITC-531), leather (SITC-611), feed-stuff for animals (SITC-081), lime, cement and fabric building materials excluding glass/clay material (SITC-661), rice (SITC-042), iron ore and concentrates (SITC-281), universals plates and sheets of iron or steel (SITC-674) and Ingots and other primary forms of iron and steel (SITC-672) carried low export price instability. Exports of plastic materials, regenerated cellulose and resins (SITC-581) (127.48 per cent) realized highest price instability among the selected commodities, followed by articles of rubber (SITC-629) (82.47 per cent), cotton fabrics (woven) (SITC-652) (78.31 per cent), textile yarn and thread (SITC-651) (52.68 per cent), and made-up articles, wholly or chiefly of textile material (SITC-656) (38.94 per cent). The results of volume and price instability highlight many interesting points. Low export price growth justified the high export volume growth as per the theory of consumer behaviour. Export prices have responded sharply to the support provided by export policy reforms and removal of tariff and non-tariff barriers. Moreover, high price instability has been found to be the major outcome of the East Asian Crisis during the period under study. Thus, export growth and instability have been influenced by both the internal and the external factors during the study period.

It is held that commodities such as petroleum products (SITC-332), copper (SITC-682), ingots and other primary forms of iron and steel (SITC-672) and iron ore and concentrates (SITC-281) experienced high export earnings growth as well as high export earnings instability, whereas the commodities such as rice (SITC-042), organic chemicals (SITC-512), medicinal and pharmaceutical products (SITC-541), chemical materials and products (SITC-599), textile yarn and thread (SITC-651), made-up articles, wholly or chiefly of textile material (SITC-656), lime, cement and fabric building materials (SITC-661), pearls and precious and semi-precious stones (SITC-667), electric power machinery and switchgear (SITC-722), clothing (SITC-841) and footwear (SITC-851) experienced high growth with low instability. The commodities namely fish (SITC-031), fruits (SITC-051), tea and mate (SITC-074), feed-stuff for animals (SITC-081), leather (SITC-611), cotton fabrics (SITC-652) and floor coverings, tapestries, etc. (SITC-657) recorded low instability and low growth. Thus, it can be said that majority of India's exports experienced high growth of earnings with low export earnings instability during the period under study.

Table 2 presents a picture of decomposition of components of instability (variance) of India's selected export commodities during the period from 1991 to 2006. It is clear from the data that quantity variables were found to be the dominant variables causing instability in majority of selected commodities except the commodities like iron ore and concentrates (SITC-281), cotton fabrics (woven) (SITC-652), made-up articles, wholly or chiefly of textile material (SITC-656), electric power machinery and switchgear (SITC-722), clothing (SITC-841) and footwear (SITC-851) in which price is the dominant variable of instability. The negative sign with the co-variance term shows dominance of supply variable in most of the commodities except the commodities namely tea and mate (SITC-

074), feed-stuff for animals (SITC-081), universals plates and sheets of iron or steel (SITC-674) and electric power machinery and switchgear (SITC-722) during the period under study.

Table 3 highlights the role of demand and supply variables in instability of export earnings during the period from 1991 to 2006. The instability indices of export earnings, export volume and export price (unit value) have also been given in the table. The analysis of the correlation between the de-trended series of export earnings and export volume and between the de-trended series of export earnings and export prices (on the basis of Appendix I) exhibits that in case of fourteen commodities role of demand and supply could not be determined as export volume data is not available in case of four commodities and the remaining ten commodities could not fulfill the four conditions of the model used. Therefore, out of the remaining sixteen commodities, supply fluctuations were dominant in case of the majority of the selected exports except feed-stuff for animals (SITC-081) and iron ore and concentrates (SITC-281). In case of these two commodities, export earnings instability was mainly due to demand variations.

Table 4 reveals the instability of exports by commodity structure during the period from 1991 to 2006. It also shows the contribution of the specific commodities in total export instability and its stabilization/destabilization effect (excessive contributor to instability) on total export earnings. The first column (IDX) in table 4 indicates the absolute level of export earning instability. The second column indicates the mean share (R) of each commodity. The 'contribution percentage index (CP)' a measure widely used as an indicator of the contribution of a given commodity (or market outlet) to the instability in total export instability (Coppock, 1962) has been given in the column fourth. This is calculated by multiplying the absolute instability index of each commodity/group (Column 1) by its relative share (Column 2) and expressing it as a percentage of the sum of the product. The rationale of this is that contribution of each commodity to total export instability depends on both its absolute instability and the relative share in export composition. A general criterion to determine whether a given commodity contributes excessively to total instability is the extent to which the contribution percentage (CP) exceeds its relative share. A convenient way is to express the former as a ratio of the latter. The fifth column provides the information regarding the stabilization/destabilization effect of the selected commodities on overall export earnings. If $(CP/R) > 1$ then the given commodity is an 'excessive contributor to instability'. Table 4 reveals several important aspects of commodity profile of export instability behaviour. On the basis of the results of absolute instability index (IDX), it was found that majority of the commodities have realized high instability. Among the selected export commodities, rice (SITC-042), feed-stuff for animals (SITC-081), iron ore and concentrates (SITC-281), petroleum products (SITC-332), pearls and precious and semi-precious stones (SITC-667), clothing (SITC-841) and jewellery (SITC-897) were found to be the large contributors to overall export instability (as highlighted by the term CP in the respective table). Fish (SITC-031), fruits (SITC-051), tea and mate (SITC-074), organic chemicals (SITC-512), synthetic organic dyestuffs, natural indigo and lakes (SITC-531), medicinal and pharmaceutical products (SITC-541), cotton fabrics (woven) (SITC-652), textile fabrics (woven) (SITC-653), made-up articles, wholly or chiefly of textile material (SITC-656), floor coverings, tapestries, etc. (SITC-657), pearls and precious and semi-precious stones (SITC-667), machinery and appliances non electrical parts (SITC-719), clothing (SITC-841) and footwear (SITC-851) appeared to be most stable in terms of the degree of the relative contribution to total instability and have stabilization effect on India's export earnings during the period under study. On the other hand, all the commodities have more or less destabilization effect on India's export instability and emerged as excessive contributors to the instability.

Table 5 reveals several important aspects of profile of export instability behaviour by trading partners during the period from 1991 to 2006. It reveals the contribution of specific market in total export instability and its stabilization/destabilization effect on total export earnings. The export destinations which have examined here constitute more than 75 per cent share of total export earnings. Similar to the commodity-wise analysis of instability, contribution share index (CP) and contribution percentage ratio (CP/R) indices have been for each export destination respectively to estimate export instability behaviour by trading partners. Based on the absolute instability index values, the developed countries occupy the lowest position in the absolute instability ranking as compared to developing countries. Among the both developing and developed countries, USA, Japan, Russia UAE, Bangladesh, China, Honk Kong, and Singapore emerged as large contributors to the overall export instability. All the selected developed countries have strong stabilization effect on India's exports as relative contribution to total instability of each of these countries found to be well below their relative share in overall export earnings. With respect to their importance in India's overall export earnings, among the developing economies Iraq, Romania, Bhutan, Maldives, Pakistan, China, South Korea, Singapore Egypt, Kenya and Sudan have destabilization effect and proved as excessive contributors to instability to India's export earnings. Contrary to these, all other developing economies such as Kuwait, Saudi Arabia, U.A.E, Bangladesh, Nepal, Sri Lanka, Honk Kong, Malaysia, Thailand, Tanzania, Zambia and Latin American Countries have strong stabilization effect on India's exports earnings during the study period. Thus, it is held that exports to the developed countries have been characterised by lower absolute instability and lesser contribution to total instability and have strong stabilization effect on India's export earnings as compared to the developing countries during the study period.

CONCLUDING REMARKS

Based on the above results, it is concluded that growth of India's exports during post-reform and post-WTO period remained to be as high as of 12.79 per cent that is well above the growth of exports of majority of the developed and developing countries (Singh, 2011). The scene at the instability side is also found to be satisfactory as instability of total export earnings is recoded as low as of 1.40 per cent per annum. At disaggregate level, among selected commodities, except the six commodities namely fish (SITC-031), fruits (SITC-051), tea and mate (SITC-074), feed-stuff for animals (SITC-081), woven cotton fabrics (SITC-652), and floor coverings, tapestries, etc. (SITC-657), all other commodities registered high rate of growth. Except the commodities namely iron ore and concentrates (SITC-281), petroleum products (SITC-332), ingots and other primary forms of iron (SITC-672) and copper (SITC-682), all other commodities experienced low instability during the study period. It means that majority of India's exports (selected commodities) experienced high growth and low earnings instability during post-reform as well as post-WTO period. Further, the analysis of instability of India's export reveals that export instability was primarily due to the dominance of quantity variables in case of majority of India's exports. It is also observed that instability in India's export earnings is mainly due to supply variations. Thus, dominance of quantity and supply variations in the instability of the majority of the commodities indicates towards the existence of supply bottlenecks in the Indian economy for the respective commodities. Although, the government had removed these bottlenecks by introducing several trade policy reforms, but still supply bottlenecks contribute to the instability of Indian exports during the study period. Besides, out of the selected commodities, fourteen commodities have strong stabilization effect on the export earnings during the study period. Analysis also reveals that developed countries occupy the lowest position in the instability ranking as compared to developing countries and found to be most stable markets for India's export and thus have strong stabilization effect on India's export earnings. However, several developing economies such as Kuwait, Saudi Arabia, U.A.E, Bangladesh, Nepal, Sri Lanka, Hong Kong, Malaysia, Thailand, Tanzania, Zambia and Latin American Countries have stabilization effect on India's export earnings during the period under study. Provision of export subsidies, tax concessions, tax holidays, duty refund, removal of the restrictions from import technology and raw materials used in export based industries and establishment of Special Economic Zones (SEZs) in India has benefited export by various ways. Appropriate domestic policy reforms would be essential for abolition of domestic supply bottlenecks and for maintaining quality and cost competitiveness of exports in global market. Deepening of reforms into specific export sectors would stimulate India's export; result compositional and geographical diversification; help to remove supply bottlenecks operating in the economy and help improving export competitiveness.

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TABLES

TABLE 1: GROWTH AND INSTABILITY OF INDIA'S SELECTED EXPORTS DURING 1991-2006

S.N.	Commodity Code	Growth of Export Earnings	Growth of Export Volume	Growth of Export Price	Export Earning Instability	Export Volume Instability	Export Price Instability
1	SITC-031	4.96	5.35	-0.37	1.98	2.87	7.39
2	SITC-042	9.81	13.10	-2.91	5.50	6.50	-21.21
3	SITC-051	5.66	14.74	-7.92	2.09	3.78	31.14
4	SITC-074	0.24	0.31	-0.07	2.97	2.28	12.56
5	SITC-081	3.90	1.50	2.37	6.48	4.33	-7.79
6	SITC-281	15.74	2.75	12.65	9.44	6.25	-23.96
7	SITC-332	31.11	0.00	0.00	16.05		
8	SITC-512	20.20	21.47	-1.05	2.21	2.47	17.99
9	SITC-531	7.19	11.97	-4.28	2.10	2.19	6.71
10	SITC-541	15.17	-	-	1.53	-	-
11	SITC-581	26.88	31.08	-3.21	4.78	6.52	127.48
12	SITC-599	18.00	18.58	-0.49	2.99	3.06	19.78
13	SITC-611	6.40	3.96	2.35	3.50	9.38	4.63
14	SITC-629	10.38	14.42	-3.54	1.21	5.30	82.47
15	SITC-651	9.04	9.89	-0.77	3.26	8.69	66.15
16	SITC-652	1.63	-9.26	12.00	2.02	10.34	71.31
17	SITC-653	9.00	-3.23	12.64	0.60	2.18	24.45
18	SITC-656	12.67	1.34	11.18	1.36	9.00	52.68
19	SITC-657	4.13	2.35	1.74	2.47	4.94	12.86
20	SITC-661	15.09	17.39	-1.96	3.80	5.66	-18.18
21	SITC-667	10.09	-	-	1.14	-	-
22	SITC-672	25.56	23.07	2.02	8.14	9.81	-52.57
23	SITC-674	26.10	21.78	3.54	4.40	5.55	-39.61
24	SITC-682	48.55	48.77	-0.14	13.60	17.72	33.93
25	SITC-719	19.87	33.51	-10.21	2.64	9.19	21.50
26	SITC-722	21.14	7.77	12.40	4.29	13.86	24.86
27	SITC-732	15.09	75.98	-34.59	5.05	116.75	21.76
28	SITC-841	8.29	-3.70	12.45	0.93	8.52	37.94
29	SITC-851	9.70	3.25	6.25	2.86	7.60	16.67
30	SITC-897	21.03	-	-	2.55	-	-
	Total	12.79			1.40		

Computed from Commodity Trade Statistics Database, United Nations.

TABLE 2: COMPONENTS OF VARIANCE OF INDIA'S SELECTED EXPORTS DURING 1991-2006

	Commodity Codes	Var Log E	Var Log P	Var Log Q	2Cov Log P .Log Q	VAR Log P /Var Log Q	Var Q /Var P	Dominant Variable
1	SITC-031	0.013810	8.68	123.63	-32.31	0.07	14.24	Q
2	SITC-042	0.062619	18.66	177.54	-96.20	0.11	9.51	Q
3	SITC-051	0.016541	250.87	559.92	-710.78	0.45	2.23	Q
4	SITC-074	0.005217	30.69	44.81	24.50	0.68	1.46	Q
5	SITC-081	0.036192	15.29	61.52	23.19	0.25	4.02	Q
6	SITC-281	0.162679	112.98	43.71	-56.69	2.58	0.39	P
7	SITC-332	0.547554	-	-	-			ND
8	SITC-512	0.157351	2.94	111.39	-14.33	0.03	37.89	Q
9	SITC-531	0.024510	43.70	242.55	-186.26	0.18	5.55	Q
10	SITC-541	0.092313	-	-	-			ND
11	SITC-581	0.269999	7.15	131.38	-38.52	0.05	18.37	Q
12	SITC-599	0.129170	5.54	104.60	-10.14	0.05	18.88	Q
13	SITC-611	0.024759	21.49	86.55	-8.04	0.25	4.03	Q
14	SITC-629	0.181088	137.27	263.57	-300.84	0.52	1.92	Q
15	SITC-651	0.043342	106.90	216.23	-223.13	0.49	2.02	Q
16	SITC-652	0.004324	3086.38	2401.04	-5387.43	1.29	0.78	P
17	SITC-653	0.246097	58.54	89.68	-48.22	0.65	1.53	Q
18	SITC-656	0.065869	144.52	71.49	-116.02	2.02	0.49	P
19	SITC-657	0.011789	81.73	100.99	-82.72	0.81	1.24	Q
20	SITC-661	0.097423	25.52	152.91	-78.44	0.17	5.99	Q
21	SITC-667	0.043463	-	-	-			ND
22	SITC-672	0.266921	13.14	96.66	-9.80	0.14	7.36	Q
23	SITC-674	0.255474	6.98	78.11	14.91	0.09	11.19	Q
24	SITC-682	0.186897	19.59	166.92	-86.52	0.12	8.52	Q
25	SITC-719	0.153523	63.71	261.06	-224.77	0.24	4.10	Q
26	SITC-722	0.176644	53.47	43.01	3.52	1.24	0.80	P
27	SITC-732	0.108696	970.50	1648.22	-2518.72	0.59	1.70	Q
28	SITC-841	0.029738	403.91	220.54	-524.45	1.83	0.55	P
29	SITC-851	0.043793	93.20	41.58	-34.78	2.24	0.45	P
30	SITC-897	0.170142	-	-!	-			ND

Note: Var E: Variance of Export Earnings, Var Q: Variance of Export Volume, Var P: Variance of Export Earnings, 2 Cov Log P. Log Q: Covariance Coefficient = Price, S= Supply Computed from Commodity Trade Statistics Database, United Nations.

TABLE 3: INSTABILITY OF EXPORT EARNINGS, VOLUME AND PRICE AND ROLE OF DEMAND AND SUPPLY VARIABLES DURING 1991-2006

	Commodities	Export Earnings Instability (EEI)	Export Price Instability (EPI)	Export Volume Instability (EVI)	r(EQ)	r(EP)	Comparison	DV
1	SITC-031	1.98	7.39	2.87	0.88	-0.11	r(EQ) > r(EP)	ND
2	SITC-042	5.50	-21.21	6.50	0.92	-0.44	r(EQ) > r(EP)	3
3	SITC-051	2.09	31.14	3.78	-0.09	0.59	r(EQ) < r(EP)	4
4	SITC-074	2.97	12.56	2.28	0.85	0.78	r(EQ) > r(EP)	ND
5	SITC-081	6.48	-7.78	4.33	0.95	0.60	r(EQ) > r(EP)	1
6	SITC-281	9.44	-23.96	6.25	0.11	0.66	r(EQ) < r(EP)	2
7	SITC-332	16.05	--	--	--	--	--	ND
8	SITC-512	2.21	17.99	2.47	0.50	0.52	r(EQ) < r(EP)	4
9	SITC-531	2.10	6.71	2.19	0.53	0.68	r(EQ) < r(EP)	4
10	SITC-541	1.53	--	--	--	--	--	
11	SITC-581	4.78	127.48	6.52	0.63	0.17	r(EQ) > r(EP)	ND
12	SITC-599	2.99	19.78	3.06	0.21	0.71	r(EQ) < r(EP)	4
13	SITC-611	3.50	4.63	9.37	0.92	-0.48	r(EQ) > r(EP)	3
14	SITC-629	1.21	5.30	82.47	0.38	-0.15	r(EQ) > r(EP)	3
15	SITC-651	3.26	66.15	8.69	0.38	0.05	r(EQ) > r(EP)	ND
16	SITC-652	2.02	71.31	10.34	-0.40	0.57	r(EQ) < r(EP)	4
17	SITC-653	0.60	2.18	24.45	0.83	-0.69	r(EQ) < r(EP)	ND
18	SITC-656	1.36	52.68	8.99	0.21	-0.03	r(EQ) > r(EP)	ND
19	SITC-657	2.47	12.86	4.94	0.43	0.27	r(EQ) > r(EP)	ND
20	SITC-661	3.80	-18.18	5.66	0.54	-0.06	r(EQ) > r(EP)	3
21	SITC-667	1.14	--	--	--	--	--	ND
22	SITC-672	8.14	-52.57	9.81	0.69	0.04	r(EQ) > r(EP)	3
23	SITC-674	4.40	-39.6	5.55	0.69	0.03	r(EQ) > r(EP)	3
24	SITC-682	13.60	33.93	17.72	0.74	0.44	r(EQ) > r(EP)	ND
25	SITC-719	2.64	21.5	9.19	-0.84	0.93	r(EQ) < r(EP)	4
26	SITC-722	4.29	24.86	13.86	0.62	-0.21	r(EQ) > r(EP)	ND
27	SITC-732	5.05	21.76	116.75	0.77	-0.65	r(EQ) > r(EP)	3
28	SITC-841	0.93	37.94	8.52	0.15	-0.02	r(EQ) > r(EP)	ND
29	SITC-851	2.86	16.67	7.60	-0.34	0.71	r(EQ) < r(EP)	4
30	SITC-897	2.55	--	--	--	--	--	

Computed from Commodity Trade Statistics Database, United Nations.

Notes:

- 1= Shift in Demand with an elastic supply curve
 2= Shift in demand curve with and inelastic supply curve
 3=Shift in supply curve with and elastic demand curve
 4=Shift in Supply curve with an inelastic demand curve
 ND= Not Determined

TABLES 4: INSTABILITY OF EXPORTS BY COMMODITY STRUCTURE DURING 1991-2006

	Commodities Codes	Instability Index (IDX _i)	Relative Share in Total Exports (R _i)	IDX _i *R _i	Contribution In Total Instability (CP _i)	De/Stabilization Effect CP _i /R _i
1	SITC-031	7.17	2.77	19.86	1.92	0.69
2	SITC-042	28.07	2.14	60.07	5.81	2.72
3	SITC-051	8.58	1.27	10.90	1.05	0.83
4	SITC-074	9.88	1.05	10.37	1.00	0.96
5	SITC-081	20.28	1.74	35.29	3.42	1.96
6	SITC-281	17.74	2.04	36.19	3.50	1.72
7	SITC-332	30.41	4.92	149.62	14.48	2.94
8	SITC-512	9.56	3.07	29.35	2.84	0.93
9	SITC-531	7.64	2.77	21.16	2.05	0.74
10	SITC-541	5.11	1.05	5.37	0.52	0.49
11	SITC-581	17.41	0.87	15.15	1.47	1.68
12	SITC-599	10.54	0.98	10.33	1.00	1.02
13	SITC-611	11.08	0.92	10.19	0.99	1.07
14	SITC-632	12.98	0.9	11.68	1.13	1.26
15	SITC-651	12.44	2.34	29.11	2.82	1.20
16	SITC-652	7.45	0.16	1.19	0.12	0.72
17	SITC-653	7.05	1.97	13.89	1.34	0.68
18	SITC-656	6.63	2.18	14.45	1.40	0.64
19	SITC-657	5.43	1.76	9.56	0.92	0.53
20	SITC-661	16.99	0.76	12.91	1.25	1.64
21	SITC-667	7.16	13.95	99.88	9.67	0.69
22	SITC-672	19.77	0.63	12.46	1.21	1.91
23	SITC-674	16.93	1.22	20.65	2.00	1.64
24	SITC-682	23.08	0.5	11.54	1.12	2.23
25	SITC-719	6.59	1.52	10.02	0.97	0.64
26	SITC-722	13.05	0.78	10.18	0.99	1.26
27	SITC-732	12.11	1.98	23.99	2.32	1.17
28	SITC-841	5.3	12.22	64.77	6.27	0.51
29	SITC-851	8.39	0.98	8.22	0.80	0.81
30	SITC-897	16.47	2.61	42.99	4.16	1.59
	Others	7.94	27.95	221.92	21.48	0.77
	Total	5.73	100.00	1033.25	100.00	--

Computed from Commodity Trade Statistics Database, United Nations.

TABLE 5: INSTABILITY OF EXPORTS BY TRADING PARTNER DURING 1991-2006

Countries	Instability Index (IDX _i)	Relative Share in Total Exports (R _i)	IDX _i *R _i	Contribution in Total Instability (CP _i)	De/Stabilization Effect CP _i /R _i
Belgium	6.54	3.39	22.19	1.40	0.41
France	7.10	2.21	15.68	0.99	0.45
Germany	5.89	5.31	31.26	1.97	0.37
Italy	9.52	2.94	28.01	1.76	0.60
Netherlands	10.09	2.19	22.07	1.39	0.63
U.K.	8.71	5.59	48.70	3.06	0.55
Canada	6.26	1.15	7.17	0.45	0.39
U.S.A	6.12	18.54	113.46	7.14	0.39
Australia	7.35	1.04	7.66	0.48	0.46
Japan	8.62	5.33	45.99	2.89	0.54
Russia	15.50	3.30	51.21	3.22	0.98
Switzerland	6.63	0.89	5.87	0.37	0.42
Indonesia	22.13	1.22	27.09	1.70	1.39
Iran	13.23	0.77	10.15	0.64	0.83
Iraq	52.05	0.12	6.50	0.41	3.28
Kuwait	9.46	0.46	4.34	0.27	0.60
Saudi Arabia	9.50	1.87	17.73	1.12	0.60
U.A.E.	8.57	5.79	49.65	3.12	0.54
Romania	26.80	0.08	2.16	0.14	1.69
Bangladesh	15.02	2.17	32.57	2.05	0.95
Bhutan	30.66	0.05	1.45	0.09	1.93
Maldives	21.21	0.05	0.96	0.06	1.33
Nepal	15.40	0.54	8.36	0.53	0.97
Pakistan	25.22	0.40	10.19	0.64	1.59
Sri Lanka	8.83	1.45	12.78	0.80	0.56
China,	24.04	2.55	61.22	3.85	1.51
Hong Kong	12.26	5.02	61.57	3.87	0.77
South Korea	17.29	1.27	21.88	1.38	1.09
Malaysia	14.08	1.24	17.39	1.09	0.89
Singapore	16.80	2.95	49.59	3.12	1.06
Thailand	9.88	1.27	12.52	0.79	0.62
Benin	15.52	0.07	1.14	0.07	0.98
Egypt	16.47	0.62	10.24	0.64	1.04
Kenya	20.95	0.44	9.17	0.58	1.32
Sudan	16.58	0.17	2.85	0.18	1.04
Tanzania	13.40	0.24	3.22	0.20	0.84
Zambia	11.72	0.09	1.03	0.06	0.74
LACs*	14.35	1.82	26.18	1.65	0.90
Others	47.25	15.40	727.84	45.80	2.97
Total Trade	8.03	100.00	1589.03	100.00	1.00

Note: LACs*: Latin American Countries

Computed from Handbook of Statistics on Indian Economy, RBI

APPENDIX

APPENDIX I: METHOD FOR EXAMINING THE ROLE OF DEMAND AND SUPPLY IN EXPORT INSTABILITY

Variations in export earnings instability are generated by the interaction between variations in export quantity and price, which are in turn due to shifts in export demand or supply. Consequently the degree of association between the degree of price and quantity instability and degree of earning instability is determined by two main factors, namely the relative importance of demand and supply shifts and price elasticities of demand and supply.

If the demand curve is not stable while supply curve remains relatively stable, the trend corrected price series tend to move in similar direction. Therefore, earning instability is higher in comparison to price and quantity instability. The relative importance of quantity instability is determined by the elasticities of supply curve. If the supply curve is price elastic, quantities tend to be relatively less stable. Therefore, variations in earnings will be highly correlated variations in quantities than those in prices. If supply curve is inelastic, the converse will be true.

If the supply curve shifts while the demand curve remains relatively less stable, trend deviations of the price and quantities series will behave in a compensatory manner, making earnings less unstable than either prices or quantities. Assuming that the demand curve is elastic, variations in earnings will closely follow the time path of volume variations. Earnings instability tends to be lower than price instability because of the compensatory nature of price and quantity variations. On the other hand, if demand curve is inelastic, trend-corrected earnings will closely follow the time path of the trend corrected price series. Price instability is more than volume instability and earnings instability will also tend to be lower than the former.

The foregoing discussion suggests that by observing the relationship of price, earnings, and quantity variations around their respective trends, we can identify whether earning instability is predominantly caused by demand or supply shifts. Moreover, by comparing the relative magnitude of the measured instability of price and quantity and the correlation between the de-trended series of price and quantity and de-trended series of earnings, some inferences as to the degree of price elasticity of the curve which remains stable, can be made for. For the purpose of expository simplicity, these demand and supply configuration can be classified as follow:

- Shift in Demand with an elastic supply curve**
 $EI > PI$, $EI > QI$, $PI > QI$ and $r(EQ) > r(EP)$
- Shift in demand curve with and inelastic supply curve**
 $EI > PI$, $EI > QI$, $PI > QI$ and $r(EQ) < r(EP)$
- Shift in supply curve with and elastic demand curve**
 $EI < QI$, $PI < QI$ and $r(EQ) > r(EP)$
- Shift in Supply curve with an inelastic demand curve**
 $EI < PI$, $PI > QI$ and $r(EQ) < r(EP)$

Where

EI= Export earnings Instability

PI= Price Instability

QI= Quantity Instability

r(EP)= Correlation between trend corrected series of export earnings and export price

r(EQ)= Correlation between trend corrected series of export earnings and export quantity

Source: Kaundal (2005)

CHANGE IN RETAIL SHOPPING BEHAVIOUR: WHY AND FOR WHOM?**PRAMOD PANDURANGRAO LONARKAR****ASST. PROFESSOR IN ECONOMICS****SCHOOL OF SOCIAL SCIENCES****SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED'S SUB-CENTRE****LATUR****PARMESHWAR GORE****RESEARCH SCHOLAR****DEPARTMENT OF ECONOMICS****DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY****AURANGABAD****ABSTRACT**

Retailing in India has got immense importance because of the increasing purchasing power of the society. People prefer one stop shopping for their daily and most frequent needs. So there is a change in shopping behavior of the people from corner Kirana Stores to organized retail outlets. No doubt this change is found in metro cities rather than the rural areas. It is also true that organized retailers are searching new places due to the excess cluster of organized retail stores in metro cities. So they are expanding their business to second tier cities. So this study tried to give an insight on the basic concept of retailing and tries to focus the groups of people for whom this change is found to be more and a cause of such change. The results of this study are obtained on the basis of the samples (customers) visiting to organized retail in Aurangabad city of Maharashtra state.

INTRODUCTION

Indian Economy is growing with near about 8 to 9 percent GDP growth (6.5 percent in recession period) and more than 121 million populations. Where purchasing power of the people, which has led to a significant growth in the demand for variety of goods, both consumable & durables, Durable segment means premium and luxury segments, which has tremendous growth potential in India. Increase in disposable income, growth in youth population, change in clothing pattern (wearing choice) of higher & middle class people, use of credit cards, increasing urbanization & media bombardment, partially opened up policy of FDI in retail trade market (51 per cent in single brand product and 49 per cent in multi brand product), causes that India has become a most favored nation in the world since 2004, it has almost on the ranking one (A.T.Kearney). Shining atmosphere of retail shops attracts customers and has exposed the Indian consumers to the lifestyles of more affluent countries. So there has been a change in shopping behavior of the people. This change has been gone through Urban India over the past few years. Retailers always trying to keep their customer happy so there is friendly relationship between the customer and retailer in urban area (S. Anjaiah). Customers want everything under one roof & bigger choices of products. With an increase in income (earning by subsidiary Business) of households, shortage of time so that they seek convenient one-stop-shopping in order to make the best use of their time and money. They also look for efficiency. Increased awareness has made the consumer to seek more information about variety of the products, better quality & hygiene as well as improved consumer service. It means that the concept of 'Value for Money' is picking up.

The ICRIER study claims that consumer will gain from lower price, more choices, better & more consistent quality, convenience and hygiene. They will also gain from better shopping experience. This will change the shopping behavior of the retail customers which is observed more in urban areas than the rural areas.

Most of the studies show that the change has been increasing in top cities like Hyderabad, Coimbatore, Ahmadabad, Mumbai, Pune, Chennai, Bangalore, Delhi etc., where consumers are moving from corner Kirana Shops to Organized Retail Outlets. The study of Dr. Sanjeev Vрма and Ranjan Chaudhuri concluded that there is variability in attributes of retail outlet due to demographics profile of customers. In second tier cities like Aurangabad, Nanded, Akola, and Ahmadnagar has tremendous potential to change the behavior of customers with improving their economic condition in Maharashtra. In Aurangabad, there is huge scope to establishment and expand retail stores due to high income group & huge population. The excess cluster of organized retail stores in Pune, Mumbai, and Nasik causes organized retailers to look new cities to expand their business. So the purpose of this study is to find out the change in shopping behavior of consumers in Aurangabad city.

WHAT IS RETAILING

Retailing encompasses the business activities involved in selling goods and services to consumers for their personal, family or household use. It includes every sale to the final consumer. Retailing is the last link that connects the individual consumer with the manufacturer. Thus, it consists, all the activities involved in the marketing of goods & services directly to the Consumer. It is a stage in distribution process.

ORGANIZED AND UNORGANIZED RETAIL

The Retail industry is divided into Organized & Unorganized sector. Organized Retail refers to trading activities undertaken by licensed retailers i.e. those who are registered for sales tax, income tax etc. These included the corporate backed hypermarkets, retail chains & also privately owned large retail business. Unorganized retailing on the other hand, refers to the traditional formats of low-cost retailing for example, the corner Stores (Kirana Shops), General Stores, Cigarette stalls, Convenience Stores, Vendors etc.

AURANGABAD AS A SECOND TIER CITY

Aurangabad is considered as a second tier city with 28.97 (in 2010) lakh population. It is located in Marathwada region of Maharashtra state where organized retailers are trying to expand their business. Aurangabad city is a business hub of the Marathwada region. Today Aurangabad city can boost through highest number of the most modern (organized) supermarkets, hypermarkets and malls. Earlier it was known as only as tourist centre and historical place. Now organized retail outlets spread almost everywhere in the city. The major player's of the national and international market entered in business of Aurangabad city. The Spencer's, Big Bazaar, Vishal Mega mart, More hypermarket, Globus, The Loot, Subhiksha, Prozon mall, Maniyar Supermarket, Sapna Supermarket, Tanisk, Bata are the dominant players in the city up to 2009-10 as per the registration book of Maharashtra shop and institution.

OBJECTIVES OF THE STUDY

- 1) To know the change in shopping behavior of the people in second tier city like Aurangabad.
- 2) To find out the reason, why there is a change in shopping behavior of the customers'.
- 3) To find out the group of people for whom this change has been occurred.

ASSUMPTIONS

This study is based on the following assumption.

- 1) Shopping behavior of the customers of second tier cities is changing from unorganized retail to organized retail.
- 2) Change in shopping behavior is more in higher income groups, youngsters & in females.
- 3) Shopping from organized retail is preferred due to low prices, better quality, variety of products, time saving & better services.

RESEARCH METHODOLOGY

For this study the data is collected by primary source by convincing questionnaire to the sample consumer in Aurangabad city. Hundred and ten customers have been sampled randomly from organized retail outlets. The sample customers were selected (61) from Mega retail outlets (Bigbazaar & Spence's) and remaining (49) were selected from Small retail outlets (Sapna & Subhiksha).

RESULTS & DISCUSSION

Respondents are categorized on the basis of sex, age group, occupation, Income level, distance of outlet from their residence etc. the following results have been obtained.

I. SEX WISE RESPONSE

Respondents from Mega & Small retail outlets separately categorized on the basis of male & female proportion. There were 33 (or 54 percent) female customers and 28 (or 46 percent) male customers have visited Mega Stores, whereas 23 (or 59 percent) female customers and 16 (or 41 percent) male customers have visited to Small Stores (Refer Table no. 1.1). Let us take the Null hypothesis that there is no significant difference between types of store customers' visit and gender. Applying chi-square test for following data we get calculated $X^2 = 0.50$ for 2 degrees of freedom [(C-1) (V-1) = 2] and at 0.05 percent level of significance. This calculated value of X^2 is grater than the table value hence rejected the null hypothesis. So we can conclude that there is significant difference between types of store and gender of the customer.

TABLE NO 1.1: SEX WISE RESPONSE OF CUSTOMERS VISITING TO RETAIL OUTLETS

Sex \ Stores	Mega Outlets	Small Outlets
F	33 (53)	23 (59)
M	28 (47)	16 (41)

* Figures in parenthesis indicate percentage

Source: Data compiled from the survey made for customers visiting organized retail outlets sampled from the Aurangabad.

II. AGE WISE RESPONSE

When customers are categorized on the basis of age groups (As per Table no. 1.2) we found 49 percent customers from mega outlet are in the age group below 35 years, whereas 62 percent to Small retail outlets. Age group between 35 to 50 years has near about same proportion for both category shops that is 34 and 36 percent for Mega and Small Stores respectively. 16 percent people from above 50 years age group have visited to Mega retail outlet and only 3 percent to Small retail outlets. This data indicates that the youngest generation visits mostly to organized retail. The oldest people above 50 years have shown less interest to visit organized retail outlets. It is observed that in the young visitors, student population is more. They visit for the purpose of urgent and small need. It can be justified that customers above age 50 Years prefers Mega mart for the convenient of one stop shopping.

Let us take the Null hypothesis that there is no association between age group of customer and type of store. Here again the calculated value of $X^2 = 4.84$ is grater than table value for 2 degrees of freedom at 0.05 percent level of significance. Hence hypothesis is rejected so we may conclude that there is association between age wise visiting to type of Stores.

TABLE NO 1.2: AGE WISE RESPONSE OF CUSTOMERS VISITING TO RETAIL OUTLETS

Age \ Stores	Mega Outlets	Small Outlets
Below 35	30 (49)	24 (61)
35 to 50	21 (35)	14 (36)
50 & above	10 (16)	1 (3)

* Figures in parenthesis indicate percentage

Source: Data compiled from the survey made for customers visiting organized retail outlets sampled from the Aurangabad.

III. OCCUPATION WISE RESPONSE

Occupational distribution shows that service, professional and business people are interested to visit Mega Stores more frequently then the Small Stores. This may be due to availability of all variety products as well as preference of respondents. People from business, profession & services occupation responded 35 percent, 13 percent & 52 percent share in Mega retail respectively, whereas for Small retail they comprise 10 percent, 26 percent, 64 percent share respectively. This shows share of customers doing service is more for both types of the retail outlets and customers doing business chooses Mega mart, more than the Small retail Stores (Ref. Table 1.3). Chi-square test for the null hypothesis that there is no association between customers occupation and the type of store shows that the calculated value of $X^2 = 8.20$, which is grater than the table value (for 2 degrees of freedom at 0.05 percent level of significance). The hypothesis is rejected. Hence there is association between occupation of customers and type of store. But for less than at 0.01percent and 0.001percent level of significance, hence we may conclude that there is quite association between visiting of occupation wise customers and the type Stores.

TABLE NO.1.3: OCCUPATION WISE RESPONSES OF CUSTOMERS VISITING TO RETAIL OUTLETS

Occupation \ Stores	Mega Outlets	Small Outlets
Service	32 (52)	25 (64)
Business	21 (35)	4 (10)
Profession	8 (13)	10 (26)

* Figures in parenthesis indicate percentage

Source: Data compiled from the survey made for customers visiting organized retail outlets sampled from the Aurangabad.

IV. INCOME WISE RESPONSE

Income wise distribution of the people indicates that as the level of income increases the quantum of the people visiting to mega stores is increasing while the quantum of small income group is favorable for small stores (Ref. Table No. 1.4). It shows that the attitude of higher income group toward Small Stores is not so affirmative. The distribution has made according to the level of income per month for a family. A denotes the group below Rs. 12500. The second group B denotes Rs. 12500 to Rs. 25000. Third group of C shows Rs.25000 to Rs. 40000, D shows the range from Rs.40000 to Rs. 80000 and last one E denotes the group of above Rs.80000. It is interesting to note that in the respondents there is not a single attribute found from the income group E visited to small stores.

TABLE NO 1.4: INCOME WISE RESPONSE OF CUSTOMERS VISITING TO RETAIL OUTLETS

Income \ Stores	Mega Outlets	Small Outlets
A	8 (13)	13 (33)
B	15 (25)	18 (46)
C	17 (28)	5 (13)
D	18 (29)	3 (8)
E	3 (5)	0 (0)

* Figures in parenthesis indicate percentage

Source: Data compiled from the survey made for customers visiting organized retail outlets sampled from the Aurangabad.

V. DISTANCE OF OUTLET

The distance of the Stores is important from the point of transportation cost. The distinction has made on the basis of the distance of outlet from the residence of respondents. It is observed that 59 percent & 36 percent of the customers of small retail comes from one km & 2 to 3 km respectively but more than that distance the share of the respondents for Small retail is very low (5 percent). In case of Mega mart distance doesn't matter, people come from the all distance group (Ref. Table No. 1.5).

TABLE NO. 1.5: CUSTOMERS VISITING TO OUTLETS FROM VARIOUS DISTANCES

Distant \ Stores	Mega Outlets Percentage	Small Outlets percentage
Up to 1 km.	16	57
2 to 3 km.	36	36
3 to 4 km.	20	3
5 & above	28	3

So it is interesting to note that Small retail outlets capture only those customers who leave near by the outlets and up to 3 km significantly. We observed that there are 48 per cent customers coming from above 3 km distance at Mega Stores, while the percentages of visitors to Small Stores are only 6 percent for same distance.

Now we can answer to our question that, the change in shopping behavior is more for whom? Separate for Small outlets & Mega outlets.

Small Outlets

Change in shopping behavior is more

- 1) In the people below 35 Years
- 2) In service men's
- 3) In income group up to 3 Lakh
- 4) In those who leaves in close circle

Mega outlets

- 1) In the people below 35 Years.
- 2) In service men & Business men's.
- 3) In all income groups
- 4) In all who leaves close or far from the outlet.

When a question is asked, do they still regularly visit to corner Kirana Stores? We got following response.

TABLE NO. 1.6: ORGANIZED RETAIL CUSTOMERS VISITING TO CORNER KIRANA STORES

Stores	Mega Outlets	Small Outlets
Answers		
Yes	13	14
No	33	16
Rarely	15	9

Source: Data compiled from the survey made for customers visiting organized retail outlets sampled from the Aurangabad.

Here, it is important to note that change in shopping behavior from corner Kirana Stores to Organized retail outlets, is very significant for mega retail outlets because 33 percent of the respondents of Mega retail says no strictly, while in case of Small retail outlet 16 percent respondents says no (Ref. Table No. 1.6). Since, the calculated value of $X^2 = 2.73$ is less than table value for the degrees of freedom $(C-1)(V-1) = (2-1)(3-1) = 2$ at 0.05 percent level of significance, so we may conclude that, there is significant difference between Small and Mega Stores customers in concern to their willingness to visit Corner stores or local Kirana Stores.

Why there is a change in shopping behavior?

Now our next tasks to find out "why there is a change in shopping behavior?" To answer this, investigators obtained responses for probable answer like low prices, variety, guarantee and time saving good service, information about new products & shopping with entertainment etc. We got following responses for each probable answer.

TABLE NO. 7: WHY DO YOU PREFER ORGANIZED RETAIL OUTLET (RESPONSES IN PERCENTAGE FOR EACH REASON AND CATEGORY OUTLET?)

	Mega Outlets	Small Outlets
Due to low prices	36	64
Variety's are Available	92	41
Feel guarantee about quality	90	77
It is time saving to buy from here	87	82
Get information of new products	70	49
Service given by employees is satisfactory	95	95
Shopping with entertainment	46	5

Source: Data compiled from the survey made for customers visiting organized retail outlets sampled from the Aurangabad.

As per the table no. 1.7 response from small outlet is more to low prices, guarantee about quality, time saving and good service where as in case of Mega retail response is more for variety, guarantee, time saving, new product information and good services given by employees. This study shows that customers get low prices in Small retail outlets than the Mega outlets. And it also observed that a group of people feels that they can entertain themselves and their children in Mega mart because ice-cream parlor, fast food stoles & play park is available their, for that reason also they prefer Mega retail for shopping.

CONCLUSION

By this research it is concluded that there is a significant change in the shopping behavior of people of second tier city (Cities like Aurangabad). This change is found more in specific age group, income group and service group some variations are found when we compare the small and mega retail outlets in case of distance of outlets and residence of customers. The reason behind the change is the time saving shopping with satisfactory services.

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LIVESTOCK A WAY TOWARDS RURAL INDUSTRIALIZATION-A CASE STUDY OF POULTRY BUSINESS

SUNIL SUBHASH PATIL
ASST. PROFESSOR
DEPARTMENT OF COMMERCE & MANAGEMENT
GANPATRAO ARWADE COLLEGE OF COMMERCE
SANGLI, MAHARASHTRA

ABSTRACT

Poultry is today one of the fastest growing segments of the agricultural sector in India. The poultry business is a very old practice and this industry is one of the important contributors to the economy of rural and semi-urban India. While the production of agricultural crops in India has been growing at a rate of 1.5 to 2 percent per annum during the last two decades, that of eggs has been rising at 6 percent per annum. India produced 37 billion eggs in the year 2007-08 and ranked fifth in the world in egg production. Similarly the country produced more than 1000 million broilers in the same year. Although India is the world's fifth largest egg producer and eighteenth largest producer of broilers, its per capita consumption is poor - 37 eggs and 1 kg of poultry meat as against the recommended levels of 180 eggs and 11 kg. of poultry meat per capita per annum. Here again there is considerable variation between rural and urban and also across the regions. Per capita consumption of eggs is only 7.7 per annum in rural areas as against 17.8 per annum in urban areas. In seven states, per capita consumption of eggs is less than 3.5 per annum. Similarly, per capita consumption of poultry meat is 0.24 kg in rural areas and 1.08 kg in urban areas. Poultry industry in India has mainly grown with the enterprise of the private sector. However, government has also helped it to grow in a number of ways. The governmental measures include: direct funding of several research activities related to poultry breeding and health management, indirect support through the Agricultural and Processed food products Export Development Authority (APEDA) and the National Egg Coordination Council (NECC) and setting up a number of poultry estates in collaboration with agencies such as the National Cooperative Development Corporation (NCDC), National Bank for Agricultural and Rural Development (NABARD), state government and non-governmental organization.

KEYWORDS

Rural, Industrialization, Livestock, Poultry, Business, Government, Economy.

INTRODUCTION

The first major step towards scientific poultry management was taken in 1939 with the establishment of the division of Poultry Research at the Indian Veterinary Research Institute (IVRI) at Izatnagar in Uttar Pradesh. In the early 40s, a vaccine against the dreaded Ranikhet disease was developed which conferred immunity to birds and facilitated commercial farming.

A beginning towards commercial poultry keeping was first made in the India's first five-year plan (1951-56) with the launching of a pilot project in Orissa. Later that was transformed into an All India Poultry Development Programme during the second five-year plan (1956-61) - the foundation of modern poultry farming in the country.

Modern poultry farming which started in the early 70s with a head count of 4 million commercial broilers per year has picked up very fast. An indication of this is the rapid jump in the production of eggs, broilers and poultry meat. India produced 37 billion eggs, about 1 billion broilers, and 0.7 billion tonnes of poultry meat in 2000-2001 as compared to 10 billion eggs, 30 million broilers, and 0.18 billion tonnes of poultry meat in 1980-81.

A distinctive feature of Indian poultry is that it is self sufficient in terms of availability of several world known brands of commercial hybrid chicks, essential equipment and machinery, medicines and vaccines, compounded poultry feed, disease diagnosis, services poultry training programmes, and technical and skilled manpower. The industry is supported by a strong genetic base, where the productivity levels of broilers and layers are equal to the productivity levels observed in developed countries like US and EU. India is also one of the few countries in the world which has put into place and sustained SPF egg production project.

Poultry industry in India has mainly grown with the enterprise of the private sector. However, government has also helped it to grow in a number of ways. The governmental measures include: direct funding of several research activities related to poultry breeding and health management, indirect support through the Agricultural and Processed food products Export Development Authority (APEDA) and the National Egg Coordination Council (NECC) and setting up a number of poultry estates in collaboration with agencies such as the National Cooperative Development Corporation (NCDC), National Bank for Agricultural and Rural Development (NABARD), state government and non-governmental organization.

NEED OF THE STUDY

A major problem affecting the Indian poultry industry is the lack of basic infrastructure - storage and transportation include cold chain. As a result, there are wild fluctuations in the prices of poultry products. A second problem is inefficient marketing system. Currently poultry products pass through various intermediaries before reaching the final consumer. The presence of so many intermediaries harms both the producer and the consumer.

OBJECTIVES OF THE STUDY

This paper is based on the following objectives.

1. To study the production and productivity of poultry business.
2. To evaluate the significance of poultry business in developing rural economy.
3. To study the problems before the poultry sector.
4. To suggest the appropriate remedies to improve the poultry business.

HYPOTHESIS OF THE STUDY

Poultry farming is emerging as backbone of rural economy.

RESEARCH METHODOLOGY

Research methodology refers to the scientific procedure for the acquisition of knowledge based on empirical observations and logical reasoning.

a) SELECTION OF THE UNIT

The researcher has selected unit to the Study **Livestock A Way Towards Rural Industrialization-A Case Study Of Poultry Business Of Bramha Chaitanya Poultry Farm Mumewadi, Tal-Ajara Dist- Kolhapur State- Maharashtra**

b) SELECTION OF THE PERIOD

For the purpose of the study researcher has collected the primary and secondary data of three years that is from 2008-09, 2009-10 and 2010-11 respectively.

c) PROCEDURE OF DATA COLLECTION**PRIMARY SOURCES**

- i) Questionnaire – it consisted of 25 questions open-ended and close-ended.

ii) Discussion, Interaction and Farm Visits.

SECONDARY SOURCES

Reference books, Journals, Research papers Magazines and Internet

f) STATISTICAL TECHNIQUES USED

The collected data was exposed to different statistical techniques like percentage, tabulation, classification, graphical presentation of different aspect of poultry farm.

DATA PRESENTATION, ANALYSIS & INTERPRETATION

TABLE -1: LOCATION PARTICULAR FROM POULTRY FARM

Sr.No	Item	Name	Distance(Km)
1	Closest town	Gadhinglaj	10 Km
2	Nearest river	Hiranyakeshi	6 Km
3	Nearest residential/settlement	Mumewadi	1.5 Km
4	Distance from highway	NH4	25 Km
5	Main Market	Goa	110 Km

From the table-1 it is observed that farm is located 10 km from gadhinglaj town, nearest river for poultry farm is 6 km (Hiranyakeshi). The main market for the broiler is 110 km that is other state goa (Panjim, Mapusa, Vasco and Margao) and the distance from the highway is 25 km (NH4), main road is (Uttur- Nipani).

TABLE -2: LOCATION PARTICULAR OF COMPETITORS (OTHER FARMS)

Sr.No	No of poultry farms	Capacity (birds)	Distance(Km)
1	2	3000	2 Km
2	5	7000	5 Km

From the table -2 it is observed that at 1 km radius there are 2 poultry farms having the capacity of production 3000 broilers where as at 2 km radius 5 poultry farm having the capacity of production 7000 broilers.

TABLE -3: SOURCES OF FUND & TOTAL INVESTMENT IN THE POULTRY FARM (FIXED CAPITAL)

Sr.No	Source	Amount	Rate of interest
1	Institutional loan	25,00,000	11.25%
2	Private loan	5,00,000	12%
3	Own funds	5,00,000	-
4	Friends & relatives	5,00,000	-

From the table -3 it is observed that sources from where fund was collected for the investment in the poultry farm. Institutional loan was taken worth Rs 2500000 with 11.25% rate of interest, 500000 own fund was invested, private loan was taken worth Rs 500000 with 12% rate of interest and 500000 where taken from friends and relatives.

TABLE -4: WORKING CAPITAL NEEDS IN THE POULTRY FARM

Sr.No	Purpose	Amount
1	Chicks	3,00,000
2	Feed	6,00,000
3	Labour	15,000
4	Electricity	5,000
5	& other	5,000

From the table -4 show that need of working capital to the poultry farm. It is observed that working capital in the farm for feed (raw material) is required huge that is 600000 where as to purchase the chicks 50% of raw material that is 300000, for the purpose of labour there is requirement of 15000, for the electricity 5000, and other purpose 5000. Overall it is found that there is huge requirement of working capital for raw material.

TABLE -5: BIRDS TURNOVER FOR LAST THREE YEAR

Sr.No	Years	Turnover
1	2008-2009	75,000
2	2009-2010	90,000
3	2010-2011	90,000

From the table -5 it is observed that at the initial stages from the establishment of farm (2007-2008) the turnover was 75000 broilers. Were as for the year 2007-08 and 2008-09 the turnover was 90000 broilers respectively.

TABLE -6: BROILERS AND MANURE TURNOVER PER BATCH DURING JAN 2010 - DEC 2010

Sr.No	Turnover	Feb	Mar	May	Jul	Aug	Oct	Dec
1	Broilers (No)	14650	14700	14550	14750	14600	14800	14700
2	Manure (Kg)	10000	10000	10000	10000	10000	10000	10000

From the table-6 it is observed that broilers production is flexible through out the year. Each batch is near to 15000 broilers production there is increase by 2% or decrease by 2% in production. In the manure production is fixed that is 10000 kg from each batch.

TABLE -7: BROILERS AVERAGE WEIGHT AND SALES PRICE (KG) PER BATCH DURING JAN 2010 - DEC 2010

Sr.No	Categories	Feb	Mar	May	Jul	Aug	Oct	Dec
1	Average weight (Kg)	1.6	1.8	1.7	1.5	1.6	1.8	2.0
2	Sales price (Kg)	45	47	49	35	42	50	55

From the table -7 it is observed that average weight of the broiler is 1.50 to 2 kg throughout the different batches and the sales price is different from batch to batch. In the month of February Rs 45 kg, July and August Rs35 to Rs 42 kg respectively. The price is determined on the bases of demand and supply situation. Since in the month of July and August Hindu community fast are more compare to other months so the rate is decline.

TABLE – 8: COST OF PRODUCTION OF BROILER AND MARGIN

Particulars	Per bird (Rs)	One batch (15,000)(Rs)
Cost of production of 1.75 Kg		
Price of chick	20	3,00,000
Feed cost	57.75	8,66,250
Overheads		
Interest cost, depreciation	1.5	
Vaccination	1.5	
Electricity and water	1.5	
Labour and other	2.0	
Total overheads	6.5	97,500
Cost of production	84.25	12,63,750
Add :- Allowing mortality of 5% on cost of production	4.2	63,000
Cost of production of one birds of 1.75 kg	88.45	13,26,750
Cost of production of one kg of live bird 1.75 kg : 88.45 1 kg : 50.5	50.5	7,57,500
Transportation of cost to poultry market	4.0	60,000
Farmers Margin	3.5	52,500
Farmers price to wholesalers and distributors	58.00	8,70,000
Wholesalers and distributors margin	5.0	75,000
Distributors price to retailers	63.00	9,45,000
Adjusting (By 50% increase for transport cost, loss of weight on dressing 66%)	94.50	14,17,500
Retailers margin	8.0	1,20,000
Selling price to customer	102.50	15,37,500

From the table -8 it is observed that feed cost per bird is Rs 57.75 and the price of chicks is Rs 20. The total overhead cost per bird Rs 6.5 including depreciation, vaccination, electricity & water, labour & other. Total cost of production is Rs 84.25 with 5% mortality on cost of production total cost of production of 1 bird of 1.75 kg is Rs 88.45 for 1 kg of live bird is Rs 50.5 including farmer's margin Rs 3.5 on 1 kg and transportation cost Rs 4. farmer's price to wholesaler/distributor is Rs 58. wholesaler/distributors margin Rs 5 so the distributor's price to retailer Rs 63 adjusting 50% increase transportation cost with retailer margin Rs 8 total selling price to customer is Rs 102.50 per kg.

It is observed that margin of farmer is 3.5 wholesaler/distributor margin is 5.6 retailer 8 so the main producer margin is low compare to intermediaries.

TABLE -9: PERCENTAGE OF DIED POPULATION (BROILER) FOR LAST THREE YEARS

Sr.No	Year	Total population	Died %	Disease
1	2008-2009	75000	4.5%	Gumbaro
2	2009-2010	90000	3.5%	Gumbaro/CRII
3	2010-2011	90000	3%	CRD

From the table -9 it is observed that in the year 2006-07 percentage of died broiler is 4.5% due to gumbaro disease and in the year 2007-08,2008-09 it was reduced to 3.5% the cause of died was due to disease like CRD, CRII and gumbaro.

TABLE -10: PERCENTAGE OF DEAD BIRDS (BROILER) DURING LAST ONE YEAR

Sr.No	Stage	Weeks	Died %	Cause of death
1	Chicks	1-2	2%	Week/ less heat
2	Grower	3-4	0.5%	Gumbaro/CRD
3	Broiler	5 & above	1%	CRD

From the table -10 it is observed that there is high rate of death at the stage of chicks 2% (1-2 weeks) due to weak and less heat. At the stage of grower 0.5% (3-4weeks) death due to CRD and gumbaro and at the last stage broiler 1% death due to CRD CRII and gumbaro.

TABLE -11: PERCENTAGE DISTRIBUTION OF SALE TO DIFFERENT AGENCIES DURING LAST ONE YEAR

Sr.No	Agency	Wholesaler trader	Retail trader	Consumer
1	% to total sale	93%	05%	02%
2	Batch 1	14,250	750	30
3	Batch 2	14,275	725	30
4	Batch 3	14,000	800	60
5	Batch 4	14,300	600	25
6	Batch 5	14,500	350	5
7	Batch 6	14,200	600	15

From the table -11 it is observed that 93% of sale is made to the wholesalers, 05% sale is made to retailers and 02% sale is directly made to the customer. Overall it is observed that in the batch 3 productions there is increase in sale to consumers and decrease in wholesaler since this batch are coming under month of July and August the fast months of Hindu community

TABLE -12: MARKETING CHANNEL FOR BROILER FROM HATCHERY TO CONSUMER



From the table -12 it is observed that the broiler marketing is largely in the hands of big traders and commission agents in mandis (wholesaler market) in general middlemen are vital links between producers and consumers wholesalers/distributor sell live birds to retailer and retailer sell dressed birds to institutional customer/consumers.

TABLE -13: EMPLOYMENT GENERATION BY POULTRY FARMING

Sr.No	Employment	Percentage
A)	Direct employment	
1	Labours	30%
2	Transportation	20%
B)	Indirect employment	
1	feed	10%
2	Pharmaceuticals	10%
3	equipments	10%
4	Intermediaries (Wholesalers, retailers, etc.)	20%

From the table-13 it is observed that 50% of the employment is generated directly by the farm through labour, transportation etc where as 50% are engaged in feed, pharmaceuticals, equipments and other services required by the poultry sector.

TESTING OF HYPOTHESIS

The researcher has tested working hypothesis based on inferences drawn on primary data. to test the validity of hypothesis.

Poultry farming is emerging as backbone of rural economy.

Researcher has observed the Table No-2, 5, 6, 8, 11 and 13 has proved the mentioned hypothesis that poultry farming is emerging as backbone of rural economy.

So the researcher has **Accepted** the given Ho

FINDINGS

1. The producer does not get remunerative price for his product, while the consumer pays high price because of cascading of margins with so many intermediaries.
2. It is found that relates to prices of feed resources. Maize or corn plays a major role in broiler production, as it constitutes 50-55 percent of broiler feed.
3. The broiler marketing is largely in the hands of big traders and commission agents in mandis (i.e. wholesale markets) In general, middlemen are vital links between producers and consumers.
4. The margin between the farm gate price of the broiler and the price paid by the consumer is about 20 to 25 per cent.
5. Wholesalers/distributors sell live birds to retailers; and retailers sell dressed birds to institutional customers/consumers.
6. Farmers transport live birds over long distances to trading centers or mandis. The birds undergo stress during transport that can result in loss of weight.
7. Poor road infrastructure increases transportation time. If vehicles are not equipped for safe transportation of live birds, there are chances of 5 to 10 per cent mortality.
8. Whereas 50 per cent of the employment is generated directly by these farms, 50 per cent are engaged in feed, pharmaceuticals, equipment, and other services required by the poultry sector.
9. The excreta of birds, whether in cages or through deep-litter is used as fertilizer by the agricultural farmers for different crops and as of today there is no such problem of excreta waste disposal.
10. As mentioned prices of eggs and broilers fluctuate due to seasonal variations, religious festivities, and demand-supply balance. A major function of NECC is to stabilize prices of eggs through market intervention. But for broilers, there is no such national organization like the one for eggs. Instead, there are several regional trade associations made up of traders and farmers .
11. These associations fix the price of the live bird (live bird rate = price of 1 kg of live bird) each day, taking into account demand-supply situation and the farmers’ production cost. The birds are sold to retailers at the live bird rate. Retailers add a factor of roughly 1.5 times to account for the weight loss in dressing and cleaning, as well as for transportation and handling. To this amount, the retailer’s margin is added to arrive at the final customer price.
12. The poultry industry, on the whole, has been facing a difficult situation for the past two to three years due to un remunerative price for the end products (eggs and broilers) on the one hand, and unprecedented increase in the cost of essential feed ingredients

CONCLUSIONS

Poultry is today one of the fastest growing segments of the agricultural sector in India. While production of agricultural crops in the country has been growing at a rate of 1.5 to 2 per cent per annum during the last two decades, that of poultry has been rising fast - 6 to 7 per cent per annum in the case of eggs. India

ranked fifth in the world in egg production - 37000 million eggs & Similarly, India produced around 1000 million broilers last year. The industry has also made significant progress in the areas of breeding, nutrition, management, and health care. Some of its major achievements include availability of several world known brands of commercial hybrid chicks essential equipment and machinery, medicines and vaccines, compounded poultry feed, disease diagnostic services, poultry training programme, and technical and skilled manpower. The industry can now be considered as self-sufficient to meet its requirements. The poultry industry in India is what it is because of its own concentrated efforts. In comparison to other livestock industries, the poultry industry in India is more scientific, better organized, and continuously progressing towards modernization. It is going through a phase of integration in broiler, which is likely to change the face of the industry. There will be rapid changes towards integration as more farmers find it increasingly difficult to run farms with marginal profits or negative margins. There are constraints and bottlenecks like high feed costs, lack of development of rural markets, seasonal/regional fluctuations in egg and meat prices, lack of cold storage facilities, etc. This paper is an attempt to probe deeply into these problems and challenges facing the industry. It attempts to describe the current status of the industry, identify problems and constraints facing the industry, trace future trends, and issues related to health and environment.

SUGGESTIONS

1. Improve infrastructure facilities which will help not only to stabilize the price of poultry products in the domestic market, but also make them available in far flung areas.
2. An efficient marketing channel that gives remunerative price to the producer, i.e. the marketing set up of the country should also grow on professional lines which may include traditional channels of traders to some extent in the intervening period
3. To increase maize production, we have to go for GMO varieties of seed, or alternatively find other sources/types of feed ingredients which can replace maize.
4. However, for broiler marketing, there is no similar national organization that looks after the producers' interest. Some regional organizations (example Broiler Growers' Association) have to set up, which are trying to organize farmers.
5. An infrastructure is in place at the government level to promote poultry industry by financing through nationalized banks and through National Bank for Agriculture and Rural Development (NABARD), though the interest rate is quite high.
6. The National Egg Coordination Committee (NECC) has to help in price support mechanisms through interventions during time of distress sales by marginal and small farmers.
7. As banks and National Cooperative Development Cooperation (NCDC) have to start financing small and marginal farmers in villages, poultry insurance have also to be introduced under the Indian Rural Development Programme.
8. Organization of seminars, workshops and awareness programmes on exports as well as latest farming processes.
9. Organization of buyer-seller meets and other business interactions and providing recommendatory, advisory, and other support services to the farmers
10. Reduction in the margin cost at various stages of marketing and opening of the Indian market to foreign suppliers.
11. Contract farmers, who are an important component in the production process. A number of small and medium farmers have to be start working as contract farmers, because they get fixed return and their risk gets reduced.

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THE ECONOMETRIC ESTIMATION OF ELASTICITIES OF DEMAND FOR INDIA'S EXPORTS AND IMPORTS**P. SUHAIL****FACULTY****THE B SCHOOL INTERNATIONAL****KOTTAKKAL****V.R. REMA JYOTHIRMAYI****LECTURER OF ECONOMICS****RAJAGIRI HSS****KOCHI****ABSTRACT**

Trade elasticity represents the measure of the proportionate change in imports and exports due to change in the related variables like Gross Domestic Product (GDP), relative prices, etc. This study estimates the export and import demand elasticities of India for the period of 1975-76 to 2006-07. The study verifies the implication of the Marshall-Lerner condition and the Houthaker-Magee hypothesis in post and pre reform period. The study employs a log linear regression model in the estimation procedure. More over the study employs the dummy variable technique to captures the effect of economic reforms on the elasticities of exports and imports and their implications. The estimation is done by using E-Views (Econometric views) software and used the advanced package of Newey-West Heteroscedastic Autocorrelation Consistent Standard Errors & Covariance Estimate. The study concludes that India has a competitive advantage in its export in the international market. It is observed that the growth of economy of the importing countries rather than price of the exporting goods will play a very important role in promoting Indian exports. The study finds that there is a significant difference in the elasticities and its implications in the two periods.

KEYWORDS

Dummy variable technique, Houthakker-Magee hypothesis, Log linear regression, Marshall-Lerner condition, Trade elasticity.

JEL CLASSIFICATION

F1, F4

INTRODUCTION

The elasticity captures the magnitude of change in one variable due to a proportionate change in a related variable. In other words it is the responsiveness of change in a variable to a change in a related variable. Trade elasticity represents the measure of the proportionate change in imports and exports due to change in the related variables like Gross Domestic Product (GDP) of a country, GDP of the trading nation, relative prices, etc.

Trade elasticities have long occupied economists' interest because these elasticities have important policy implications (Sinha 2001). The price and income elasticities are very crucial in understanding the international linkages, payment adjustments and policy formulations (Brar 1995). Relative price and income elasticity of exports indicate the scope for export led growth policy of a nation (Rao and Singh 2007). The sensitivity of exports and imports demand to changes in income and price variables has various implications on trade related activities of an economy. The knowledge on trade elasticities is important in formulating policies regarding exchange rate system, tariff, and non tariff restrictions on trade. According to the magnitude of elasticity, the commodities can be classified as low elastic middle elastic and highly elastic (Nilsson 2007). The country can make structural changes in export composition according to the changes in world economic scenario.

A priori information about the magnitude and nature of elasticities is indispensable for the success of certain policy instruments, like devaluation. The greater emphasis on the export promotion of those products which have low income elasticities in importing countries result in the wastage of resources. The demand deficiency has been highlighted as the major reason for the poor performance of the developing countries in international trade. But there are counter arguments that it is not due to low income elasticity but because of growing domestic demand pressure. To understand this, the knowledge of trade elasticity is important.

Marshall-Lerner condition

The estimates of trade elasticities play a central role in explaining the implications of Marshall-Lerner conditions for an economy. Marshall-Lerner condition tells about the effectiveness of devaluation as policy measure to correct the disequilibrium in balance of payments. In other words the estimate of trade elasticities is used to study the efficiency of exchange rate mechanism in correcting the balance of payment disequilibrium. The efficiency of exchange rate mechanism can be analyzed by examining the Marshall-Lerner condition. It states that if the sum of price elasticity of exports and imports is greater than one, the devaluation would improve trade balances. If it is equal to one, there is no impact on trade balance. And if it is less than one, devaluation would result in further worsening trade balances.

HOUTHAKKER-MAGEE HYPOTHESIS

The estimates of trade elasticities are used to study the relevance of Houthakker-Magee hypothesis. The policy implications of trade elasticity can also be tested by using Houthakker-Magee hypothesis. It was proposed by Houthakker and Magee in 1969 for Japan. It examines whether the income elasticity of exports and imports are different or not. If the host country (India) and other countries of the world grow at a same rate, the adverse effect on balance of payments will be observed, if the income elasticity of imports exceeds that of exports. On the other hand, if income elasticity of exports exceeds that of imports there will be positive effects on balance of payments (Houthakker and Magee 1969).

The export performance is ultimately determined by supply and demand factors. Demand factors include income of the importers and price and non price factors. Supply factors mainly include the factor endowments, cost of production, level of domestic consumption, tax structure and foreign trade policies, etc.

LITERATURE REVIEW

The existing literature studies the trade elasticity by estimating export demand function and import demand function. After calculating the magnitude of elasticities the study goes through the policy implications of the trade elasticity and related issues.

EXPORT DEMAND FUNCTION

The study by Da Costa (1996) specifies export demand as a function of export prices, real income or industrial activity of trading nations and price of the competitors. By applying a multiple linear regression model, the author estimated the elasticity of demand for India's export for the period of 1953-62. The

study estimated the elasticity at three different levels. That is at aggregate level (for overall exports), the export demand for different individual commodities' exports and the export demand for country wise exports.

Aggregate exports in the study period are observed as extremely inelastic with respect to income (0.21) and moderately inelastic with respect to price (-0.48). In case of individual commodities the study estimated the demand function for different commodities and then aggregating the resultant elasticities with appropriate weights according to the share of particular commodity in the total export basket of India. In case of country wise export, the author used the same technique of aggregation by using the weights for each country in total export of India. The three approaches in estimating the elasticities have yielded broadly the similar results (-0.44 and 0.58 for individual export and -0.20 and 0.57 for country wise exports). Both with respect to price and income the demand for Indian exports appear to be inelastic. Inelastic demand with respect to income shows that demand for products of developing countries is lagging behind the growth of incomes or industrial activities in developed countries. Thus the author concludes that the current rate of economic growth in the advanced countries is not sufficient to guarantee a high rate of expansion of the export of developing countries. The study limited in taking only two variables as the explanatory variable in the model. There can be some other variables like import quotas. Author mentioned the presence of multicollinearity in the model. This can be corrected by correct specification of the model. Even though they estimated the elasticity of substitution, they did not incorporate it with the overall estimates. As it is a time series data the model should be tested for autocorrelation. But the article does not mention about the problem.

Wadhva (1974) estimated the export demand function by using a single equation regression technique with the variables of price and world GDP for the period of 1954 to 1970. During the study period the Indian rupee was devalued in the year 1966. To see if this change in the macro variable affected the export pattern, the author introduced a dummy variable and performed the regression again. Out of these equations the single linear regression found to be having more explanatory power represented by R² (goodness of fit). The study by Jaswinder Singh Brar (1995) is one of the studies which used the log-linear functional form. The author used relative price instead of absolute price and world GDP as explanatory variables. All of these studies conclude with same results.

A later study by Kantawala (1996) shows export demand is a function of relative prices in terms of unit value index of export of a country and unit value index of world export and world real income. In the long run, trend also has an influence on exports. All of these studies conclude with same results. This study also used a log linear model of specification and estimated the export demand function for the period of 1969-70 to 1989-90. The study came out with broadly similar results (-0.31 and 0.46 in the short run and -0.33 and 1.99 in the long run) of the earlier study. But as a point of difference, in the long run income elasticity of export is found to be elastic with a value of 1.99. The study by Sinha (2001) addressed the problem of stationarity of the data. By using a log linear regression model the estimated the elasticity of exports for the period of 1950 to 1996. The author used Augmented Dickey-Fuller (ADF) test (Dickey and Fuller 1979) of stationarity. For the export demand functions, all variables were found to be non-stationary in their levels but stationary in their first differences. So the cointegration test was applied to do the further analysis. The Phillips-Hanson fully modified Ordinary Least Squares (OLS) method has been used for regression and Johansen cointegration test is used for stationarity. The cointegration coefficients are estimated by using Vector Error Correction Method (VECM).

According to Garg and Ramesh (2007) export demand is a function of real exchange rate and world GDP. They estimated the export elasticity for the period of 1970-71 to 2002-2003 by employing log linear regression model. The results of different studies differs each other to considerable extent. The summary results of different studies are presented in (Table I).

TABLE I: SUMMARY RESULTS OF EXPORT ELASTICITIES: SELECTED STUDIES

Study	Period	Price elasticity	Income elasticity	Functional form	Method	General approach
Da Costa	1953-62	-0.43	0.21	Linear	OLS	Selected commodities to selected countries
Charan D Wadhva	1954-70	-0.35	0.58	Linear	OLS	Aggregate exports
Jaswinder Singh	1974-91	-0.47	0.51	Log-linear	OLS	Selected commodities to selected countries
Kantawala	1969-70 1989-90	-0.68	1.99	Log-linear	OLS	Selected commodities
Dipendra Sinha	1960-96	-0.55	0.45	Log-linear	P-H OLS*	Aggregate export of selected countries
Garg & Ramesh	1970-02	(ER=0)	2.47	Log-linear	P-H OLS	Aggregate

Source: compiled by the authors

THE IMPORT DEMAND FUNCTION

The study by Wadhva (1974) explains the import demand function in terms of price and income (GDP) of India. The author used a linear regression model and estimated the import elasticity for the period of 1954-70. According to the study by Kantawala (1996), import demand of a country is a function of relative prices in terms of unit value index of import of a country, domestic price index in a country and real gross national product of the country. This study also used the same variables of price and income with slight difference by relative prices in the case of prices and used index values instead of actual values. These differences might have caused for the slight differences in results. But as a methodological efficiency, it has been corrected for auto correlation and tested for the assumption of homoscedasticity.

The study by Sinha (2001) addressed the issue of stationarity in the estimation. The author estimated the function for the period from 1950 to 1996 by using a log-linear function. According to Garg and Ramesh (2007) the import demand is also a function of real exchange rate and India's income (Real GDP). They estimate the import elasticities for the period of 1970-71 to 2002-2003 by applying log linear regression. The summary results of the different studies are presented in (Table II).

TABLE II: SUMMARY RESULTS OF IMPORT ELASTICITIES: SELECTED STUDIES

Summary results of import elasticities: Selected studies						
Study	Period	Price elasticity	Income elasticity	Functional form	Method	General approach
Charan D Wadhva	1954-70	-0.2	1.6	Linear	OLS	Aggregate imports
Kantawala	1969-70 1989-90	-0.33	2.3	Log-linear	OLS	Selected commodities
Dipendra Sinha	1960-96	-0.51	-0.11	Log-linear	P-H OLS	Aggregate import of selected countries
Garg & Ramesh	1970-02	-0.9 (ER)	0.9	Log-linear	P-H OLS	Aggregate

Source: compiled by the authors

Price elasticity of exports varies from 0 to 0.68 and income elasticity varies from 0.21 to 2.47. Whereas, the price elasticity of imports vary from 0.2 to 0.9 and the income elasticity of imports varies from -0.11 to 1.6. The study conducted by (Deepak and Ramesh 2007) found a zero elasticity of exports with respect to exchange rate. This implies that the exchange rate is not at all a variable in determining the export demand.

OBJECTIVES OF THE STUDY

Most of the studies are conducted in the context of pre-reform period. Even though some studies have incorporated the periods after reform in their studies, they have not done the analysis to analyze the effect of economic reforms on the coefficients of elasticities. As a result of economic reforms, the policies of the government have become more trade friendly. Reduction of tariff and other restriction on trade and the measures like devaluation gave more exposure to the economy or integration with the world economy. These trade friendly measures will give opportunities to foreign companies and nations to import more with less cost. But there is a possibility that with the exposure and collaboration with the foreign companies, to diversify the economy and to get advancement in the technology of production to produce more commodities which otherwise would have been imported. This will result in a change in the magnitude of elasticity of

* Phillip-Hanson fully modified OLS

imports. The integration of the economy has resulted in advancement of the technology and expansion of so many domestic industries. Some of the Indian business houses like Tata, have grown to the status of global companies. India has become the exporter of some advanced manufactured goods after economic reform. The stiff competition with the global companies compelled the domestic producers to concentrate on the improvement of the quality of their products and the cost reduction techniques. These movements have improved the competitiveness of Indian products in the international market. This will result in changing the magnitude of elasticity of exports. To capture these policy effects on trade elasticity the estimation is to be done with appropriate methodology. In the pre-reform period, India had a highly regulated structure of international trade. So the market forces like price and income may not have much effect on the quantum of trade. When an economy goes global or open economic structure, the allocation efficiency will increase and the market forces like price and income will have effects on the quantum of trade. In the estimation of trade elasticity of India, the effect of reform policies is also to be analyzed. In the post reform period the composition and destination of trade has changed significantly.

The present study has the following objectives:

- 1) To estimate the elasticities of demand for India's exports and imports for the period of 1975-76 to 2006-07.
- 2) To examine the effects of economic reforms on the magnitude of elasticities.
- 3) To verify the implications of Marshall-Lerner condition for Indian economy.
- 4) To verify the implication of Houthaker-Magee hypothesis in the context of Indian economy.

METHODOLOGY

The export and import demand elasticities have been calculated by estimating export and import demand functions. Multiple regression models have been used for the estimation of export and import demand functions. The export quantity index is the dependent variable and the export price and the world GDP index are the independent variables in the export demand equation. The import quantity index is the dependent variable and import price and India's GDP index are the independent variables in the import demand equation. A log linear specification has been adopted because it is the better specification in the estimation of elasticities. By using log linear model, the estimated regression coefficient itself will represent the estimates of elasticities and these will enable to do further statistical tests to validate and justify the results. Whereas, in the normal linear model the elasticity coefficients will have to be calculated from the estimated regression coefficients. But, the estimation of standard error of these estimates of elasticities is very difficult. This will create difficulty in testing the statistical significance of the estimated elasticity coefficients. The dummy variable technique has been employed to find out the effect of economic reform on the magnitude of trade elasticities. By adopting dummy variable technique, the model has been able to capture the effect of one qualitative factor that is change in the trade policies along with the factors of price of trading goods and the income (GDP) of the trading nations. The analysis is done by using E-Views package and all the models are estimated by using Newey-West Heteroscedastic Autocorrelation Consistent Standard Errors & Covariance Estimate. The estimation problems of time series analysis like autocorrelation and heteroscedasticity has been rectified by using this advanced package.

In this study, the elasticity of export and import with respect to price and income (GDP) is estimated by using the total export and import data during the period of 1975-76 to 2006-07. Export and import quantity indices are taken for the quantum of trade. And for income the world GDP index and India's GDP index are taken in case for export and import respectively. For the price values, the export and import unit value indexes are taken. The dummy variable technique is employed to analyze the effect of economic reforms.

DATA

The data are collected from the Reserve Bank of India (RBI) Handbook of Statistics on Indian Economy (2007-08), Report on Currency and Finance by RBI (1979-80 and 1985-86) and the International Financial Statistics (2001 and 2008) by International Monetary Fund (IMF). The data on India's export and import quantity indices and unit value indices of India's export and import have been collected from RBI databases. The GDP indices of India and world, and the world export and import price indices have been collected from the International Monetary Fund statistics. Some of the data are given in the percentages on indices over years and those data have been converted into index values. For the purpose of estimation indices in different base years have been converted into same base year (1978-79) following RBI data base.

MODEL SPECIFICATION

A log linear regression model is used for the estimation. The model specification at the aggregate level is as follows:

EXPORT DEMAND FUNCTION

$$\ln QX_t = b_0 + b_0^*D + b_1 \ln RP_t + b_1^*D \ln RP_t + b_2 \ln Y_w + b_2^*D \ln Y_w + u_t \quad (1)$$

Where: QX_t is the export quantity index of India, RP_t is the relative price (Export price index of India/ World Import Price Index) of export and Y_w is the World GDP Index. The value of dummy variable=1 for the pre-reform period (1975-76 to 1990-91) and is 0 for the post reform period (1991-92 to 2006-07). In this function b_1 represents the price elasticity of export for the second period (post reform period) and b_1^* represents the differential coefficients. The price elasticity of the first period is calculated by adding these two coefficients (b_1 and b_1^*). b_2 represents the income elasticity of the second period and b_2^* represents the differential coefficient. The income elasticity of the first period is calculated by adding these two coefficients (b_2 and b_2^*).

IMPORT DEMAND FUNCTION

$$\ln QM_t = b_0 + b_0^*D + b_1 \ln RP_t + b_1^*D \ln RP_t + b_2 \ln Y_t + b_2^*D \ln Y_t + u_t \quad (2)$$

Where: QM_t is the import quantity index of India, RPT is the relative price (World Export Price Index/ India's Import Price Index) and YI is the GDP index of India. The value of dummy variable=1 for the pre-reform period (1975-76 to 1990-91) and is 0 for the post reform period (1991-92 to 2006-07). In this function b_1 represents the price elasticity of import for the second period (post reform period) and b_1^* represents the differential coefficients. The price elasticity of the first period is calculated by adding these two coefficients (b_1 and b_1^*). b_2 represents the income elasticity of the second period and b_2^* represents the differential coefficient. The income elasticity of the first period is calculated by adding these two coefficients (b_2 and b_2^*).

EMPIRICAL RESULTS

The empirical estimated results of the export and import demand functions are presented in Table III and IV

TABLE III: THE RESULTS OF EXPORT DEMAND EQUATION

R^2	SE		F-Statistics
0.99 (Adj. R^2 :0.9922)	0.072		792.0
Variable	Coefficient	SE	t-Statistic
Constant	-10.86*	0.99	-10.97
D1	9.74*	1.18	8.21
RP	-0.283	0.25	-1.1
D2RP	0.345	0.24	1.4
WGDP	3.28*	0.245	13.36
D3WGDP	-2.035*	0.286	-7.10

Source: Regression result

TABLE IV: THE RESULTS OF IMPORT DEMAND EQUATION

R ²	SE		F-Statistics
0.99 (Adj. R ² :0.9916)	0.081		738.94
Variable	Coefficient	SE	t-Statistic
Constant	-7.57*	0.45	-16.84
D1	3.47*	0.83	4.15
RP	0.674*	0.092	7.29
D2RP	0.22	0.196	1.1
IGDP	2.61*	0.087	30.09
D3IGDP	-0.69*	0.17	-4.03

Source: Regression result

The price elasticity coefficients of export in both the periods are found to be not significant. The GDP elasticity of export for the pre-reform period is 1.24 (3.28-2.035) (it is not statistically greater than one, ie inelastic) and for the post reform period is 3.28.

The price elasticity of import for the post reform period is 0.674 and there is no significant difference in the price elasticity between the two periods or in other words they are almost equal. The GDP elasticity of import for the pre reform period is 1.92 (2.61-0.69) and for the post reform period is 2.61.

The coefficients and intercepts in both the periods are statistically different. This implies that there are structural changes in the economy after the reforms in the international trade sector.

FINDINGS

The estimates of elasticities of demand for India's exports imply that the price of the exports is not an important factor in determining the quantum of export of India. India has a competitive advantage in its export. In other words the quantity of export will not be affected even the prices fluctuate. India's export demand was income inelastic in the pre reform period, where as it has changed into the elastic region in the post reform period. The income elasticity of exports increased from 1.24 (which is not greater than one) in the pre reform period to 3.2 in the post reform period. It indicates the integration of the Indian economy to the global economy after the economic reform. India extended trade relations with different countries after the reform measures in 1991. The increase in the income elasticity of demand for export shows the movement of the economy from a highly regulated structure towards a free economy. In a highly regulated system, the market forces like price and income would not affect the quantity demanded. Whereas, in a free economy, the market forces will have an effect on the demand of the commodity in different magnitude depending up on the nature of the commodity. It is observed from the estimates of the elasticities that it is the income (GDP) of the importing country rather than the price of the export affects the quantum of Indian exports.

The estimate of price elasticity of demand for India's import is positive and found to be significant against the theoretical explanation of demand theory. According to the law of demand, the estimate of price elasticity coefficient is expected to be negative. The positive price elasticity coefficient does not mean that the quantum of import of India is increasing because of the increase in import prices. India's import basket includes a high share of oil import and some items like machinery and capital goods which are necessary to support our domestic industries. The quantity of import of these commodities can not be reduced even a hike in their prices. So the estimation at the aggregate level will have the dominating effect of these special items like outliers. That might have resulted in getting a positive price elasticity coefficient for aggregate imports. The income elasticity of demand for import increased from 1.92 in the pre reform period to 2.61 in the post reform period. That implies that as economy started growing the aggregate import has also increased.

MARSHALL-LERNER CONDITION

The estimates of import and export elasticities are important in analyzing the impact of different policy measures related to international trade and to formulate export promotional policies. The Marshall-Lerner condition tells that, if the sum of price elasticity of import and export is greater than one then the devaluation measure will improve the balance of payments position of the country. The estimates in the study period do not satisfy the Marshall-Lerner condition for India. Because, the price elasticity of demand for export is not greater than zero (insignificant) in both the periods and the price elasticity of demand for import is found to be less than one in both the periods. In other words the sum of price elasticities of exports and imports is not greater than one in both the periods.

The above mentioned results reveal that the devaluation measure will not improve the balance of payments position of the country. The Table V shows the export, import and balance of payments data of India from 1986-87 to 2006-07.

TABLE V: EXPORT, IMPORT AND TRADE BALANCE OF INDIA

Year	Export	Import	Trade balance
1986-87	9745	15727	-5982
1987-88	12089	17156	-5067
1988-89	13970	19497	-5527
1989-90	16613	21219	-4607
1990-91	18145	24073	-5927
1991-92	17865	19411	-1545
1992-93	18537	21882	-3344
1993-94	22238	23306	-1068
1994-95	26331	28654	-2324
1995-96	31795	36675	-4880
1996-97	33470	39132	-5663
1997-98	35006	41485	-6478
1998-99	33219	42389	-9170
1999-00	36822	49671	-12848
2000-01	44560	50537	-5976
2001-02	43827	51413	-7587
2002-03	52719	61412	-8693
2003-04	63843	78149	-14307
2004-05	83536	111517	-27982
2005-06	103091	149166	-46075
2006-07	126362	185749	-59388

Source: Handbook of statistics on Indian economy 2008, RBI

The time period presented in table (°) includes the year where Indian rupee was devalued. It is evident from the table (°) that there is no significant improvement in the balance of payments position of the country in the consecutive years as a result of devaluation. That is the data support the findings of the study.

Wadhwa (1974) estimated the trade elasticity by using the data from 1954 to 1970. He estimated the model by using dummy variable to capture the effect of devaluation of 1966 if any. And he estimated the model without using this dummy variable also. The model in which the dummy variable was used did not give better estimates. The model without dummy variable gave a better fit. This is an indication for that the devaluation in 1966 also did not make any significant change in the balance of payments position of the country

HOUGHAKKER-MAGEE HYPOTHESIS

It was proposed by Houthakker and Magee in 1969 for Japan. It examines whether the income elasticity of exports and imports of a country are different or not. If India and other countries of the world grow at a same rate, the adverse effect on balance of payments will be observed if the income elasticity of imports exceeds that of exports. On the other hand, if income elasticity of exports exceeds that of imports there will be positive effects on balance of payments (Houthakker and Magee 1969).

The study observes that the income or GDP elasticity of demand for India's import is greater than the income elasticity of demand for its export in the pre reform period. The value of income elasticity of demand for import is 1.92 and that of export is 1.24. It implies that if India and the trading nations grow at the same rate, it will lead to an adverse effect on the balance of payments of the country. Since the import elasticity of import is greater than that of export, the growth of economy will lead to more increase in import of the country than in its export.

But the study finds that the situation has changed significantly in the post reform period. In the post reform period the income (GDP) elasticity of demand for India's export is 3.2 and that of import is 2.61. In other words the income elasticity of export is greater than the income elasticity of import. That implies that the same rate of growth of India and the trading nations will bring positive effect on the balance of payments position of the country. Because the income elasticity of export is greater than that of import, economic growth of India and the trading nations (world) will give greater increase in the export of the country than in its import. This reveals the improvement in the performance of Indian export industries or the betterment of competitive position of Indian goods in the international market after the economic reforms.

It is observed that there is a difference in the coefficient of elasticity of demand for export and import of India between pre reform and post reform periods. In case of aggregate export the income elasticity of demand for export in the post reform period is significantly higher than that of in the pre reform period. In case of aggregate import, the income elasticity of demand in the post reform period is greater than that of in the pre reform period, where as there is no difference in the price elasticity between the two periods.

LIMITATIONS OF THE STUDY

In the estimation of trade elasticity, the services trade is excluded and only merchandise trade is considered. The study has not estimated the trade elasticities for individual commodities. The trade basket includes different kinds of goods and services. The magnitude of price and income elasticities differs according to the nature of the commodity. Therefore to get a clear picture and to analyze policy implication the analysis has to be done at disaggregates level. In the discussion of implications of the estimates of export and import elasticities, the study does not consider about the supply constraints which is likely to occur in a developing economy like India. Rather it is assumed that there will be enough supply of commodities for the trade.

SCOPE FOR FURTHER RESEARCH

The study can be extended by including the destination or direction and the composition of trade as well into consideration. That is the export of different commodities to different countries can be estimated separately and get the coefficients and analyze the policy implications. Because the demand for export and import will differ depending up on the nature of the economy like developed, developing and under developed and the nature of the commodities like necessities, luxuries etc. These economies differ in their demand for different items of commodities. So the country wise analysis will give better conclusion about the policy and business implications of trade elasticities. The study can be extended further to analyze the effects of the new movements like trade agreement with ASEAN and EU (Which is under discussion).

CONCLUSIONS

The study concludes that India has a competitive advantage in its export in the international market. It is observed that the growth of economy of the importing countries rather than price of the exporting goods will play a very important role in promoting Indian exports. The study finds that there is a significant difference in the elasticities and its implications in the two periods.

The income elasticity of demand for export has increased in the post reform period. That is an indication of the economy's integration with the world economy and the resultant improvement in the competitiveness of the Indian goods in the international markets. It was gained through the improvement in quality and adoption of better technology to enhance the operational effectiveness and cost reduction.

The study has been able to bring out the effect of economic reforms on the coefficient of elasticities of demand for India's export and import. It intends to give an addition to the existing literature of trade elasticity. The results of the study will be helpful for the academia to analyze the effects of various policies related to international trade and projects the trends in international trade. The study intends to help the business world to forecast their demand according to the changes in the world economy and adjust their output to meet the demand of domestic as well as the international markets.

Marshall-Lerner condition does not hold well for India in both the periods. It reveals the ineffectiveness of the devaluation as a corrective measure for the balance of payments deficit, because the sum of price elasticity of export and import is less than one (unity) in both the periods. The income elasticity of demand is greater than that of export in the pre reform period. This implies that the same level of growth of India and the world economy will cause to adverse effect on the balance of payment position of the country according to Houthakker-Magee hypothesis. But in the post reform period, the income elasticity of export exceeds that of import and gives the possibility of improving the balance of payments position of the country by the same level of growth of India and the trading nations (world) as proposed by Houthakker-Magee hypothesis. This reflects the variations in the coefficients of elasticities as well as the implication (difference in the implication of Houthakker-Magee hypothesis in both the periods) of the same in the two different periods.

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SOCIAL IMPACT OF MICRO FINANCE ON RURAL POOR IN ANDHRA PRADESH

DR. NANU LUNAVATH
JACT- ACCOUNTS
NATIONAL INSTITUTE OF TECHNOLOGY
WARANGAL

ABSTRACT

This paper outlines social impact of microfinance. Micro finance treated as a key strategy in addressing development issues across nations since the last three decades. This study attempts to explore on the much debated question impact of microfinance? The studies suggest that microfinance has a profound influence on the economic status, decision making power, and knowledge and self-worthiness. The microfinance related loan and its productive utilization found to be causing significant differences empowerment levels, measured empowerment of the loan availed participants. Impact assessment is kind of structured study, which measures the impact on employment, income generation, education, health, consumption, business development. Impact assessment refers to the assessment of "how financial products and services affected of the poor". Impact assessment is the measurement of the income growth, assets growth and vulnerability. The indicators for impact assessment are not limited to economic development but extended to development growth like health, education, empowerment etc., Moreover, impact assessment help MFIs to better understand their organization and improving the products and services and accountability to clients. The indicators of economic empowerment included here are the variables like economic self-sufficiency. The positive changes in these indicators reflect economic empowerment. The study interprets and discussed impact of microfinance on social conditions of rural poor in Andhra Pradesh. An attempt has been made to analyse the social impact of micro finance respondent. In this regard an analysis has been made with the help of the following parameters i.e age, education, religions, marital status, social status, type of the family, size and family and heal the family who spends the family income etc.,

KEYWORDS

Micro Finance, Rural Poor, Andhra Pradesh.

INTRODUCTION

The biggest challenge to any civilized society is the economic deprivation of a major population. The most potent tool against human deprivation could be building human capital among the deprived, through sustainable development, initiative which is taken up by the deprived themselves "Self-realization and self-initiative" are the two most powerful weapons to eradicate poverty from the world map.

India has the biggest micro finance market of the world. Micro finance is powerful instrument for enhancing production and productivity and also for alleviating poverty. In order to build the capacities of poor and facilitate the process of empowering them many organization are working in India Micro finance play a vital role to bridge the gap between demand and supply of financial services among the rural poor.

Micro finance covers a wide range of financial services that include savings, credit, insurance and remittance. Micro finance target those people who are denied credit from formal financial and banking institutions because of lack of awareness as well as formal rules which they have to follow to get a credit from these institutions. Micro finance can be considered as a tool for empowerment as well as for social protection (saving, Insurance and remittances). Microfinance can also be used to develop new generation entrepreneurs among the rural poor by providing other necessary skills required.

The Indian Microfinance Sector is a museum of several approaches found across the world. Indian microfinance has lapped up the Grameen blueprint; it has replicated some aspects of the Indonesian and the Bolivian model. In addition to the imported artefacts of microfinance, we also have the home-grown model of self-help groups (SHGs).

DEFINITIONS

Micro finance may be defined by the as "provision of thrift, credit and other financial services and products of very small amounts to the poor in rural, semi-urban or urban areas for enabling them to raise their income levels and improve living standards" — NABARD.

A definition of microfinance as provided by Robinson is, 'Microfinance refers to small-scale financial services for both credits and deposits- that are provided to people who farm or fish or herd; operate small or micro enterprises where goods are produced, recycled, repaired, or traded; provide services; work for wages or commissions; gain income from renting out small amounts of land, vehicles, draft animals, or machinery and tools; and to other individuals and local groups in developing countries, in both rural and urban areas'.—Robinson (2001)

In the International Years of Micro-credit 2005, "Microfinance was referred to as loan, savings, insurance, transfer services and other financial product targeted at low-income clients".

Poor section of people living in poverty, like everyone else, need a diverse range of financial products and services to sustain their livelihood, productive finance to run their business, build assets positions for both production and consumption, and to protect themselves against risks and uncertainties. Financial services needed by the poor include working capital loan, consumption credit, and savings, pension, insurance, provident funds, money transfer services etc.,

Microfinance products include micro savings, micro credit, micro insurance, remittance and other products like pension, provident fund etc., Microfinance refers to providing a gamut of high quality financial products and service to the poor section of the society.

NEED FOR THE STUDY

It is true that the concept of micro financing was in existence for more than a century. However the micro financing, which has been introduced recently is different, free from exploitation, based on the principle of co-operation and group approach. As ahead mentioned even in the 1980s several micro credit programmes including Integrated Rural Development Programme (IRDP), Development of Women and Children in Rural Areas (DWCRA), Training of Rural Youth for Self-Employment (TRYSEM) etc., were prevalent, but the approach and methodology followed were entirely different. Further it is observed that the formal sector credit was very limited and hardly available for small borrowers. MFIs have broken this trend and it has seen that only small borrowers are members of MFIs. The question that remains still to be answered is that how these MFIs could succeed in capturing the bulk of population, which were hitherto denied access to credit? How could they succeed in attracting the bankers to volunteer in their doorsteps to extend credit, which was a Herculean task prior to MFI? How could the MFIs handle the micro financing, which resulted in good recovery rate, which was a dream for formal sector? Would this success sustain or would it vanish after a temporary existence? What needs to be done to sustain in future? Given the merits of MFIs, all these questions necessitated this study to emerge in the present form. Development experience has shown that the policies favouring government have failed and market was supported to rule with minimum intervention of the state. In both these policy frameworks, poor had continued to be neglected as their focus was on the rich and believed that the benefit would trickle down. But in the later period the market also failed due to various reasons. It was observed that the poor had failed to benefit through any intervention, as the access to formal Credit was absent. As a result, the informal credit continued to dominant and exploits the poor. The failure of formal credit reaching the poor, due to high risk involved owing to the imperfect knowledge of other borrowers and the associated transaction costs for the banks, informal sector with the virtue of perfect information on the poor borrowers, established a good credit market. It is felt that the poor cannot be helped by formal credit

for the paper work, asymmetry of information and the transaction cost associated. On the other hand the informal credit sources should not be allowed to exploit the poor. It is good if the former as the first best reaches the poor. In the absence of this occurring, the second best alternative has been conceived, incorporating certain features of both the characteristics of formal and informal credit in the name of micro financing through MFIs with organized efforts of the participants. This micro financing has the characteristics of group lending, peer monitoring, peer pressure etc., through which it is able to get the full information about that borrowers and extend credit with minimum transaction cost with less paper work, but greater recovery performance. This has been widely recognized as the alternative form of credit and resource mobilization for the poor, credit and thrift management etc., but there are certain issues, which may be research questions to be analysed by future researchers in addition to this study. The MFIs associated micro financing is targeted to mostly women. The experience has shown that the economic activities have not been crossed beyond the micro scale. The women who have been taken up economic activities, hardly promoted to produce products of global importance.

In the above back drop an attempt is made in this study to examine the role and impact of microfinance in empowering rural poor and problem encountered by respondents/ beneficiaries and suggest remedial measures to overcome these problem in order to encourage and promote empowerment which has got great potential in Indian environment in general and the state of Andhra Pradesh particular. The specific objectives of the study are as follows:

OBJECTIVE OF THE STUDY

Micro finance is currently growing at a very fast rate. Micro finance is no doubt providing facilities for the rural poor but to what extent is not clearly mentioned anywhere. Hence that is a for an in-depth impact studies with the following objective:-

To Examine the Impact of microfinance on social conditions of rural poor in Andhra Pradesh.

METHODOLOGY

The present study has been conducted in Andhra Pradesh with the objective of studying the impact of microfinance on rural poor. The sample constituted 100 beneficiaries selected across the state of Andhra Pradesh. The study was based on primary data collected through structured questionnaire schedule as well as secondary data. The following parameter was broadly studied to promoted microfinance beneficiaries. The information was also collected through discussion with development functionaries. Impacts on socio-economic conditions,

SAMPLING METHODOLOGY

Microfinance has been recognized and accepted as one of the new development paradigms for alleviating poverty through social and economic empowerment of the poor, with special emphasis on empowering rural poor. Before explaining the methodology employed for this impact study, it is worth reviewing the different methodologies for assessing impact within the world of microfinance today.

PERIOD OF THE STUDY

The present study cover a period of five years from 2002-2007 (Tenth Five year plan) in order to draw trend to empowering rural poor through microfinance in the state of A.P.

DATA ANALYSIS

The data collected from the field was processed using two software package viz. excel and SPSS (Statistical package for Social Science) quantitative information was cross tabulated to know social and economic dimension of each variable and its association with other factors a qualitative information was used in the interpretation of the quantitative data. The Study provides analysis of data and results of the study area. The study interprets and discussed the results of the investigation focused on the impact of microfinance on rural poor in Andhra Pradesh state the results pertaining to the hypotheses and their detailed discussions were presented in this study. Finally the comprehensive discussion is presented.

LIMITATION & PROBLEM OF DATA COLLECTIONS

During the research several problems faced several problems were related to lack of availability of data and of persons concerned such as these include:- Non availability of official is other serious problems. Secondary data up to date was not available and hence no cross checking could be done comparing the primary and secondary data

The books of accounts mention were not up to date. Some of the microfinance did not have even basic records. Many MFI had written their accounts in rough books, rather than prescribed books.

The microfinance stakeholder / MFI who misused funds were not willing to show their records with the excuse that their leaders was not in the village or that the books were in a relative's house and the key were not available etc.,

The study interprets and discusses the results of the investigation focused on the impact of micro-finance on rural poor in A.P and the results pertaining to the hypotheses were presented in this study.

REVIEW OF RELATED STUDIES

Having defined the concepts used in the study and brings the theoretical base the following section reviews the related studies. It is well known that the finance is essential for all walks of life such as to procure basic needs including food, house, dresses, and medical facilities. The micro finance is playing vital role in the third world countries like India. Now days the micro finance is very familiar among the poor particularly among the rural poor. Historically the women are considered as an inferior section of the population assigning secondary status.

They have traditionally not had access to resources and also they are facing several problems in this world. The provision of micro finance for women is now regarded not only as an instrument for poverty alleviation but also for women's empowerment. A study conducted by NABARD [2002] covering 560 households from 223 SHGs in 11 States of India elucidated that there has been a positive result in enhancing the standard of living of SHG members in case of asset ownership. The average value of asset including livestock and consumer durable has increased considerably. The housing condition of the people is improved, from the mud walls to thatched roofs to brick walls and tiled roofs. Almost all members developed saving habit in the post SHG. The trend of consumption loans come down in contrast the loan for income generating purpose has increased considerably during the pre-SHG period. Similarly the overall repayment of loans improved and the average net income per household has increased about 33%. The employment increased by 18% between the pre and the post SHG conditions. It should be noted that after association with the SHGs, they have improved their self-confidence, self-worth and communication. In addition to this, they involved in addressing various social evils and problems of the society.

Yaron (1994), Besley, (1994)¹¹, underlined that the micro finance institutions remain most successful ones in terms of outreach and performance in delivering credit services to the poorest of the poor women, and small artisans in the rural and urban areas, reduction in adverse selection of borrowers, development of collateral substitutions, offering cost effective approaches to formal institutions.

Abdul Hayes, Ruhul Amin and Stan Becker [1998]¹² analysed the relationship between poor women's participation in micro credit programmes and their empowerment by taking both SHG and non-SHG members in rural Bangladesh. They have split the concept of Women Empowerment into three components and measured separately in order to arrive at a better understanding of their underlying factors and their relationship to women's empowerment. These separate indices are interspersed consultation index, individual autonomy index and authority index. The three options were given different weights- "generally", was assigned a value of 1, "never" a value of 0 and "occasionally", a value of 0.5. The results have shown that the SHG members are ahead of non-members in all the three indices of empowerment. Moreover, the non-members within NGO programme areas show a higher level of empowerment on the autonomy and authority indices than do the non-member within the comparison areas. Over all, it was found that part of the higher autonomy and authority indices in the NGO programme areas in contrast to the comparison areas is accounted for by the contribution of both NGO credit members and non-members in the NGO programme areas. Being empowered by their new sources of financial income and related credit group supports, female recipients of NGO credits may have asserted their autonomy and authority vis-a vis their husbands' restrictions and dominance in related household affairs. It was further found that

education, house type, annual income etc., tend to be positively associated with autonomy and authority indices. Also positively associated is duration of NGO membership and non-agricultural occupation. The implications of these findings are that NGO credit programmes in rural Bangladesh are not only likely to bring about rapid economic improvement in the situation of women but also hasten their empowerment. The NGO credit member is reported to be more confident, assertive, intelligent, self-reliant and conscious of their rights. It was suggested that the NGO role alone would not be sufficient. The government has to have a large network of credit programme for the rural poor women to increase their economic solvency and enhance their empowerment. The complementary role of NGOs and Government can take care of the problem. The authors suggested that by providing independent sources of income outside home, micro credit tends to reduce economic dependency of the women on husbands and thus help enhance autonomy. Second, the same independent sources of income together with their exposure to new sets of ideas, values and social support could make these women more assertive of their rights. And finally, micro credit programmes-by providing control over material resources should raise women's prestige and status in the eyes of husbands and thereby promote intersperse consultation.

Muhammed Hussain Bhatti [1999]³ found that the improvement of women's economic situation is the basic determinant of their empowerment. Women are being extended extension, advice and the financial assistance to generate income in farm and off farm sectors. These efforts of women are being responded significantly, resulting in a start of women's recognition not only as income earning hands but as responsible business partners in joint families as well.

\T.S.Ragavendra [2000]³⁷ Studied three SHGs run by forward, SC/ST and backward communities in Karnataka to assess the performance. He found the SHG member no longer borrow for moneylenders. It was suggested that with vision, participation and motivation, forward community SHGs could sustain in changing farm based activities into market based for the other two groups, the major constraint is the resource, which must be met by local banks. The group approach generating activities in the credit delivery system must be encouraged.

Suman Jain [2000], noted that women are assisted for income generating in number of ways by NGOs. They are given financial assistance directly or as facilitated by NGO functionaries to have access to finance from banks, financial institutions donors, corporate sector and government schemes etc., NGOs also help women for skill development by conducting training programmes through various resource agencies. Many NGO have special entrepreneurial development programmes to help women entrepreneurial motivation and business acumen which include having informal meetings identify group members, facilitate group formation and setting up group norms, coordinates the process of saving mobilization, trade selection, the initial preparation, mobilizing resources, help in maintaining records etc., The kind of income generating activities in which women get employment are agriculture and agro based activities, forest based activities, small enterprises, trade crafts and occupation based processing and marketing units. He noted that the two major financial problems faced by self-employed women are lack of working capital as collateral for credit. It was concluded that the success of the SEWA Bank experience has shown that active participation of the members and the board are crucial to the impact created by a bank such as the SEWA bank. From women's point, their involvement in and ownership of a successful institution enhance their collective strength and the empowerment that comes with organization. It was suggested that from a wider perspective, members owned or controlled micro credit institutions can help to strengthen our democratic system.

R.K.Mishra [2002]¹ examined the success of micro credit intervention in India and compared it with Orissa. It is found that the repayment by the members to SHGs was around 98% and SHGs to banks was over 95%. SHGs in several categories including women, joint farmers groups, social forestry groups etc., were formed. Underlying the strengths and weaknesses, the challenges to be faced have been brought out by the author as follows. "The attitude of other banks needs to be changed, government should encourage and support NGOs to attempt group approach and create a favourable policy environment, needs to adopt flexibility by banks in providing money to groups through SHPIs. These ought to be done as it is observed that the micro finance does not address issues like reorganization of ownership of land and long-term sustainability of any activity. Further, it is observed that micro finance activities are oriented towards lending to individuals, using groups as a risk reduction mechanism. In the long run it may lead to establishment of another set of informal banking institutions which are in competition with money lenders, traders, commission agents etc., there is a possibility of loss of resources of the poor if not protected adequately against any possible crisis".

Dwarakanath H.D [2002]² analysed the characteristics and growth of self-help groups in Andhra Pradesh and found that the SHGs using the loan facilities from the cooperative credit banks, commercial banks, mahila bank and Maheswaran banks, have produced more than 50 varieties of products. Among them, the brass items, hosiery, candles, carpets, coir items and pickles are important products. In addition to, the author says, that the women groups started to educate their own group members and also they realized the importance and significance of literacy whereas a lot of enthusiasm has been generated and the SHGs had a greater vision in empowerment of rural women and for overall human development. Moreover, the SHG members proved the way to the power of decision making to the women in their family, and also create a mass on socioeconomic and political condition in this district.

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Rajaram Dasgupta [2001]¹⁰ observed that the informal credit in the form of group approach has effected few benefits such as savings mobilized by the poor, access to the required amount of credit, matching the demand and supply of credit structure and opening of new market for Financial Institutions, reduction in transaction cost for both the lenders and borrowers, tremendous improvement recovery, heralding a new realization of subsidy-less and corruption less credit and remarkable empowerment of the women. But the government poverty alleviation programme in the name of SGSY with the component of target completion, subsidy, bureaucratic and political involvement, insistence on entrepreneurial activities etc., may end up with same old results of IRDP. He recommended that the government promoting NGOs as SHPIs and directing banks to do business with SHGs must be given up and NGO lacking regions may be promoted with SHPIs and banks must be given freedom to evaluate SHPIs and SHGs for conducting business with them. He added that the subsidy component may be used for infrastructure, training, backward and forward linkages and other requirements of the poor, not the poor borrowers alone. This is expected to improve the opportunity of investment by the poor and accordingly their savings, credit-handling capacity, access to financial institution, inculcate entrepreneurial skill, develop an attitude towards investment and increase the risk taking ability of the SHGs.

The authors suggested that by providing independent sources of income outside home, micro credit tends to reduce economic dependency of the women on husbands and thus help enhance autonomy. Second, the same independent sources of income together with their exposure to new sets of ideas, values and social support could make these women more assertive of their rights. And finally, micro credit programmes-by providing control over material resources should raise women's prestige and status in the eyes of husbands and thereby promote intersperse consultation.

K.C Sharma [2001]²⁶ The SHGs have contributed to increase the outreach with gender orientation as 85% of the SHGs linked with banks formed by women. These groups enabled women to engage in economic activities and decision-making at the household and the society level. It makes the process of development participatory, democratic, and independent of subsidy and sustainability. Significant changes realized in terms of increase in, income, assets, savings, borrowing capacity and income generating activities must be sustained by safeguarding the healthy growth of SHG movement in India. It should not end like the programmes with subsidy orientation.

Rekha R. Baonkar [2001]³¹ studied the impact of SHGs on women in Goa and observed that individual loans were mostly for productive purposes with 100% recovery. Monthly interest rate charged was high with 24% to 36% but it goes to group fund. SHGs made a lasting impact on the lives of the poor and the quality of life is improved on the family in terms of increase in income, savings, consumption expenditure, gaining self-confidence, productive use of free time, getting

opportunity to improve hidden talents. It has contributed to address poverty and unemployment and able to bring social transformation through economic development and social change.

S.N.Mishra, and M.M Hossain [2001]⁴² in their study to assess the impact of mahilamandals a rural SHGs in Orissa in terms of empowerment of rural women through participation and employment generation in the pre and post SHG periods, arrived at the fact that there is a considerable increase in the revolving fund, loan extended, grant availed, savings done etc., The loans were given both for consumption and social obligations. There is a considerable improvement in the socio-economic status in terms of literacy, housing conditions, food security to manage the lean season, nutritious level of food etc., in the post SHGs situation compared to pre-SHG period. The trained members intervened in improving the health status of the SHG women, the net income increased by more 60% through scientific cotton cultivation, livestock, maintenance and small business like retail shop, dry fish trading etc., The group was maintaining successfully the fair price shop and additional employment generated worked out to be 185 person days per member and it was suggested that these mahilamandals could be a model for other SHGs

V.K.Singh, R.K.Khatkar and S.K.Sharma [2001]⁴⁴ in their study on the impact of SHGs in Hisar district of Haryana collecting data from seven SHGs underlined that the micro financing through SHGs is a better system for inculcating the habit of self-help among the rural poor. Loan is given for all purposes simply by producing a three rupee stamped affidavit with the surety of other members. The recovery was 100%. The loan is used for purchase of animals, start small business, to solemnize the marriage of their dependents, to meet out the emergency needs, educational expenses, social obligations etc., These groups have also freed the members from moneylenders and saved from exploitation. The members did not mind paying higher interest as it goes to the group fund.

A study by Y.IndiraKumari and B.SambasivaRao [2001]⁴⁶ on the emergence of women SHGs and its impact on Andhra Pradesh found that the SHG women of this study found to be engaged in petty trades and business including tuff-making, candle making, purse making, leaf plates and basket making, internal lending, etc., which belong to DWCRA groups. Only 34 groups were provided with assistance and the rest of the groups functioned with their own savings. It was suggested that the government must provide more assistance to SHGs so that income, savings, and their expenditure would increase. It was concluded that despite the bottlenecks the DWCRA groups could cross the poverty line.

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Jothy K and Sundar J [2002]⁴ in their study of evaluating the programme of Tamil Nadu MahalirThittam found that SHG women are currently involved in economic activities such as production and marketing of agarbathis, candle and soap, readymade garments, pickles, appalam, vathal, fur toys, bags, palm leaf products, dhotis, herbal products, fancy sea shell, ornaments, eatables, coir mats and other coir products, mattress, chapels, leather good etc., In addition, the SHG women monitor the normal functioning of the ration shops, maintain vigil to prevent brewing of illicit group, help the aged, deserted and windows to obtain loan.

Rajasekar D [2003]⁵ analysed the impact of the economic programmes of SHARE, a NGO in Tamil Nadu on poverty reduction with the help of data collected from the households of 84 women members. The economic programmes have contributed to saving and income increase for the women. However, the member group was not found to be significantly different from the comparison group in terms of control over income and decision-making. The growing amount of saving provides confidence and security to women. They borrow mainly for consumption and crop production. Not much credit is provided to initiate income-generating activities. Women's income constitutes a large proportion of household income. Women and minimum contribution by male members head majority of such households. It may result in a situation in which the male members withdrawing themselves from labour market. It seems to be putting more pressure on women. It was however emphasised that the men should also be brought within the purview of development intervention if women are to be empowered. It was further found that the women who earn do not convert income to meet their personal needs. Their mobility is restricted to visiting husband's parent's home and that is done after the permission granted from husband. SHG members possess knowledge of various government programmes, aware of reservation provided to women in panchayats, aware of mandating of Gramashaba meeting etc.,

The present chapter provides analysis of data and results of the study area. The chapter interprets and discusses the results of the investigation focused on the impact of micro-finance on rural poor in Andhra Pradesh State and the results pertaining to the hypotheses were presented in this study.

IMPACT ASSESSMENT

Impact assessment is a kind of structured study, which measures the impact on employment, income generation, nutrition, education, health, consumption, business development (micro entrepreneurship) and gender equity of MFIs clients. Impact assessment refers to the assessment of "how financial products and services affect the lives of the poor". Impact assessment is the measurement of the income growth, assets growth and vulnerability reduction of the poor by the micro-finance programmes. The indicators for impact assessment are not limited to economic development but extended to development and growth like health, education, empowerment etc.,

Broadly there are three categories of impact due to micro-finance, and these categories are (i) Economic (ii) Socio-cultural and (iii) psychological / political. The economic category includes accumulation of wealth, changes in income, reducing vulnerability, income level of enterprises etc., The socio-cultural category include change in power, relationship (status position) shift of economic decision making from men to women, social and cultural diversity etc., and the psychological category include the women empowerment, psychological strength due to financial strength, political empower etc.,

Specific indicators are developed to explain the impact within each domain. The indicators of economic empowerment included here are the variables like economic self-sufficiency, consumption of nutrition foods, purchase of consumer durables and awareness regarding the use of utensils. The positive changes in these indicators reflect economic empowerment of the poor.

Similarly, social empowerment is explained here through the variables like importance in the family, awareness regarding education and health, positive change in these indicators explain the social empowerment of the members.

The third domain, i.e., political empowerment is presented here through participation in gramasabha and political awareness. A positive change in these variables explains political empowerment of the poor.

SOCIAL EMPOWERMENT

The following variables for social impact of micro-finance on rural poor have been examined. They are:

1. AGE

Age is an important element in the personality of individual and plays an important role to opt for membership in MFIs. It has been observed that youngest are generally more energetic, change prone, progressive, innovative and career oriented. Therefore, an analysis is made to examine the age-wise distribution of members of micro-finance institutions. The relevant data is presented in the table 1 and 2 and Null hypothesis – I (H_0) is formulated and results pertaining to it are presented in the table

H_0 : "There is no significant difference in age-wise distribution of micro-finance respondents in all three regions of A.P."

TABLE NO. 1: AGE-WISE DISTRIBUTION OF SAMPLE MICRO-FINANCE RESPONDENTS

Sl.No	Age(in years)	Telangana	Andhra	Royalaseema	Total
1	< 20	2 (100.00) [4.44]	0	0	2 (2.00)
2	20-30	14 (40.00) [31.11]	14 (40.00) [40.00]	7 (20.00) [35.00]	35 (35.00)
3	30-40	24 (47.00) [53.33]	17 (33.33) [48.57]	10 (19.67) [50.00]	51 (51.00)
4	>40	5 (41.67) [11.11]	4 (33.33) [11.42]	3 (25.00) [15.00]	12 (12.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentage Source: Compiled from questionnaire data

Chi-square Value	20.553
Table Value	12.59
D.F	6
P-Value	<0.01
Result	Significant

The data in Table shows that largest proportion of the respondents to the extent of 51 per cent was in the age group of 30-40 years followed by 35 per cent in the age group of 20-30 years. An interesting observation is that the proportion of micro-finance stakeholders in the age group above 40 years was reported only 12 per cent which shows that with advancing age, old age respondents.

The chi – square test has been applied to find the differences in the age-wise distribution of the respondents among the selected regions - Telangana, Andhra and Rayalaseema of Andhra Pradesh. The Hypothesis – I is rejected as the obtained Chi – square value 20.553 was more than critical value of 12.59 at 5% level of significance. Thus it can be concluded that there is a significant difference in Age-wise profile of the respondents among the three regions Telangana, Andhra and Rayalaseema of Andhra Pradesh.

TABLE 2: ANOVA - ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Mean	Variance	SD
< 20	3	2	0.67	1.33	1.15
20-30	3	35	11.67	16.33	4.04
30-40	3	51	17.00	49.00	7.00
>40	3	12	4.00	1.00	1.00

Telangana	4	45	11.25	98.25	9.91
Andhra	4	35	8.75	64.92	8.06
Royalaseema	4	20	5.00	19.33	4.40

Source of Variation	SS	df	MS	F	P-value	F crit
Age	491.33	3	163.78	17.50	<0.001	4.76
Error	56.17	8	9.36			
Total	547.50	11				

The ANOVA value is calculated to observe the differences in the distribution of age wise profile of the respondents among the selected regions of Andhra Pradesh. . As the obtained F- value 17.50, is more than the critical value of 4.76 which is significant at 1% level of significance. Thus it can be inferred that there is significant difference in Age-wise distribution of the respondents among regions of Andhra Pradesh.

2. EDUCATION

Education is an important determinant of social class. It is an important instrument of increasing and betterment of the change on the rural poor employability. It enables them to think for themselves making confident and also to develop the capacity of recognizing. Education has been reported as crucial factor for developing rural poor and also empowers them. Table 3 and 4 shows the distribution of respondents on educational qualification. Most of the beneficiaries were found poor in terms of education and literacy development. An analysis of the educational status of the respondents is presented in the Table 3 and 4 and Null hypothesis – II (H_0) is formulated and results pertaining to it are placed in the table.

H_0 : "There is no significant difference in Education-wise distribution of micro-finance respondents in all three regions of A.P."

TABLE NO. 3.3: EDUCATION PROFILE OF THE MICRO-FINANCE RESPONDENTS IN A.P.

Sl. No	Education	Telangana	Andhra	Rayalaseema	Total
1	Illiterate	16 (53.33) [35.56]	11 (31.43) [31.43]	3 (15.00) [15.00]	30 (30.00)
2	Primary	20 (45.45) [44.44]	13 (29.54) [37.14]	11 (25.00) [55.00]	44 (44.00)
3	Secondary	6 (28.57) [13.33]	10 (47.60) [28.57]	5 (23.80) [25.00]	21 (21.00)
4	Intermediate	3 (75.00) [6.67]	1 (25.00) [2.86]	0	4 (4.00)
5	Graduation & above	0	0	1 (100.00) [5.00]	1 (1.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

Chi-square Value	10.994
Table Value	15.51
D.F	8
P-Value	>0.05
Result	Not Significant

Education is one of the means for empowerment. The data Table 3 reveals the educational qualification of the respondents. There are 44 per cent of respondents who have studied up to primary level including those who can only sign. (just sign./ Literate in the sense that they can read and write but not having formal education) 21 per cent who have completed their high school. 30 per cent of the respondents were illiterate and only 4 per cent of respondent have completed +2 level. Only one respondent completed graduation. This indicates educational qualifications are very important to take an activity. Though on the whole, there has been a change with regard to educational background of members, it is not up to the expected level.

The chi – square test has been applied to know the differences in the Education-wise distribution of the respondents among the selected regions - Telangana, Andhra and Rayalaseema of Andhra Pradesh. There is no significant difference at 5% level of significance as the obtained Chi – square value 10.994, is less than critical value 15.51 Hence, Hypothesis – II is accepted. It can be concluded that there is no significant difference in Education-wise profile of the respondents among all the regions of Andhra Pradesh.

TABLE 4: ANOVA - ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
Illiterate	3	30	10.00	43.00	6.56
Primary	3	44	14.67	22.33	4.73
Secondary	3	21	7.00	7.00	2.65
Intermediate	3	4	1.33	2.33	1.53
Graduation & above	3	1	0.33	0.33	0.58

Telangana	5	45	9.00	74.00	8.60
Andhra	5	35	7.00	36.50	6.04
Rayalaseema	5	20	4.00	19.00	4.36

Source of Variation	SS	df	MS	F	P-value	F crit
Education profile	431.33	4	107.83	9.95	<0.001	3.84
Error	86.67	10	10.83			
Total	518.00	14				

Table 4 shows the ANOVA F-observed and critical value, d.f and showing the distribution of educational profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema. There is significant difference since the obtained F-value 9.95 is greater than the critical value 3.84 at 1% level of significance. Hence, the null Hypothesis (H₀) is rejected and it can be concluded that there is significant difference in education profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema of Andhra Pradesh.

3. RELIGION AND COMMUNITY

Even though India is secular in its character, religion and community determine the extent to which men and women take path to develop to their lives. It is prominent in case of rural poor in general and women in particular. In some religions and community women are not allowed to participate in any kind of social activities. The social composition of the MFI respondents is shown in Table 5 and 6. An analysis of the religion-wise status of the respondents is presented in the Table and Null hypothesis – III (H₀) is formulated and results pertaining to it are presented in the Table.

H₀: "There is no significant difference in Religion-wise distribution of micro-finance respondents in all the regions of A.P."

TABLE NO. 5: RELIGION-WISE DISTRIBUTION OF SAMPLE MICRO-FINANCE RESPONDENTS

Sl.No	Religion	Telangana	Andhra	Rayalaseema	Total
1	Hindu	34 (44.16) [75.56]	29 (37.66) [82.86]	14 (18.18) [70.00]	77 (77.00)
2	Muslim	8 (61.54) [17.78]	2 (15.38) [5.71]	3 (23.08) [15.00]	13 (13.00)
3	Christian	3 (33.33) [6.67]	3 (33.33) [8.57]	3 (33.33) [15.00]	9 (9.00)
4	Others	0	1 (100.00) [2.86]	0	01 (1.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

Chi-square Value	5.513
Table Value	12.59
D.F	6
P-Value	>0.05
Result	Not Significant

The Table explain the religious status of micro-finance respondents and it reveals that majority of respondents were Hindu with 77 per cent, followed by Muslims and Christian with 13 per cent and 09 per cent respectively and only one per cent with other religions. It is concluded that respondents, therefore largely comprised (77 per cent) of Hindus in all three regions of Andhra Pradesh.

Further Table 3.5 shows the chi – square value of the Religion-wise distribution of the respondents among the selected regions - Telangana, Andhra and Rayalaseema of Andhra Pradesh. There is no significant difference in religion-wise distribution of the respondents since the obtained Chi – square value 5.513, less than critical value 12.at 5% level of significance. Hence, Hypothesis – III is accepted and concluded that there is no significant difference in religion-wise profile of the respondents among all the regions of Andhra Pradesh.

TABLE 6: ANOVA - ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
Hindu	3	77	25.67	108.33	10.41
Muslim	3	13	4.33	10.33	3.21
Christian	3	9	3.00	0.00	0.00
Others	3	1	0.33	0.33	0.58

Telangana	4	45	11.25	240.92	15.52
Andhra	4	35	8.75	182.92	13.52
Rayalaseema	4	20	5.00	38.00	6.16

Source of Variation	SS	df	MS	F	P-value	F crit
Religion	1226.67	3	408.89	15.45	<0.001	4.76
Error	158.83	8	26.47			
Total	1385.50	11				

Table 6 shows the ANOVA F-observed and critical value, d.f of the distribution of Religious profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema. There is significance since the calculated F- value 15.45 is greater than table value 4.76 at 1% level of significance. Hence, Hypothesis – III is rejected and it is concluded that there is significant difference in religious profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema of Andhra Pradesh.

4. MARITAL STATUS

Marriage has a role to play in deciding the social status and living conditions of poor in India particularly the rural women. As the society is by and large, patriarchal the husband’s social status defined the social status of women. Marital status wise distribution of the MFI respondents is placed in Table 7. An analysis of the marital status-wise of the respondents is presented in the Table7 &8 and Null hypothesis – IV (H₀) is formulated below and results pertaining to it are presented in the table.

H₀: “There is no significant difference in marital status-wise distribution of micro-finance respondents in all the regions of A.P.”

TABLE 7: MARITAL STATUS WISE DISTRIBUTION OF SAMPLE MICRO-FINANCE RESPONDENTS

Sl.No	Marital Status	Telangana	Andhra	Rayalaseema	Total
1	Married	45 (46.39) [100.00]	32 (32.98) [91.43]	20 (20.61) [100.00]	97 (97.00)
2	Unmarried	-	3 (100.00) [8.57]	-	3 (3.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentageSource: Compiled from questionnaire data

Chi-square Value	5.744
Table Value	3.841
D.F	1
P-Value	<0.05
Result	Significant

The data in Table shows that the married MFI members were large in majority 97percent and only 3 per cent are of respondents were un-married. The chi-square value relating to the Marital Status -wise distribution of the respondents among the regions - Telangana, Andhra and Rayalaseema of Andhra Pradesh is depicted in 3.7. There is significant difference in Marital Status -wise distribution of the respondents since as the obtained Chi – square value 5.744 is more than critical value 3.841 at 5% level of significance. Hence, Hypothesis – IV is rejected and concluded that there is significant difference in Marital Status of the respondents among the selected regions Telangana, Andhra and Rayalaseema.

5. SOCIAL STATUS / COMMUNITY

One of the most crucial aspects in the formation and sustenance of the micro-finance groups is the commonality of interests, which the members share, and their keenness to work together with commitment and optimum participation. The members of the micro-finance stakeholder studied. The detail of social status wise distribution of the MFI respondents is placed in Table 8. An analysis of the social status-wise of the respondents is presented in the Table and Null hypothesis – V (H₀) is formulated below and results pertaining to it are presented in the table.

H₀: “There is no significant difference in social status-wise distribution of micro-finance respondents in all the regions of A.P.”

TABLE 8: SOCIAL CATEGORY-WISE DISTRIBUTION OF SAMPLE MICRO-FINANCE RESPONDENTS

Sl. No	Social Category	Telangana	Andhra	Rayalaseema	Row Total
1	Schedule Tribe	7 (77.78) [15.56]	1 (11.11) [2.86]	1 (11.11) [5.00]	9 (9.00)
2	Schedule Caste	11 (47.83) [24.44]	6 (26.09) [17.14]	6 (26.09) [30.00]	23 (23.00)
3	Backward Community	15 (34.88) [33.33]	21 (48.83) [60.00]	7 (16.28) [35.00]	43 (43.00)
4	Forward Community	3 (27.27) [6.67]	4 (36.37) [11.44]	4 (36.37) [20.00]	11 (11.00)
5	Minorities	9 (64.29) [20.00]	3 (21.43) [8.56]	2 (14.29) [10.00]	14 (14.00)
Column Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentage

Source: Compiled from questionnaire data

Chi-square Value	15.958
Table Value	15.51
D.F	8
P-Value	<0.05
Result	Significant

The table 8 explains the community wise details of the respondents. It is observed from the table that majority of the respondents 43 per cent belongs to Backward community /other backward community numerically dominant followed by scheduled caste with 23 per cent and forward community with 11 per cent, very negligible one digits with schedule tribe community respondents and other forward community, none of the them directly joined in micro-finance activity. It is interesting to note that the rural poor who belonged to B.C were interested in undertaking micro-finance activity as they want become economically independent and contribute to the family income.

Table 9 shows the chi – square value relating to the social category -wise distribution of the respondents among the regions - Telangana, Andhra and Rayalaseema of Andhra Pradesh. There is significant difference in social category -wise distribution of the respondents as the obtained Chi – square value 15.958 is greater than the critical value 15.51 5% level of significance. Hence, Hypothesis – V is rejected and concluded that there is significant difference in Social Category profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema.

TABLE 9: ANOVA - ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
Schedule Tribe	3	9	3	12	3.46
Schedule Caste	3	23	7.67	8.33	2.89
Backward Community	3	43	14.33	49.33	7.02
Forward Community	3	11	3.67	0.33	0.58
Minorities	3	14	4.67	14.33	3.79
Telangana	5	45	9	20	4.47
Andhra	5	35	7	64.5	8.03
Rayalaseema	5	20	4	6.5	2.55

Source of Variation	SS	df	MS	F	P-value	F crit
Social category	258.67	4	64.67	4.91	<0.05	3.84
Error	105.33	10	13.17			
Total	364.00	14				

Table 9 shows the ANOVA F-observed and critical value, d.f and the distribution of Social category profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema. There is significant difference since the obtained F- value 4.91 is greater than the critical value 3.84 at 5 % level of significance. Hence, Hypothesis – IV is rejected and concluded that there is significant difference in Social category profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema of Andhra Pradesh.

6. TYPE OF FAMILY

The type of the family is classified into two categories viz, joint family and nuclear family and the details of the respondents shown in the table 10. An analysis of the type of family-wise distribution of respondents is presented in the table and Null hypothesis – VI (H₀) is formulated below and results pertaining to it are presented in the table.

H₀: “There is no significant difference in type of family-wise distribution of micro-finance respondents in all the regions of A.P.”

TABLE- 10: TYPE OF FAMILY-WISE DISTRIBUTION OF SAMPLE MICRO-FINANCE RESPONDENTS

Sl.No	Type of family	Telangana	Andhra	Rayalaseema	Total
1	Nuclear family	31 (41.33) [68.89]	28 (37.33) [80.00]	16 (21.33) [80.00]	75 (75.00)
2	Joint family	14 (56.00) [31.11]	7 (28.00) [20.00]	4 (16.00) [20.00]	25 (25.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentageSource: Compiled from questionnaire data

Chi-square Value	25.6
Table Value	5.991
D.F	2
P-Value	<0.01
Result	Significant

The type of the family is classified into two categories viz., joint family and nuclear families and given in Table that majority of the respondents stake holders live in nuclear families with 75 per cent and 25 per cent of them were living in joint families. It is true that the tendency to move to nuclear families in rural areas has been in practice which is true in this study. Mostly in rural areas nuclear families are formed as economically poor families. In rural areas it is true that once the couple are married, the parents tend to put them in nuclear families or the couple themselves decide to leave the joint families. Joint families are in way a contribution when respondents are doubly burdened with both household activities and responsibilities. Table 10 shows the chi – square value of the type of family -wise distribution of the respondents among the regions - Telangana, Andhra and Rayalaseema of Andhra Pradesh. There is significant difference as the obtained Chi – square value 25.6, is more than the critical value 5.991 at 5% level of significance. Hence, Hypothesis – VI is rejected and concluded that there is significant difference with regard type of family- wise distribution of the respondents among the selected regions of Andhra Pradesh.

TABLE 11: ANOVA - ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
2	3	10	3.33	5.33	2.31
3	3	17	5.67	17.33	4.16
4	3	20	6.67	14.33	3.79
5	3	10	3.33	0.33	0.58
6	3	11	3.67	0.33	0.58
7	3	8	2.67	5.33	2.31
8	3	22	7.33	26.33	5.13
10	3	2	0.67	1.33	1.15

Telangana	8	45	5.63	22.27	4.72
Andhra	8	35	4.38	2.55	1.60
Rayalaseema	8	20	2.50	4.57	2.14

Source of Variation	SS	df	MS	F	P-value	F crit
Total family members	104	7	14.86	2.04	>0.05	2.76
Error	101.75	16	7.27			

Table 11 shows the ANOVA F-observed and critical value, d.f and the distribution of Total family members profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema. There is no significant difference the obtained F-value value 2.04 is less critical value 2.76 at 5% level of significance. Hence, Hypothesis –V is accepted and concluded that there is no significant difference in Social category profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema of Andhra Pradesh.

7. SIZE OF THE FAMILY

Size of the family or total of the family members also influences an individual to become the member of micro-finance group. An analysis of the size of family-wise distribution of respondents is presented in the table 12 (A and B) and Null hypothesis – VII (H₀) is formulated below and results pertaining to it are presented in the table. H₀: “There is no significant difference in size of family-wise distribution of micro-finance respondents in all the regions of A.P.”

TABLE-12 (A): TOTAL FAMILY MEMBERS-WISE DISTRIBUTION OF SAMPLE MICRO-FINANCE RESPONDENTS

Sl.No	Total family members	Telangana	Andhra	Rayalaseema	Total
1	Small family	22 (46.80) [48.89]	18 (38.30) [51.42]	7 (14.59) [35.00]	47 (47.00)
2	Medium family	23 (45.10) [51.11]	15 (29.41) [42.83]	13 (25.49) [65.00]	51 (51.00)
3	Large family	0	2 (100.00) [5.74]	0	2 (2.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentageSource: Compiled from questionnaire data

TABLE 12 (B): TOTAL FAMILY MEMBERS-WISE DISTRIBUTION OF SAMPLE MICRO-FINANCE RESPONDENTS

Sl.No	Total family members	Telangana	Andhra	Rayalaseema	Total
1	2	2 (4.44)	6 (17.14)	2 (10.00)	10 (10.00)
2	3	9 (20.00)	7 (20.00)	1 (5.00)	17 (17.00)
3	4	11 (24.44)	5 (14.28)	4 (20.00)	20 (20.00)
4	5	3 (6.67)	4 (11.43)	3 (15.00)	10 (10.00)
6	6	3 (6.67)	4 (11.43)	4 (20.00)	11 (11.00)
7	7	4 (4.44)	4 (11.43)	-	8 (8.00)
8	8	13 (28.89)	3 (8.57)	6 (30.00)	22 (22.00)
9	10	-	2 (5.71)	-	2 (2.00)
Total	45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)	

Source: Compiled from questionnaire data Note: Figure parenthesis indicates percentage

Chi-square Value	19.921
Table Value	26.30
D.F	16
P-Value	>0.05
Result	Not Significant

Overwhelming majority of respondents reported that their family size is large one, comprising of more than 4 members. Importantly, only less than 50 per cent respondents accepted that they were living with their in laws. However, the majority of the respondents reported that in laws were not living with them. It is general tendency that in rural poor families live independent, concentrating own family members (Table 12.b).

The Table reveals that the Family size of respondents 57 per cent from nuclear family and 43 per cent respondents from joint family. In nuclear family 10 per cent respondents belong family size member of 2 numbers. 17 per cent of respondents fall under the family size 3 number. It is understood that a majority respondents 35 per cent belongs family size 6-10 number. Moderate family size is four in nuclear family and six numbers in joint family. Table details the size of the members of family of the micro-finance respondent's household. The size of the household of the respondents ranges from 2 to 10 members. Family size is three to four in nuclear family followed by six to eight member which is very true very rare to find in the present age.

However, there may be joint families and more elders may be found the size of the household had both positive and negative implications. In the positive side, the larger the size with more elder and earning member present may contribute more for the saving and thrift and hence sustainability of the group. On the negative side it may be held that the larger the size of family lower would be the economic freedom to save by the member.

Table 12(b) shows the chi – square value of the size of family -wise distribution of the respondents among the regions - Telangana, Andhra and Rayalaseema of Andhra Pradesh. There is no significant difference since the obtained Chi – square value 19.921 is less than critical value 26.30 at 5% level of significance. Hence, Hypothesis – VII is accepted and concluded that there is no significant difference in size of family of the respondents among regions of Andhra Pradesh.

TABLE 3.13: ANOVA - ONE-FACTOR ANALYSIS

SUMMARY	Count	Sum	Average	Variance	SD
Self	3	31	10.33	8.33	2.89
Husband/Wife	3	46	15.33	22.33	4.73
Father	3	2	0.67	0.33	0.58
Mother	3	1	0.33	0.33	0.58
In-Law	3	20	6.67	32.33	5.69

Telangana	5	45	9	67.5	8.22
Andhra	5	35	7	53.5	7.31
Rayalaseema	5	20	4	18.5	4.30

Source of Variation	SS	df	MS	F	P-value	F crit
Head of the family	494	4	123.50	15.44	<0.001	3.84
Error	64	10	8			
Total	558	14				

Table 13 shows The ANOVA F-observed and critical value, d.f and the distribution of head of the family profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema. There is significant difference as the obtained F- value 15.44, is greater than the critical value 3.84 at 1% level of significance. Hence, Hypothesis –VI is rejected and concluded that there is significant difference in head of the family profile of the respondents among the selected regions Telangana, Andhra and Rayalaseema of Andhra Pradesh.

8. HEAD OF THE FAMILY

The head of the family takes the decision regarding joining in a MF group. The head of the family may be self, husband, wife, father, mother and In-law. The head of the family, who spends income of the family-wise distribution of respondents, is presented in the table 3.14 and Null hypothesis – VIII (H₀) is formulated below and results pertaining to it are presented in the table.

H₀: "There is no significant difference in head of family-wise distribution of micro-finance respondents in all the regions of A.P."

TABLE - 14: DISTRIBUTION OF HEAD OF THE FAMILY WHO SPENDS FAMILY INCOME-WISE RESPONDENTS

Sl. No	Head of the family	Telangana	Andhra	Rayalaseema	Total
1	Self	12 (38.71) [26.67]	12 (38.71) [34.29]	7 (22.58) [35.00]	31 (31.00)
2	Husband/Wife	19 (41.30) [42.22]	17 (36.96) [48.57]	10 (27.94) [50.00]	46 (46.00)
3	Father	1 (50.00) [2.22]	0	1 (50.00) [5.00]	02 (02.00)
4	Mother	0	1 (100.00) [2.86]	0	1 (1.00)
5	In-Law	13 (65.00) [28.86]	5 (25.00) [14.28]	2 (10.00) [10.00]	20 (20.00)
Total		45 (100.00)	35 (100.00)	20 (100.00)	100 (100.00)

Note: Figure parenthesis indicates percentage Source: Compiled from questionnaire data

Chi-square Value	7.575
Table Value	15.51
D.F	8
P-Value	>0.05
Result	Not Significant

More than half of the respondents reported that their husbands spend family income while about 31 per cent respondents accepted that they themselves spend it. Interestingly, an overwhelming majority of the respondents who were women reported that the head of the family were their husbands (46 per cent).

Table 14 shows the chi – square value of the Head of the family who spends family income-wise respondents among the regions - Telangana, Andhra and Rayalaseema of Andhra Pradesh. There is no significant difference since the obtained Chi – square value 7.575 is less than critical value 15.51 at 5% level of significance. Hence, Hypothesis – VIII is accepted and concluded that there is no significant difference in Head of the family who spends family income-wise distribution of the respondents among the selected regions of Andhra Pradesh.

CONCLUSIONS

Age: The largest proportion of the respondents (51 per cent) was in the age group of 30-40 years followed by 35 per cent in the age group of 20-30 years. An interesting observation is that the proportion of microfinance stakeholders in the age group of above 40 years was reported to be only 12 per cent. By and large the sample is dominated by 20-40 years age group.

Education: There are 44 per cent of respondents who have studied up to primary level including those who can only sign and 21 per cent completed their high school. 30 per cent of the respondents were illiterate and only 4 per cent of respondent have completed +2 level. Only one respondent completed graduation. This indicates that educational qualifications are very important to take an activity, but is not up to the expected level.

Religion: The sample is covered with 77 per cent Hindu, followed by Muslims and Christian with 13 per cent and 09 per cent respectively and only one per cent with other religions. The sample is largely comprised of Hindus (77 per cent) in all three regions of Andhra Pradesh.

Marital status: The marital status of the respondents indicates that 97 per cent were married. And only 3 per cent respondents were unmarried and become members of MFI.

Community: It is observed that majority of the respondents (43 per cent) belong to Backward community /other backward community followed by scheduled caste with 23 per cent and forward community with 11 per cent. Very negligible per cent of schedule tribe community respondents joined in microfinance activity. It is interesting to note that the rural poor who belonged to B.C were interested in undertaking microfinance activity as they to become economically independent and contribute to the family income.

Family: Majority of the respondents stakeholders live in nuclear families with 75 per cent and 25 per cent of them were living in joint families. It is true that the tendency to move to nuclear families in rural areas has been in practice which is true in this study. Mostly in rural areas nuclear families are formed as economically poor families. In rural areas it is true that once the couple are married, the parents tend to put them in nuclear families or the couple themselves decide to leave the joint families. Joint families are in way a contribution when respondents are doubly burdened with both household activities and responsibilities. It is observed that 57 per cent of respondents from nuclear family and 43 per cent respondents belong to joint family. In nuclear family 75 per cent respondents have a family size of 2 members and 17 per cent of respondents have a family size 3 numbers. It is understood that a majority respondents of large families have a family size 6-10 members. Moderate family size is four in nuclear family and six members in joint family. More than half of the respondents reported that their husbands spend family income while about 31 per cent respondents accepted that they themselves spend it. Interestingly, the overwhelming majority of the respondents who were women reported that the head of the family were their husbands (46 per cent).

Size of the membership: Accordingly in this study it is analyzed to find out what is the range of members in each group among the sample respondents. It is observed from the data that the members range from 11-15 in each group. In majority of cases group the size 11-15, followed by 15-20. It is only one in above 20 is found.

Participation: The respondents were further asked about their participation in the decisions of the meetings. The majority of the respondents i.e. 53 per cent reported that all members participate in the decisions of the group meetings. Importantly, in the decision making process, NGO's facilitators also participate to enable the group members in choosing the best alternative

Decision Making: Major decision are taken by group representative 47 per cent and 29 per cent respondents decision taken by facilitator with consultation with members. Decision been taken on consensus basis by the group member 15 per cent.

SUGGESTIONS

Some important parameters for betterment of the working of microfinance institutions as given as below:

1. Working MFI should be made transparent will proper legislations.
2. There is a need to have proper regulating authority at each level saving, depositing, lending of money, which will help in long term sustainability of the sector and in avoiding any misuse of money.
3. The basic problem with the government schemes is that they have no accountability in terms of the number of populations they have served or in terms of the benefits one has received. This gives rise to the problem of duplication i.e. same person enjoying double benefits whereas quantum of people doesn't even receive support.

4. Strong marketing network is essential for effective and proper marketing of product and services of micro enterprises linked SHGs. They need marketing support and institutional capacity to handle marketing activities independently.
5. Minimal or zero balance saving bank accounts should be initiated for all the poor individual and not only for the MFI/SHGs. The government can play a major role in this. This step would not only create a safe window for them but also help them to multiply their money.
6. All in all the government should keep an eye on the MFIs and facilitate their working through making a structured regulatory framework for NGOs/SHGs and other microfinance institutions.
7. Government can waive income tax at least 10 to 15 years so that the MFI will not have the pressure of making will the outgoing and such policy will also help improve the sustainability of MFIs through better internal accruals.
8. Government can consider fixing low interest rates on lending by the banks to MFIs both as the primary sector / weaker section and special interest subvention so that the MFIs can balance their high cost of operation and lend to the poor clients at reasonable rate of interest.
9. Special recovery process and customer grievance redressal measures may be introduced so as minimize the hardships faced by the poor.
10. The market-driven business model will have to be replaced with legitimate, more sustainable model with social objectives.
11. A strong and effective regulation of the sector is therefore imperative to put an end to undesirable practices and put the sector on the path of providing inclusive growth.
12. Emphasis should be given to SHGs formation and group lending rather than individual lending.
13. There is need to evolve new products by the banks commensurate with the requirements of women.
14. It is suggested to increase the ceiling limit of the loan to Rs 25,000. The interest rate on the loan amount should be brought down to minimum extent.
15. The members of all the self-help groups need to undergo training programmes related to accounting, motivation etc. It helps them in better understanding of need of relation between micro financing and members for smooth functioning.
16. It is recommended that all sanctioning and disbursement of loans should be done only at a central location and more than one individual should be involved in this function. In addition, there should be close supervision of the disbursement function.
17. It is recommend that the government should take initiative for publishing a Client Protection Code for MFIs and mandate its acceptance and observance by MFIs.
18. It is there must be a minimum period of moratorium between the grant of the loan and the commencement of its repayment.
19. It is recovery of loan given in violation of the regulations should be deferred till all prior existing loans are fully repaid.
20. Government should promote microfinance systems only when they are linked to social mobilization and community empowerment.
21. Discriminations by the official shall be stoped
22. Political interference seems to be block for effective functioning.
23. Regular training programs shall be conducted.
24. MFI are not political pressue to manitor and write off loans provide lover against unexpected losses.
25. Monitoring on utilization of loan for income generat achiving. Sufficient information about the income generating projects, Incentives for clients and Recovery exmption in guanine cases especially in death, illheath.
26. MFI help more people become economically self sufficeint, Confidence building, social awarness of the people, Increased literacy and education.
27. The groups develop their own management system and accountability for handling the resources generated. The interaction among the members based on participatory mechanism in terms of decision-making.
28. MFI's can create a unique, alternative need based credit delivery mechanism by pooling their meager resources for catering to their consumption and production requirements.
29. There is need to accept that rural poor needs are not only for self-employment. The programmes should be designed on the basis of the needs of rural poor at the micro level. Planning for self-employment for rural poor needs a multipronged strategy.

Microfinance through has reached the un-reached rural poor. There is need to evolve an informal micro financing through formal financial institutions. The massive growth of microfinance has paved the way for immediate financial accessibility for the poor who are too far away from this accessibility and microfinance. Microfinance is an alternative system of credit delivery for the poorest of the poor. It would help in improving the quality of life in rural India. The government of India can play vital role in encouraging. MFI should come forward and extend facilities especially in empowering rural poor by providing education (training), motivation, and financial help and so on. MFI bring unity and integrity among the members. It improves general welfare of family and community. MFI assist the rural poor to perform traditional roles better and to take up micro entrepreneurship.

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MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT (MGNREGA): ISSUES AND CHALLENGES

HARSIMRAN SINGH
RESEARCH SCHOLAR
DEPARTMENT OF ECONOMICS
PUNJABI UNIVERSITY
PATIALA

ABSTRACT

MGNREGA provides 100 days of employment (unskilled, manual work) to all rural households on a self-selection basis and is cognisant of existing social inequalities that lead to the exclusion from economic growth opportunities of weaker sections mainly scheduled castes, scheduled tribes, women and others. It is the most significant act in the history of Indian polity in many ways like grass-root level participation of every citizen and beneficiary through democratic process, multi-layered social audit and transparency mechanism by involvement of civil society, comprehensive planning at village level towards sustainable and equitable development etc. There is no denying the fact that MGNREGS is conceptually a very important national programme but its record of implementation reveals that there are widespread complaints of corruption, pilferage of funds and a very low level of utilization of budgeted provision. The Act is an important step towards realization of the right to work. It is also expected to enhance people's livelihood on a sustained basis, by developing the economic and social infrastructure in rural areas. There is no denying the fact that MGNREGA is conceptually a very important national programme, but its record of implementation reveals that there are widespread complaints of corruption, pilferage of funds and very low level of utilization of budgeted provision. The proper implementation of this act may prove a panacea for removing all socio-economic problems mainly poverty, unemployment, and inequality as well as for achieving the objective of social justice and inclusive growth.

KEYWORDS

MGNREGA, Unemployment.

INTRODUCTION

Ever since India achieved independence, one of the major challenges before successive governments has been provision of adequate remunerative employment to the vast majority of rural workers who have been unemployed, or mostly underemployed, in meager subsistence livelihood activities.

India is the second largest country after China in terms of populations and man-power. The haunting problem of unemployment is not confined to any particular class, segment or society as massive unemployment exists among educated, well-trained and skilled people as well as among semi-skilled and unskilled laborers, landless labourers, small and marginal farmers' etc. Unemployment or under-employment is a very complex problem mainly in the rural areas which poses a great challenge to planners, economists, politicians, industrialists as well as educationists.

The Indian Constitution addressed this issue as a part of the Directive Principles of State Policy. According to Article 39, the State must ensure that 'citizens, men and women equally, have the right to an adequate means to livelihood' and Article 41 enunciates that 'the State, shall within the limits of its economic capacity and development, make effective provision for securing Right to Work...'. The Right to Work as such did not get the needed priority, though the Government of India, from time to time, did undertake public works-related wage employment programmes since the 1960s. These programmes were mostly ad-hoc in nature, had limited impact in generation of employment, lacked proper planning in creation of assets, and most of the assets created were of poor quality and often suffered from poor maintenance. The impact of these programmes, either on rural unemployment or in improving rural resources, was not long lasting.

There was increase in unemployment and underemployment and much of the little growth witnessed was in the informal sector, with formal public sector employment showing a declining trend. These developments have evoked considerable public concern in India and the 'Right to Work' surfaced as an important political agenda. The Common Minimum Programme of the UPA government, which came to power in 2004, placed Right to Work as top priority. It stated- "...The UPA Government will immediately enact a National Employment Guarantee Act. This will provide legal guarantee for at least 100 days of employment on asset-creating public works programmes every year at minimum wage for every rural household..." The result was the enactment of the National Rural Employment Guarantee Act in 2005.

GENESIS OF MGNREGA

The policy of creating guaranteed employment through public works dates back to the 1970s when Maharashtra government introduced Employment Guarantee Scheme (EGS). Maharashtra Employment Guarantee Act, 1977 was the first such act which offered statutory support to the right to work making employment an entitlement to empower the rural poor. The programme came into effect from 26 January, 1979. The principal aim of the MEGS was to provide gainful and productive employment to the people ready to work in the rural areas. The guarantee to provide work was restricted to unskilled manual work only. The basic objective of the scheme was that on completion of the works undertaken, some durable community assets should be created and that the wages paid to the workers should be linked with the quantity of work done. Another feature of the scheme was to ban contractors. It was also treated as powerful tool for drought management and drought proofing. MEGS was the fore-runner for the emergence of the NREGA, now known as MGNREGA.

Full employment is a necessary ingredient for equitable growth outcomes. An effectively designed employment guarantee program can provide a universally accessible social safety net, while contributing to social and economic developmental goals. Since independence, a number of schemes have been initiated for the welfare of weaker sections of the society namely Community Development Programme, Small Farmers Development Agency, Draught Prone Area Programme, Minimum Needs Programme, 20 Point Programme, Desert Development Programme, Training of the Rural Youth for Self-Employment, National Rural Development Programme, Rural Landless Employment Guarantee Programme, Antodya Yojna, Jawahar Rozgar Yojna, Employment Insurance Scheme, Swarn Jayanti Gram Swarozgar Yojna, Jawahar Gram Samridhi Yojna etc. implemented by state governments with central assistance. Despite all these attempts to enhance the socio-economic conditions of the weaker sections through the creation of employment opportunities in rural areas and creation of durable community assets, earlier programmes have failed to deliver goods either due to inherent inadequacies or lack of appropriate legal framework. Almost all the programmes were allocation based rather than demand based. United Progressive Alliance (UPA) Government enacted MGNREGA as component of its Common Minimum Programme in September 2005. MGNREGA came in to effect in February 2, 2006 and was implemented in a phased manner. It was introduced in 200 economically disadvantaged and backward districts of the country in the Phase 1 and in Phase 2 (2007-08) it was implemented in the additional 130 districts. This Act was notified in the remaining 285 districts of India from April 1, 2008 in Phase 3.

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) has been devised as a public work programme to address the issue of a rights-based approach to development; provide income security to the rural households through guaranteed wage employment; reduce/check distress migration from the rural to urban areas; and create durable community assets (in the rural areas) to trigger an overall development of about six lakh Indian villages. Further, it is not merely an employment generation or social security programme, but combines various objectives of rural development, which imparts a unique distinction to it (Pankaj, 2008). MGNREGA is considered to be unique from this standpoint. It is the only programme in the history of India's development initiatives which

has been in force with an enactment of an act of the parliament. With a mandate to guarantee 100 days of employment to a rural household, the scheme is intended to guarantee employment to all those who demand works, failing which unemployment allowances are to be paid.

MAJOR OBJECTIVES OF MGNREGA

The prime objective of this scheme was to create wage work during the lean/slack agricultural season through a public works programme available on demand, to provide the safety net of a minimum level of income in the non-existence of other work, to check the distress migration, to create the village assets, women empowerment and a subtle initiative for sustainable development. This scheme is attributed with the time bound guarantee, labour-intensive work, decentralized participatory planning, women's empowerment, work site facilities and above all, transparency and accountability through the provision of social audits and right to information. Intensive monitoring and faster execution resulted from the effective use of information technology will be helpful in achieving high level of transparency and accountability. The specific goals of MGNREGA are as follows-

1. To create durable assets and strengthen the livelihood resource base of the rural poor;
2. To create strong social safety net for the vulnerable groups by providing a fall-back employment source, when other employment alternatives are inadequate;
3. To act as a growth engine for sustainable development of an agricultural economy;
4. To empower rural poor through the processes of a rights-based law; and
5. To initiate new ways of doing business, as a model of governance reform anchored on the principles of transparency and grass root democracy.

Thus, it may thus be inferred that MGNREGA is just not a welfare initiative. It is a development effort that can take the Indian economy to a new trajectory. It has three distinct goals: Protective, Preventive and Promotive; it protects the rural poor from vulnerabilities by providing them demand based employment, prevents risks associated with agricultural investment and forced migration of the rural poor and brings in buoyancy in rural economy via increased consumption demand. All these pertain to suggest that MGNREGA can act as a growth engine by expanding rural resource base and integrating the rural economy with the rest.

The MGNREGA stipulates that works must be targeted towards a set of specific rural development activities such as: water conservation and harvesting, afforestation, rural connectivity, flood control and protection much as construction and repair of embankments along with Digging of new tanks/ponds, percolation tanks and construction of small check dams, creation of durable assets and strengthening the rural livelihood resources etc. The MGNREGA achieves twin objectives of rural development and employment.

PROVISIONS UNDER MGNREGA

The following provisions are made for enhancing the employment opportunities and creating economic self-sufficiency among the weaker sections of the society-

1. Adult members of a rural household, willing to do unskilled manual work, may apply for registration in writing or orally to the local Gram Panchayat.
2. The Gram Panchayat after due verification issues a Job Card free of cost within 15 days of application bearing the photograph of all adult members of the household willing to work under MGNREGA.
3. A Job Card holder may submit a written application for employment to the Gram Panchayat, stating the time and duration for which work is sought. The minimum days of employment have to be at least fourteen.
4. The Gram Panchayat issues a dated receipt of the written application for employment, against which the guarantee of providing employment within 15 days operates. Failure to provide employment to the applicants within timeframe of 15 days enable applicant to receive unemployment allowances.
5. Work should ordinarily be provided within 5 km radius of the village. In case work is provided beyond 5 km, extra wages of 10% are payable to meet additional transportation and living expenses.
6. Wages are to be paid according to the Minimum Wages Act 1948 for agricultural labourers in the State unless the Centre notices a wage rate which will not be less than Rs. 60 per day.
7. An attempt is made to eliminate gender bias by making provision for equal wages to men and women. In case of every employment under the Scheme, there shall be no discrimination solely on the ground of gender and the provisions of the Equal Remuneration Act, 1976 (25 of 1976), shall be complied with.
8. Unemployment allowance will be within the liability of the state government and shall be paid to the applicants of a household subject to the entitlement of the household at such rate as may be specified by the state government.
9. The facilities of safe drinking water, shade for children and periods of rest, first-aid box with adequate material for emergency treatment for minor injuries and other health hazards connected with the work being performed shall be provided at the work site.
10. If any personal injury is caused to any person employed under the Scheme by accident arising out of and in the course of his employment, he shall be entitled to, free of charge, such medical treatment as is admissible under the Scheme.
11. In case of necessity of hospitalisation of the injured worker, the State Government shall arrange for such hospitalisation including accommodation, treatment, medicines and payment of daily allowance not less than half of the wage rate required to be paid had the injured been engaged in the work.
12. If a person employed under a Scheme dies or becomes permanently disabled by accident arising out of and in the course of employment, he shall be paid by the implementing agency an ex-gratia payment at the rate of twenty-five thousand rupees or such amount as may be notified by the Central Government, and the amount shall be paid to the legal heirs of the deceased or the disabled, as the case may be.
13. In case the payment of wages is not made within the period specified under the scheme, the labourers shall be entitled to receive payment of compensation as per the provisions of the Payment of Wages Act, 1936 (4 of 1936).

These are the salient features of the National Rural Employment Guarantee Act 2005, an Act to provide for the enhancement of livelihood security of the households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do skilled manual work and for matters connected therewith or incidental thereto.

PERFORMANCE OF MGNREGA

The overall performance of MGNREGA has been significant in quantitative terms. The Number of households has increased significantly from 45.11 million in 2008-09 to 54.95 million in 2010-11 and the number of Districts has also increased from 615 to 625 for the same period (Table 1). The expenditure allocation for MGNREGA reached to Rs. 528070.97 million out of which 74.57 per cent funds were used in creation of 2571.52 million person-days in 2010-11. In 2009-10, number of person-days created was 2835.96 million which declined to 2571.52 million person-days in 2010-11. In total person-days, Scheduled Castes' share has increased significantly from 29.29 per cent in 2008-09 to 30.48 per cent in 2009-10 and subsequently to 30.63 per cent in 2010-11. The share of Scheduled Tribes in total person-days created has declined from 25.43 per cent in 2008-09 to 20.71 per cent in 2009-10 and mildly rose to 20.85 in 2010-11. Women-days also increased significantly from 1035.74 million in 2008-09 to 2010-11. Average wage per day has increased progressively from Rs. 84 in 2008-09 to Rs. 100 in 2010-11. The fund usage has remained highest for wages (around 75 per cent) and lowest for Administrative expenditures i.e. around 4 per cent during 2008-11. The number of total works taken up in 2008-09 has almost doubled in 2010-11 and the works completion rate has also increased for the same period from 43.76 per cent in 2008-09 to 50.8 per cent in 2010-11.

TABLE 1: PERFORMANCE OF MGNREGA DURING 2008-09 TO 2010-11

Indicator	2008-09	2009-10	2010-11
No. of Districts	615	615	625
HH Provided Work (in millions)	45.11	52.6	54.95
Average Wage Per Day	84	90	100
Person-days (In millions)	2163.28	2835.96	2571.52
Person-days per HH	47.95	53.99	46.79
Women-days (in millions)	1035.74	1364.05	1227.42
% Women-days	47.88	48.1	47.73
SC-days (in millions)	633.61	864.48	787.56
% SC-days	29.29	30.48	30.63
ST-days (in millions)	550.16	587.44	536.18
%ST-days	25.43	20.71	20.85
Others	979.5	1384.03	1247.78
% Others	45.28	48.80	48.52
Funds allotted (Rs. in millions)	372902.86	495077.15	528070.97
Funds used (Rs. in millions)	272506.86	379097.79	393772.70
% of Funds Used	73.08	76.57	74.57
% of funds used on wages	69.2	69.77	68.36
% of funds used on material	30.8	30.23	31.64
% of funds on Administrative Expenditure	3.48	3.29	4.57
Works Taken up	2774679	4616988	5098990
Completed	1214169	2259381	2590422
% Completed	43.76	48.94	50.8

Source: Official website of MGNREGA (<http://nrega.nic.in>)

WOMEN EMPOWERMENT THROUGH MGNREGA

Women's empowerment was not among the original intentions of the National Rural Employment Guarantee Act (NREGA), and is not among its main objectives. However, provisions like priority for women in the ratio of one-third of total workers (Schedule II (6)); equal wages for men and women (Schedule II (34)); and crèches for the children of women workers (Schedule II (28)) were made in the Act, with the view of ensuring that rural women benefit from the scheme in a certain manner. Provisions like work within a radius of five kilometers from the house, absence of supervisor and contractor, and flexibility in terms of choosing period and months of employment were not made exclusively for women, but have been conducive for rural women. Nevertheless, women have availed of the paid employment opportunity under MGNREGA in large numbers. Women workers had a national average share of 47.88 per cent of total MGNREGA person-days in 2008-09, 48.1 per cent in 2009-10, 47.73 per cent in 2010-11 per cent exceeding expectations.

ASSETS CREATION UNDER MGNREGA

It is the most important to note that the most of assets generated under MGNREGA were related to the natural resources management (Table 2). Out of the 2590422 works completed under MGNREGA, Water Conservation and Water Harvesting works parted with the highest 20.76 per cent whereas Bharat Nirman Rajiv Gandhi Sewa Kendra works has the lowest share of 0.07 per cent in the completed works. Rural Connectivity, Provision of Irrigation Facility to the land owned by SCs, STs or BPL Families and Land Development Works has almost the same share in completed works under MGNREGA.

TABLE 2- ASSETS CREATED UNDER MGNREGS (2010-11)

Assets Created	Works Completed	Percentage of Completed works
Rural Connectivity	458777	17.71
Flood Control and Protection	111054	4.29
Water Conservation and Water Harvesting	537848	20.76
Drought Proofing	142963	5.52
Micro Irrigation Works	232384	8.97
Provisions of Irrigation Facility to Land Owned by SCs, STs or BPL Households	408582	15.77
Renovation of Traditional Water Bodies	236166	9.12
Land Development	425494	16.43
Any Other Activities approved by MORD	35431	1.37
Bharat Nirman Rajiv Gandhi Sewa Kendra	1723	0.07

Source: Official website of MGNREGA (<http://nrega.nic.in>)

LOOPHOLES/ LIMITATIONS OF MGNREGA

Though MGNREGA is playing a very important role in empowering the socio-economically backward people like scheduled castes, scheduled tribes, backward classes, women, and landless workers, marginal and small farmers but this scheme is not free from limitations. Following are some of loopholes in MGNREGA.

PLAGUED WITH DISCRIMINATION

Most remarkable feature of MGNREGA is that it pays women the same as men, something that was virtually unimaginable in rural India. However there are some cases of discrimination against women and people from backward groups are reported from several regions of the country.

CORRUPTION AND IRREGULARITIES

There exist several cases of fake muster roll entries, overwriting, false names and irregularities in job cards. Even the names of dead people have been entered in the muster rolls. Similarly, the names of people who have not registered often feature in the muster rolls, or the same name is repeated more than once. Sometimes adjustments are also made to meet the requirements of the on-line Monitoring and Information System.

DELAY IN PAYMENT OF WAGES

According to the MGNREGA guidelines, the payments for the work should be made within 14 days of the completion of the work. However delay in payment and incorrect payments are a common problem under MGNREGA. This delay can be from several weeks to sometimes months.

FAULTY DESIGN AND MAINTENANCE OF JOB CARDS

Job Cards of MGNREGA worker help them in verifying their own employment and wage details. But there exist some problems in design of Job Cards as it is very difficult to verify the wage payments to workers and hard to identify the number of days worked due to usage of codes for names of workers and work sites. Further, lack of clarity exists as it is not maintained who is accountable for the inadequacies in the Job Card maintenance.

WASTAGE OF RESOURCES DUE TO NON-COMPLETION OF MGNREGA WORKS IN PROJECTED TIME FRAME

Several works that were taken up under MGNREGA remain incomplete even after two years of their start. This led to enormous wastage of financial and human resources. Completion and maintenance of works under MGNREGA should be made compulsory.

PROBLEM OF LABOUR AVAILABILITY AND INFLATION

MGNREGA has no doubt raised rural daily wage rates, reduced migration and led to several other positive social effects in rural India. But at the same time it has also contributed to rising farm input costs, withdrawal of labour from the farm sector and therefore affected agricultural operations and food prices. For example, farmers in Punjab and Haryana now find it increasingly difficult to get labour and left with no choice except increasing the wage rate to attract the labourers.

LOW LEVEL OF UTILISATION OF FUNDS

There exist very low level of utilization of funds available for MGNREGA works along with irregularities and corruption. During 2010-11, only 74.57 per cent of the total allocations for MGNREGA of rupees 528070.97 lakhs were utilised providing employment through MGNREGA.

Besides these loopholes, there exist some general vulnerabilities of MGNREGA like staff shortage, lack of grievance redressal, dormant Gram Sabhas at village levels, faulty vigilance procedures etc.

SUGGESTIONS FOR THE PROPER IMPLEMENTATION OF MGNREGA

Some of the specific steps are required to address the vulnerabilities discussed earlier. Some of these vulnerabilities are relatively easy to remove but others like corruption and irregularities and the problem of labour availability and inflation call for sustained and wide ranging action. Following are some preliminary recommendations to start this process:-

1. Quality awareness campaigns with a focus on details of the provisions and entitlement of the scheme should be launched by targeting the expected beneficiary groups.
2. Appointing full-time professionals for implementing MGNREGA at all levels which is vitally necessary to implement the scheme.
3. Proper monitoring of the number of employment days generated should be made essential to ensure that the scheme does not fall behind the national average.
4. In order to ensure transparency in the implementation of MGNREGA works the Right to Information (RTI) can be used as effective weapon/check to curb malpractices/ corrupt tendencies. Almost inaccessible information regarding the cash memos, muster rolls of wage earners, vouchers and sundry certificates is easily approachable. With the use of RTI people can have the power to seek explanation from officials if they detect any irregularity.
5. It is strongly recommended to ensure the timely completion of the scheme, the mode of payment is universalized to wage payment through the bank and post office accounts.
6. Specific efforts should be made to reduce the time gap between work done and payment received by rural labourers in MGNREGA.
7. Apart from strengthening the existing provision of transparency, accountability and vigilance, an accountability provision for the PRI representatives also needs to be included in the guidelines. Moreover, the punitive provision needs to be made more comprehensive to ensure its effective functioning.
8. Joint Workshops of Bureaucracy and PRIs should be organized to sensitize the bureaucrats and PRI functionaries towards their joint responsibilities and to inculcate mutual understanding, trust and a co-operative attitude wherever it is lacking.
9. Management Information System (MIS) should be employed for effective monitoring of the scheme to check leakages and misappropriation of funds.
10. To revise the schedule of wage rates periodically so that changes in statutory minimum rate of wages are made consistent with their revision.

CONCLUDING REMARKS

The MGNREGS is a major new intervention having potential to transform the rural socio-economic relations at micro-individual as well as macro-societal levels. However, this potential is still incipient and requires to be substantially supported in many different ways, since the very orientation of MGNREGA and the presentation of involvement in public works as a right is a very new concept in rural India and one that will take time to permeate, especially at the local levels. But everyone must understand that the MGNREGA cannot be a long term solution to the unemployment problem of rural India. There is no denying the fact that MGNREGA is conceptually a very important national programme initiated in the level of the Central Government, but its record of implementation reveals that there are widespread complaints of corruption, pilferage of funds and very low level of utilization of budgeted provision. It has not succeeded in creating sufficient productive asset for strengthening rural infrastructure. It has, therefore, failed to make significant impact on the existing socio-economic conditions of poor rural households. If further deterioration is not checked, the programme will lose the enthusiasm and momentum generated for the programme in 2006. In nutshell, the MGNREGA is an important step towards realization of the Right to Work. Without a doubt MGNREGA has a potential to change the socio-economic scenario in rural India. But as with any other legislation it is practically impossible to make it foolproof. Middlemen coming into illegal nexuses with corrupt government official to swig away the NREGA funds are to be extracted. The only way corruption is stemmed by creating awareness as well as pro-active people involvement in the implementing process. The people should start questioning the officials for transparency and accountability in the process and get proper information about creation of muster rolls and disbursement of funds and for this purpose the Right to Information Act should be used as a the primary tool for achieving the objective of transparency, accountability, good governance, social justice as well as inclusive growth. Thus, there is need for very vigilant and constant civil society engagement with the process, and in particular very extensive social and political mobilisation across the rural areas to ensure effective implementation. If this happens, the Indian experience can indeed serve as a model for the rest of the world.

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