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## *From the Chief Editor's Desk*

It is a great pleasure to announce that the 4th volume of our journal “BIITM Business Review” is being published. It contains quality articles with rich inputs on various domains of management. We extend our heartfelt thanks to all the contributors from various institutions and hope their cooperation in future also.

We are trying best to improve the quality of the journal and striving our continuous effort to achieve this goal. We hope the journal will meet its goal by providing quality inputs to students, faculty members, researchers and to academic fraternity as a whole.

The editorial board would like to extend heartfelt thanks to its Chief Patron, Mr. P. K. Balabantray, Patron, Prof. P. R. Pattanayak and Advisors for their encouragement and support for the success of this issue.

  
**Dr. P. K. Tripathy**  
Chief Editor

## *From the Editor's Desk*

It gives us immense pleasure in informing you that our journal “BIITM Business Review” has become popular and gain acceptance in a short span of time. We are proud to host articles with the ISSN number as it enhances the recognition and credibility of the articles published in the journal.

The articles in this issue are a selection from the work done by a group of researchers and practitioners on some of the important aspects of management and related fields. It is our continuous effect to bring out the versatility of the concepts in the light of providing knowledge and satisfaction to our readers.

The editor would like to heartily thank its Chief Patron Mr. P. K. Balabantray, Principal, Advisor, members of the editorial board, the authors and other well-wishers for their cooperation and encouragement in bringing out this issue.



**Mr. Anil Kumar Mishra**

**Editor**

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## Economic Growth and Development are the Outcomes of Educational Development

\* Dr. Parikshita Sahu

### ABSTRACT

*The role of education as an agent or instrument of social change and social development is extensively accepted today. Social change may take place when humans need change or when the existing social system or network of social institutions fails to meet the existing human needs. The education sector, as a vital sector of all social sectors in the developing countries, plays a gigantic role in promoting the social as well as the economic growth and development in almost all countries of the world. No country has achieved constant economic development without considerable investment in human capital. Social change as a response and key indicator of social sector development can take place in the social and non-social environment. Education can initiate social changes by bringing about a change in outlook and attitude of people. It can bring about a change in the pattern of social relationships, and thereby it may cause social changes. The conventional educational institutions and teachers are imparting specific ways of life to the students, and education has been more a means of social control than an instrument of social change. Education has brought about phenomenal changes in every aspect of men's life. It is a process which enables every individual to effectively participate in the activities of society and to make positive contribution to the progress of society. This paper is an attempt to analyze in what way education proves itself as an important sector in the acceleration of growth and development of social sector in many ways.*

**Keywords:** Social capital, out of school children, never enrolled children, social economy, Elementary Education, quality education, Student preparedness, relevant curriculum, Teaching Learning Materials (TLMs). Education for All (EFA), Gross Enrolment ratio (GER), Net Enrolment ratio (NER), Transition Rate, Completion rates

## INTRODUCTION

Education is a fundamental human right and is essential for the exercise of all other human rights. It promotes individual freedom and empowerment and yields important development benefits. Yet millions of children and adults remain deprived of educational opportunities, many as a result of poverty. Out of different branches of social sector, primary education, as the principal component it has to play the pivotal role for achieving the Universalisation of Elementary Education (UEE) and sound economic growth of the society. As a principal instrument of developing human capabilities education provides the instruments for liberation from ignorance and oppression. It is both the cause and effect of development.

Since, quality and relevant education depends on the fact that what teachers do with learners. It should be pointed out that quality of education is now an issue of global concern.

Teaching at any level and in whatever form of education, should command respect as a specialist profession. Respect for teaching (or lack of respect for it) has two major dimensions e.g. internal and external. The internal dimension is concerned with what is within the teachers themselves: their level of general education, their specialized (professional) training, their capacity for learning, how to learn, their aptitude and liking for teaching and their ability to educate the young. The internal dimension is also a function of teacher's behavior and conduct and in particular, the teacher's own self concept. The external dimension of teachers' respect and dignity is the extent to which the teacher is respected and rewarded by society.

The main indicator of the quality of elementary education can be visualized in terms of its product – the learners' achievement both in scholastic and co-scholastic areas i.e. the performance in various subjects of study and habits, attitudes, values and life skills necessary for becoming a good citizen. The factors associated with success in these areas, which relate to conditions of learning and learning environment, are also sometimes considered as indicators of quality of elementary education. Thus ensuring quality in the inputs and processes becomes necessary if quality achievement is aimed at all the steps in the elementary level.

Prior to analysing about the social sector and how it is being influenced by education, we should throw some light on the basic concepts of the subject.

### **What do we mean by Social?**

In one broad meaning, "social" refers only to society as "a system of common life" 'Social' refers to a characteristic of living organisms, especially human beings and it always refers to the interaction of organisms with other organisms and to their collective co-existence,

irrespective of whether they are aware of it or not, and whether the interaction is voluntary or involuntary. The term “social” is used in many different senses, may be:

- attitudes, orientations or behaviors which take the interests, intentions or needs of other people into account (in contrast to anti-social behavior);
- Common characteristics of people or descriptions of collectivities.
- Relations and interactions between people generally, or particular associations among people;
- membership of a group of people or inclusion or belonging to a community of people;
- co-operation or co-operative characteristics between people;
- relations of (mutual) dependence;
- the public sector (“social sector”) or the need for governance for the good of all, contrasted with the private sector;
- in existentialist and postmodernist thought, relationships between the Self and the Other;
- Interactive systems in communities of people, animal or insect populations, or any living organisms.

### **Social Sector**

In ordinary parlance, the term ‘social sector’ has been created as an alternative of nonprofit and nongovernmental sector. But in deeper sense, it comprises those sectors who are giving their attention for societal development as well as growth in a mission mode. They are the mission-based sectors and work perennially for social welfare and social improvement. Education, healthcare, sanitation, social security and the like are coming under social sector.

The ultimate objective of planned development is to ensure human well-being through sustained improvement in the quality of life of the people. The development of human resources contributes to sustained growth and productive employment.

The process of economic development is assessed in terms of benefits and opportunities evenly distributed among the individuals in the society. Human capital formation and human development are inter-linked by social sector and improvement in this sector would pave the way for equity and economic development.

### **Social economy**

Social economy refers to a third sector in economies between the private sector and business or, between the public sector and government. It includes organizations such as cooperatives,



non-governmental organizations and charities. Economies may be considered to have three sectors:

- the business private sector, which is privately owned and profit motivated;
- the public sector which is owned by the state;
- the social economy, that embraces a wide range of community, voluntary and not-for-profit activities.

Sometimes there is also reference to a fourth sector, the informal sector, where informal exchanges take place between family and friends.

The third sector can be broken down into three sub-sectors: the community sector, the voluntary sector and the social enterprise sector:

- The community sector includes those organizations active on a local or community level, usually small, modestly funded and largely dependent on voluntary, rather than paid, effort. Examples include neighborhood watch, small community associations, civic societies, small support groups, etc.
- The UK's National Council for Voluntary Organizations describes the voluntary sector as including those organizations that are: formal (they have a constitution); independent of government and self-governing; not-for-profit and operate with a meaningful degree of volunteer involvement. Examples include housing associations, large charities, large community associations, national campaign organizations, etc.

According to the UK government's definition, the social enterprise sector includes organizations which "are businesses with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or in the community, rather than being driven by the need to maximize profit for shareholders and owners".

### **Social Capital**

Social Capital refers to the norms and networks that enable collective action. It encompasses institutions, relationships, and customs that shape the quality and quantity of a society's social interactions. Increasing evidence shows that social capital is critical for societies to prosper economically and for development to be sustainable. Social capital, when enhanced in a positive manner, can improve project effectiveness and sustainability by building the community's capacity to work together to address their common needs, fostering greater inclusion and cohesion, and increasing transparency and accountability.

In order to apply the concept of social capital at a practical and operational level, it can be broken down into five key dimensions: Groups and networks - collections of individuals that

promote and protect personal relationships which improve welfare; Trust and Solidarity – elements of interpersonal behavior which fosters greater cohesion and more robust collective action; Collective Action and Cooperation - ability of people to work together toward resolving communal issues ; Social Cohesion and Inclusion - mitigates the risk of conflict and promotes equitable access to benefits of development by enhancing participation of the marginalized; and Information and Communication - breaks down negative social capital and also enables positive social capital by improving access to information. These dimensions capture both the structural and cognitive forms of social capital.

**Data and Methodology-** This paper aims at investigating the dynamic role of education, especially the Primary Education to accelerate the pace of Social Sector and how it helps in economic development. Here an analysis will be made of the situation where in spite of several interventions, why there is so much shortfall in improving the quality indicators of primary education and why there is so much out of school children on Odisha. Here the data are collected from the primary as well as the secondary sources. In case of primary data, they have collected from the two study districts e.g. Keonjhar and Bhadrak of Odisha state. In these two districts we have taken two blocks in each district. In case of secondary data, they have collected from different survey conducted under the scheme Sarva Shiksha Abhiyan.

### **Education**

The term education literally means to bring up and is connected with the verb ‘educare’ which means to bring forth. The idea of education is not merely to impart knowledge to the pupil in some subjects but to develop in him those habits and attitudes with which he can successfully face the future. A large part of our social and technical skills are acquired through deliberate instruction which we call education. Actually social scientists convinced education as the socialization of the younger generation. It is a continuous effort to impose on the child ways of seeing, feeling and acting which he could not have arrived at spontaneously. It is also an attempt to transmit to the child the mores of the group so that he can learn what conduct is approved and what disapproved. The main function of the educative process is to pass down knowledge from generation to generation. It is a process that is essential to the development of culture. Formal education is primarily designed to inculcate crucial skills and values central to the survival of the society or to those who hold effective power. Inherent in education, in all period of man’s history is a stimulus to creative thinking and action which accounts in part for cultural transformation which will supply a powerful stimulus to further innovation.

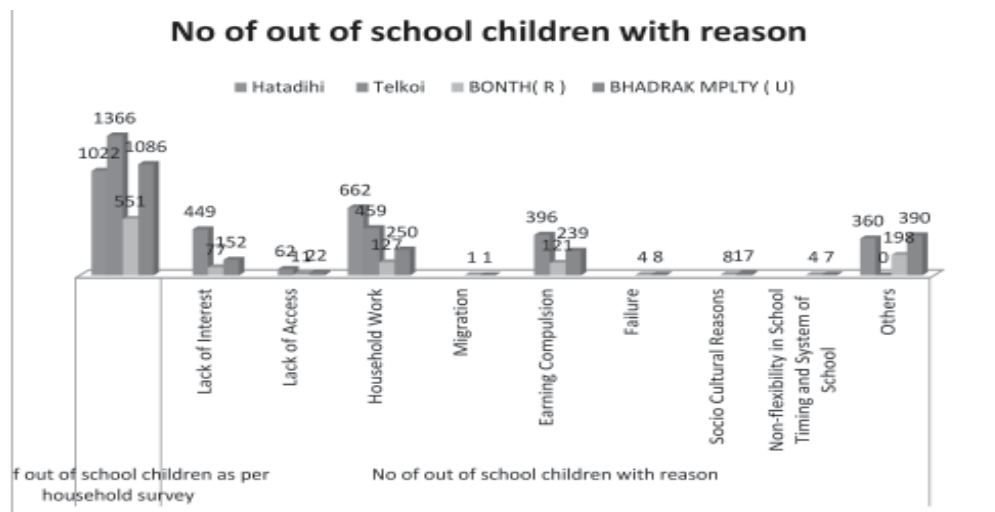
The concept of out-of-school is a summation of drop-outs plus never enrolled students in case of primary education. If a child remains out of school, it indicates that he/she did not

enrolled in the school or he/she drops out from the school system. There are many causes behind it. As we have taken two districts with two blocks in each district, the following table Table-1 can clarify the concept about the reason of out of school in these blocks.

**Table-1 OUT OF SCHOOL CHILDREN WITH REASONS**

Name of Block	No. of out of school children as per household survey	No of out of school children with reason								Others
		Lack of Interest	Lack of Access	Household Work	Migration	Earning Compulsion	Failure	Socio Cultural Reasons	Non-flexibility in School Timing and System of School	
Hatadihi	1022			662						360
Telkoi	1366	449	62	459		396				0
Bonth( R )	551	77	11	127	1	121	4	8	4	198
Bhadrak Mply ( U )	1086	152	22	250	1	239	8	17	7	390

**Composite Graph-a**



As per the data of Keonjhar district, in these two blocks, the tribal concentration is higher in Telkoi than Hatadihi. The prime cause of out of school in both the district is household work. In case of reason, Lack of Interest, the incident is more at Telkoi than other two blocks of Bhadrak district. But in case of the non-tribal block of Keonjhar district i.e. Hatadihi the

number of children is zero. In case of Socio-cultural reasons the number of out-of-school children is zero in both the blocks of keonjhar district but the nos are positive in Bhadrak district.

### AGE WISE AND CATEGORY WISE CLASSIFICATION OF OUT OF SCHOOL CHILDREN

The age wise and category wise classification of out of school children of two blocks of both the districts are placed in the table-2

**Table- 2: OUT OF SCHOOL CHILDREN (6-14 age group)**

Out of School Children (6-11 age group)												
	All Communities			SC			ST			Muslim		
	B	G	T	B	G	T	B	G	T	B	G	T
Bonth	173	166	339	49	51	100	9	10	19	5	10	15
Bhadrak Munplty	343	330	673	99	105	204	17	19	36	112	124	236
Out of School Children (11-14 age group)												
	All Communities			SC			ST			Muslim		
	B	G	T	B	G	T	B	G	T	B	G	T
Bonth	98	114	212	40	35	75	7	8	15	0	2	2
Bhadrak Munplty	203	210	413	72	76	148	10	12	22	163	172	335

The Status and Age wise Break-up of Out of School Children of keonjhar district are shown in table-3. Drop out rate in both the blocks of keonjhar in the age group of 11-14 are more than other age groups.

**Table-3 - Status & Age wise Break-up of Out of School Children in Keonjhar District**

Name of Block	Status & Age wise Break-up of Out of School Children																				
	Never Enrolled									Drop Out									Grand Total of 6-14 age Group		
	6-8 years			8-11 years			11-14 years			6-8 years			8-11 years			11-14 years					
	B	T		B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
Hatadihi		0		12	25	37	6	2	28	1	2	42	12	11	23	15	18	33	42	59	102
				8	0	8		2		9	3		4	1	5	0	9	9	7	5	2
Telkoi	8	16		12	11	23	5	6	12	8	9	17	13	15	28	17	20	37	66	70	136
	8	6		8	0	8	7	8	5	4	1	5	3	3	6	2	4	6	2	4	6

### Parameters of Primary Education

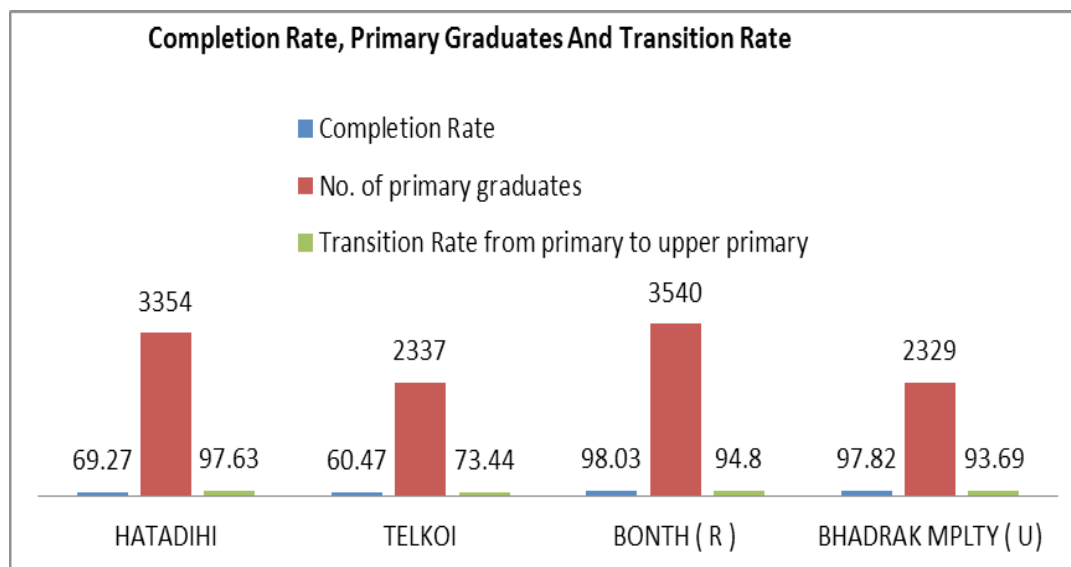
To know the gross enrolment ratio, net enrolment ratio and repetition rate and other indicators such as completion rate, transition rates are very important to evaluate and assess the progress of an educational system. The formulas to solve the concepts are given in this chapter above.

The following are the different parameters of primary education in both the districts in their two study blocks. They are discussed in Tables-4 and 5

**Table-4 : COMPLETION RATE, PRIMARY GRADUATES AND TRANSITION RATE**

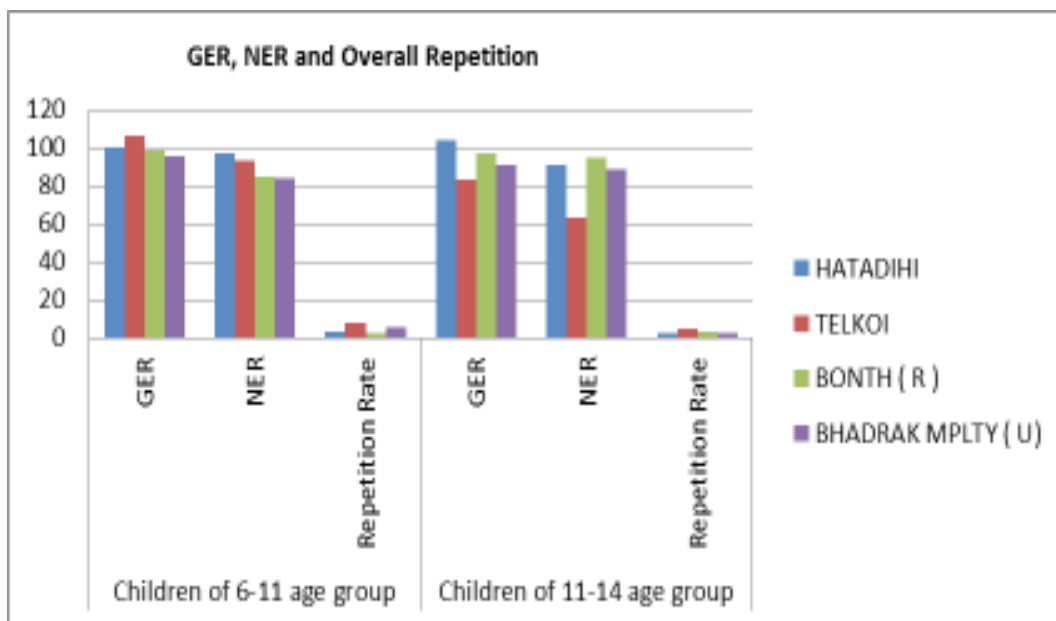
Name of Block	Completion Rate	No. of primary graduates	Transition Rate from primary to UP
HATADIHI	69.27	3354	97.63
TELKOI	60.47	2337	73.44
BONTH ( R )	98.03	3540	94.8
BHADRAK MPLTY ( U )	97.82	2329	93.69

### Composite Graph-b



**Table-5 : GER, NER and Overall Repetition**

Block	Children of 6-11 age group			Children of 11-14 age group		
	GER	NER	Repetition Rate	GER	NER	Repetition Rate
Hatadihi	100	97.1	3.37	103.8	91.27	2.69
Telkoi	106	93	7.78	83	63.4	4.98
Bonth ( R )	98.47	84.52	2.39	96.94	94.93	3.54
Bhadrak Mplty ( U )	95.62	83.89	5.12	90.92	88.41	2.05

**Composite Graph-c**

The role of trained teachers in primary education is a must. Here the status of teachers who are the real service providers must be discussed in relation to the districts under study. The percentage of trained teachers in both the districts are more or less encouraging, but in case

of Keonjhar district it's rate is less than that of Bhadrak district. This is evident in Tables-8 , 9 and 10 below.

**Table-6 : Status Of Trained And Untrained Teachers**

Block/ Municipal Area	Primary Teachers				Upper Primary Teachers			
	Working Teacher s	Traine d	%age	Trs not received 60 days training	Worki ng Teache rs	Trai ned	%age	trs not received 60 days training
HATADIHI	555	523	94.27	32	421	400	94.96	21
TELKOI	407	355	87.32	52	217	183	84.15	34
Bonth	450	426	94.67	24	203	194	95.57	9
Bhadrak Mplty	230	221	96.09	10	114	109	95.61	5

### Empirical Analysis

It is clear from the Tables-4 and 5 and the composite graphs that Net Enrolment ratios(NER) which are playing an important role in the process of primary education under the umbrella of SSA, has varied in two study districts as well as in both the age groups i.e children in the age bracket of 6-11 and children in the age bracket of 11-14 .Here it is clear from in both the table that in the age bracket of 6-11 the NER of Bhadrak district falls below the Keonjhar district but the case is just reverse in the case of the children in the age bracket of 11-14. But so far as the Completion rate is concerned ,here it is very clear from the table-4 , that this rate is more in the Bhadrak district than Keonjhar district. It is due to less impact and under-awareness of tribal people than non tribal's. So far as the concept of trained teachers is concerned, it is found that in both the cases (case of Primary and upper primary Teachers) the teachers who have not received 60 days training are more in Tribal district Keonjhar than Non- tribal district Bhadrak. It is very clear in the above table.

### Parity and Problems in Educational Opportunity

The equalization of educational opportunities is essentially linked with the equality notions in the social system. The social system which intends to provide equal opportunities for the advancement of all has to make provisions for equal educational opportunities also. In modern industrial society education has become the main agency for socializing new born into law abiding citizens and productive members of the society. Formal education has become almost indispensable because to participate in economic production one needs to learn specialized skills which cannot be acquired through family or any other agency. Therefore the formal

education in advanced industrial societies which is provided by the state is a matter of right for all its citizens.

In most societies today the legislations guarantee equal educational opportunities and special efforts are made by the welfare states in industrial societies to provide free and compulsory education to the socially deprived and all children within the age brackets of six to fourteen. In developing countries like India, state has assumed the responsibility to provide universal free education at the school level. Special policy measures have been developed to spread modern scientific secular education to rural areas and policy of protective discriminating has been adopted to encourage the traditionally deprived section like SC and ST to take to modern education. However, in spite of the creation of a legal framework in most societies to ensure quality of educational opportunity such an ideal continues to be elusive in reality even in the industrially advanced societies.

Education helps in establishing equality and ensuring social justice and the inequalities of educational opportunities arise on account of the following items

- Poverty as the poor cannot afford to meet the expenses of education.
- Children studying in the rural schools have to compete with the children in urban areas where there are well-equipped schools.
- In places where no primary, secondary or collegiate educational institutions exist children do not get the same opportunity as those who have all these in their neighborhood.
- Wide inequalities also arise from differences in home environments. A child from a rural household or slum does not have the same opportunity as a child from an upper class home with educated parents.
- There is wide sex disparity in India. Here girl's education is not given the same encouragement as boys.
- Education of backward classes including SC and ST and economically backward sections is not at par with that of other communities or classes.

### **Education and Social Change**

The role of education as an agent or instrument of social change and social development is widely recognized today. Social change may take place – when humans need change or when the existing social system or network of social institutions fails to meet the existing human needs and when new materials suggest better ways of meeting human needs.



Social change takes place as a response to many types of changes that take place in the social and nonsocial environment. Education can initiate social changes by bringing about a change in outlook and attitude of man. It can bring about a change in the pattern of social relationships and thereby it may cause social changes.

The traditional educational institutions and teachers used to show a specific way of life to the students and education was more a means of social control than an instrument of social change. Modern educational institutions do not place much emphasis upon transmitting a way of life to the students. Such education was meant for an unchanging static society not marked by any change. But today education aims at imparting knowledge. Education was associated with religion. Education has been chiefly instrumental in preparing the way for the development of science and technology. Education has brought about phenomenal changes in every aspect of men's life. It is a process which enables every individual to effectively participate in the activities of society and to make positive contribution to the progress of society.

### **Education and Modernization**

Modernization is a process of socio-cultural transformation. It is a thorough-going process of change involving values, norms, institutions and structures. Political dimensions of modernization involves creation of a modern nation state and the development of key institutions –political parties, bureaucratic structures, legislative bodies and a system of elections based on universal franchise and secret ballot. Cultural modernization involves adherence to nationalistic ideology, belief in equality, freedom and humanism, a rational and scientific outlook. Economic modernization involves industrialization accompanied with monetization of economy, increasing division of labor, use of management techniques and improved technology and the expansion of service sector. Social modernization involves universalistic values, achievement motivation, increasing mobility both social and geographic increasing literacy and urbanization and the decline of traditional authority.

The secular and scientific education act as an important means of modernization. It helps in the diffusion of modern values of equality, freedom and humanism. These values can form the basis of new relations in the society and growth of rationality can enable the development of administrative system. Diffusion of values of equality, freedom and humanism can lay the foundations of a democratic political system. The spread of modern education in the second half of the 19th century led to the emergence of modern political elite in India who provided leadership in the freedom struggle. The diffusion of scientific and technical knowledge by modern educational institutions can help in the creation of skilled manpower to play the occupational roles demanded by the industrial economy. Other values like individualism and universalistic ethics etc can also be inculcated through education. Thus education can be an

important means of modernization. The importance of education can be realized from the fact that all modernizing societies tend to emphasize on universalization of education.

### **Education and Culture**

Education encompasses teaching and learning specific skills and also something less tangible but more profound: the imparting of knowledge, good judgment and wisdom. It is a continuous effort to impose on the child ways of seeing, feeling and acting which he could not have arrived at spontaneously.

Education has as one of its fundamental goals the imparting of culture from generation to generation. The cultural elements are passed on through agents like family, school and other associations. All societies maintain themselves through their culture. Culture here refers to a set of beliefs, skills, art, literature, philosophy, religion, music etc which must be learned. This social heritage must be transmitted through social organizations.

Education has this function of cultural transmission in all societies. The curriculum of a school, its extra-curricular activities and the informal relationships among students and teachers communicate social skills and values. Through various activities school imparts values such as co-operation, team spirit, obedience, discipline etc. Education acts an integrative force in the society by communicating values that unites different sections of society. The school teaches skills to the children which help them later to integrate within the culture of the society. Education in its formal or informal pattern has been performing this role since time immemorial. Education can be looked upon as process from this point of view also. Education has brought phenomenal changes in every aspect of man's life.

### **Education and Economic Growth**

The relationship between economic growth and education has been one of the central threads of economic analysis. Both Adam Smith in the 18th century and Alfred Marshall in the 19th century have given the tricks that how individual investments in "education" influence the wealth of nations. The adjacent cycle can justify the fact properly.

### **Education and Economic Development**

Prior to the nineteenth century, systematic investment in human capital was not considered important in any country. Expenditures on schooling, on-the-job training, and other similar forms of investment were quite small. This began to change radically during this century with the application of science to the development of new goods and more efficient methods of production, first in Great Britain, and then gradually in other countries. During the twentieth

century, education, skills, and the acquisition of knowledge have become crucial determinants of a person's and a nation's productivity. One can even call the twentieth century the "Age of Human Capital" in the sense that the primary determinant of a country's standard of living is how well it succeeds in developing and utilizing the skills and knowledge, and furthering the health and educating the majority of its population. The past decades have seen extraordinary expansions in access to basic education throughout the Middle East. Many countries are now on the brink of a further increase in access to secondary and higher education and in effecting spectacular improvements in the quality of education offered at all levels. As increasing numbers of students complete their basic education, their demand for education at higher levels is similarly increasing. Educating girls and women is probably the single most effective investment a developing country can make, whether or not women work outside the home. It creates a multitude of positive remunerations for families including better family health and nutrition, improved birth spacing, lower infant and child mortality, and enhanced educational attainment of children. Ensuring that all citizens are educated and numerate, that many possess a wide range of problem solving skills beyond the basic level, and that some have world class professional skills will necessitate new curricula, improved teacher programs, and academic methods that encourage higher order cognitive skills. No country has achieved constant economic development without considerable investment in human capital. Previous studies have shown handsome returns to various forms of human capital accumulation: basic education, research, training, learning-by-doing and aptitude building. Unequal education tends to have a negative impact on per capita income in most countries. Moreover, controlling for human capital distribution and the use of appropriate functional form specifications consistent with the asset allocation model make a difference for the effects of average education on per capita income, while failure to do so leads to insignificant and even negative effects of average education. Investment in human capital can have little impact on growth unless people can use education in competitive and open markets. The larger and more competitive these markets are, the greater are the prospects for using education and skills.

### **Education and Productivity**

Education is also an important contributor to technological capability and technical change in industry. Clearly, the educational provisions within any given country represent one of the main determinants of the composition and growth of that country's output and exports and constitute an important ingredient in a system's capacity to borrow foreign technology effectively. For example: health and nutrition, and primary and secondary education all raise the productivity of workers, rural and urban; secondary education, including vocational, facilitates the acquisition of skills and managerial capacity; tertiary education supports the development of basic science, the appropriate selection of technology imports and the domestic

adaptation and development of technologies; secondary and tertiary education also represent critical elements in the development of key institutions, of government, the law, and the financial system, among others, all essential for economic growth. Empirical evidence at both micro and macro levels further illuminates these relationships. At a micro level, numerous studies indicate that increases in earnings are associated with additional years of education, with the rate of return varying with high level of education. The returns to primary schooling tend to be greater than returns to secondary and tertiary education. In agriculture, evidence suggests positive effects of education on productivity among farmers using modern technologies, but less impact, as might be expected, among those using traditional methods. In Thailand, farmers with four or more years of schooling were three times more likely to adopt fertilizer and other modern inputs than less educated farmers. Similarly, in Nepal, the completion of at least seven years of schooling increased productivity in wheat by over a quarter and in rice by 13%.

### **Education and Income**

There is also a positive feedback from improved education to greater income equality, which, in turn, is likely to favor higher rates of growth. As education becomes more broadly based, low-income people are better able to seek out economic opportunities. For example, a study of the relation between schooling, income inequality and poverty in 18 countries of Latin America in the 1980s found that one quarter of the variation in workers' incomes was accounted for by variations in schooling attainment; it concludes that 'clearly education is the variable with the strongest impact on income equality'. Another study suggested that a one percent increase in the labor force with at least secondary education would increase the share of income of the bottom 40 and 60% by between 6 and 15% respectively. An investigation of the determinants of income distribution in 36 countries found secondary enrollment rates to be significant.

Education may affect per capita income growth via its impact on the denominator, i.e. population growth. For example, a study of fourteen African countries for the mid-eighties showed a negative correlation between female schooling and fertility in almost all countries, with primary education having a negative impact in about half the countries and no significant effects in the other half, while secondary education invariably reduced fertility.

### **Social Development Strategies**

The post-colonial era has seen a number of countries acknowledging the principle of enhancing the standard of living of their people as an objective of state policy. Social development does not simply involve quantitative advances but also incorporates critical normative elements.

On the one hand, it includes a focus on addressing problems of poverty, and expanding access to quality education, and healthcare and, on the other hand, it also involves addressing issues of social exclusion such as discrimination and lack of voice in social and economic processes. What is at stake is quality of life with a sense of dignity. According to the 1995 United Nations' World Summit for Social Development, "the ultimate goal of social development is to improve and enhance the quality of life of all people."

The education sector must be diagnosed properly, which should focus around all the four components of the UEE, namely universal access, enrolment, retention and quality of education. Both the primary and upper primary levels of education need to be given adequate focus with respect to different components of UEE. A variety of indicators are required to take stock of the situation with respect to all the four components. The list of indicators presented below is termed as the non-negotiable core list of variables required in developing elementary education plans.

## CONCLUSION

Education sector, one of the important ingredients of the social sector in the developing countries plays a gigantic role in promoting the social as well as the economic growth and development of the concerned countries. No country has achieved constant economic development without considerable investment in human capital. Previous studies have shown handsome returns to various forms of human capital accumulation: basic education, research, training, learning-by-doing and aptitude building. Unequal education tends to have a negative impact on per capita income in most countries. Moreover, controlling for human capital distribution and the use of appropriate functional form specifications consistent with the asset allocation make a difference for the effects of average education on per capita income, while failure to do so leads to insignificant and even negative effects of average education. Investment in human capital can have little impact on growth unless people can use education in competitive and open markets. The larger and more competitive these markets are, the greater are the prospects for using education and skills. It is a fact that the inequality and structural poverty are inter-connected and pose obstacles for the advancement of social development. There is a need for a critical involvement of the state, because it is only the state which can marshal the necessary resources and coverage to reach the weakest elements of our societies. Related to this, there is also a clear sense that we must consider some of the basic principles underlying a welfare state as being applicable to our societies. Simultaneously, the effective social development policies must be participatory in character and must involve all elements of societies, from private sector to civil society, groups and communities. Given the diversity of objectives and institutions involved in effective social development policy, it is necessary that

any strategy for social development take advantage of both complementarity and synergy across different policies. It is important that each one of the agencies involved in the formulation of these policies be aware of their integrative character and function accordingly. Integrated service delivery must be promoted to tackle the multiple causes of social problems and advance the human development agenda. Integrated efforts are required to promote inclusion of the poor and vulnerable including those made poor due to spatial/geographic segregation and migration status. A comprehensive social protection network could provide the basis for integration of the families that are most vulnerable - e.g., through policies directed at income guarantee, food and nutrition security, and social assistance so that all families have access to opportunities of inclusion and development. There is also a special need to reform education, health and housing policies in order to broaden access and provide for the development of adequate social infrastructure and delivery of quality services. Finally, social policies are not formed in vacuum, nor do they emerge as fully developed at the time of their initial formulation

### **Techniques to Improve the Quality of Education**

Education is indispensable to economic development. No economic development is possible without good education. A balanced education system promotes not only economic development, but productivity, and generates individual income per capita. Its influence is noticeable at the micro level of an individual family.

From the perspective of policies to obtain better outcomes, a simple picture emerges. First, the evidence from extensive research shows clearly that “pure resource policies” – i.e., policies that simply provide more resources within the current incentive structure of schools within most countries – are unlikely to produce substantial systematic gains in student outcomes. There are of course qualifications and caveats. Some schools will use added resources effectively. And, some systems that fail to provide minimal resources such as basic textbooks could, if resources were applied to the key shortage areas, get improvement. Yet, both developed and developing countries demonstrate an improbable but tangible disconnect between simple resource solutions and student achievement.

Second, the evidence about what specifically counts in terms of schools is rather limited. But the central candidate is high teacher quality. Unfortunately, the characteristics of good teachers are not well understood, making regulatory solutions very difficult and supporting the development of rewards for high quality teaching. On this score, most countries – both developed and developing – have incentive systems built into teacher salaries and teacher contractual arrangements that resist significant change and that are not aligned well with teacher quality.



Third, the key to improvement appears to lie in better incentives – incentives that will lead to management keyed to student performance and that will promote strong schools with high quality teachers. Here, three interrelated policies come to the forefront: promoting more competition, so that parental demand will create strong incentives to individual schools; autonomy in local decision making, so that individual schools and their leaders will take actions to promote student achievement; and, an accountability system that identifies good school performance and leads to rewards based on this. We have sketched three separate components of improved incentives, but it is also important to point out that they form a package. Local autonomy without strong accountability may be worse than doing nothing. Accountability without choice is likely to be watered down and made impotent by schools that would prefer no accountability. Choice without good information about performance has uncertain outcomes attached to it. In other words, these should not be thought of as isolated policies that can be independently introduced while retaining their advantages.

### **Suggestion for Out-of-School Children**

The analysis of GER and NER and Entry Rate will help the planning teams in assessing the number of out-of-school children. This needs information on age and grade matrix, which is generally not available in the non-DPEP districts. The distribution of out-of-school children according to age is important from the planning point of view. Alternatively, if the districts have conducted household survey and are sure about the quality and reliability of the survey, they can use this set of information. Distribution of out-of-school children according to age will help planning teams in forming child-specific strategies. Along with the number, the reasons of never-been-enrolled and drop-out should also be thoroughly analyzed so as to develop strategies to bring them back to school. The following set of information on Out-of-School Children should necessarily form part of the elementary education plan: Distribution of children in the age-group 6-14 years (also single- age) who are out-of-school and who have not completed primary education level, with reasons;

Distribution of children in the age-group 6-9 years (also single-age) who can return to primary school or its equivalent alternative school; Distribution of out-of-school children of age-group 12-14 years (also single-age) according to level they attained; and The information needs to be separately analyzed in case of Boys/Girls/SC/ST/OBC/Working Children/Migratory Population and disable children at disaggregated (habitation/ village/block/district) levels.

### **For Retention**

Enrolling all children is a necessary condition to achieve the goal of universal enrolment but it is not a sufficient condition. Even if children are enrolled, there is no guarantee that they

attend schools regularly and complete an educational level. Therefore, the sufficient condition is that children who are enrolled should complete an educational level. To examine it, a number of indicators need to be analyzed, both at the primary and upper primary levels of education, at disaggregated levels. The first important indicator is retention rate at the end of primary and elementary level of education that should be analyzed separately in case of boys and girls. To compute retention rate, enrolment in Grade V and Grade VIII along with the number of repeaters is required which in turn is compared with the enrolment in Grade I, four and seven years back, to obtain retention rates. Though retention rate gives enough indication about the retaining capacity of the system, it fails to provide any clue of having low retention rate. Alternatively, grade-to- grade transition rates should be used which need to be analyzed at least at the block level. Grade-specific enrolment along with the repeaters is required to obtain promotion, drop-out and repetition rates, which should be analyzed in case of both boys and girls. If analyzed at disaggregated levels, the diagnosis exercise

on retention would end up by identifying the block/habitation (along with the grade), which has low promotion or high drop-out and repetition rate. This will facilitate the planners to intervene effectively into the system in the form of new programmes and initiatives. At least at the district level, other efficiency indicators based on Reconstructed Cohort Method such as input/output ratio, years/graduate, wastage on account of repetition and cohort drop-out and survival rates should also be analyzed.

The transition and completion rates should be used in estimating the required number of upper primary schools that need to be opened. While doing this, due consideration should be given to the state norms of distance and population. Criteria of one upper primary school for every two primary schools should not be blindly applied in estimating the number of new upper primary schools. The graduation rate will also help the planning team in knowing whether an existing primary school needs to be upgraded. In case of a new school, the location should be decided by employing the school mapping exercises.

### **Ensuring Quality in Education**

Involvement of parents, in particular, and community in general in improving the quality of education is an important aspect of civil society involvement. Demystified and simple educational outcomes need to be quantified at the beginning of each academic year. These need to be shared with the community so that it knows what to expect from the school. The annual school academic plan should clearly focus on achievable quality parameters. Quantified targets are possible only with scientific assessment and evaluation of each student. Regular



internal assessments and periodical external assessments should be done and these results should guide the preparation of the school plans by the community.

**Strengthening Community Involvement Processes for greater accountability:**

Accountability of the school system in general and the teachers in particular to the community is the key for the success of educational outcomes. Community involvement needs to be benchmarked if we need it to produce the desired results. Clarity of process of involvement is necessary, even though the process would tend to be different for different states. SSA in the eleventh plan should strengthen community mobilization, involvement and decentralized school governance. If the Abhiyan part of the SSA is to be operationlized, then prolonged engagement with community and handholding of the SMCs and other peoples' organizations is required. This requires budgeting of more resources so that districts can use the services of NGOs who can work with communities and SMCs towards institutional strengthening. It is proposed that up to 2% of the outlay of a district could be budgeted for community mobilization activities.

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## Turning Gen Y Jitters to Turn off the Turnover

**\*Jayalaxmi Samal**

### **ABSTRACT**

The hyper-competitive Indian business environment is experiencing an intensifying fight for knowledge workers who are, the key to enhancement of productivity. This is more pertinent to the IT sector, where the loss of intellectual property is most challenging. The Gen Y proportion dominates in the attrition rate. According to the Future Workplace “Multiple Generations @ Work” survey (2012), ninety-one percent of Gen Y expects to stay in a job for three years or less. Against this backdrop, the current theoretical paper focuses on the issues related to Gen Y employees in IT companies, and explores how this talent chunk could be retained where attrition is always a worry. It also throws light on what organizations need to do to retain their quality workforce to progress on the path of realizing their organizational goals.

**Key words: Talent, Retention, Gen Y, IT Sector**

### **I. Introduction:**

Organizations in the 21<sup>st</sup> century are increasingly afflicted with the issues concerning talent shortage. The shortage of skilled workers is not restricted to any particular domain. Rather it has spread across the spectrum from personal assistants and call-centre operators to researchers, engineers and accounting staff. Organizations are competing with each other to attract and retain the best talent as they have realized that having competent human capital adds to competitive advantage. This talent pool will not only help the organization to survive but flourish too. The increasing pace of diversity in workforce in terms of age, sex, qualifications, experience, competence, perception, quality, etc. has brought up more retention issues. Out of the factors stated above, age of the workforce is the most alarming factor and perhaps the biggest challenge for the organization so far as the retention issue is concerned. We now have people from different generations at the work place. So multi-generation workforce is one of the key features of today's organization. The workplace demographics now span four generations viz., Veterans, Baby Boomers, Gen X, Gen Y. A 20-year-old new hires can find himself working side-by-side with colleagues who are older by 50 years or even more. A recent survey by ASSOCHAM has found that the maximum attrition is taking place among the employees who are in age group of 26 to 30 years. It found that the segments of employees

who are most vulnerable to change are with experience range between 2 to 4 years. So far as attrition is concerned it is perhaps highest among the younger most group of workforce i.e., Gen Y.

The hyper-competitive Indian business environment is experiencing an intensifying fight for knowledge workers who are the key to enhancement of productivity. The task of retaining is becoming more and more problematic. This problem in IT sector has embraced the modern corporate culture of quick career advancement and also thrown open multiple job opportunities. Thus, this sector is experiencing a steady rise in mobility among IT professionals. According to the industry body NASSCOM, Indian IT sector is estimated to provide direct employment to around 10 million by 2020. The contribution by the IT sector in India's GDP has increased from 6.4 per cent in 2008 to 7.5 per cent in the financial year 2012. The sector has provided direct employment to 2.8 million people and indirect employment to 8.9 million people (The Economic Times). Despite all these, employee turnover can be seen as a thought provoking topic till date for IT sector. Now, if we talk about Gen Y in particular, not surprisingly the IT sector draws the largest number of employees from this generation. Organizations in the IT/ITES sector are the largest employers of this generation and that is likely to continue. Presently 65-70% of workforce in most companies in this sector comprises Gen Y in the age group 20-30 years. They are managed by a generation of older managers who have a completely different world view. Out of the 125,000 employees of Wipro in 2011, more than 60% of employees were in their twenties (Bhaduri, 2011)

India's human capital advantage has been one of the prime reasons for the burgeoning growth of the IT sector. Post recession, this sunrise sector has seen tremendous growth and today the market has become extremely competitive. With other sectors also moving on a high growth trajectory, talent attraction and talent retention has become a major challenge for the employers'.

**Table 1.1: Total Numbers of Employees and Attrition Rate of Top IT Companies**

Firm	Employees	Attrition rate (%)
TCS	319,656	14.9
Wipro	142,282	15
Infosys	254,771	20.4
Cognizant	219,300	15.6
HCL Technologies	105,571	16.2

(Source: Company Annual Reports: 2014-15)

In an extremely competitive market, it has become imperative for the IT sector to look into the causes of high employee attrition and come up with a strategy for retaining one's talented pool of employees. Increased attrition levels need to be monitored and managed carefully as they eventually affect the overall performance of the firm. The focus clearly needs a shift from recruitment to retention.

## **II. Objective of the study**

The present study strives to achieve the following objectives:

1. To recognize the key attributes of Gen Y workforce.
2. To suggest determinants that can motivate the Gen Y workforce in IT sector.

## **III. Methodology**

The focus of this research paper is mainly upon studying the characteristics of Gen Y workforce in IT sector and developing retention strategies as per their traits. The present study is completely based on secondary data. The data and statistics related to IT sector and Gen Y has been gathered from the reports of Bureau of Labor Statistics, NASSCOM, ASSOCHAM, SHRM India, Company Annual Reports, online and offline journals, newspapers etc.

## **IV. Literature Review**

The available literature is reviewed to identify the characteristics of the Gen Y workforce and the determinant for retaining the Gen Y talent. Review of literature of the related studies give an insight about the subject matter and also help in analyzing the existing gap that could be taken up for further research.

**Zachariah, Minu (2012)** states that demographic factors cannot be ignored as age is one among the major factors that have influenced employee retention and have been found to have stable relationship with turnover intention as it is negatively related with turnover. So the turnover rate is more in the younger cohort than any other.

**Raina, D and Anupama (2006)** by means of a series of surveys, observations and interviews ascertained that employees' attrition is higher in the age group of 20-25 years and within three months of joining. Young professionals leave the job because of slow career growth, poor relations with seniors/colleagues, health problems, work-life imbalance and for higher studies.

**Natarajan, Ganesh (2011)** state that in the world of 4P's of Kotler and the 7 S's of McKinsey, the 5 F's culture of Zensar- Fast, Flexible, Focused, Friendly and Fun are the mantras for talent management that the IT industry and the company has been practicing to attract the best in the organization and also to keep attrition levels of critical talents to single digits. He concluded that, minimizing attrition is the art of better retention.

A survey on talent shortage by **Manpower Group (2011)** reveals that despite the slow and uneven recovery from the global economic downturn and lingering high levels of unemployment in many markets, organizations around the world still report that they cannot find the talent they need when they need it. According to the survey, nearly half of India's employers are struggling to fill critical positions because of a severe talent crunch. Although the situation has improved over last year, 48% of employers in the country are facing hiring challenges this year as against the global average of 34%, the study said.

**Meier et al. (2010)** state that Generation Y is widely known as the generation born between 1980 and 2000. This generation is confident, independent, and goal-oriented. Although, technology advances began in the Gen X era, Generation Y was born into technology and often knows more about the digital world than their teachers and parents. The enhanced technological knowledge has launched this generation into an era that is accessible everywhere to anyone. Gen Y has high self-esteem; they are the trophy generation that allows every child to get a medal or praise, leaving no one behind. They also mention that leadership and salary are the two most influential factors that have the greatest impact on the Gen Y employees.

**Dubey, Rajeev (2011)** summarizes the characteristics of Gen Y as: Tech-savvy, achievement-oriented, team-oriented, impatient and attention-craving, need work-life balance, search opportunities for advancement and career growth and need interesting and meaningful work, worried about environment and society etc.

**Chakraborty, Saumen and Chakraborty (2011)** lists some of the attributes of Gen Y workforce who are now rapidly becoming the mainstream of the workforce of an organization. The main traits of this generation includes; work on teams, collaborative, resourcefulness and innovative thinkers, love challenges, seek to make a difference, desire to be a hero, impatient, thrive on flexibility and space to explore, partner well with mentors, value guidance and expect respect.

**Rao, K. Srinivasa (2011)** in his study on 1124 respondents across India concludes that reward is the last thing that can motivate the Gen Y. rather it is achievement and recognition which this generation gives most priority. He adds that lack of growth opportunities is the prime factor for switching organization among this cohort.

**Meyer et al. (2003)** state that building "affective commitment" involved much more than paying well, and that retention based on "compensation based commitment" is of course sensitive to change in compensation within the company. They found that employers who based their retention on compensation based commitment were always vulnerable to the possibility that their competitors may offer better wages and, thus, lure away their employees.

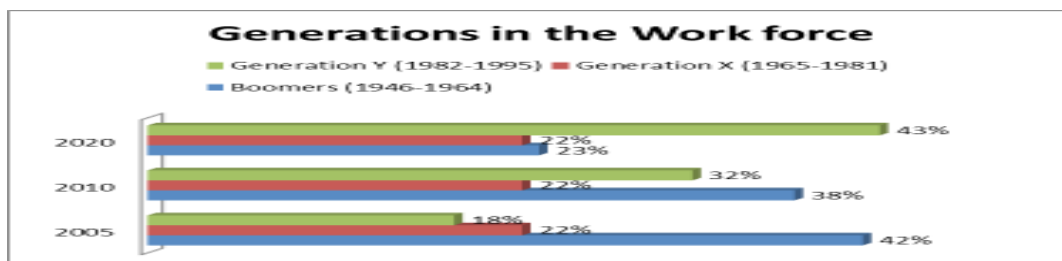


A large numbers of studies have been undertaken on retention issue in IT sector, as this is one among the sector which is currently facing the problem of high attrition. However, there is a dearth of studies have been found debating on talent retention issue in IT sector with special reference to Gen Y workforce.

### V. Gen Y: A Too Large Group to Ignore

The employees under thirty years of age represent a very large chunk of the demographically young India. This group will be the largest contributor to the global labour force in the coming decades, and will add about 110 million workers by 2020; a study by Glodman Sachs on India's rising labour force has said (Bhaduri, 2011).

Today, the workforce includes Baby Boomers, Generation X and Generation Y employees (Brian D'Netto, 2011). While the Baby Boomers are beginning to retire and Generation X is moving into senior management positions, the proportion of Generation Y in the workforce is increasing rapidly. Born between about 1980 and 2000 the Generation Y is now in the early stages of their careers and the fastest growing segment of today's workforce.. Generation Y makes up the largest percentage of the workforce (35%) and will make up almost 75% of the world's workforce by 2025 (BPW Foundation, 2011). Gen Yers are also known as Millennials, Next generation, Generation me, Echo boomers, Nexters, the Boomlet, Digital Generation, Dot com Generation, Net Generation, N- Gens, Generation WWW, Digital natives, Ninetendo Generation, Sunshine Generation, the Do or Die Generation, the Wannabes, the Nothing is Sacred Generation, Cyber kids, the Feel Good Generation and Non-nuclear Family Generation (Srinivasan, 2012). Millennials have been brought up in the era of globalization, employment outsourcing, foreign investments and a proliferation of information and communication technologies and have seen their parents in distrust situations like Gen X. They have witnessed the natural calamities like the tsunami and earthquakes, and terrorist attacks, including the 9/11 attack in America. This generation is confident, independent, and goal-oriented. Generation Y were born into technology and often know more about the digital world than their teachers and parents (Meier and Crocker, 2010). Generation Y present a challenge to managers who must train and motivate these employees, so that their strengths become a benefit to the company.





**Figure 5.1: Generations in the Work force**

Source: U.S. Bureau of Labor Statistics Employment Projections

To be successful in the future, it would be important for companies and managers to understand this generation. Many of the characteristics of Generation Y are significantly different from previous generations. Now let us have a look on the key attributes of this young and dynamic generation.

**1. Constantly evolving needs**

This is the generation whose needs and deeds are altering at the same pace as the technological changes around them. They are driven by a sense of urgency and seek instant gratification. The need for personalized attention is high and they will not rest till they get it.

**2. Need for ongoing learning**

Generation Y'ers' are known for their ability to multitask. They seek out creative challenges and view colleagues as vast resources, from whom they can gain knowledge.

**3. Workplace flexibility**

Generation Y desires work and career flexibility. Generation Y believes that they can do more with less; consequently, they feel they deserve the freedom to work fewer hours while still taking jobs that are challenging.

**4. More value for recognition than reward**

For the Millennials money comes next to appreciation and recognition. Salary comes once in a month, but what matters more for them is an environment of learning which would help them to achieve something bigger and ultimately this need to be appreciated and recognized frequently.

**5. Ability to adapt to technology**

The greatest strength of this demographic chunk lies in their comfort with technology. They are instinctively tech savvy and take to newer technologies and gizmos very easily. Not only is this future workforce constantly plugged in, they exhibit similar comfort in sharing openly with peers online.

**6. Relationship-oriented**

This generation believes family is the most important and is also value virtual relationship. So far as work life is concerned, friendship is a strong motivator for them when choosing a company. Further, the Millennials can mingle well in a team as they believe in collective work.

**7. Willingness to be visible, explicit and open**

Apart from their desire to learn, this young generation is also more willing to be explicit and visible. They are usually generous when it comes to knowledge sharing

and are not insecure about sharing it. They are open, vibrant and a demanding generation.

**8. Cultural acceptance**

Generation Yers' are the most culturally and ethnically diverse generation. As they have grown up in a more diverse society, they show a willingness to embrace and accept cultural differences.

**9. Socially responsible**

Gen Y shows their willingness to donate their time to some form of public service. They want an open environment to exchange their ideas. They believe that organizations should look at the bottom of the pyramid.

**VI. Retention Strategy: The Way to Leverage Gen Y**

Today's young professionals come to a workplace with different expectations than the previous generations. Organizations need to understand these expectations of the generation to be able to attract and retain them. The expectation of this generation ranges from flexibility, mentorship, challenges, state of the art technology, trust, challenge, work life balance, feedback, recognition and pride (Nathan, 2012). As here we are focusing here on the knowledge based IT industry and Gen Y, which is going to dominate the workforce of this sector in the near futures it is important to formulate an effective course of action to retain this talent.

**1. Assign challenging task**

Stimulating challenges and competitive mindset would help both the IT industry and the 'Talent'. As the Gen Y are the risk seeker talents, it is important for employers to continuously give them challenging projects which in one way can prevent boredom and attrition and the other side can encourage innovative and creativeness. The IT sector should include those processes and policies in its HR system that enables variety at work and offers opportunity to work with different leaders.

**2. Engage Gen Y**

Engagement is one of the major factors which influences worker productivity in IT Sector. Gen Y has a wondering mind and want to explore new ideas; they challenge and improvise existing norms, systems and practices; they want time for self to experiment. The specific attributes of this generation (collaboration, resourcefulness and innovativeness) can be best leveraged by actively engaging them in simplifying and improving current business processes. Properly engaging this generation will give a positive result on quality, cost, customer service, profitability and revenue growth of the IT Sector.

**3. A platform for professional growth and development**

Gen Y is the most focused and formally educated among the generational cohorts. In IT Sector there is a need for persistently nurturing the skills of this generation by continuously redesigning the training and development programs. So it is important to develop Interpersonal skills, business etiquettes, communication skill, time management, stress management skills of the young generation which will ultimately help them to grow professionally.

**4. Work-life balance**

Generation Yers want jobs with flexibility to work as per their own comfort zone, yet at the same time give them the opportunity to leave the workplace temporarily to care for children. They see work as one component of a balanced life portfolio that includes family, friends, fitness, and fun. Employees' friendly policies and practices such as flexi-time policy, telecommuting, annual paid leaves, day care facilities, gym and few more recreational facilities need to be introduced which can go a long way toward inspiring loyalty in Generation Y employees.

**5. Recognize and appreciate their work**

This generation cohort has a very high degree of self esteem and that can only be reinforced by a strong organization culture where every individuals view is respected. The innovative and creativeness of the young IT professionals need to be appreciated, which would further develop a positive mind set among the employees towards the organization.

**6. Bring your own technology**

To attract this tech savvy generation, the IT sector should come up with some recent devices especially designed keeping in view the new work style of this generation. To support this, companies that want to retain this generation must change the way they approach IT. This new device would help the young talent to use it from anywhere from accessing the company email and intranet, to using corporate business applications.

**7. Collaborative work environment**

Having a high degree of team spirit, Gen Yers are well suited for collaborative work environment. Since Gen Y works well as teams, it could be prudent to engage them on several team assignments which would assist them to become more productive and contribute to a larger extent for the growth of the organization.

**8. Provide clear and ongoing Feedback**

This impatient generation gives more value for openness and transparency and always looks for instant feedback for their deed. So, immediate recognition and appreciation of their achievement can go a long way to positively motivate this cohort.

### 9. Leverage their corporate social initiative

Leveraging the corporate social initiative of this generation will have a two-way benefit to the IT industry. On the one hand, it would help the employer to build a corporate brand and the other way craft an employee value proposition. On the whole it would be beneficial for the employee, employer and society. As the Gen Y always wants to be the part of something bigger, it can surely be a powerful tool to retain this talent.

**Table 6.1: Gen Y Characteristics and Retention Strategy**

Characteristics	Retention Strategy
a. Constantly evolving need	<ul style="list-style-type: none"> <li>• Assign challenging task</li> <li>• Engage Gen Y</li> </ul>
b. Need for on-going learning	<ul style="list-style-type: none"> <li>• A platform for professional growth and career development</li> </ul>
c. Workplace flexibility	<ul style="list-style-type: none"> <li>• Work-life balance</li> </ul>
d. More value for recognition than reward	<ul style="list-style-type: none"> <li>• Recognize and appreciate their work</li> </ul>
e. Ability to adapt to technology	<ul style="list-style-type: none"> <li>• Bring your own technology</li> </ul>
f. Relationship-oriented	<ul style="list-style-type: none"> <li>• Collaborative work environment</li> </ul>
g. Willingness to be visible, explicit and open	<ul style="list-style-type: none"> <li>• Provide clear and ongoing feedback</li> </ul>
h. Cultural acceptance	<ul style="list-style-type: none"> <li>• Leverage their corporate social initiatives</li> </ul>
i. Socially responsible	

Source: Own compilation

## VII. Conclusion

The best way to ensure successful operations in any organization is not just recruiting the right people and giving them the skills to perform their job, but also to ensure that retention rate of the employees is maximized. As attrition is one of the key issues in IT sector in the present scenario, retention can be a systematic solution for this problem. Further, minimizing the attrition rate of Gen Y workforce in particular is another big challenge for this sector. Thus, when formulating a strategy to evolve out of this big issue, the first step should be to understand the key traits of this young generation as they are completely different from their predecessors. A clear and complete understanding of Gen Yers would help them in developing the best retention strategy. This attempt by IT companies would build “Employer Brand Equity” in this fiercely competitive world as well as induce them to focus on leadership coaching, mentoring and development to train and retain a strong young workforce.

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## Growth Strategy of Malaysian Entrepreneurs: A Case Study

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### ABSTRACT

Since the institution of the New Economic Policy (NEP) in 1971, for the *Malay* or *Bumiputra* (is a **Malaysian** term to describe **Malay race**) and beyond its end in 1990, the Malaysian government has had mixed success in developing Malay Entrepreneurship.

Entrepreneurship and growth is typically equated with high performance and survival. Moreover, growth is an indication of continued entrepreneurship. Along the path of the entrepreneurial process to business growth, many challenges and obstacles have to be faced by them. This paper is involved with Malay entrepreneurs to understand how they have successfully grown their business from small enterprises to larger ones. Based on the dynamic and challenging business environment in Malaysia, the paper examines the obstacles and challenges faced by the Government of Malaysia in the promotion of Malay entrepreneurial ventures.

Based upon literature on Malay entrepreneurial development, this study attempts to provide guidance for new Malay entrepreneurs to deliberately plan for their new business as well as for their business growth. Also, this study is essential to provide recommendations for policy makers to foster and encourage entrepreneurship through targeted policy initiatives by understanding about what constitutes an entrepreneur and entrepreneurial activity. The findings of this study may also be applied to the Indian milieu of entrepreneurial development.

**Keywords** – *Malays, Malay Entrepreneur, Entrepreneurship, Entrepreneurial growth process, NEP, Malaysia.*

### 1. INTRODUCTION:

In this century, entrepreneurship has become a global agenda. This is due to the significant contributions entrepreneurship gives to the economic performance of a country and region. The contribution of entrepreneurship to a nation's economic development is achieved by creating employment activities, generating innovation and utilizing creativity. It also helps boost the economy of a country by creating an atmosphere of healthy competition among business



entities which then creates a dynamic marketplace. Growth is typically equated with high performance and offers the opportunity for financial gain, return on investment (ROI) and also increased chances for survival.

In the 1970s, the Malaysian government implemented policies which the Economist called “racially discriminatory” and which was designed to favour *bumiputras* (including affirmative action in public education) to create opportunities, and to defuse inter-ethnic tensions following the extended violence against Chinese Malaysians. These policies have succeeded in creating a significant urban Malay middle class.

The Malaysian government has been seriously encouraging entrepreneurship especially among the Malays. Since the 1970s, the government has given due emphasis on increasing Malay ownership and participation in the corporate sector and high-income occupation as outlined in New Economic Policy of 1971 (Economic Planning Unit, 2001). This objective is further outlined and emphasized in the New Development Policy in 1991 through the establishment of **Malay Commercial and Industrial Community (BCIC)**, which is responsible in nurturing and developing Malay and other Malay groups as entrepreneurs and professionals, thus creating a middle-class group among the Malays (Economic Planning Unit, 2001). The main emphasis of BCIC is on the development and nurturing of entrepreneurs among Malay graduates. In the Ninth Malaysia Plan, the Ministry of Entrepreneurship and Co-operative Development (MECD) had planned for various activities and programmes in institutions of higher learning in order to produce 150,000 entrepreneurs among the graduates (“MECD sasar”, 2008). The activities and programmes include educational programmes, business opportunities, financial assistance, physical infrastructures and consultancy services to young entrepreneurs.

## 2. BACKGROUND OF THE STUDY:

*Malay* or *Bumiputra* is a Malaysian term to describe Malay race and the indigenous peoples of Southeast Asia, and particularly in Malaysia. The term comes from the Sanskrit word *bhumiputra*, which can be translated literally as “son of the land” or “son of the soil” (*bhumi*= earth or land, *putra*=son).

The Malaysian Higher Education Ministry defined *bumiputra* as follows, depending on the region of origin of the individual applicant.

### 1. Peninsular Malaysia:

“If one of the parents is Muslim Malay/Orang Asli as stated in Article 160 (2) Federal Constitution of Malaysia; thus the child is considered as a Bumiputra”



2. **Sabah :**

“If one of the parents is a Muslim Malay or indigenous native of Sabah as stated in Article 160A (6)(a) Federal Constitution of Malaysia; thus his child is considered as a Bumiputra”

3. **Sarawak:**

“If both of the parent are indigenous natives of Sarawak as stated in Article 160A (6)(b) Federal Constitution of Malaysia; thus their child is considered as a Bumiputra”

In Malaysia, the early colonial censuses listed separate [ethnic groups](#), such as “Malays, Boyanese, Achinese, Javanese, Bugis, Manilamen (Filipino) and Siamese”. The 1891 census merged these ethnic groups into the three racial categories used in modern Malaysia—Chinese, ‘Tamils and other natives of India’, and ‘Malays and other Natives of the Archipelago’. This was based upon the European view at the time that race was a biologically based scientific category.

**Article 160 of the Federal Constitution of Malaysia**, which came into force in 1957, is the supreme [law](#) of [Malaysia](#). It defines **Malay** as being one who “professes the religion of Islam, habitually speaks the Malay language, conforms to Malay customs and is the child of at least one parent who was born within the Federation of Malaysia before independence of Malaya on 31 August 1957, or the issue (off-spring) of such a person.”

**3. OBJECTIVES:**

- To analyze the issues and problems associated with the development of Malay entrepreneurship in Malaysia.
- To analyze government policies and strategies for the growth and development of Malay entrepreneurs.
- To examine the nexus between western conventional concepts and Malay entrepreneurial development.

**4. RESEARCH METHODOLOGY:**

The data used has been collected from various secondary sources like books, journal, newspaper, internet and publication produced by Malay Chamber of Commerce (DPMM), Malaysian Business and Industrial Association (PERDASAMA) and Malay Economic Organization (GABEM).. The study uses the publicly accessible documents and publications by government agencies such as Ministry of Entrepreneur and Cooperative Development (MeCD) and Economic Planning Unit (EPU). The accuracy of the study is limited to the accuracy of these sources.

### 5. LITERATURE REVIEW:

- After independence Malaysia made impressive progress in social and economic developments but the benefits of this progress were not evenly distributed among the different ethnic groups in Malaysian society (Jesudason, 1990; Korff, 2001). The Malays in particular were still very poor and were mainly concentrated in rural areas depending upon agricultural and fisheries activities as their major source of income (Mahathir, 1998).
- Often incorrectly identified as a mechanism to facilitate Malay rights, the NEP was primarily designed to reform the economy to meet Malay expectations for a greater share in the economy (Shome 2002: 98-101).
- The literature on Malay traditional values and attitudes demonstrates that Malay way of life and traditional value system are very much governed by their adat and religion (Harun 2004; Selat, 2004). The famous Malay proverb “Biar mati anak jangan mati adat” which literally means better for you to lose your child than to lose your custom.
- As Muslims, Malays are forbidden from getting involved in economic activities that are considered contradictory to Islamic teaching such as gambling and activities in the manufacture and/or sale of forbidden products like liquor and pork (Ismail, 2003).
- The privileges enjoyed by the Malays under NEP have also led to what some call the “Ali-Baba” practice (Heng, 1992; Milne and Mauzy, 1999). Rather than being given active role in running the business the Malay (Ali) be usually treated as a passive partner by Chinese (Baba). On many occasions Malays were taken as partners because of they were Malays and believed to have greater access to government resources such as contracts and licenses (Shome, 2002).

### 6. ENTREPRENEURSHIP:

In this century, entrepreneurship has become a global agenda. This is due to the significant contributions entrepreneurship gives to the economic performance of a country and region. According to Timmons (1999), the contribution of entrepreneurship to a nation's economic development is achieved by creating employment activities, generating innovation and utilizing creativity. It also helps boost the economy of a country by creating an atmosphere of healthy competition among business entities which then creates a dynamic marketplace. Entrepreneurs possess unique characteristic which transcends the boundary of merely owning a business venture. Gray (2002: 62) defined entrepreneurs “...as individuals who manage a business with intention of expanding the business and with leadership and managerial capacity for achieving their goals, in the face of strong competition from other firms, large and small”.

The Malaysian government has been seriously encouraging entrepreneurship especially among the Malays. Since the 1970s, the government has given due emphasis on increasing Malay ownership and participation in the corporate sector and high-income occupation

### **6.1. THE ENTREPRENEURIAL PROCESS:**

The entrepreneurial process involves all the functions, activities, and actions associated with the perception of opportunities and creation of organizations to pursue them. Even though the entrepreneurial process is a complex phenomenon, yet this process is important in understanding the entrepreneurial growth. The study should focus on the whole entrepreneurial process, including before, during and after the entrepreneurial process. The two broad dimensions of the entrepreneurial process to understand the entrepreneurial process undergoing by Malay entrepreneurs in their business growth are

#### **Opportunity recognition and information search:**

Opportunity recognition and information search are often considered to be the first critical steps in the entrepreneurial process. Entrepreneur identifies opportunities by being “alert” to and “noticing” opportunities that market presents. The process of search and opportunity recognition can be influenced by the cognitive behaviors of entrepreneurs. Search behavior can be bounded by the decision makers’ knowledge of how to process information as well as the ability to gather information.

#### **Resource acquisition and business strategies:**

Once the opportunity has been identified and information relevant to the venture has been obtained, the next step for the entrepreneur is to acquire new resources or effectively manage existing resources in order to exploit the opportunity.

### **6.2 MALAY ENTREPRENEURS:**

Malaysia has a population of 25 million comprising 50 percent Malays, 24 percent Chinese, 11 percent indigenous, seven percent Indians (mostly Tamils), and eight percent others. The Chinese have been in the Malay States since the fifteenth century; by 1930 they were over a million in number (Andaya and Andaya 1982).

The Malay community, as a whole, did not have a tradition of entrepreneurship. Rather, they were used to either employed in the government service, or self-employed as agricultural farmers or smallholders. Nevertheless, there were exceptions to the rule, where Malays were involved in business, although the numbers were very small. The pride in being a Malay entrepreneur seems to be much greater if the successful entrepreneur is a woman.

The unique characteristic of Malaysian society is derived from the element of pluralism comprises of various races, ethnics, culture, language and religions (Hwang, 2003). The three main races consist of Malay, Chinese and Indian. In addition, there are also other indigenous groups of people in Peninsular Malaysia, Sabah and Sarawak. The most basic population division of Malaysian society is between Malay (son of the soil) and non-Malay people. The Malay group constitutes the principal Malay group together with other indigenous people.

The colonial system had segregated Malaysian on the basis of their racial status according to regions and their economic functions. For instance, the Chinese are relatively concentrated in urban areas in developed states such as Penang, Perak and Selangor. They are known as successful traders and business people. Meanwhile, the Malays are concentrated in less developed states such as Terengganu, Kelantan and Pahang, and they are associated with the small scale agricultural and rural based sectors and impoverishment.

### **6.3 ISSUES and PROBLEMS:**

In Malaysia Malay entrepreneurship declined as a result of British imperial policy to segregate economic activities along racial lines and the inadequate nature of colonial educational policy to prepare Malay students for modern economic activities.

British colonization created a dual economy in Malaysia where large and modern corporations owned by foreigners existed side by side with the small business owned by the Chinese and traditional agriculture and fishing owned by the Malays. The British colonial government made no effort to encourage the Malays to be involved in modern economic activities. The Malays were even made to believe in the need to be insulated from the modern economic activities in order to preserve their traditional culture and way of life.

Ahmed et al. (2005) reports that following independence, the Chinese held power in the economic and commercial sectors, whereas the Malays did not capitalize on opportunities to increase their standard of living by becoming involved in business. Ultimately, the Malays began to feel discontented and deprived of their homeland due to inequality in wealth and income distribution. This discontent has led to the Malay resentment and distrust toward the economically dominant Chinese (Gomez, 1999; Abdullah, 1997).

With the economy dominated by the Chinese and the civil service by the Indians, the Malays, who are mostly found in the armed forces and police or confined to the rural areas working as fishermen or farmers, felt left behind. The Income disparities in between Malays and Chinese were very wide. The Malays are also under represented in the modern sector of the economy particularly in commerce and industry.

## 7. NEW ECONOMIC POLICY:

The country's development policies such as the New Economic Policy (NEP) (1972-1990), New Development Policy (NDP) (1991-2000), National Vision (2001-2010) and currently the New Economic Model, have largely concentrated at correcting the society's imbalance

The New Economic Policy is Malaysia's socioeconomic affirmative action plan. It was implemented in 1971 in the aftermath of the 1969 racial riots, and the period set for the implementation of NEP was 1971- 1990. The overriding objective of the NEP was stated as national Unity. The goal of the NEP was two pronged – one, eradicate poverty; and two, and restructure society to eliminate the identification of race with economic function through rapid expansion of the economy over time. However, it was clearly stated that this restructuring of the racial composition of employment and ownership of wealth was to be done without denying opportunities to others. The strategy was to accelerate economic growth, but at the same time, redirect the benefits more to the disadvantaged.

The NEP was primarily designed to reform the economy to meet Malay expectations for a greater share in the economy. The NEP prioritized its objectives by tending first to the needs of rural Malays whose plight was identified with stagnated rural projects, lower production yields, and rising poverty in their rapidly increasing population. The second measure was for the progressive reduction of Malay dependence on the diminishing agriculture subsistence. In line with this policy, the NEP recommended a concerted drive for greater Malay exposure in the urban sectors of commerce and industry to be steered by public enterprises.

The NEP re-formulated the system of job quotas and Malay special rights for greater privileged access to higher paying jobs, management positions, the professions, tertiary education admissions and equity stakes in companies. The NEP restructuring targets were also extended to the private sector. Companies were asked to submit plans for employing, training and promoting Malays at all levels of their operations and to adhere to the Malay employment quotas that were generally set at 40 percent of the total labour force of the company.

Wealth in the hands of the *bumiputras* went from 4% in 1970 to about 20% in 1997. The overall wealth of the country as a whole also grew; per capita [GNP](#) went from RM1, 142 in 1970 to RM12, 102 in 1997. During the same period, absolute poverty in the population as a whole dropped from 50% to 6.8%.

**Table 1 - NEP Benchmarks:**

Year	1970	1990	2004
Bumiputra equity	2.4%	19.3%	18.7%
	(RM477m)	(RM20.9b)	(RM73.2b)
Overall poverty	52%	17.1%	5%
Rural poverty	59%	21.8%	11%
Household income	RM660	RM 1254	RM 2996

*Note:* Malaysian Ringgit (RM) – Currency of Malaysia.

*Source: Economic planning unit, Malaysia*

Against the backdrop of strong economic growth and the New Economic Policy (NEP), Malaysia has made impressive headway with regard to poverty reduction of all ethnic communities. In 1970, poverty was markedly higher among the *Malay* than the other communities. As a result of policies adopted by Malaysia, there have been tremendous absolute declines of Malay from 64.8% to 5.1%.

**Table 2 - Incidence of poverty by ethnicity and strata, Malaysia (1970-2007; %)**

	1970a	1987	1997	2007
Malaysia	49.3	19.4	6.1	3.6
Ethnic				
Bumiputera	64.8	26.6	9.0	5.1
Chinese	26.0	7.1	1.1	0.6
Indians	39.2	9.6	1.3	2.5
Other	44.8	20.3	13.0	9.8
Strata				
Urban	24.6	8.5	2.1	2.0
Rural	58.6	24.8	2.5	7.1

*Source: Economic planning unit Malaysia*

The assistance provided to existing and potential Malay entrepreneurs has gone some way in increasing the total number of businesses being established. Between 1996 and 2000, a total of 26,300 Malay entrepreneurs were developed through various BCIC programs. In addition, there was also a significant increase in the establishment of Malay enterprises, both in the

corporate and non-corporate sectors. A total of 97,500 Malay companies registered with the Registrar of Companies (ROC) in 1999 compared with 69,700 companies in 1995 or 19 percent of the total companies registered with the ROC. Meanwhile, the number of Malay entities registered with the Registrar of Businesses (ROB) doubled from 366,790 in 1995 to 743,550 in 1999.

*Source: Ministry of Entrepreneur Development cited in Ariff and Lim (2001).*

#### **8. NEXUS BETWEEN WESTERN and MALAY EPT ENTREPRENEURSHIP:**

The Philosophy of Malay entrepreneurship differs little from the conventional western concept of entrepreneurship which emphasizes the need for the entrepreneurs to be alert to the opportunities, to be creative and innovative, to take risks, and to make decisions as well as to shoulder greater responsibilities. The Malays believe that it is essential for entrepreneurs to cooperate and work together which attributed to the cultural background of Malays as a communitarian society and of them being Muslims. The Malays are expected to contribute and offer help to their community without expecting any tangible reward.

The Malays believe that the world is temporary some Malays feel obligated to devote their life to serious religious thought and considered accumulation of wealth is bad. As Muslims Malays had been hesitant to put their money in interest bearing deposits in commercial banks for fear of riba (interest). Malays' attitude towards property or wealth is also considered to be factor contributing to their slow economic development.

The Malays believe that entrepreneurship requires honesty; a quality which is not usually found in conventional western concept of entrepreneurship. This belief could be influenced by the religious belief of the Malays.

#### **9. FINDINGS:**

The study reveals that despite government initiatives and concerned efforts Malay entrepreneurship has not developed as expected due to individual, environmental and historical factors such as

- The negative attitudes and mindset of the Malays.
- The over dependence upon government for support and assistance.
- The problems associated with the implementation of government policy.
- The lack of competitiveness and sustainability of Malay businesses.
- The lack of emphasis by the government on the important aspect of Malay entrepreneurs.



- The absence of entrepreneurship culture within the Malay society and successful role models.
- The Malays' belief in the importance of their adat, culture and religious thought.

### CONCLUSION and RECOMMODATION:

Malaysia has a vibrant entrepreneurial base with a huge potential to become a global player. Indeed, past and current policies to create a class of entrepreneurs have succeeded in the sense that there are more Malays involved in business and entrepreneurship now compared to before. Non-Malay (mainly Chinese) companies are spreading their reach overseas, proving that Malaysian companies can succeed in the global arena. Nevertheless, as evidenced by the drastic decline in Malay businesses and corporate equity following the economic crisis, the quality and level of competitiveness of the majority of Malay companies could be improved so that they are more resilient to the ups and downs of economic cycles. The reason for their complacency is the over-reliance on government contracts, funding and support. There have been some moves to change the attitudes of Malays so as to be less reliant on the government.

It is essential for Malay entrepreneurship to invest their time and effort in network nurturing activities to develop synergetic relationship with other Malay entrepreneurs and also with entrepreneurs from other races, particularly the Chinese for bringing about a win-win situation.

As the Malaysia begins to transform from a manufacturing-based economy to a knowledge-based economy businesses and entrepreneurs as well as their needs and demands are likely to change as well. This gives rise to the need for closer consultation between the private sector, entrepreneurs and the government and its agencies.

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## Public Investment in Agriculture for Achieving Food Security with special reference Odisha

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### ABSTRACT

One of the oldest approaches to food security is 'food availability approach', which focuses on the (dis)equilibrium between population and food. Therefore, in order to maintain this equilibrium, the rate of growth of food availability should not be lower than the rate of growth of population. Until the early 1970s, this was the reference approach for the international community. The World Food Conference, 1974 defined food security as, "availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices" (UN, 1974). In spite of having included two more dimensions of food security *i.e.*: food access and food utilization, availability of food still holds the key and the availability of food is ensured through agriculture.

In recent times, appropriate agricultural strategy has been used to solve the scourge of malnutrition. However, to achieve the sustainable food security, public investment can play a pivotal role. In this context, the scope of the article is two-fold. The first part deals with the performance of the food grains production and related issues, especially for cereals and pulses as these two form the dominant component of food in Odisha. At the same time, the gap between the availability of food and requirement of food grains is also analysed. The second part of the article analyses the recent thrust areas in Odisha agriculture budgets. The position of expenditure in various central flagship schemes like Rashtriya Krishi Vikas Yojana(RKVY), and National Food Security Mission(NFSM) is also analysed. These schemes are important for ensuring the availability of adequate food in the state.

### 1. Introduction:

Food security is achieved at the individual, household, national, regional, and global levels when all people, at all times, have physical and economic access to safe and nutritious food sufficient to meet their dietary needs and food preferences for an active and healthy life. On the other hand, *food insecurity* is defined as a situation that exists when people lack

secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. (World Food Summit, 1996). From this definition, it can be inferred that sustainable food and nutritional security ensures the availability, access and the utilization of nutritionally rich but culturally acceptable food for all times so that all people can lead a healthy and active life

Food availability approach is the oldest approach to food security. This approach can be traced back to early 1970s. It is based on the belief that food production should meet the needs of the growing population. Till 1980's, this approach became the dominant approach to food security. After that, two more dimensions - food access and food utilization have been included in the scope of food security. In recent times, the role of agriculture for solving the health and nutrition issues along with food availability has been visualized by the researchers worldwide.

In 1990, UNICEF gave the first conceptual framework to link agriculture to nutrition in terms of three pathways, through food, quality and care of feeding. The World Bank further elaborated these pathways into five (World Bank, 2007). Vision 2020 initiative of IFPRI has already started working on these linkages involving USAID, DFID and others under the project "Tackling the Agriculture and Nutrition Disconnect in India (TANDI) and found it to be weak. Gillespie and Kadiyala (2011) have further expanded these pathways to seven. Per Pinstrup-Andersen (2012) explains the link of agriculture and nutrition through a food system. A food system may be described simply as a process that turns natural and human-made resources and inputs into food.

While working on these linkages, Smith and Hadad (2001) found a statistically significant and strong positive impact of national per-capita food availability on child nutritional status. According to them, the estimated contribution of food availability for reducing the child malnutrition is 26.0 percent, the contribution of health environment is 19 percent, the contribution of women's education is 43 percent and women's status is 11.61 percent for reducing the child malnutrition. The results indicate the need to increase food supplies and hence increased resource allocation to agricultural research and natural resource management to increase the productivity of land.

Kiresur et al. (2010) found that rural poverty is significantly and negatively influenced by the agricultural productivity at micro level. Low agricultural productivity is root cause of rural poverty and poverty is the root cause of under nutrition. Higher the poverty ratio, lower will be the nutrition security and vice versa...

Cribb(2011) has suggested few measures to feed the growing demand for food when population will peak at 10-11 billion at 2060. One of them is to increase the global investment in agricultural science and technology by 300 percent.

Smith and Haddad(1999) have found four key “underlying” determinants: health environments, women’s education, women’s relative status, and per capita food availability and two “basic” important determinants: per capita national incomes and democracy. They have identified two priority areas for future reductions in child malnutrition as per capita food availabilities and women’s education.

In the opinion of Suryanarayan, (1997), food security has to do with economic and physical access to food. Tyagi(1990) measures physical access in terms of two indices: (i) imports as a proportion of domestic food production, and (ii) per capita availability of food grains.

MSSRF (2001) explained food security in terms of food availability, food access and food absorption. The food availability indicators are: deficit of food production over consumption, instability in cereal production.

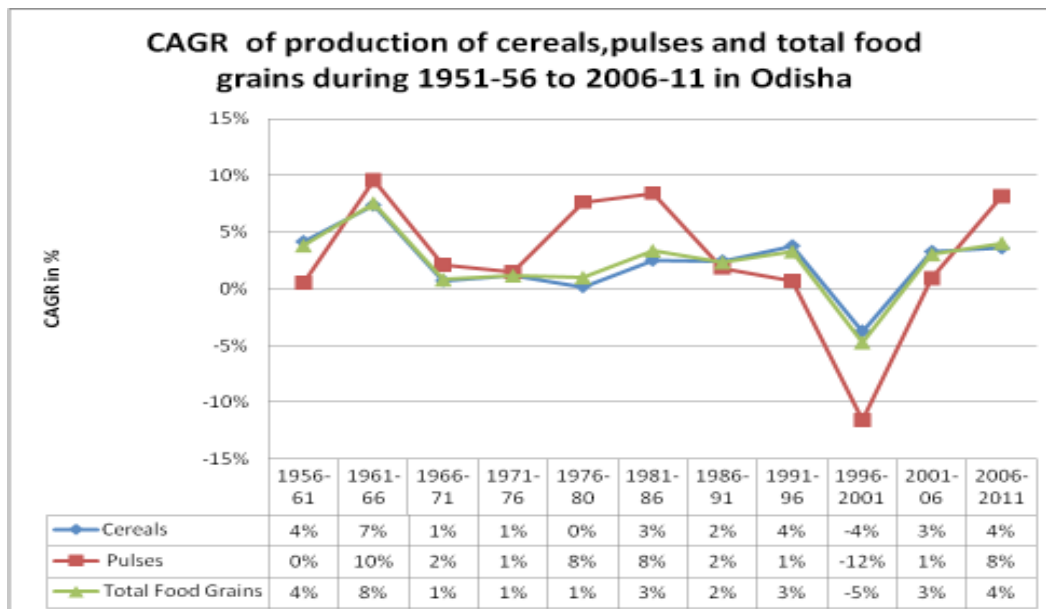
Global evidence suggests that many developing countries are exploiting these links, but India seems to lag behind (Headey, 2011). This may be attributed to incomplete convergence of different sectors in policy formulation, lack of attention to institutional modifications to facilitate convergence, and lack of monitoring mechanisms to assess convergence of programs on an ongoing basis. From the foregoing discussion, it may be inferred that investment in agriculture is the need of the hour and it applies to all developing countries and states.

## **2. Status of Food Grain Production in Odisha**

### **2.1. Production**

Agricultural output is an indicator reflecting availability of food. Since agriculture is dependent on climate, an average of five years’ data of food grain production has been used to take into account the variability of production. Food grains in Odisha consist of cereals and pulses. Crops under cereals are Paddy, Jowar, Bajra, Maize, Ragi, Wheat and Small Millets. However paddy is the dominant cereal in Odisha. Again paddy consists of Khariff paddy, Rabi paddy and Summer paddy. But Khariff paddy is contributing significantly to the overall paddy production in Odisha. Similarly, crops under Pulses are Mung, Biri, Kulthi and other pulses. However, Mung is the dominant pulses in Odisha. There are two major types of agricultural seasons-Kharif and Rabi. Rice is the major crop in kharif season, and pulses and oilseeds are major crops in Rabi season. The production of foodgrain in Odisha is given in Fig. 2.1

Figure 2.1: Growth Rate of Production of Major Food Grains In Odisha



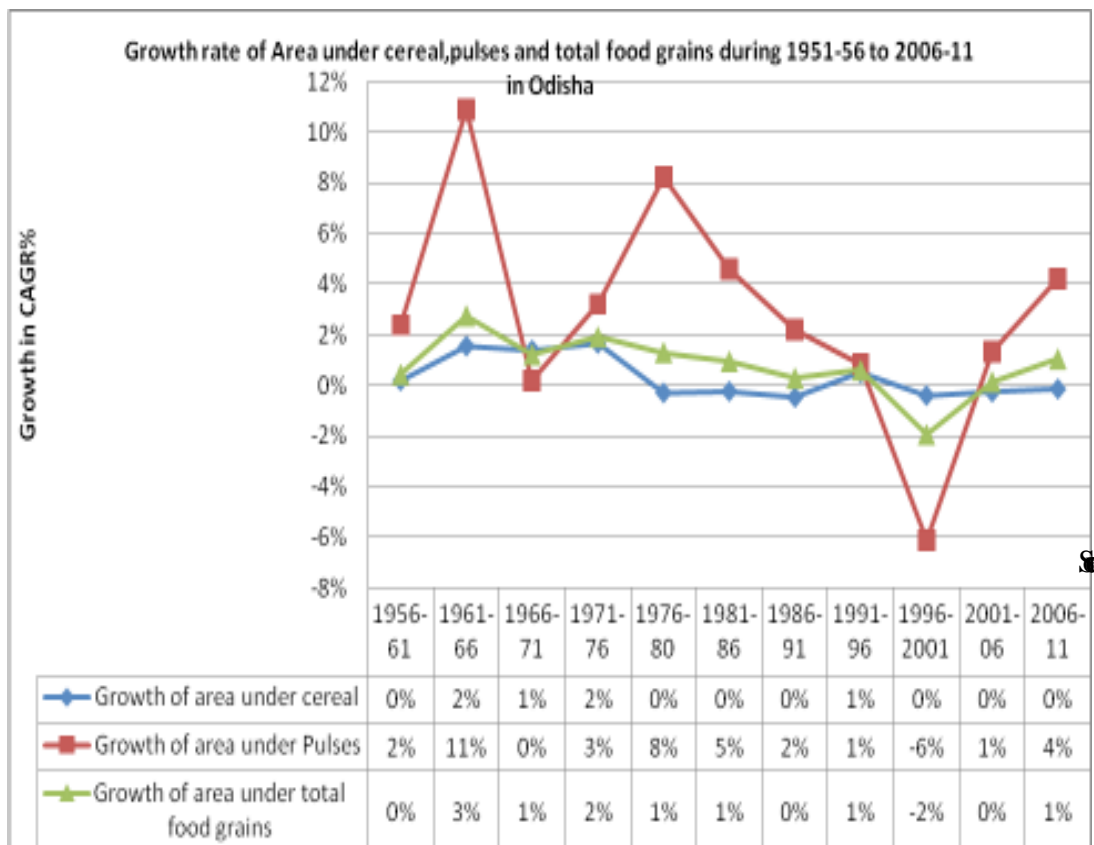
**Source:** *Agricultural Statistics 2011-12, Government of Odisha*

The trend of production of cereal and total food grains is almost moving at the same pace. But the growth of pulses is highly volatile. However, during 1996-2001 the growth of cereal, pulses and food grains has been negative due to super cyclone of 1999. It may be noted that pulses are normally cultivated during winter and it suffered a major setback in this period. During 2006-11, the pulses grew at 8 percent and cereal and total food grains grew at 4 percent. It is noteworthy that major flagship programme like RKVY and NFSM were introduced during 2007-08, and the high growth in pulses production might be the result of successful utilization of these schemes.

## 2.2. Area

The area under cultivation of food grains can indicate the priorities of the state for the food security. In Odisha, the area under cereal cultivation has not changed much and it has never been negative. However, the area under pulses grew at 11 percent during 1961-66 and has grown negatively during 1996-2001. This scenario calls for better productivity of the cereals and pulses.

Figure 2.2: Growth Rate of Area under Cereal, Pulses and total food grains in Odisha

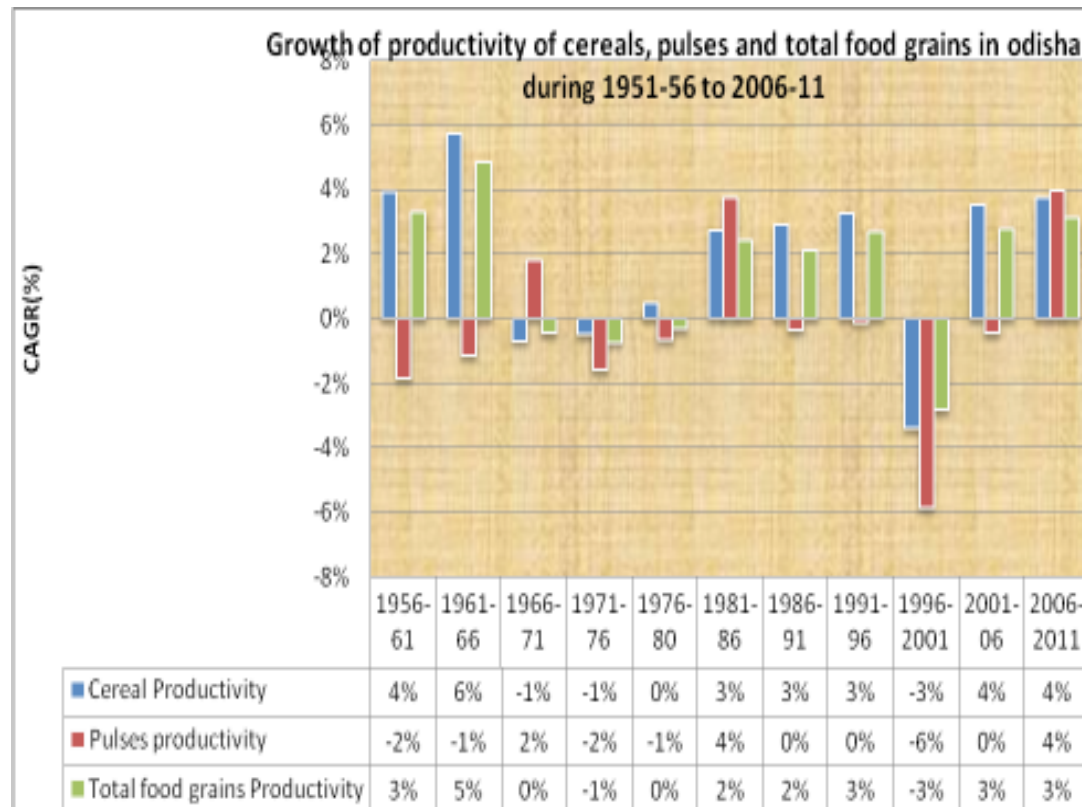


*Agricultural Statistics 2011-12, Government of Odisha*

### 2.3. Productivity

The productivity of cereals almost shaped the productivity of the total food grains in Odisha as cereals are dominant food grains. The growth of pulses productivity was negative during 1956-61, 1961-66, 1976-80, and 1996-2001. During 1996-2001, the negative growth reached a very low of 6 percent. However, during 1981-86 and 2006-11, the productivity of pulses grew at 4 percent. Both cereals and pulses grew negatively during 1996-2001

Figure 2.3: Productivity of cereals, pulses and Total Food Grains in Odisha

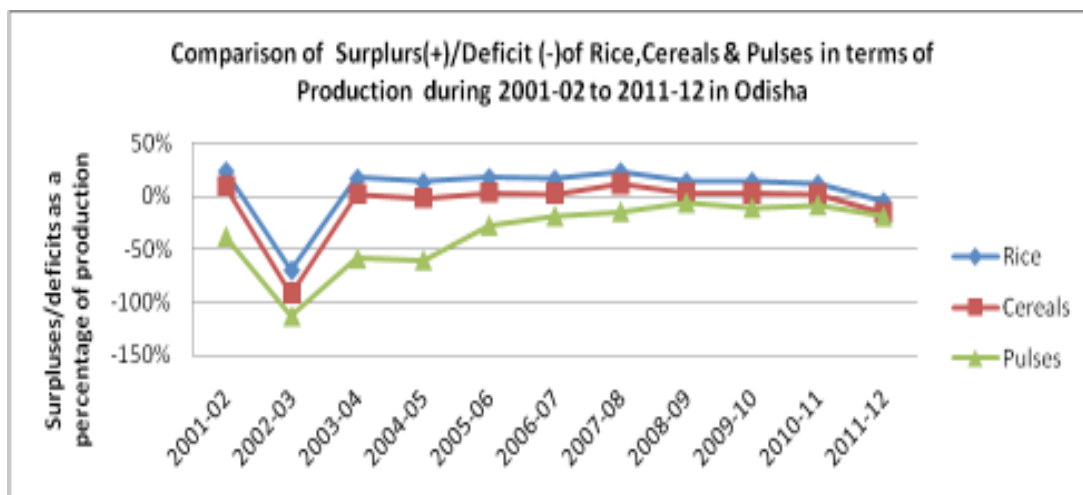


Source: *Agricultural Statistics 2011-12, Government of Odisha*

### 3. Gap between Availability and Consumption of Food Grains in Odisha:

The state has to make sure the availability of food grains for the state's growing population. The gap between availability and consumption requirement at state level can give an idea of the food security. An attempt has been made here to compare the surplus/deficit of rice, cereals and pulses as a percentage of production during the period from: 2001-02 to 2011-12. The data have been collected from the Agricultural Statistics 2011-12 of Government of Odisha.



**Figure 3: Gap between production and Consumption of food Grains in Odisha**

*Source: Agricultural Statistics 2011-12, Government of Odisha*

There was a deficit of 22.68lakh MT of rice and deficit of 33.03lakh MT of cereals in 2002-03. In this year, the deficit as a percentage of production of cereal was 100 percent and for pulses, it was more than 100 percent. Since that year, the gap between the requirement of the food and production of the food grains have been narrowed down. The cereal and pulses production grew consistently and some surplus in cereal is noticed from 2003-04 to 2010-11. However during 2011-12, the state economy failed to produce the required rice and cereals. In this analysis, production includes seed, feed and wastage. The consumption requirement has been calculated by taking 88 percent adult equivalent of the population in a particular year.

#### **4. Food Grains Growth Strategies in Odisha**

There are mainly three ways to meet the increasing demand for food and other farm products. One way is to expand the net area under cultivation, the second is to intensify cropping over the existing area and the third is to raise the productivity of production per hectare. The net sown area of the state has reached a point where it is not possible to make



any appreciable increase. Thus, raising the cropping intensity and raising productivity seem more viable strategies to increase production of farm products and farmers' incomes. Cropping intensity refers to raising a number of crops from the same field during one agriculture year. Higher cropping intensity means more than one crop from the same area in an agricultural year. Cropping intensity is highest in Punjab, followed by West Bengal, Haryana and Himachal Pradesh in the country. The cropping intensity in Odisha has also increased from 135 percent in 2000-01 to 158 percent in 2010-11.

NFSM was launched in 2007-08 with the objective of increasing production of rice and pulses through expansion of area and enhancement of productivity in a sustainable manner in the identified districts. During 2010-11, the NFSM-Rice scheme was implemented in 15 districts and NFSM-Pulses scheme in all 30 districts of the State. Besides, a special scheme, the "Accelerated Pulse Production Programme" is being implemented in five districts, viz., Boudh, Mayurbhanj, Bargarh, Angul and Keonjhar from 2011-12. Besides, nine additional flood affected districts were also covered under this programme by conducting 15,000 ha demonstration of mung crop.

Rashtriya Krishi Vikas Yojana (RKVY) was introduced by Government of India (GoI) in 2007-08 with the objective of achieving four percent growth in agriculture. Various developmental programmes are being implemented in project mode to suit the regional priorities for agriculture and allied sectors. During 2011-12, in addition to normal RKVY, seven new sub-schemes viz., Bringing Green Revolution to Eastern India, 60,000 pulse villages, Nutricereals, Oil palm, Vegetable Clusters, Rainfed Area Development Programme and National Admission for Protein Supplements have been introduced in the State and are being implemented as State plan schemes with 100 percent central assistance. During 2011-12, the major interventions taken up under the scheme included acid soil management, popularisation of cultivation of mustard (toria), livelihood support through up-scaling of pigeon pea, establishment of onion storage structures, construction of vermin compost, vermin hatcheries, construction of Pusa zero energy cool chambers, integrated onion cultivation, integrated disease pest management in mango, improvement of existing cashew plantations and black pepper plantations, and so on.

**Table-4.1: Status of Agricultural Production in Odisha and India**

Sl. No.	Indicator	Reference year	Odisha	India
1	Average operational holding size (ha)	1990-91	1.34	1.57
		2000-01	1.25	-
		2005-06	1.15	-
		2010-11	1.04	-
2	Per capita net area shown (ha)	2004-05	0.15	0.14
		2007-08	0.13	-
		2008-09	0.14	-
		2009-10	0.14	-
		2010-11	0.13	-
		2011-12	0.12	-
		2012-13	0.12	-
3	Per capita food grain production (kg.)	2005-06	190	185
		2007-08	203	-
		2008-09	185	-
		2009-10	187	-
		2010-11	182	200
		2011-12	149	-
4	Yield rate of food grain (kg/ha)	2004-05	1,154	1,562*
		2007-08	903	-
		2009-10	1,393	-
		2010-11	1,432	1921
		2011-12	1,297	-
5	Fertiliser consumption per unit gross-cropped area (kg/ha)	2004-05	43	95.60
		2006-07	47	104.50
		2007-08	52	-
		2008-09	62	128.6
		2009-10	60	135.3
		2010-11	63	-
		2011-12	60	-
		2012-13	59	-

**Land utilization pattern:** Land cannot be expanded endlessly. As multiple demands for land increase, less land is devoted to agriculture and allied sub-sectors. Therefore, intensive cultivation of available cultivable lands, wherever feasible, seems a viable strategy for increasing the gross area under cultivation and augmenting food production. These trends are discernible in Odisha as well.

**Table -4.2: Land Utilisation Pattern in Odisha during 1990-91 to 2012-13**  
(As percentage to total area)

Sl. No.	Land Use Pattern	1990-91	1995-96	2000-01	2005-06	2010-11	2012-13
1.	Forest Area	35.2	36.7	37.3	37.3	37.3	37.3
2.	Misc. Tree & Grooves	5.5	4.6	3.1	3.1	2.2	2.2
3.	Permanent Pastures	4.6	3.3	2.9	2.9	3.2	3.2
4.	Culturable Waste	3.8	2.8	2.5	2.5	2.4	2.4
5.	Land put to non agricultural use	4.8	5.5	6.4	6.4	8.3	8.3
6.	Barren & Uncultivable Land	3.2	3.6	5.4	5.4	5.4	5.4
7.	Current Follow	1.0	1.5	2.8	3.0	5.0	5.5
8.	Other Follow	1.4	2.1	2.2	2.8	1.5	1.5
9.	Net Area Sown	40.5	39.9	37.4	36.6	34.7	34.2

Source: Annual Plan Odisha, Vol.1 (2014-15)

## 5. Public Investment in Agriculture Sector

The Government of Odisha in recent times has come forward with state agricultural policy 2013 to address these challenges. Even the government has taken a new initiative to introduce a separate agriculture budget in the financial year 2013-14. Odisha is the second state after Karnataka in introducing a separate agriculture budget in India. This agriculture budget aggregates the budget heads of five departments like Agriculture, Co-Operation, Water Resources, Fisheries & Animal Resources Development and Energy. In 2015-16, the government has also continued with the tradition of presenting an agriculture budget.

### 5.1 Agriculture Budget in Odisha

It was expected that allocation of resources for the agriculture sector would increase considering the importance of the agriculture budget which started in FY 2013-14. Budget 2015-16 has allocated Rs 10903.62 crore for the agricultural sector and the share of the budget for the agriculture sector in total state budget has increased to 12.91% in 2015-16(BE) from 11.9% in 2014-15(BE). Similarly, share of the agriculture department in total budget for the agriculture sector has been increased marginally to 28.72% in 2015-16(BE) from 28.5% in 2014-15(BE).

**Table-5.1: Percentage Share of Budget going to Agriculture Sector** (Rs.in Crore)

Particular	2013-14(BE)	2014-15(BE)	2015-16(BE)
Total Budget size	60,303	80,139.58	84487.77
Budget for agriculture and allied	7161.84	9542.22	10903.62
% of Agri sector budget in state budget	11.87%	11.9%	12.91%
Budget for agri department	1823.77	2727.99	3131.34
% share of agriculture department in total budget for agriculture sector	25%	28.5%	28.72

Source: Budget 2015-16 and 2014-15, Governemnt of Odisha

However, against this year's(2015-16) increment for the agriculture sector i.e 14.26 pc, there was 33 percent increase in budget allocation for this sector in 2014-15.If we analyse the allocation of resources for the agriculture department with respect to the total state budget we find that the share of budget for the department in total state budget has been reduced to 3.71pc in 015-16(BE) from 3.82pc in 2014-15(RE) and the share of budget for agriculture department with respect to the GSDP has also declined to 0.90 percent in 2015-16(BE) from 0.95 percent in 2014-15(RE).

**Table-5.2: Budget for Agriculture Department in Odisha**

(Rs in Crore)

Year	2009-10	2010-11	2011-12	2012-13	2013-14(AE)	2014-15(RE)	2015-16(BE)
Department budget	784.83	1168.02	1324.95	1560.25	1934.72	2962.74	3131.34
As pc of state budget	2.57	3.24	3.15	3.3	3.45	3.82	3.71
As pc of GSDP	0.48	0.6	0.61	0.62	0.71	0.95	0.90

Source: Demand for Grants for various years, Government of Odisha

### **5.2 Implication of 14<sup>th</sup>. Finance Commission on Central Sponsored Schemes(CSSs) related to Agriculture and allied sector:**

After 14<sup>th</sup> FC recommendation, the centre re-categorized the 66 central sponsored schemes (CSSs) in the following manner;

- Schemes to be fully supported by Union Government which are targeted at reducing poverty, having legal backup and schemes dependent on cess.(category-1)
- Schemes to be run with the changed sharing pattern in which state share will be enhanced(however the total resources will not be affected).(category-2)
- Schemes delinked from the union support (these programmes may hence forth be run by the states from their enhanced resources or they have been subsumed in the FFC award).(category-3).The government abolished the practice of giving normal central assistance which is based on Mukherjee-Gadgil formula.

### **5.3 Impact of Restructuring of CSSs on Odisha Budget for 2015-16:**

Category-1 of the CSSs will have no bearing on the state budget as these will be fully supported by the union government. But the impact of the category-2 and category-3 will significant. At the same time stoppage of NCA will also affect the state financially. So far as agriculture and allied sector is concerned, the implication of the restructuring of the category-2 will be very interesting to estimate. Out of 33 schemes included in category-2, 10 CSSs are related to agriculture and allied. An estimate of the implication of the restructuring of the CSSs related to agriculture and allied has been made to examine the implication of the change in sharing pattern on Odisha budget in 2015-16. The estimate is based on the assumption that sharing of the total 33 CSSs (in which 10 schemes related to agriculture and allied included) will be reduced from the existing share to 50:50 between the centre and states. The estimate made in the document is only indicative as the central government is still altering the financing pattern and a final shape is yet to be known. as the Odisha state has to manage a additional of Rs. 613.90 crore if it has to manage various agriculture and allied activities.

## **6 Conclusion**

Agriculture has a pivotal role to ensure a sustainable food and nutritional security in Odisha. The contribution of agriculture in Gross State Domestic Product (GSDP) of the state has been declining from 70 percent in 1950s to 15.4 percent in 2014-15. However, the dependence on agriculture has not declined. Still more than sixty percent population is dependent on this sector directly or indirectly for their sustenance.

Production of food grains holds significance for the food availability as well as for people's health and nutrition. Accordingly, researchers are emphasizing investment in agriculture. This sector has been facing several challenges like low investment, low return, low availability of institutional credit, inadequate irrigation facility, small landholding, rising cost of inputs, recurrence of natural calamities like drought, flood and cyclone and other problems such as insufficient return from their produce due to inadequate post-harvest facilities like warehousing, storage, processing, marketing and effective insurance cover against crop loss. Similarly, low seed replacement rate (SRR), inadequate extension and farmers' training are also systemic weaknesses. Besides these, universal and timely access to institutional credit and insurance facilities for all crops to farmers belonging to all the farming categories (i.e. tenant farmers, share croppers and farmers under oral lessee including the small and marginal farmers and women farmers) are also essential.

The Government of Odisha has introduced an agriculture budget from 2013-14. But the recent recommendation of the 14th finance commission and restructuring of the central sponsored programmes like RKVY/NFSM by the Union Government will significantly affect the resource capacity of the state, because programmes like RKVY which was till now financed 100 percent by the central government will be expected to be financed equally by centre and state. In the last three months, farmers from Odisha have committed suicides and the number is expected to increase in future. This brings to the fore the fact that everything is not well in agriculture in Odisha. Some researchers are of the opinion that these suicides are the result of the inability to repay of loans borrowed from non-institutional agencies after the huge crop loss across the state. At this juncture, the decisions of the Central Government to restructure the agriculture flagship programmes will severely affect the capacity of the state government to invest in the agriculture sector for ensuring food security in the state.

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## Volatility Impact of Derivatives Trading on NSE Spot Market: A Study on pre-and post-Derivatives Era

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### ABSTRACT

*The purpose of the study is to empirically examine the volatility impact of derivatives trading in Indian equity market, especially using the closing prices of Nifty index of the NSE Ltd. The study also empirically evaluates the volatility impact in case of some selected individual stocks (HDFC, TATA Steel, L&T, ONGC, ACC and INFOSYS) representing various sectors. The study covers the period from January 1997 to December 2014. The nature of volatility over time is investigated by using GARCH(1, 1) model. The findings of the study suggest that in case of Nifty, the volatility is declining after the introduction of futures trading. However, the same is not statistically significant. Also, there is an interesting evidence of considerable increase in unconditional volatility in post-futures period in case of Nifty. In case of the individual stocks, the findings are quite mixed in nature. The introduction of derivatives trading has led to an increase in volatility in the underlying cash market of HDFC, TATA Steel, L&T and ONGC, whereas, for ACC and INFOSYS the result shows reducing volatility in the underlying cash market in post-derivatives period. JEL Classification: G10; C580 Key words: Derivatives; Futures; Volatility; Time Series*

### I. INTRODUCTION

The need to create some kind of financial instruments that will allow investors to hedge and thus to be secured from price fluctuations has given birth to concepts of derivatives. Derivatives permit investors to customize their exposure to the market either through hedging or speculation. The relationship between stock index futures and spot market has got an important place in the public policy arena (Chang *et al.*, 1999).

To reduce the risk and to improve the depth of financial markets, financial derivatives have received a lot of attention worldwide over the years and more so, in the developing countries



like that of India in the recent period. Derivatives today account for the largest amount of business on most major stock exchanges in the world. In India, the introduction of derivative instruments in a phased manner starting from June 2000 in NSE and BSE is one such important step to achieve greater stabilization in markets and to introduce sophisticated risk management tools. Derivatives marked with the ability to partially or fully transfer the risk by locking in asset prices are gaining popularity among the investors in India. Due to the backdrop of the financial crisis, fraud cases and the near failure of some market participants, the derivatives market has attracted more attention among the investors.

The total turnover of equity derivatives in NSE on the F&O segment was 5,56,06,453 crore during 2014-2015 which has increased substantially from 2365 crore during 2001-2001. The average daily turnover was 2,28,833 crore during the same period also witnessed an considerable increase from 11 crore in 2000-2001.

The impact of introduction of derivative products on the underlying stock market volatility received major attention all over the world. Some researchers claim that volatility<sup>1</sup> in the cash market increases after the introduction of derivatives trading due to increased speculative activities. Thus futures trading were blamed by some for the stock market crash of 1987 in the USA. But in 1995 Antoniou and Holmes suggested that trading in futures is generally expected to reduce the volatility in spot market since speculators are expected to migrate to futures market. The concern over how derivative trading affects the spot market has been an interesting subject for investors, academicians, regulators and exchanges in all over the world. Thus the debate on the impact of derivatives trading on stock market volatility cannot be resolved wholly on a theoretical level and so should be analysed by empirical investigation (Baumol, 1957).

Against this background, this paper tries to examine whether the Indian stock markets (in this case NSE and some selected stocks of NSE) show some significant change in the volatility after the introduction of futures trading. Including the introductory section I, this paper has been divided into five sections. Section II briefly outlines the important studies conducted relating to this particular area. Background about the methodologies used, definitions of variables used and data sources for conducting the empirical tests with the spatial coverage are given in the Section III. Section IV contains the analysis and findings of the empirical analyses. Concluding observations with major findings of the study is covered in Section V.

## II. FUTURES TRADING AND SPOT MARKET VOLATILITY: SOME THEORITICAL STUDIES AND EMPIRICAL EVIDENCES

Previous studies on impact of derivatives trading on stock market volatility document mixed evidences (increase / decrease in volatility). Some of the notable contributions of different researchers are cited below. According to Stein (1987), futures market improves risk sharing and therefore reduces price volatility and if the speculators observe a noisy but informative signal, the hedgers react to the noise in the speculative trades producing an increase in volatility. Danthine (1978) argues that the futures markets improve market depth and reduce volatility because the cost to informed traders of responding to mispricing is reduced. Bessembinder and Seguin (1992), Kumar et al. (1995), Antoniou et al. (1998), Homes and Priestley (1998), and Gulen and Mayhew (2000) found results supporting this proposition. Ross (1989) assume that in case of no arbitrage condition, if futures increase the flow of information then there will be increase in the volatility of the spot prices. Overall, the theoretical works on futures listing effects offer no consensus on the size and the direction of the change in volatility. Thus empirical literature must be reviewed on evidence relating to the volatility effects of listing index futures.

Matanovic and Wagner (2012) conducted a study on volatility impact of DAX futures trading using GARCH model. The sample data sample covers daily closing prices of the DAX and CDAX stock indices for the period January 1, 1970 to May 1, 2009. The findings confirm a volatility-reducing impact of DAX futures trading, whereas the observed deterioration of the fundamental price building process related to futures trading proved to be statistically insignificant.

Gahlot *et al.* (2010) conducted a study on impact of derivatives trading on stock market volatility using closing prices in case of S&P CNX Nifty as well as five derivative stocks (BHEL, BPCL, Glaxo, M&M & ONGC) and five non derivative stocks (Hindustan Motors Ltd., Reliance Capital Ltd, Rolta, Titan & Voltas) covering a period from April 2007 – March 2005 using GARCH analysis. The results of their findings suggest that the volatility in the S&P CNX Nifty has declined after the introduction of S&P CNX Nifty future. On the other hand, out of 10 individual stocks except BPCL, Glaxo & Rolta all other 7 stocks show increase in volatility after the introduction of futures.

Saravanan and Deo (2010) in their study on impact of futures and options trading on underlying spot market volatility in India used the closing prices of S&P CNX Nifty Index and Nifty Junior Index found that the volatility of spot market has declined after the futures and options trading. The study used GARCH analysis covering a period from January 1996 – March 2007.

Debashis (2009) did a study on effects of futures trading on spot price volatility for NSE Nifty using the dynamic linear regression model, and the GARCH models covering a period from April 1997 to April 2007. His findings suggests no structural change after the introduction of futures trading on Nifty. However whilst the pre-futures sample was integrated, the post-futures sample was stationary and spot returns volatility is found to be less important in explaining spot returns after the advent of futures trading in NSE Nifty.

Mallikarjunappa and Afsal (2008) used GARCH model to study the implication of the introduction of derivative trading on spot market volatility for S&P CNX Nifty and CNX Bank Nifty. In case of CNX Nifty they concluded that price sensitivity to old news is higher during pre-future period than post future period and with introduction of futures, market volatility is determined by recent innovation. However for CNX Bank Nifty there is no impact of future trading on spot market volatility. But, the impact of new news increased and persistence effect of old news decreased in post future period.

Sakthivel and Kamaiah (2009) investigates the relationship between stock market volatility and trading activity (trading volume and open interest) in the Nifty futures market using daily closing price, trading volume, and open interest for Nifty index futures for the period July 2000 to February 2008. The study introduces futures trading variables such as expected and unexpected futures volume and open interest in GARCH and GJR GARCH models to examine their effects on spot market volatility. The study finds that spot market volatility bears a positive relationship with unexpected trading volume and open interest and a negative relationship with expected futures trading volume and open interest in Nifty futures market.

Shenbagaraman (2003) examined the impact of introduction of NSE Nifty index futures on Nifty index using GARCH techniques over the period from October 1995 to December 2002. She concluded that futures trading has not lead to a change in the volatility of the underlying stock index but the structure of volatility seems to have changed in post-futures period.

Pericli and Koutmos (1997) applied EGARCH model to examine the impact of index futures and options contract on the volatility of spot market in case of S&P 500 index using sample period extending from 1953 to 1994. Their findings suggest that with the introduction of currency and interest rate future contracts and the introduction of individual stock options, the unconditional variance of daily index stock returns rose significantly. However, the conditional variance of daily returns became less sensitive to innovations and more predictable.

### III. DATA DESCRIPTION, DATA SOURCES AND RESEARCH METHODOLOGY

#### *III. a. Sources of Data and Definition of Variables*

This study has used secondary data collected from website of the NSE Ltd., India. The data for this paper covers a period from 1<sup>st</sup> January 1997 to 31<sup>st</sup> December 2014. Along with S&P CNX Nifty index, six individual stocks (HDFC, TATA Steel, L&T, ONGC, ACC and INFOSYS) representing different sectors of the economy are selected. The daily closing price data are taken for the econometric estimations.

The entire period of the study is being divided into two parts for the respective index and stocks.

*For CNX Nifty Index:*

Pre future period *i.e.*, 01-01-1997 to 11-06-2000

Post future period *i.e.*, 12-06-2000 to 31-12-2014

*For Individual Stocks:*

Pre future period *i.e.*, 01-01-1997 to 08-11-2001

Post future period *i.e.*, 09-11-2001 to 31-12-2014

The futures trading for index and individual stocks initiated on 12<sup>th</sup> June 2000 and 9<sup>th</sup> November 2001, respectively.

All return series in the entire study have been calculated as the difference of the log of daily closing index or the stock price as per the case.

#### *III. b. Methodology*

This study has used the Augmented Dickey Fuller test to verify the stationarity properties of each data set. Then the General Autoregressive Conditional Heteroscedastic - GARCH (1,1) model is being used to measure the volatility during the per- and post- introduction of derivatives trading in NSE.

##### *Augmented Dickey-Fuller (ADF) Test*

Before conducting any econometric test, the stationarity<sup>2</sup> properties of the variables need to be checked through unit root test. Most commonly used method of checking the stationarity properties of the variables is Augmented Dickey-Fuller (ADF) Test.

The testing for unit root in the time series was pioneered by Dickey and Fuller (Fuller, 1976; Dickey and Fuller, 1979). The objective behind the test was to examine whether there is a

unit root in the time series data through the following random walk model without drift assuming the null hypothesis that  $x = 1$ .

$$y_t = x_t y_{t-1} + u_t \quad \text{-----}$$

(Equ 1)

Whereas,  $y_t$  is the variable under consideration and  $u_t$  is the error term.

However, the following regression is used for the sake of ease of computation and interpretation

$$y_t = \phi y_{t-1} + u_t \quad \text{-----}$$

(Equ 2)

Where,  $\phi = x - 1$ .

The above-mentioned test is valid only in case of the assumption that the  $u_t$  is not auto-correlated. However, there could be auto-correlation in the dependant variable of the above-mentioned equation (Eq. 2) which has not been taken in to consideration. Further, the auto-correlation in the dependant variable will increase the size of the test (the proportion of times a correct null hypothesis is incorrectly rejected) which could be higher than the nominal size used (e.g., 5%) to reject the null hypothesis. To resolve this problem, Dickey-Fuller developed another test known as Augmented Dickey-Fuller (ADF) test using  $p$  lags of the dependent variable.

$$\Delta y_t = \psi y_t - 1 + \sum_{i=1}^p \alpha_i \Delta y_{t-i} + u_t \quad \text{-----}$$

(Equ.3)

The lags of  $\Delta y_t$  now will absorb any dynamic structure present in the dependent variable, to ensure that  $u_t$  is not autocorrelated.

### **GARCH model**

The most popular non-linear time series financial models used for modelling and forecasting volatility are the ARCH or GARCH models. In econometrics, Autoregressive Conditional Heteroscedasticity (ARCH) models are used to characterize and model observed time series. They are used whenever at any point in a series, the error terms will have a characteristic size or variance. In particular ARCH models assume the variance of the current error term or innovation to be a function of the actual sizes of the previous time periods' error terms: often the variance is related to the squares of the previous innovations. ARCH(q) model has the limitations that it lacks proper method to decide on the number of lags(q) of the squared residual. Also the value of q required to capture all of the dependence in the conditional

variance, might be very large which would result in a large conditional variance model. Everything else equal, there will also be violations of non-negativity constraints if more parameters are included in the conditional variance equation. GARCH (p,q) model overcomes some of the limitations of ARCH (q) model where p represents number of lags of the conditional variance. Apart from this the volatility clustering and asymmetric effect in the return series are best captured by GARCH model.

Bollerslev and Taylor (1986) developed the GARCH model which allows the conditional variance to be dependent upon previous own lags. In a GARCH (1,1) model the conditional variance equation can be represented as follows:

$$\sigma_t^2 = \hat{\alpha}_0 + \hat{\alpha}_1 \hat{\alpha}_{t-1}^2 + \hat{\alpha}_2 \sigma_{t-1}^2 \quad \text{---(Equ.4)}$$

Where,  $\sigma_t^2$  is the conditional variance,  $(\hat{\alpha}_1 \hat{\alpha}_{t-1}^2)$  is information about volatility during the previous period, and  $(\hat{\alpha}_2 \sigma_{t-1}^2)$  is the fitted variance from the model during the previous period.

The unconditional variance  $\hat{\alpha}_0$  is calculated as follows:

$$\text{var}(\hat{\alpha}_0) = \frac{\beta_0}{1 - (\beta_1 + \beta_2)} \quad \text{---(Equ.5)}$$

$$\text{when } \hat{\alpha}_1 + \hat{\alpha}_2 < 1$$

The effect of any shock in volatility dies out at a rate of  $1 - (\hat{\alpha}_1 + \hat{\alpha}_2)$ . If  $(\hat{\alpha}_1 + \hat{\alpha}_2) \geq 1$  the effect of shock will never die out. Conditional volatility can be represented as sum of ARCH and GARCH coefficients *i.e.*,  $(\hat{\alpha}_1 + \hat{\alpha}_2)$ . Any significant decrease in the conditional or unconditional variance in post futures period means the spot market has stabilized after the introduction of derivatives trading and vice versa.

Dummy variable is used in the study to find out the impact of futures trading on volatility of spot market, which is '0' before the introduction of future and '1' after the introduction of future.

The conditional variance equation using dummy variable is mentioned below.

$$\sigma_t^2 = \hat{\alpha}_0 + \hat{\alpha}_1 \hat{\alpha}_{t-1}^2 + \hat{\alpha}_2 \sigma_{t-1}^2 + \tilde{\alpha} D_{\text{futures}} \quad \text{---(Equ.6)}$$

when  $\tilde{\alpha}$  is significant and positive, then futures trading is expected to increase the spot market volatility and, if  $\tilde{\alpha}$  is significant and negative, then futures trading has stabilizing effect on the underlying market.

#### IV. ANALYSIS OF EMPIRICAL RESULTS

##### IV. a. Unit Root Test

Before conducting any econometric analysis, first we try to analyse the stationary properties of the data / variables. The Unit Root Test results in the form of ADF reveals that all the variables relating to both pre-future and post-future period under consideration are I(1), meaning that variables are stationary at their first differences (Table 1).

**Table 1: Unit Root Test Results**

Index and stocks	ADF test ----- First Difference (t-statistics)				
	Variable Pre-future period	Variable Post-future period	Critical Values		
			1%	5%	10%
CNX Nifty	-28.763	-42.9587	-3.4354	-2.8637	-2.5680
HDFC	-39.5114	-42.4927	-3.4354	-2.8637	-2.5680
TATA Steel	-33.8599	-54.421	-3.4354	-2.8637	-2.5680
L&T	-45.8863	-53.6615	-3.4354	-2.8637	-2.5680
ONGC	-36.5203	-55.0649	-3.4354	-2.8637	-2.5680
ACC	-25.2404	-41.6725	-3.4354	-2.8637	-2.5680
INFOSYS	-34.8963	-62.8543	-3.4354	-2.8637	-2.5680
Note: $H_0$ : The series under consideration has a unit root (Calculated value < Critical value) $H_1$ : The series under consideration is stationary (Calculated value > Critical value)					

Note:  $H_0$ : The series under consideration has a unit root (Calculated value < Critical value)  
 $H_1$ : The series under consideration is stationary (Calculated value > Critical value)

##### IV.b. Descriptive Statistics

Table 2 and Table 3 show the descriptive statistic of returns of S&P CNX Nifty and individual stocks for pre derivatives & post derivatives period. Basic statistics used in the study include the mean, median, maximum, minimum standard deviation, skewness, kurtosis and Jarque-Bera normality test. The mean value of index and all stocks except IFOSYS in post future period is increased. Comparing the standard deviations of Nifty index and ACC stock in



both pre derivatives and post derivatives period, it is observed that the variability in daily return series is more in pre derivatives period than that in post derivatives period. In all other five stocks such as HDFC, TATA Steel, L&T, ONGC and INFOSYS there is increase in volatility in post derivatives period. Several market wide factors such as economic policy, growth forecast, exchange rates, inflation rates *etc.*, or market wide volatility may affect the change in volatility in pre futures and post futures period. To avoid this problem a dummy variable is considered in the GARCH (1,1) model. In pre derivatives period only for CNX Nifty and TATA steel deviations of the dataset from the mean are going to be positive but for all other five stocks (HDFC, L&T, ONGC, ACC and INFOSYS) it is negative. However HDFC, ACC and INFOSYS show the chances of very large deviations from the mean. Whereas in case of post derivatives period except HDFC, all other stocks and the index are negatively skewed. Also ONGC and ACC show large deviations from the mean. The CNX Nifty and all the stocks show the tendency of leptokurtosis means the return series returns have distributions that exhibit fat tails and excess peakedness at the mean. The probability of the JB statistic is highly significant and hence, we reject the null hypothesis that the data are from a normal distribution.

**Table 2: Descriptive Statistics for Pre-Future Period**

Index/Stocks	MEAN	MEDIAN	MAX	MIN	STD. DEV	SKEWNESS	KURTOSIS	JARQUE-BERA
CNX NIFTY	0.0005	0.0006	0.0993	-0.0884	0.0189	0.007	6.0414	330 (0.000)
HDFC	-0.0009	-0.0007	0.1523	-2.2495	0.0695	-24.521	794.5089	3626607 6 (0.000)
TATA STEEL	-0.0006	-0.0018	0.1139	-0.1724	0.0304	0.0091	4.5663	124 0.0001
L&T	0.0001	-0.0008	0.1068	-0.1542	0.0292	-0.121	5.0281	304 0.0000
ONGC	0.0002	0.0000	0.0954	-0.1170	0.0310	-0.0523	4.0261	57 0.0000
ACC	-0.0012	-0.0013	0.0653	-1.1972	0.0853	-25.567	398.40	5467832 0.0000
INFOSYS	0.0023	0.0054	0.0963	-0.1387	0.0356	-13.4963	98.45	98548 0.0002



**Table 3 : Descriptive Statistics for Post-Future Period**

Index/Stocks	MEAN	MEDIAN	MAX	MIN	STD. DEV	SKEWNESS	KURTOSIS	JARQUE-BERA
CNX NIFTY	0.0006	0.0011	0.1633	0.1305	0.0154	-0.2870	11.6822	11426 0.0000
HDFC	0.0001	0.0002	2.8181	-2.8127	1.1227	0.0004	2.9888	0.021 0.9896
TATA STEEL	0.0005	0.001	0.1570	-0.4521	0.0494	-1.3288	22.582	53371 0.0000
L&T	0.0006	0.0005	0.2368	-0.718	0.0305	-8.056	192.113	4887165 0.0000
ONGC	0.0003	0.0002	0.1824	-1.4434	0.0347	-22.2163	917.0184	1.14E+08 0.0000
ACC	0.0004	0.0018	0.0674	-0.1386	0.0295	-2.5456	29.8137	74539 0.0001
INFOSYS	0.0019	0.0016	0.2648	-0.2952	0.0463	-19.7863	748.9863	1235689 0.0000

**IV.c. GARCH Analysis**

The impact of futures trading on spot market volatility is analysed by GARCH (1,1) model where ARCH coefficients show the effect of recent news on the market and GARCH coefficients show the effect of old news on the market. The results of conditional variance equation of ARCH (1) process in Table 4 and Table 5 reveal that ARCH coefficients of the index and the underlying stocks are significant for both pre derivatives and post derivatives period. The conditional variance equation of GARCH (1,1) from table 4 and table 5 show that for NIFTY index ARCH  $\hat{\alpha}_1$  is 0.0718 in pre-futures period and 0.1232 in post-futures period which means there is an increase in the impact of the 'present news' on spot market volatility in the post-futures regime. Similarly the GARCH coefficient  $\hat{\alpha}_2$  of NIFTY index is declined from 0.9280 in pre derivatives period to 0.8678 in post-derivatives period. This indicates that the effect of 'old news' on determining volatility has been decreased in the post futures period. For individual stocks, (HDFC, L&T and INFOSYS) there is an increase in ARCH coefficients and for (TATA Steel, ONGC & ACC) there is decrease in ARCH coefficient in post futures period. However except L&T and INFOSYS all other individual stocks show increase in GARCH coefficients in the post futures period.

The study further finds that the sum of the coefficients on the lagged squared error and lagged conditional variance (table 7) is very close to unity in case of CNX Nifty, TATA Steel, HDFC and ONGC in post futures period implying that shocks to the conditional variance will be

highly persistent. Except ACC, INFOSYS and the Nifty index, other four stocks (HDFC, TATA Steel, L&T and ONGC) show increase in both conditional and unconditional volatility after the introduction of futures trading in India (table 7). However though there is decrease in conditional volatility of Nifty, it shows contradictory pattern of increase in unconditional volatility in post future period. Again using dummy variable (Table 8) in the conditional variance equation it can be interpreted that a significant positive (negative) coefficient is an indication of increase (decrease) in the volatility as a result of introduction of derivatives. For CNX Nifty, the coefficient of dummy variable is - 0.0006 which indicates that introduction of future trading decreases the volatility, but it has negligible impact. The coefficient of dummy variable is positive for all individual stocks except ACC and INFOSYS meaning HDFC, TATA Steel, L&T and ONGC show increase in volatility in post futures period. However, in case of ACC and INFOSYS the introduction of futures trading has a stabilising effect on the underlying spot market.

**Table 4: Estimates of ARCH (1) and GARCH (1, 1) in Pre- Derivatives period**

Index and stocks	Conditional Variance Equation ARCH(1) $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2$		Conditional Variance Equation GARCH(1,1) $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2 + \beta_2 \sigma_{t-1}^2$		
	$\beta_0$	AR(1) $\beta_1$	$\beta_0$	$\beta_1$	$\beta_2$
CNX Nifty	0.0003	0.0846	0.0000	0.0718	0.9280
	(22.9139)	(3.0110)	(3.8962)	(5.0833)	(24.1226)
HDFC	0.0033	0.0492	0.0031	-0.0015	0.5976
	(345.9827)	(1.8666)	(1.8761)	(-21.5673)	(1.3013)
TATA Steel	0.0006	0.1561	0.0002	0.1495	0.6806
	(19.6196)	(4.5505)	(4.5278)	(5.8909)	(12.0524)
L&T	0.0006	0.1297	0.0002	0.1479	0.6649
	(27.6983)	(5.2229)	(5.8084)	(7.6443)	(14.2048)
ONGC	0.0005	0.3124	0.0001	0.1946	0.6839
	(20.1204)	(6.5729)	(5.6860)	(6.6181)	(17.4512)
ACC	0.0007	0.8357	0.0001	0.1394	0.4485
	(18.2139)	(5.4729)	(4.3920)	(7.3189)	(20.6648)
INFOSYS	0.0015	0.8338	0.0012	0.2362	0.6723
	(10.4536)	(3.8976)	(3.2190)	(4.6784)	(15.9874)

**Table 5: Estimates of ARCH (1) and GARCH (1, 1) in Post - Derivatives period**

Index and stocks	Conditional Variance Equation ARCH(1) $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2$		Conditional Variance Equation GARCH(1,1) $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2 + \beta_2 \sigma_{t-1}^2$		
	$\beta_0$	AR(1) $\beta_1$	$\beta_0$	$\beta_1$	$\beta_2$
CNX Nifty	0.0001	0.3385	0.0003	0.1232	0.8678
	(36.5836)	(22.7622)	(8.3997)	(15.5145)	(100.2378)
HDFC	0.0093	0.4617	0.0001	0.0453	0.9532
	(40.4441)	(3.0260)	(4.5441)	(13.9597)	(93.5445)
TATA Steel	0.0005	0.1944	0.0002	0.0453	0.9533
	(139.3889)	(10.3961)	(4.5441)	(13.9597)	(193.5445)
L&T	0.0006	0.3833	0.0003	0.4879	0.3769
	(98.7523)	(11.6167)	(16.8452)	(17.3992)	(10.5023)
ONGC	0.0009	0.0547	0.0001	-0.0003	0.9902
	(120.8884)	(5.0230)	(18.0393)	(-3.9100)	(102.502)
ACC	0.0008	0.0867	0.0001	-0.5437	0.9854
	(234.4432)	(89.0965)	(34.0210)	(12.9870)	(98.5345)
INFOSYS	0.0007	0.0345	0.0011	0.2381	0.4523
	(32.1231)	(1.4563)	(78.9854)	(34.6758)	(122.7654)

**Table 6 : Conditional and Unconditional Variance of Spot Market –Pre- Future Period**

Index and Stocks	$\beta_0$	ARCH $\beta_1$	GARCH $\beta_2$	CONDITIONAL VARIANCE	UNCONDITIONAL VARIANCE
CNX Nifty	0.0000	0.0718	0.9280	0.9998	0.0000
HDFC	0.0031	-0.0015	0.5976	0.5961	0.0077
TATA Steel	0.0002	0.1495	0.6806	0.8301	0.0012
L&T	0.0002	0.1479	0.6649	0.8128	0.0011
ONGC	0.0001	0.1946	0.6839	0.8785	0.0008
ACC	0.0001	0.1394	0.4485	0.5879	0.0002
INFOSYS	0.0012	0.2362	0.6732	0.9094	0.0132

**Table 7: Conditional and Unconditional Variance of Spot Market –Post- Future Period**

Index and Stocks	$\beta_0$	ARCH $\beta_1$	GARCH $\beta_2$	CONDITIONAL VARIANCE	UNCONDITIONAL VARIANCE
CNX Nifty	0.0003	0.1232	0.8678	0.991	0.0333
HDFC	0.0001	0.0453	0.9532	0.9985	0.0666
TATA Steel	0.0002	0.0453	0.9533	0.9986	0.1428
L&T	0.0003	0.4879	0.3769	0.8648	0.0022
ONGC	0.0001	-0.0003	0.9902	0.9899	0.0099
ACC	0.0001	-0.5437	0.9854	0.4417	0.0002
INFOSYS	0.0011	0.2381	0.4523	0.6904	0.0036

**Table 8: Impact of Futures Trading On Volatility of Underlying Spot Market Using Dummy Variable**

Conditional Variance Equation $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2 + \beta_2 \sigma_{t-1}^2 + \gamma D_{\text{futures}}$				
Index and stocks	Constant( $\beta_0$ )	ARCH( $\beta_1$ )	GARCH( $\beta_2$ )	Dummy $\gamma$
CNX Nifty	0.0000	0.1150	0.8735	-0.0006
	(9.1388)	(19.2854)	(156.0871)	(1.1757)
HDFC	0.0040	0.7017	0.1995	0.0046
	(20.3499)	(4.8458)	(5.1367)	(3.4362)
TATA Steel	0.0000	0.0448	0.9511	0.0007
	(6.1630)	(16.9778)	(257.8176)	(0.7749)
L&T	0.0003	0.2840	0.5060	0.0023
	(14.0781)	(22.5539)	(16.1541)	(2.8049)
ONGC	-0.0000	-0.0005	1.0007	0.0031
	-(0.8663)	-(54.9245)	(103.09)	(5.1280)
ACC	0.0001	0.2421	0.4385	-0.0002
	(0.6423)	(1.3021)	(21.6709)	-(0.8745)
INFOSYS	0.0004	0.0038	0.7924	-0.0001
	(4.8034)	(3.6549)	(86.6211)	-(4.627)

## I. CONCLUSION

The impact of derivatives trading on the volatility of the underlying cash market is a matter of high significance as stock market volatility can have wide repercussions on the economy as a whole in general and financial market in particular. Keeping in view that very few studies have been carried out to analyse the impact of derivatives trading on stock market volatility in India, this study makes an attempt to further widen the research in the said area in Indian context. This article uses GARCH(1,1) model to examine the effect of introduction of futures trading on the volatility of underlying Nifty index and some of the select individual stocks (HDFC, TATA Steel, L&T, ONGC, ACC and INFOSYS) representing different sectors of the economy. The results show that the underlying cash market of Nifty index has been stabilized after the introduction of futures trading which is attributable to absence of volatility persistence in post-futures period. However, the conditional volatility decreased and unconditional volatility of Nifty index increased after the introduction of derivatives trading. The finding that there is decrease in volatility in post futures period in case of Nifty is supported

by earlier studies in India such as (Thomas and Thenmozai, 2003; Vipul, 2006; Mallikarjunappa and Afsal 2008; Saravanan and Deo, 2010 *etc.*). Moreover, individual stocks show mixed results in this study. Where HDFC, TATA Steel, L&T, ONGC show increase in volatility after the introduction of futures trading, there is a volatility diminishing impact of futures trading in case of ACC and INFOSYS.

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## **“PACS as SBU” for Paddy Marketing in Odisha- *A case study***

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### **ABSTRACT**

The increasing cost of agricultural inputs by quantum jumps has been making agriculture a losing proposition. The productivity and profitability of crop production has been dwindling in real terms. In view of this, it is necessary to ensure the accessibility and availability of the critical inputs such as formal agricultural credit, use of modern technology and efficient process of marketing through effective marketing channels not only for improving agricultural productivity but also for minimizing the problem of indebtedness. The marketing channels have been changing, and marketing of paddy through Primary agricultural Cooperative Society (henceforth PACS) is supposed to give favourable incentives to the farmers. Against this backdrop, an attempt has been made in this paper to analyze the impact of formal sector agricultural credit (short term credit *i.e* crops loan) on the farm productivity and to assess the impact of paddy marketing through PACS across the farm sizes and villages under study. It is observed that there exists a positive impact of formal agricultural credit on the agricultural productivity and the share of PACS/cooperative bank as a source of institutional credit in rural credit market in providing the short-term credit (*i.e* crop loan) is found higher compared to other sources. However, despite many efforts and policies of the Govt., there exists ‘credit deficit’ as observed across the farms and villages under study. The marketing channels have been changing, and the marketing of paddy through PACS has started to provide favourable incentives to the famers, but still the inter-locking (output linked credit market) marketing for paddy is found active in the areas under study besides other constraints. Thus, the PACS may be redesigned as Strategic Business Units (henceforth SBUs) to create a viable and sustainable environment for PACS as well as for farmers. These initiatives may be viewed as “Make in India” efforts through the cooperative venture in Indian context.

### **Introduction**

The Indian economy is still globally recognized as an agrarian economy as more than 60% of its work force depends on agricultural sector coupled with around 25% contribution of this sector to the GDP of the country. The growth of this sector in terms of production and productivity is highly required for the growth of its inter linked sector, *i.e* industrial sector in



particular and the entire economy in general. Accordingly proper emphasis has been given to agricultural sector during all plan period. On an average about 13% of the total plan outlay is allocated for this sector. The green revolution in India has accelerated the productivity of agricultural sector in terms of use of HYV seeds, fertilizer, resource allocation, cropping pattern and intensity etc. But despite the impressive performance of agricultural sector, the annual growth in the food grain production during post-green revolution period was 2.62 per cent which is a little above the rate of population growth. The 12<sup>th</sup> planning commission has proposed for doubling agricultural growth to pave the way for double digit economic growth by the end of the plan period. India occupies a prominent place in the world in terms of production of agricultural product, but in terms of productivity, the country is ranked for less than the world average productivity. The low productivity may be attributed to many factors such as the inefficient resource management, lack of education and knowledge, inadequate dissemination of appropriate technology, slow rate of capital formation, inadequate supply finance, **ineffective marketing**, inadequate irrigation and other infrastructural facilities etc. In a precise way four deficits that needed to be bridged to enhance productivity and output. “The four deficits are public investment and credit deficit, the infrastructure deficit, the market economy deficit and the knowledge deficit”. The commitment of the government to provide farmers access to adequate and affordable credit as well as efficient and effective marketing facilities are the highlighting fact in this regard.

Thus, it can be said that all stake-holders starting from the micro unit (i.e. farmer) to the macro unit (i.e. Govt. or economy) have the unanimous opinion on the need for adequate formal credit at reasonable terms and better marketing facilities to have a positive impact on the improvement of agricultural productivity.

The implementation of the recommendations of Vaidyanathan Committee for recapitalization of the structure of credit cooperatives may be a great boost to the sustainability of cooperative societies for increasing the pace of accessibility to rural farm credit. Similarly, the recently declared “**digitization**” of agricultural marketing system in India may be an initiative for efficient marketing of agricultural produces causing immense benefits to farming community.

Institutionalization of credit and marketing facilities may reduce the dependence on moneylender. Besides Regional Rural Banks and Commercial Banks, the PACS/ Cooperative Banks have the role to play as the major institutional source of finance to agricultural sector as well as for procuring agricultural produces from the farmers at reasonable rate. As such the role of PACS/Cooperative Bank in providing Short term (ST) agricultural Credit (i.e. crops loan) in our state i.e. Odisha is very wide spread as compared to the national average having a major portion of its share in the rural credit market as one of the major formal sources.

Despite the wide scope of disbursing the credit in the rural market many of the PACS are even striving for their viability and some are even dysfunctional may be due to the problem of member apathy or improper management. Thus, as a matter of diversification, PACs are undertaking the paddy procurement business as commission agents of Odisha State Civil Supply Corporation (OSCSC) in Odisha which is not only helpful for their viability but also accessible for the farmers to sell their produces at a remunerative price sale.

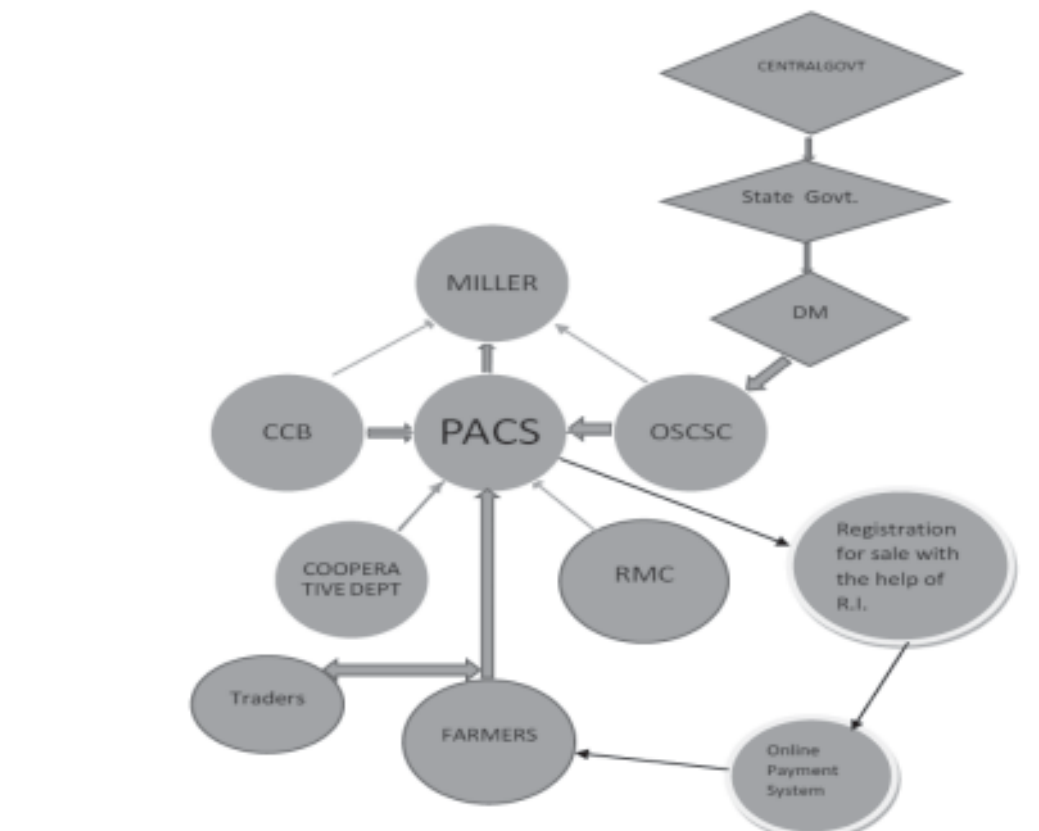
### **Marketing of Paddy**

*PAC (Primary Agricultural Cooperatives) in Odisha were basically promoted as purveyors of rural credit and organized marketing. The credit linkage of farmers under cooperative fold in Odisha has been more or less institutionalized through three tier cooperative credit structure- Primary Agricultural Cooperative Society (PACS), District Central Coop Banks (DCCBs) and Odisha State Coop Bank (OSCB) besides other banks involved in this line. In the same manner, market linkage of farmers in Odisha has not been institutionalized as observed in states like Maharastra and Gujurat. Cooperative institutions in Odisha have been basically designed and propagated as supply oriented and input focused institutions. In last few years, PACs market share in agricultural credit and input supply has been declining steadily in India even though the share in Odisha is found higher than national average in this context..*

*PACS are the major financers of paddy cultivation in the state. Needless to say, they have vital stake in marketing of paddy. In the existing decentralized paddy procurement system of the state, **PACS are involved in paddy procurement as commission agents or wholesale buyers on behalf of the state.** In marketing of paddy, the key factor is assurance of procurement and timely payment to farmer by linking low market surplus producers (small & marginal) farmers to the organized marketing of paddy through **decentralized procurement system, PACS have played important role in the development of paddy supply chain in Odisha** as Paddy marketing is gradually getting organized due to large scale involvement of PACS as procurement centers at the Gram Panchayat level (As per Kharif Marketing session 2013-14 2775 PACS out of total 3173 purchase centres of paddy in Odisha constituting around 87.5% of total purchase centres). Increase in number of procurement centers have facilitated the market linkage of large numbers of paddy farmers to the organized marketing and extended the Minimum Support Price (MSP) regime to the remote areas of rural Odisha. The credit-marketing linkage has also improved the income and business viability of PACs.*

*However, there are constraints in terms of professional management, functional infrastructure, span of control, governance structure and organizational capabilities*

*etc. for effective performance in paddy marketing by PACS, which needs a thorough examination. The details of the span of control mechanism for Paddy procumbent through PACS are shown in **Figure-1**.*



Note:

- 1) Present paddy marketing system in the study area
- 2) Traders are not a part of the model but shown as an intervening agent to the process.

### Strategic Business Unit (SBU)

In business, a **strategic business unit** (SBU) is a profit centre which focuses on product offering and market segment. SBUs typically have a discrete marketing plan, analysis of competition, and marketing campaign, even though they may be part of a larger business entity. An SBU may be a business unit within a larger corporation, or it may be a business into

itself or a branch. Corporations may be composed of multiple SBUs, each of which is responsible for its own profitability. SBUs are able to affect most factors which influence their performance. Managed as separate businesses, they are responsible to a parent corporation. Companies today often use the word segmentation or division when referring to SBUs or an aggregation of SBUs that share such commonalities.

The Cooperative society can also act as a SBU by adopting viable multiple activities by way of business diversification with a proper care of each of the activities separately to bring about efficiency, effectiveness, productivity and profitability through better performance, which will not only help the cooperative society to survive, grow and sustain in the market but also be helpful for its farmer members to derive benefits out of these activities.

#### **Objectives:**

Against the above backdrop the objectives of the present study are

1. To identify the percentage share of PACS/cooperative bank as a source of institutional credit in rural credit market in providing the short-term credit (i.e. crop loan) to different farm sizes in different villages under study.
2. To assess the impact of formal credit on the productivity of rice and magnitude of credit deficit across the farm sizes and villages under study.
3. To analyze the present system of Paddy marketing through PACS and access the scope for making PACS into SBUs.

#### **Data base and Methodology:**

The present study is mainly based on the primary source of data collected (during the year 2012-13) through a pre-designed questionnaire. The present study is confined to Bargarh district only and that too Rice (Paddy) cultivation. Three villages with varying degree of agrarian development and irrigation facilities drawn from 3 different blocks of the district are considered for present study. One Village is chosen irrigated (double crop area) pocket, the other one from semi-irrigated (where irrigation for one crop i.e. kharif crop is assured) and the other from rain fed (non-irrigated) pocket. The villages were selected by stratified random sampling method. The selections of the sample cultivators of the sample villages are made on the basis of census method. It means all the farm households (based on their operational holdings) are considered for the present study. Based on the operational holdings the farms in each village under study are divided into 3 categories such as Small, Medium farms and Large farms. Altogether 454 samples were collected from three sample villages under study. The details of the No. of farms and their average operational holdings are shown in **Table-1**.

Nature of villages	Size of farms	No. of farms	Operate d Area per farm (in acre)	Share of commer cial Bank to total formal credit (in %)	Share of Coopera tive Bank to total formal credit (in %)	Growt h of produc tion per acre/fa rm (in %)	Growt h of cost of produc tion per acre/fa rm (in %)	Ratio of Formal Credit to Total credit per acre/far m ( in %)	Ratio of Formal Credit to Total Cost of producti on per acre/far m ( in %)	Credit Deficit per acre/far m (in %)
Irrigated	Small	92	3.33	13.39	86.61	32.59	26.14	78.73	78.73	21.27
	Medium	54	7.39	28.46	71.54	36.40	30.32	79.41	79.41	20.59
	Large	8	13.63	40.00	60.00	34.81	29.56	86.24	86.24	13.76
	Total	154	5.29	24.32	75.68	34.78	28.65	79.92	79.92	20.08
Semi-Irrigated	Small	82	3.46	24.09	75.91	56.36	50.24	75.84	75.84	3.09
	Medium	48	7.40	8.8	100	81.53	61.24	70.90	70.90	29.10
	Large	20	12.50	10.4	100	71.88	53.70	75.91	75.91	24.09
	Total	150	5.93	14.76	91.70	70.23	55.39	73.9	73.9	26.10
Non-Irrigated	Small	60	3.33	10.00	90.00	49.14	38.74	87.45	87.45	12.58
	Medium	50	7.40	12.00	88.00	61.40	43.88	69.63	69.63	30.36
	Large	40	13.75	11.00	89.00	53.03	45.29	59.51	59.51	40.49
	Total	150	7.47	11.00	89.00	55.24	43.81	71.40	71.40	28.6
All-Villages	Small	234	3.38	14.86	85.14	42.47	34.57	81.48	81.48	18.52
	Medium	152	7.39	16.14	83.86	53.88	39.98	75.45	75.45	24.55
	Large	68	13.37	10.60	89.4	55.85	44.19	70.98	70.98	29.02
	Total	454	6.22	14.47	85.53	50.98	39.21	76.25	76.25	23.74
* F * Value Column df (2,4) (i.e. across Villages)						30.15*	81.14*	7.69**	13.72**	1.66
* F * Value Row df (2,4) (i.e. across Farms)						4.55***	5.52***	6.89***	17.59**	12.23**

The institutional credit (ST credit i.e. crop loan) availed by the farmers has only been considered for this study. In order to know the impact of institutional credit on the productivity of rice and cost of production, the study was made by taking the information from the borrowers (formal sources) and non- borrowers (formal sources). The difference between these two categories in the productivity of rice and cost of production is taken as the 'impact' of credit on these two aspects.

The quantity of the production and inputs used are respectively valued at a constant price of output and respective inputs to represent the data into monetary term for the shake of uniformity while making comparison. The percentage of difference found in both output and cost of production between the borrowers and non- borrowers is consider here to know the impact of credit.

The existing system of paddy marketing through PACs has been considered compared to other prevailing channels/ earlier practice based on the opinion of the respondents with regard to its effectiveness and sustainability. As such almost all the formal purchase centers of paddy are PACS in the area under study. The same situation is also reflected in the entire district under study.

## Result and Discussion

### Flow and Impact of formal farm credit:

It is observed from Table-1 irrespective of the size of farms and nature of villages under study the percentage share of PACS/cooperative bank in the total formal farm credit is found higher compared to that of commercial bank. The impact of formal farm credit on the growth of productivity and cost of production is found positive and statistically significant. The ratio of formal credit to total credit requirement to meet out the cost of production varies across the farm sizes and villages under study and also found statistically significant. The credit deficit found varies across the farm sizes and villages but found significant for farm sizes and insignificant for villages indicating the fact that **there exist credit deficit irrespective of the nature of villages** whereas it varies with the variation in farm sizes.

Thus it can be inferred that the formal farm credit has positive and significant impact on the productivity of rice (paddy) and increase in use of various inputs (reflected in terms of cost of production) in the area under study. However the credit deficit arises out of the mismatch of the formal farm credit requirement with the cost of production may be posed as **“a scope or a challenge”** for the coop. bank or PACs.

Further the credit deficit met out of the informal credit sources often has an output linked recovery strategy which ultimately leads to distress sale of paddy by the farmers. So the traders often invisibly come in the way of selling the paddy through PACs instead of direct beneficiaries that causes to reduce the producer's share in consumer rupees as shown in table-2.

### Marketing of Paddy

Marketing of paddy is one of the important problems in the study area. However, after the entry of PACS as paddy procurement centre as commission agent of OSCSC the farmers were anxious to sale their produces at the door step. Because PACS has a wide network covering 100% households as its members in almost all villages in the state. But it is observed that still more than 40% farmers irrespective of the irrigation status of the villages under study are mostly depending on the private trader for selling paddy. This may be due to the output linked credit business (inter-locked credit market) or delay in receiving payment from PACS.

It is observed that PACs is one of the efficient marketing channels which overcome the disadvantages of earlier channels. The paddy procurement business is hence one of the amicable avenues for the PACs to generate revenues for their viability and sustainability. But

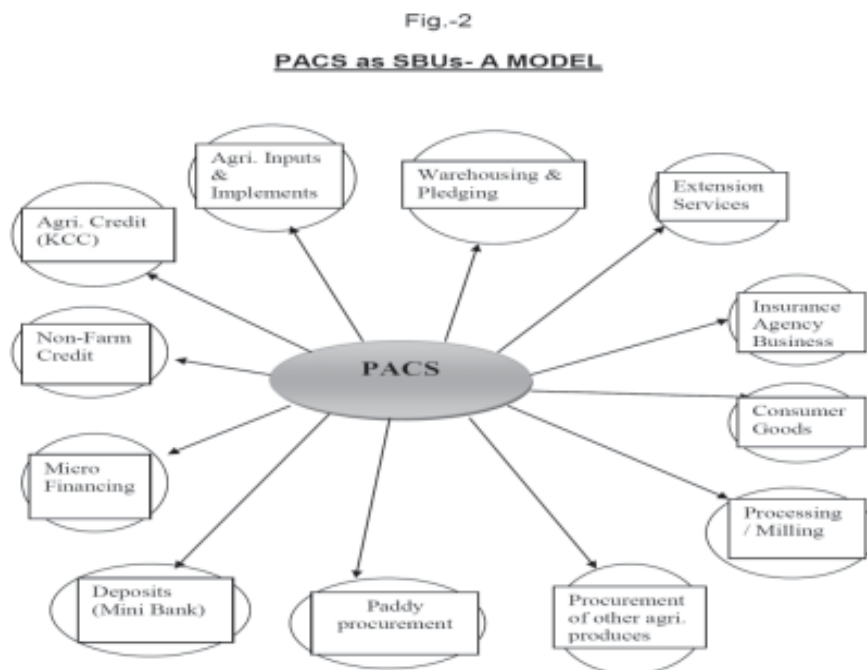


many of the PACs are suffering from the problem of infrastructural deficit coupled with lack of professionalism and shortage of manpower. Besides this, in the present system of paddy marketing PACs is succumbed to the problem of higher span of control (i.e. monitoring/governing the paddy marketing process of PACS by multiple agencies/departments) as depicted in figure -1 which may hinder the PACS to perform the paddy procurement process efficiently to maximize its gain as well as to render best of the services to its farmers member. For instance, as shown in fig. 1, OSCSC provides the assignment as commission agent for paddy procurement to PACS, Central Cooperative Bank (CCB) provides funds to PACS for paddy procurement, RMC provides market yard, listing, standardizing and grading support to PACs for paddy procurement, Cooperative Department controls and monitors the paddy procurement process of PACS, OSCSC, and supervises the assigned target and process of paddy procurement of PACS.

The farmers as identified by Revenue Inspector are to be registered by PACS for selling their paddy as per the guidelines of OSCSC / State Govt., /asked for registration, Selling paddy to the concern Millers as per the guidelines of Civil Supply Department/ District administration/ State Govt., made payment through CCB/ other assigned banks as decided by Govt. to the farmers on line to the respective bank account of the farmers and finally the member farmers withdraw the payment received by withdrawal form/cheque /ATM card from their Bank account. This indicates how cumbersome, lengthy and time taking the mechanism of initial stage of selling paddy to receipt of payment by the farmers. This may be one of the reasons why the farmers (mainly small farmers followed by others) are opting for informal channels (such as petty traders/ agents of millers) for selling their paddy instead of directly selling it PACS. However, the fact is that finally their products are sold to the same PACS through the traders/ informal agents. Thus this may be a cause of distress sale of paddy besides another major cause of it i.e. inter-locked credit (i.e. output linked informal credit). This is how the farmers are losing instead of gaining. On the other hand, due to this lengthy and ill defined control mechanism the PACs is also success losing its direct customer base, members confidence and proportionate leakages in their commission income as well as passive members participation in its credit business. Thus the effect of inefficiency in one business (even though secondary/agency business) may adversely affect the primary and other business of the PACS. Thus, a small span of effective control and mentoring mechanism can be suggested with more autonomy to PACS in this process and it will be appreciated if a suitable policy perspective can be developed to make the PACS as good as a Strategic Business Unit (SBU) in the field of paddy marketing where the entire business process of paddy procurement starting from procurement process, procurement to deliver of instant payment to farmers and processing etc.(except the policy issues to be taken by Government). This may directly benefit the PACS and its Members. Under such circumstances, with the



efficient performance in one business the credit and other viable business of PACS may flourish resulting in many separate SBUs or amalgamation into the same SBUs leading to the broadening of spheres of its business and rendering better and wider ranges of services to its members, which is essentially the need of the day for the PACS to survive, grow and sustain. A possible business diversification model as SBU(s) is shown in **Fig.2**.



Further, it is observed from the table-2 that the gross marketable surplus (i.e. Gross production minus the consumption need) is direct and proportionally related to the farm sizes. Further, it is also observed that the intermediation in the marketing process leads to loss in the share received by the producers from the sale of output. To analyze this, three channels have been selected such as Channel-I (producers selling to Village petty Traders), Channel-II (producers selling to Miller's Agents) and Channel-III (producers selling to PACS). It is further found that on an average the producers are losing around 16% (more loss to small farmers) of their share if sold through trader compared to directly selling through PACS (as PACS pays MSP). It is also observed that the time taken for making payment for the paddy sold to PACS is quite high compared to other channels as shown in Table-2, which may be one of the major causes for not opting PACS by many farmers (mainly small farmers) to sell their paddy. The above stated finding may be helpful in justifying why PACS will not be made to act as an SBU.

### PACS as SBU

The multiple activities under the same umbrella with separation of responsibility and accountability of each of the activities undertaken as a business unit or profit centre should be taken care of for making PACS as a SBU. This will not only help the PACS to strengthen its position but also a sustainable way to serve its members. The primary business of the PACS is distribution of Short-term agricultural credit to its members. The paddy marketing business even though secondary for the PCA is gradually getting more weightage by the PACS. But the membership base for directly selling their surplus paddy to PAC is observed as not increasing rather they are still dependent on the petty traders (see **Table-2**) which may be due to inter-locking credit (output-linked credit) or due to ineffective service provided by PACS. Further, the paddy procurement business of PACS is suffering from the problem of a higher span of control (see Fig. 1) which may be causing ineffective service provided to the members. If this is the case the credit business of the PACS will be more adversely affected than that of the paddy marketing business because invisibly (i.e. through traders) the paddy of the farmer members are sold to the PACS. This may gradually lead to members' apathy (lack of active members' participation). Thus PACS has to prove its significant existence in paddy procurement business by gaining its members' confidence through making efforts for reducing distress sale of paddy and rendering wide ranges of required services effectively. For instance to ensure frequent and active members' active participation with the business of PACS the PACS has to undertake multiple viable and require business activities by way of business diversification including the efforts of PACS as a strategic business unit for paddy marketing. A tentative model showing multiple business activities to be undertaken by PACS either as a big SBU with many small SBUs under it or an SBU for certain specific business with the help of vertical and (or) horizontal coordination and cooperation is represented in Fig.2. This model shows the business activities like Credit (farm & nonfarm), Deposit, Marketing, Processing, Insurance, micro-financing business, extension services etc. which will not only help to PACS to but also sustain with active members participation.

In this context it can be noted that it is one of the great advantages for the PACS that the members of the PACS are the owners as well as the Customers of the products or services of PACS. So unlike Corporate sector the PACS need not to search for the customers of its business. Thus if PACS will work on SBU model the success rate may not be less than that of the corporate sector. Thus, the cooperative enterprises should be made such efforts looking into the viability of various businesses that they can undertake. The "make in India" initiative can easily be accessed if PACS will start seriously working on this model. The investment, employment, indigenous goods or services and wellbeing of the beneficiaries as well as sustainability of the PACs can also be ensured smoothly amidst the competition and

changing economic environment. The relevant provisions of Startup India, Skill India and Digital India initiatives as applicable and acceptable to a cooperative enterprise without affecting its philosophy and principles may also be linked to “Make in India” initiative so as to make its members feel that their cooperative is with them and will be there as A viable, independent, autonomous and sustainable enterprise serving the common cause for their wellbeing. However, amidst the so called problems of bureaucratization and politicalisation to make the PACS into SBU (Strategic Business Unit), PACS have to work in a professional manner with effective generation and mobilization of resources in an autonomous, self-managed, self-reliant and self-sustained mode of operation along with the support and cooperation from effective cooperative leaders, government and policy makers. This will shape a PAC as professionally managed SBU instead of being simply a commission agent of some organization for its major business activities, which restrict the PACS from serving the better cause of its members.

### **Findings:**

Based on the analysis made above, the following findings can be derived:

1. The share of cooperative bank in the disbursement of total institutional farm credit is found higher compared to commercial bank in the area under study indicating a greater scope for credit business by PACS/ Cooperative banks in a sustainable manner.
2. The formal farm credit has a positive and significant impact on the productivity of rice (paddy) and cost of production indicating a scope for the PACS to undertake inputs and output business in an improved way.
3. The Credit deficit is found significant across the farm sizes and villages under study. In other words the institutional farm credit availed by the farmers in the villages under study is not adequate to meet the cost of production. This indicates the scope for PACS/Cooperative banks to increase credit limit or to reduce cost of production of its member farmers through proper extension service to reduce the dependency of farmers for informal credit (cash and kind) and to check distress sale of their marketable surplus.
4. PAC is found as an effective marketing channel for paddy as it saves producers share in consumer rupees as compared to informal marketing channels as PAC provides MSP for the paddy procured. This provides a scope for the PAC to redesign its business operations to draw direct participation of all categories of farmers (mainly small farmers) by reducing magnitude of delay in making payment for the products sold to the PACS by the farmers..

5. The existing span of control in the process of paddy procurement business of the PACs is found higher and confusing. This indicates the scope for the PAC to redesign its business operation for this by converting PAC into SBU for paddy procurement business with the help of horizontal and vertical cooperation.
6. The PAC has ample scope for its business diversification in the viable need based ventures. Each of the diversified field to be treated as an SBU or all activities combined together may be an SBU for not only the growth of PAC but also for the betterment of its members.

### Conclusion:

The institutional farm credit has a vital role to play for the development of agrarian economy of Odisha in particular and the country in general. The availability of and accessibility to institutional farm credit has a positive impact on the use of modern inputs and improvement of agricultural productivity. Thus the Government should take all possible steps to meet the **Credit deficit** of the farmers. The Agricultural Credit Cooperative Movement should be made more viable, vibrant, competitive and sustainable to provide adequate farm credit with greater accessibility in rural agrarian credit market for the effective realization of agricultural productivity. The marketing procedure of paddy through PACS is to be made more effective and efficient for ensuring easy market access to the farmers for better remunerative price of their produces which will ultimately encourage them to enhance the agricultural productivity. The PACS should hence be made like SBUs to be sustainable in their business and for rendering wide ranges of services to its members effectively. The Make in India” initiative will be reflected in the development process of cooperative enterprises if they are encouraged to act like Strategic Business Unit for the business they are undertaking so that the PACS and their members will be self-reliant on their own business to grow with sustainability in the future days to come amidst all odds, changes and challenges to encounter on the way of their progress.

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## Perceptions of customers towards Mutual Funds: An Analytical Study in Odisha

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### ABSTRACT

This study aims to investigate perception of customer towards mutual funds with an objective to explore the important aspects of Mutual Funds affecting the perception of customers and also To examine the difference of perception of large and small customers on the basis of explored factors . Data for the study were collected form 136 sample respondents residing in Bhubaneswar City of Odisha using a structured questionnaire and analysed by exploratory factor analysis and t-test. As a result of factor analysis three factor namely investment, return and future were explored and through t-test it was proved that there is a difference of perception among the small and large customers with respect to 'return' and 'future' aspects of mutual fund.

**Key words:** Mutual Fund, Customers, Perception, return, future, investment

### **Introduction:**

Mutual funds pool money from different customers and invest in different investment sources like stocks, shares, bonds etc. A professional fund manager manages these and returns are paid in form of dividends. . Some schemes assured fixed returns that are less in risk and some offer dividends based on the market fluctuations and prices. Now a days Mutual Fund is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally managed basket of securities at a relatively low cost. A Mutual Fund is an investment tool that allows small customers access to a well-diversified portfolio of equities, bonds and other securities. Each shareholder participates in the gain or loss of the fund.

Due to the growth of mutual fund industry, the customers prefer mutual funds as an investment. Mutual fund companies offer variety of schemes for all type of customers. Now an customer can start his investments from rupees 50. Investment in mutual funds has grown very fast and has spread to even the remotest part of the country where a stock exchange does not function. The main reason for investing in mutual funds are diversification, flexibility, professional management ,low cost etc., The investment behaviour of the people is mainly based on the availability of fund, availability of investment avenues, investment objective,

duration of investment, risk, nature of investment, selection of fund, attitude towards investment and also the problems encountered in investing on mutual funds. Indian customers have not been absolutely logical and rational in their investment behaviour and their investment decisions are always affected by the definite behavioural factors.

The individual customers numbering millions constitute the backbone of mutual fund industry. Their active involvement in the industry helps the corporate sector to mobilize sufficient funds required for development.

Customer's behaviour plays a vital role in the financial markets. It influences the price, volume of transaction and various other financial operations. Customer expectation is also important. Expectations of customers are influenced by their perception and there the need of this study arises. In India, the mutual fund industry has been in existence since 1964, no major study has been done regarding the customer behavioural aspect and the effectiveness of grievances and redressal mechanism with special reference to mutual funds in Odisha. So it is felt necessary to study all the above aspects.

### **Literature review**

Gupta (1994) made a household customer survey with the objective to provide data on the customer preferences on Mutual Funds and other financial assets. The findings of the study were more appropriate, at that time, to the policy makers and mutual funds to design the financial products for the future.

Sujit Sikidar and Amrit Pal Singh (1996) carried out a survey with an objective to understand the behavioral aspects of the customers of the North Eastern region towards equity and mutual funds investment portfolio. The survey revealed that the salaried and self employed formed the major customers in mutual fund primarily due to tax concessions. UTI and SBI schemes were popular in that part of the country then and other funds had not proved to be a big hit during the time when survey was done.

Block, Stanley B. and French, Dan W. (2000) conducted a study on Portfolios of equity mutual funds. They proposed two-index model using both the value-weighted and an equally weighted index. Estimated models using a sample of 506 mutual funds show that the two-index model provides a better fit than the single-index model and identifies a larger set of funds with abnormal performance.

Gavin Quill (2001) examined the evidence that customer behavior is frequently detrimental to the achievement of customers' long-term goals. The picture that emerges from this analysis



is one of customers who have lost a good portion of their potential returns because of the excessive frequency and poor timing of their trading activities.

Dwyer et. al. (2002) used data from nearly 2000 mutual fund customers and found that women take less risk than men in their mutual fund investments. Byrne (2005) shows that risk and investment experience tend to indicate a positive correlation. Past experience of successful investment increases customer tolerance of risk.

Kozup, John C., Elizabeth Howlett and Michael Pagan o (2008) explored whether a single page supplemental information disclosure impacts customers fund evaluations and investment intentions. Results indicated that while customers continue to place too much emphasis on prior performance, the provision of supplemental information, particularly in a graphical format, interacts with performance and investment knowledge to influence perceptions and evaluations of mutual funds.

Rao, D.N. and Rao, S. B. (2009) analyzed the performance of the 47 Balanced and 72 Income Funds in terms of Return, Risk, Return per Risk and Sharpe ratio over the past three years (2006, 2007 and 2008) during which period the Indian Stock Market had witnessed much volatility.

### **Objective of the Study**

This study has been framed with the following objectives:

1. To explore the important aspects of Mutual Funds affecting the perception of mutual fund customers.
2. To examine the difference of perception of large and small mutual fund customers on the basis of the explored aspects of mutual funds.

### **Methodology**

This study is mainly based on the primary data. Secondary data is only used for the development of the research framework. A structured questionnaire is used as the main tool for data collection about the consumer's perception regarding the mutual funds. This study includes 136 sample respondents residing in Bhubaneswar City of Odisha.

A questionnaire was used to collect the data from the sample respondents. The questionnaires were administered by personal delivery. A Seven-point scale was used to elicit responses to the questionnaire indicating their level of agreement (1= strongly disagree to 7= strongly agree).

The questionnaire also contained questions to solicit demographic information of the respondents. The questionnaire is pretested and revised through back translation process for minor change in wordings.

SPSS (Statistical Package for Social Sciences) version 22.0 is used to compute and analyze the data. The statistical tests used in the analysis of data included descriptive statistics, Exploratory factor Analysis and 't' test

### Sample Characteristics

Selected demographic characteristics of the sample (n=136) including gender, age, educational qualification, income, occupation and location are presented in Table 1 as below.

Variable	Categories	Frequency	Percentage (%)
Gender	Male	68	50.0
	Female	68	50.0
Age	Less than 30	84	61.8
	31-40	16	11.8
	41-50	32	23.5
	More than 50	4	2.9
Occupation	Salaried	84	61.8
	Business	52	38.2
Monthly Income	Less than 15000	36	26.5
	15001-25000	56	41.2
	25001-35000	16	11.8
	More than 35000	28	20.6
Type of customer	Large	40	29.4
	Small	96	70.6

*Source: Field Study*

It can be revealed from the data presented in Table-1 that out of total 136 numbers of sample respondents 50% are male and rest 50% are female. In terms of age group, highest 84 (61.8%) number of respondents belong to the age group of less than 30, followed by 16 (11.8%) belong to the age group of 31-40, 32 (23.5%) belong to the age group of 41-50 and only 4 (2.9%) belong to the age group of more than 50. Occupation wise classification

reveals that highest 84 (61.8%) number of respondents are salaried and only 52 (58.2%) are having business as their occupations. In terms of Monthly income, out of total 136 number of sample respondents highest 56 (41.2%) are having a monthly income in between 15001-25000, followed by 28(20.6%) are having a monthly income of more than 35000, 36 (26.5%) are having a monthly income of less than 15000 and only 16(11.8%) are falling in the income group of 25001 to 35000.

Finally, in terms of type of customer, out of total 136 numbers of respondents, 96 (70.6%) are small customers in mutual fund and only 40(29.4%) are Large customers in mutual fund.

Analysis-1 To identify the Important Aspects of Mutual Funds affecting the perception of mutual fund customers

To study the customers perception about important aspects in mutual fund, factor analysis is used.

In order to establish the strength of factor analysis, the sampling adequacy is checked using Kaiser-Meyer-Oklin (KMO) test and the results are presented in the table-3 given as below.

Table-2 KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.746
Bartlett's Test of Sphericity	Approx. Chi-Square	1228.399
	df	91
	Sig.	.000

From table-2 it is found that the Value of KMO statistics is greater than 0.5, indicating that factor analysis can be employed for the given set of data. The overall significance of the correlation matrix is checked using Barlett's test of spericity and it is found that the chi-square Value is 1228.399 and the p Value as computed is 0.000 which supports the validity of the factor analysis.

For further investigation, three factors having eigen value greater than one are extracted. The eigen Value of the three factors along with their cumulative percentage of variance explained is shown in table-3

Table-3 Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	5.796	41.399	41.399
2	2.284	16.311	57.710
3	1.194	8.531	66.240

The result of the factor analysis using principal component method shows that 66.240% of the total variance is explained by classifying these 14 variables into 3 components or factors. The percentage of the total variance which is used as an index to determine how well the factor solution accounts for what the variables together represent.

The first factor  $F_1$  is the most important factor which explains 41.399% of variance before rotation. The second factor  $F_2$  is the second major factor which explains about 16.311% of the variance of the variables. The third factor  $F_3$  explains about 8.531% of the variation.

Table -4 gives the factor loading of the variables under each of the three extracted factors. In order to interpret the results, a cut-off point of 0.5 is decided for each variable to group them into factors by forming a rotated component matrix.

Table-4 Rotated Component Matrix<sup>a</sup>

	Component		
	Investment	Return	Future
Mutual Funds with high NAV is good for investment	.894		
Mutual Funds are useful for small customers	.858		
Mutual Funds are healthy for Indian financial Environment	.839		
Bearish market is good for investment	.771		
New Fund offers are good than existing fund	.675		
Mutual fund investments are the substitutes for share investment	.572		
Mutual Funds give higher return than other investments		.843	
Mutual funds having diversified portfolio gives better returns		.785	
Mutual funds with large corpus perform better		.739	
Dividend payout option is good in tax saving Schemes		.628	
Mutual funds are good for tax saving		.597	
Growth option is good for long term			.795
Mutual Fund investment is an asset for future			.675
Public sector mutual funds are safe			-.596
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

The above table indicates the rotated factor loading for the fourteen variables. It is clear from the table that all the 14 variables have been extracted into 3 factors and depending on the loading scores can be named as Investment, return and future aspect of mutual funds

After identifying the important aspects of the mutual fund according to the perception of customers, 't-test' is used to examine the difference of perception of large and small mutual fund customers corresponding these three aspects.

Analysis-2 To examine the difference of perception of large and Small mutual fund customers

Customers opinion about mutual fund is again analyzed with the help of 't' test. Both small and large customers level of opinion is examined. Opinion regarding important aspects in mutual fund is confined to investment, return, and future and tax savings. The result of 't' test is exhibited in table-5.

**Table-5 LEVEL OF OPINION ON IMPORTANT ASPECTS IN MUTUAL FUNDS**

Sl no	Important Aspects in Mutual Funds	Mean Score among Customers		T-Statistics
		Small	Large	
1	Investment	3.324	3.308	0.309
2	Return	3.289	3.642	-2.664
3	Future	3.176	3.923	-3.886

Majority of the small customers are favorable to the perception about investment and returns since its means scores are 3.324 and 3.289 respectively. Among large customers, these factors are future and return since its mean score of 3.923, and 3.642 respectively. Regarding the level of opinion about important aspects of mutual fund, the significance difference among the small and large customers have been identified in the case of 'return' and 'future' since their respective 't' statistics are significant at five per cent level.

### Findings and Conclusion

In today's volatile market environment, mutual funds are looked upon as a transparent and low cost investment vehicle, which attracts a fair share of customer attention helping spur the growth of the industry. In this regard, to study the customers perception about important aspects in mutual fund, factor analysis is used. Fourteen variables are taken for the study and

all the 14 variables have been extracted into 3 factors. The important factors regarding the perception of customers about mutual funds are investment, return and future respectively. Difference of opinion about mutual fund is again analyzed with the help of 't' test. Majority of the small customers are favourable to the perception about tax returns and investments whereas large customers these factors are future and return. Thus mutual fund companies should give due importance to these dimensions for their survival and growth in Indian context.

### **Delimitation**

The present study is an attempt to analyse the perception of mutual fund customers in Odisha and restricted upto the opinion of 136 sample respondents residing in Bhubaneswar city. Customers attitude towards any particular mutual fund is not analysed. Customers perception towards particular type of funds like sector funds, tax funds, index funds etc. is not analysed. Furthermore this study does not includes the study of perception of institutional customers.

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