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**Vol. I No. 1 (October 2017)**

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## **FOREWORD**

It gives me immense pleasure to place in your hands the first issue of the Journal of the International School of Management Patna. In the fast changing scenario of business environment in India and across the world the management has comparatively advanced into a real field of research. Consequently, the researchers from applied economics, business research and finance demonstrate their deep interest to share their research. This could be possible only when there is a media which may connect widely both the researchers and users (readers) with the help of publication of the journal. This is the main purpose that we thought of publication of journal from our Institute. Needless to emphasize, this Journal will provide a forum for dissemination and exchange of scientific based ideas taking place in various disciplines of management and development. This is our little effort to bring together the scholars, professional-practitioners and the students towards further strengthening the academia-industry linkages and improving the quality of management study in a more practically oriented way. I commend this endeavour not only to scholars and the students but to all who are interested in understanding the various facets of management and development.

This issue contains research articles which shed light on contemporary research questions in various management fields. We are aware that the first issue needs support not only from the editor but also from editorial boards and the contributors. Without the support of our editorial boards we would not be able to start and continue. Special thanks, also, go to the contributors of the Journal for their trust, patience and timely revisions. We continue welcome article submissions in all fields of business management.

**Samrendra Singh**

Chairman

International School of Management Patna



## *Editorial*

The current issue of the Journal contains eight articles which reflect gamut of ideas and perspectives thoroughly worked upon in varied fields of management and development. The articles included in this issue are interdisciplinary in nature giving focus on today's burning issues related to development of the country and the well-being of the people as well. This evidence could be analyzed in the first article by Subhash Sharma who deals in-depth the issues related to food crisis and its consequence on food security. The subject is of much significance in the context of India where about 700 million people are, by and large, deprived of decent livings. This calls for stringent measures to overcome the difficulty of achieving the goal of food security. The author has come out with many suggestions which provide sufficient feedbacks to the policy makers and planners to combat the problem of food security.

The second article by Jagdish Prasad analyses various pros-cons of GST which is being in serious debate since its implementation from 1st July 2017 especially over its consequences especially to the Indian economy. Based on the analytical discussion on the various nuances of likely effects of GST the author concludes that there may be short run costs but in the long run it would be beneficial paving the way for national market and having its positive impact on the national economy. This will give benefits to all the stakeholders namely, trader, consumer, and the government.

In the third article, Anirudh Prasad and Sudeep Kumar highlights the issues related to corporate social responsibility (CSR) and makes an attempt to evaluate the performance of CSR with the help of a case study of Tata Steel. According to the findings of the study the initiatives taken by the Tata Steel Rural Development Society (TSRDS) has helped the beneficiary people of Idalbera village to improve their literacy, health care services, irrigation water facilities and infrastructure. All these positive changes have shown positive impact on improving the socio-economic conditions of the people of Idalbera village. However, in the concluding remarks the authors opine that the intervention of Tata Steel is not itself sufficient to assault the poverty which is widespread in the study area. A close coordination of the poverty alleviation programmes with the government and donor agencies may bring about significant results in addressing the issues of poverty.

The fourth article by Kameshwar Pandit modestly discusses the emerging challenges faced by the business organizations in the present globalized era and its impact on human capital. In the fast changing scenario of the functioning of business organization there has become much importance of human capital based on knowledge human capital. Also, there needs to be significant change in the role of manager who has to play his strategic role. The author has advocated a dozen hats which indicate that the role of a manager is multi-facet and multi-dimensional.

In the fifth article, Diwakar Kumar has also discussed the issues of strategic human resource management with the help of a case study of Allahabad Bank. The primary focus of his study is to assess the impact of SHRM on employee's engagement. His concept of employee's engagement is that 'one who is fully absorbed and enthusiastic about the work'. The findings of the study indicate that the employees appeared to be fully engaged due to clear communication, positive work environment, inspiring leadership and progressive management.

Ghanshyam Kumar Pandey in his commentary paper on 'how to double the farmer's income' shares his thoughts over its success. Recently, government had come out with a policy to double the farmer's income by 2022. However, the author finds that in the perspective of livelihood crisis it is a difficult proposition to double the farmer's income without solving the problem of livelihood. This has particular significance in the case of Bihar where there has been threatening situation for the vast majority of small and marginal farmers and agricultural labourers. Also, there is crisis of agricultural development in Bihar which is still lagging far behind as compared to agriculturally developed states. On the basis of his analysis the author concludes that without creating opportunities in non-farm sector it would be difficult to achieve the target of doubling farmer's income.

Finally, this issue contains a book review of "Economic Realities of Emerging Bihar" which was written in the honour of Dr. Binoy N. Verma. The book contains the summary from of theses done under his supervision and guidance covering various important aspects related to the development of Bihar. Indeed, this is a valuable addition to the literature on the socio-economic development of Bihar. The reviewers believe that this will facilitate the policy makers and planners to understand the economic realities of the dynamics of Bihar's development.

We hope that in this era of knowledge boom the publication of this journal will fill-in gap having focus on original and substantive research especially in the perspective of management and development. We are highly thankful to our contributors without whose co-operation the publication of this issue was not possible. With the participative involvement of the scholars and other stakeholders we are hopeful of emerging with flying colours in the world of publication of the journal.

**Jagdish Prasad**  
Chief Editor

# FROM FOOD CRISIS TO FOOD SECURITY: A CRITICAL PERSPECTIVE

Subhash Sharma\*

## Abstract

*The primary focus of this paper is to analyze the nature of the food crisis and to find out the strategic measures to combat this socio-economic problem by achieving the goal of food security. The most important dimension of food security could be seen in the perspective of livelihood crisis. It is in this backdrop that the author has analyzed the problem of food security in a critical holistic conception comprising the aspects namely, physical accessibility to food, economic capability, social inclusivity of entitlement of food etc. On the basis of analysis of the present scenario of food crisis the author has come out with valuable suggestions to overcome food crisis on the one hand and to reach the goal of food security on the other.*

Keywords: Food crisis, food security, sustainable agriculture.

## Introduction

In different parts of the world, there has been some sort of food crisis in different ways. For instance, India's National Commission on Farmers, in its first report (2004), pointed out five basic factors of the agrarian crisis: unfinished agenda in land reforms, lack of quantity and quality of water, technology fatigue, lack of access, adequacy and timeliness of institutional credit, and lack of opportunities for assured and remunerative marketing. The worst affected in the agrarian crisis are the small and marginal farmers, landless labourers and women. That is why, long back in 1946 at Noakhali, Mahatma Gandhi had remarked perceptively; 'To the hungry, God is bread'. After the World War II, US President F. Roosevelt talked of four types of freedom; freedom of expression, freedom of worship, freedom from fear, and freedom from hunger. Even Jawaharlal Nehru had announced in 1947: 'Everything else can wait, but not the agriculture'. However, India did not accord the top priority to agriculture (especially in terms of investment) which it deserved. In 2016, however, there was a huge allocation for agriculture. Needless to say that hunger and starvation are violations of fundamental human rights, enshrined in Universal Declaration of Human Rights (UDHR) (1948). Right to food is a birthright of every individual, group, family and community. Article 25 of UDHR clearly says, 'everyone has the right to standard of living, adequate for the health and well-being of himself and his family, including food'. Further Article 11 of UN's International Covenant on Economic, Social and Cultural Rights (1966) emphasises not only the right to adequate food but also 'the fundamental right of everyone to be free from hunger'. Thus the latter is more radical and fundamental as it is directly linked to right to life, hence it is mandatory for the State to

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Note: Views expressed in the paper are author's personal views.

ensure its fulfillment. The Supreme Court of India has deliberated in several judicial decisions that right to food is an integral part of right to life enshrined in Article 21 of the Indian Constitution. Further Article 47 of Indian Constitution States 'the state shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties'. Article 38 of Indian Constitution also states that State shall strive to minimise inequalities in income, status, facilities and opportunities amongst individuals and groups. Further, its Article 39 mentions that State shall direct its policy towards ensuring that the citizens (men & women) equally have the right to an adequate means of livelihood.

In fact, massive food production at the macro level (national) is a necessary but not a sufficient condition for ensuring actual food security at micro level. Food security connotes adequate nutritious food entitlement of every person at any given time and place, from local to global levels, not only for his or her mere physical survival but also the complete well-being, just distribution of food (intra-household) with minimum nutrition, and absorption by the body for a healthy life. United Nations' Food and Agriculture Organisation (FAO) defines food security as 'all people at all times have access to safe and nutritious food to maintain a healthy and active life'. The World Bank has defined food security as 'access by all people at all times to sufficient food for active and healthy life' (Guha - Khasnobis et al., 2008) but we require a 'sustainable food security'. According to M.S. Swaminathan (2008), 'Sustainable food security involves physical, economic and social access to a balanced diet and clean drinking water to every child, woman and man in the country. For achieving physical access, production and productivity of major crops should go up, so that there is a proper match between demand and supply. For economic access, there is a need for ensuing adequate purchasing power, which, in turn, can be achieved through work and income security. Social access involves attention to the gender, class and caste dimensions of food security'. Sociologically speaking, a critical holistic conception of food security comprises of the following aspects:

- a. Physical access to food (foodgrains, pulses, edible oils, milk etc.).
- b. Economic capability to have (buy) food.
- c. Social inclusivity of entitlement to food.
- d. Cultural acceptability of food.
- e. Environmental sustainability of food.

However, the experience of the Green Revolution in agriculture shows that India's focus only on major crops like wheat and paddy led to the neglect of common people's food crops (considered minor crops) like jowar, bajra, ragi (mandua), sawan, kodo, maize and barley that require less irrigation but mature faster than wheat and paddy. Further, these foodgrains are more nutritious. Needless to emphasise that the food security paradigm has changed on four scores since the first World Food Conference (1974) in Rome: first, from the availability of food at the global level to

the nation, sub-national, household and finally to the individual level; second, a change from ‘food first perspective to livelihood perspective; third, a change from physical access to economic and social access as well; fourth, a change from objective indicators (rising income leading to increase in purchasing power, lower prices of foodgrains leading to better consumption of foodgrains) to subjective perceptions (changing attitudes, food habits, gender and age equity in the household, etc.).

**Table 1: Aspects, Levels of Availability and Necessary Conditions of Food Security**

Aspects	Levels of Availability	Necessary Conditions
1. Food production and productivity (general physical access)	National, State and sub-national levels	Right to agri-inputs’ availability like seeds, fertilizers, pesticides, electricity for irrigation, institutional credit, minimum support price, delivery and storage agencies, pucca rural roads and adequate transport and market linkage.
2. Food availability (specific physical access)	Gram Sabha/Panchayat level	Availability of foodgrains in local market or public distribution system shops or cooperatives or panchayat stores (grain bank)
3. Cultural acceptability of food	Local community level	Taking local community into confidence and people’s participation in adaptation of new technology and change in eating habits (from rice to wheat in North Bihar, use of mushroom in North India)
4. Food accessibility (economic access - purchasing power)	Household level	Right to work and income - minimum wages for increasing purchasing power of the labourers, better remunerative prices for agriculture produce to farmers, foodgrains at cheaper rates.
5. Food consumption for well-being (social access)	Intra-household (age, gender, sickness, disability)	Right to food- gender consciousness sound health care for growing children, working adults, lactating/ pregnant women, aged, infirm and ill persons - just distribution of food.
6. Food absorption (healthy life/well-being)	Individual level (psychological)	Safe drinking water, hygiene, clean environment, primary health care
7. Environmental sustainability of food	Local, sub-national, national	Protecting the interest of future generations and environment.

Source: Revised version of S. Sharma (2015), ‘Development and Its Discontents’, p.74

It declared that every man, woman and child has the inalienable right to be free from hunger and malnutrition. Further the eradication of hunger is a common objective of all countries and all Governments' responsibility is to work together to higher food production and a more equitable and efficient distribution of food between and within countries. In 1996, at Rome, World Food Summit made Rome declaration on World Food Security calling International community to reduce the number of hungry people to 400 million (half) by 2015. Among 182 nations US alone opposed the right to food as a human right. World Food Summit 2012 (Rome) was also opposed by the US that supported the cause of bio-technology (in seeds and crops). In fact, the question of food security, in totality, involves various aspects at various levels, of a human society with corresponding necessary conditions at a given time: viz., individual, intra-household, household, sub-national and national levels. It is vividly shown in the Table 1.

However, in the present globalised or globalising era, the problem of food security crosses the national boundaries. Sometimes domestic compulsions affect the global food situation, and at other times the adverse global food situation affects the domestic food situation.

### **Global Scenario**

If we look at the global scenario of food security, the following facts are notable(Guha Khasnobis *et al.* 2008; Streitfeld and Bradsher, 2008; Sachs, 2008; Varma, 2008):

- a. A large number of people in the world are food-insecure, especially in Sub-Saharan Africa and South Asia - about 840 million people worldwide were malnourished or chronically food-insecure earlier which only marginally delined to 795 million in 2015 as per FAO (2015).
- b. About 2.8 million children and 3 lakh women die annually in developing countries, especially in Sub-Saharan Africa and South Asia.
- c. The World Food Summit and the Millennium Development Goals of halving the number / share of the undernourished people by 2015 could not be achieved.
- d. Though food production increased to 2.3 billion tonnes in 2007 and world cereal output has tripled since 1961, grain stocks are at the lowest levels in countries like the US, the Philippines, India, Japan or more consumption due to population growth and better purchasing power) and price rise has continuously been high, leading to global food crisis.
- e. Climate change is showing negative consequences for food security; e.g. droughts and floods recur in some countries leading to loss of agricultural areas; if the Antarctica ice melts, the sea level will rise by 7 metres and Bangladesh would lose 40 per cent of its rice land; two-thirds of the Chinese glaciers will disappear by 2060; Gangotri glacier in India is also melting; Bangladesh and West Bengal would lose Sunderbans and

- marine bio-diversity. In the last 2800 years there has been substantial rise in sea level.
- f. Rapid exploitation of natural resources and a six-fold rise in population during 1830-2005 (6.5 billion then and now 7.5 billion) have also negative consequences for food security- further increase in per capita income from 2,000 dollars in 1950 to 6000 dollars in 2000, in some way or the other, led to more food consumption due to better purchasing power and more demand for food.
  - g. Trans-National Companies (TNCs) are doing a highly profitable business. Monsanto (US) and Syngenta (Europe) have pused in their genetically modified (GM) seeds, which usually have crop failure and pest attacks in dollars in 2007. Similarly, fertiliser TNCs like Potash Corp (of Canada) and Yara (of Norway) made a huge profit of one billion dollars each in 2007. Other fertiliser TNCs like Mosaic and Agrium (of US) and TCL (of Israel) made a profit of half a billion dollars in 2007.
  - h. In 2005, according to the FAO, due to food shortage at domestic level, 207 out of 216 countries in the world had to import wheat and 170 countries had to import rice from international markets; at the global level, FAO estimates, each year hunger robs 46 million year of productive disability-free life from people valued at over 16 billion dollars.
  - i. On 3 June 2008, at FAO Summit in Rome, UN Secretary General Ban Ki-Moon highlighted that the world food production needs to be increased by 50 per cent by 2030 to meet the rising food demand. He called for a support of 1.7 billion dollars to low-income countries with seeds and other agricultural support but also warned against food export restrictions imposed by some countries leading to distortion of market prices.
  - j. World's farmers will have to double food production by 2050 to feed about nine billion world population then. Unfortunately most of this population growth will occur in food-insecure developing countries - upto 126% in Sub Saharan Africa, 56% in North Africa and West Asia, and 34% in South Central Asia.
  - k. By 2050, 60% of world population will live in cities - fewer farmers but more demand for food.
  - l. 1/3rd of food production is lost between farm and actual use.
  - m. High food inflation is caused by diversion of foodgrains for biofuel, adverse weather condition and climate change, dietary shifts in large developing countries like China and India, due to better living standards and income, lack of public investment in agriculture, especially irrigation.

In fact, the processes of liberalization, privatization and globalization for more than three decades have worked against food security in following ways:

- a. State has, to a large extent, retreated from its responsibility to adequately provide food security to the people by making them dependent on 'free market'-thus

- globalisation is in essence 'global marketisation'.
- b. Now agriculture is very much capital-intensive, that is, costs of agriculture production (mechanical cultivation, fertilisers, pesticides, irrigation, seeds) has increased manifold and the small farmers are unable to cope up with this situation. Many of such inputs depend on petroleum as source of energy.
  - c. Many transnational corporations and agribusiness houses (Monsanto, Kargil, Syngenta, Potash corp, Yara, Mosaic, Agrium) indulge in monopoly control of chemical fertilisers, seeds, pesticides etc. and earn huge profit; now terminator hybrid seeds are costlier and by nature cannot be preserved by local farmers as seeds from the harvested produces-this is restricting the freedom of farmers, on the one hand, and looting their pockets on the other.
  - d. Many farmers are shifting from food crops to cash crops for exports, thus resulting into diverting of scarce land and water resources for export crops. It is some sort of colonial syndrome (as the British rule in India compelled the farmers of Champaran (Bihar) for indigo cultivation in their lands under Tinkathia system). This is the essence of World Banks' export-led strategies. Even today in many developing countries a huge tract of productive lands is devoted to cash crops; e.g. jute in Bangladesh & West Bengal, tea in Assam, cotton in Egypt, peanuts in Senegal, 'qaat' in Yemen, coffee in Angola and tobacco in Zimbabwe (and in some parts of India). Further foreign exchange earned by export of cash crops is not correspondingly spent on purchase of foodgrains, pulses, edibles, milk, fruit etc.
  - e. Many developing countries like U.S., U.K. etc. themselves provide huge agricultural subsidy but pressure the developing countries like India to reduce or fully remove subsidy (as it is alleged to distort market prices) due to inegalitarian W.T.O Agreement on Agriculture.

### **National Scenario**

Though a huge population in India is dependent on agriculture, its contribution to Gross Domestic Product has been declining to 14-15% of GDP over the years because of less public investment and under-employment. As per FAO, the population depending on agriculture in India was around 57.84 crores in 2010 and then will start declining slowly to reach 57.47 crores in 2020. Further, the employment in agriculture, being 60 per cent of the economically active population in 2000, declined to 55 per cent in 2010 and further will decline to 50 per cent in 2020. Thus, FAO projects India's population to 127.22 crores in 2020 (Chakrabarti and Dutta, 2000), As per Census of 2011, India's population was 121 crores then. Naturally, it will have implications on food security in India.

Various studies have pointed out that in India even if the total food production of a small/ marginal

farmer is not sufficient for family consumption for a year, he has to sell a part of it in the market due to the distress in a monetised economy in order to meet his various needs like purchase of utensils, clothes, social obligations, health and education - that is, there exists a 'compulsive involvement', to use Krishna Bhardwaj's term (1974), with market. Thus, almost all the landholders, while sowing their crops, take into account this very factor. Second, they also grow cash crops like mustard, rapeseed, sugarcane, spices, peas and potato which are more remunerative than the foodgrains. Third, while sowing crops they also consider that they have to pay wages to the labourers on time. Earlier, for the purpose of wage payment, coarse grains used to be sown, but nowadays the trend has changed as the labourers are not willing to accept coarse grains; rather cash is paid by selling foodgrains or cash crops. Further, food habits of the farmers themselves have also changed substantially and, therefore, they do not like to grow coarse grains like barley, maize, sawan, kodo and ragi/ madua, (though these are nutritious). Fourth, most of the farmers also take into account expected social obligations like festivals, religious ceremonies, marriage and birth ceremonies and debt repayment schedule while planning their cropping pattern. Due to crop failure because of vagaries of monsoon, many of farmers are compelled to take loan on higher interest rates and the vicious cycle of 'crop failure -loan- crop failure again - suicide' goes on.

The difference in the attitude of the 'net sellers' and that of the petty farmers at the time of sale of foodgrains is that while the former keep most of their produce in store after the harvest and sell 90 per cent of the marketable surplus later in lean season (Paush - Magh, i.e. December - January) when the prices rise due to more demand and less supply, the latter have to sell most of the surplus or, out of necessity, even the annual stock just after the harvest, in order to meet their non-food requirements like medicine, education, clothing, house repair and social functions at cheaper rates due to more supply of foodgrains than the demand in Chaitra (April-May). During the lean season, there is no adequate employment opportunity in agriculture and the petty farmers purchase foodgrains at the higher rate - i.e. they become 'net buyers'. Then even the public distribution system shops do not cope up with the demand more because of corruption and malfunctioning than because of non-availability of foodgrains in the government stock. Govt. of India revised Minimum Buffer Norms with effect from 22nd January, 2015 for stocking of foodgrains in Central Pool (Table 2):

**Table 2: Minimum Buffer Norms (2015), (Lakh MT)**

<b>Date of Effect</b>	<b>Wheat</b>	<b>Rice</b>	<b>Total</b>
1 April	74.6	135.8	210.8
1 July	275.8	135.4	411.2
1 October	205.2	102.5	307.7
1 January	138.0	76.1	214.1

Source: Dept. of Food & Public Distribution, Ministry of Consumer Affairs, Food & Public Distribution, Annual Report 2014-15.

N.B. These norms include strategic reserve of 30 lakh MT of wheat and 20 lakh MT of rice.

Consequently, either the area under food crops ('acreage response') or the yield of food crops per acre ('yield response') is to be increased to cope up with demand of the high population growth. In order to ensure adequate food production, the necessary condition is ensuring adequate inputs to farmers in time. It transpires from discussions with many villagers in UP and Bihar that subsidy in seeds, fertilisers, pesticides, irrigation and credit contributes to about 50 per cent of the increase in production (but partly siphoned off) and, on the other hand, better remunerative prices contribute to 30 per cent of the increase, while an increase in the wages of the labour will affect the production about 20 per cent. Most farmers cannot afford costly inputs and high wages, hence agriculture has become a loss-making mode of production. India has been providing subsidies on seeds, fertilisers, irrigation (electricity charges), crop loans, etc. But the Government has, under pressure from the World Trade Organisation's Agreement on Agriculture, reduced the subsidy on fertilisers, though in comparison with the developed countries, the subsidy on Indian agriculture is very low. Though the western nations pressure developing countries like India to reduce such subsidy, they provide huge agricultural subsidies to their own farmers. For instance, total subsidy provided to Indian agricultural sector by the government was only Rs.4,500 crores or about one billion dollars while the same in the Organisation of Economic Cooperation and Development (OECD) countries was 362 billion dollars (Sharma,2002). A comparison of India and some developed countries regarding agricultural subsidy per hectare is shown in Table 3.

**Table 3: A Comparison of Agricultural Subsidy in Different Countries**

Country	Amount of Subsidy (per ha) (\$)
European Union	1,016
Japan	6,915
New Zealand	317
US	184
Canada	167
India	17.8

Source: S. Sharma (2002)

In order to encourage farmers to increase production the Government of India fixes minimum support prices (MSP) of various foodgrains, pulses, oilseeds and cash crops. Minimum support/procurement price works as a safety valve, or rather 'security mechanism', for the farmers. Punjab and Haryana States buy about 90 per cent of the total wheat to the market and crowd out private traders.

One may adjudge the performance of Indian agriculture in food grains in three ways: (a) comparing India's average yield per hectare with the world's average yield per hectare, (b) India's percentage share in world food production, and (c) comparing India's per capita annual average availability of foodgrains with the world's per capita annual average availability of food grains.

Regarding yield, India lags far behind the world average and other countries. First, against the world average yield of wheat being 2,624 kg per ha, India produces only 2,578 kg per ha, whereas France's yield is 7,603 kg per ha (1998). Second, against the world average yield of rice being 3,747 kg per ha, India produces only 2,890 kg per ha, while Egypt produces 8,527 kg per ha (1998). Third, against the world average yield of maize being 4,395 kg per ha (1998), India produces only 1613 kg per ha while Italy produces 9322 kg per ha. Further, in wheat, India shares 11.1 per cent of total world wheat production, and ranks third, while in rice it shares 21.6 per cent of total world rice production and ranks second, but in maize it shares just 1.7 per cent of total world maize production and ranks seventh (with Romania). Thus, it is not a satisfactory situation in view of its huge population being 17 per cent of the world. Finally, in per capita availability, India had only 176.3 kg of food-grains in 1999-2001, which increased to 290kg per head in 2014-15 (stock of 368.56 lakh tons for 125 crore people). For properly implementing National Food Security Act 2013, 612 lakh tons of foodgrains are needed in India.

However, the moot point is that the availability of foodgrains at the national level is only a necessary condition for ensuring food availability, not a sufficient one. Until and unless foodgrains are made available at the local level at village/panchayat stores, local market, public distribution system (PDS) shops or cooperative stores, the poor farmers and labourers will not be able to have a 'specific physical access' because due to hoarding or black-marketing an artificial shortage is created. The PDS in most of the rural areas (except in Kerala, Chhattisgarh and Tamil Nadu) is in a deplorable condition characterised by non-lifting by State government or non-lifting by PDS dealers who are compelled to pay bribes to the officials concerned. In fact, during 1996-97 to 2002-03, there was a massive increase in food subsidy. Hence N.C. Saxena (2004) rightly remarks: 'The centre is spending more on food subsidy than what it spends on Agriculture, Rural Development, and Irrigation and Flood Control taken together, but benefits to the poor are hardly satisfying.' As a public hearing at Shankargarh (Allahabad) revealed to him that a bribe of Rs.38 per quintal) is given by the PDS dealer to many officials ranging from the godown in-charge to the SDM.

Next important aspect of food security specific economy food accessibility at the household level. The purchasing power of the agricultural labourers and farmers reflects the economic access to food. Though India had 30 per cent of its grain production in public stock (over 60 million tonnes) by 2000, about 25 per cent Indians were under-nourished and food-insecure. The situation has improved substantially as stock has increased to 368.56 MT at national level but affordability is quite some less. The farmers have a feeling that the minimum support prices for paddy and wheat remain more theoretical than practical, being meagre in comparison to the rising costs of production. Many farmers rightly argue that actual costs of their labour (family and outside wage labour) is not duly taken into account while calculating costs of agricultural production by 'urban experts'! Besides, there are not sufficient purchase centers. Further, the government employees posted at

the block purchase centre indulge in all sorts of corrupt practices by dilly-dallying and wrongly declaring more than the permissible level of moisture in the paddy and hence they give the farmers lower prices than due. They do not pay in cash and the bank cheques issued are delayed by the banks in their encashment. Again, due to the long distance between the village and the block, most farmers cannot take their paddy to the block purchase centre. The farmers are, therefore, compelled to sell paddy to local traders or local 'net buyers' of villages at less than remunerative rates.

Thus, as far as economic accessibility is concerned, people living below the income poverty line (20.4 per cent in 2005-06 as per the Planning Commission of India) cannot afford to buy food. According to Arjun Sengupta Commission on unorganized labour (2004-05) 77% people in India spend merely Rs. 20/- per day, hence not able to meet both ends meet. As per Global Hunger Index (GHI) 2014, That combines under-nourishment, child under-weight and child mortality with equal weightage, India ranks 120th among 128 countries on GHI. In rural areas, despite the Mahatma Gandhi National Rural Employment Guarantee (MNREG) scheme of giving 100 days' work to all needy adults in a year, in practice, people do not get work for 100 days-actually less than 5% laborers engaged there get 100 days work in a year. They do not get unemployment allowance either and often get less than the minimum wages in some parts of India as pointed out by the CAG in a sample checking. However, it is also a fact that the MNREG schemes have, to some extent, contributed to check starvation deaths and the huge migration from the poor pockets of Andhra Pradesh, Bihar, Odisha, UP, MP, Chhattisgarh, Uttarakhand and Jharkhand to the urban areas but no durable assets have been created in MNREG schemes. To be more specific, in 2005, three lakh persons had migrated from Mahbubnagar district (AP) alone to Mumbai, Pune, Surat, etc. as unskilled labour, but in 2008, the number of such migrants reduced to 53,000 due to the Mahatma Gandhi National Rural Employment Guarantee schemes (Jansatta, 25 June 2008).

Another aspect of food security is the food consumption pattern for the well-being at the intra-household level. There is often a visible discrimination against the females, children, the aged, the disabled, widows, and the unemployed male adults and their wives and children either because of scarcity of food in the family or because of discriminatory social practices or individual biases of the head of the family. Hence, even a large annual family income is not always sufficient for food security to all members in real sense.

Finally, food absorption is another aspect of food security at the individual level. Medically, it has been proved that holistic nourishment and a sound health also require safe drinking water, hygiene and clean environment as much as the staple diet. Unfortunately, about half of the Indians do not have access to sanitation services. There are 63968 habitations with contaminated water in India. During 2010-15 more than 16528 persons died due to diseases caused by water contamination in India. Since some family members often do not get nutritious food in terms of required calories, there is an increase in the number of underweight children, children with stunted growth, and those

infected with diseases due to malnourishment; infirmity as well as weakness results into early mortality. In India, 47 per cent of children below five years are undernourished; 80 per cent of children in India suffer from water-borne diseases; and over 7 lakh of these children die every year. In 1996, 65,000 villages in India became waterless (Pant, 2003). The situation has improved only to some extent.

As per international norms a person with Body Mass Index (BMI) between 16 and 16.9 is chronically malnourished and one between 17 and 18 BMI is malnourished. In India 35.6% women and 34.2% men have less than 18.5% BMI. About 50% of Indian women are anemic.

### **Causes and Consequences of Food Crisis**

Though food production has been increasing globally and nationally, its prices have been spiralling for the following reasons:

- a) Rising long-term demand in hugely populated developing countries like China and India, where rising prosperity has led to eating more quantity of food. The US Department of Agriculture estimates that the worldwide rice consumption increased 0.9 per cent in 2007 (about 424 million tonnes) but the rice production increased less than 0.7 per cent.
- b) Short-term supply shocks due to unusually cold weather (due to climate change) and pest infestation in Vietnam, the second largest rice supplier in the world, have affected the food situation. The aggregate production of maize, rice and soybean stagnated in 2006 and 2007 due to drought, while the drought in Australia led to a decrease in wheat production. India's many states suffered droughts in recent past. Further Sahel region of Africa and Ethiopia have faced severe droughts due to climate change. This resulted into starvation deaths there.
- c) Diversion of a huge chunk of America's corn crop to ethanol production boosting demand for other staples like rice (Wolf, 2008; Ritter, 2008).
- d) Eating habits due to cultural and religious reasons do have an impact on food security, e.g. many Hindus not preferring non-vegetarian foods including beef and Muslims proscribe pork and so on.
- e) There are less technological innovations and far less public investment in agriculture as well as lack of initiatives in extension works to make 'from lab to land' a success.

There seems to be a grand linkage between the prices of energy, industrial raw materials and foodstuffs. The social consequence of such food price hike is tremendous - food riots have taken place in the Philippines, Bangladesh, Egypt, Haiti and even in Murshidabad in West Bengal. Second, one of the ecological consequences is in terms of more pressure on water and soil. Third, the

price hike has led to hoarding locally and nationally. For instance, India, China, Cambodia and Vietnam banned rice exports in order to ease domestic pressure, ultimately depriving the poor in food-deficit countries like Sub-Saharan Africa. This has an inflationary effect at the global level. On the other hand, the world food crisis is also giving us an opportunity to rethink about the entire 'development paradigm', especially to question the WTO Agreement on Agriculture and the so-called Green Revolution (How green is the Green Revolution?' is the moot question), to adjust to climate change and to practice 'evergreen revolution' (sustainable agriculture through bio-fertilisers, efficient use of water through drip irrigation, short-term early varieties of seeds, dry land farming, integrated pest management and improving indigenous seeds).

### **Policy Implications: What is to be Done?**

Peter Mandelson (2008), European Union Trade Commissioner, suggests two ways to overcome world food crisis: First, 'greater production capacity' through better land use and crop practices—e.g. better/more fertilisers, improved technology and better infrastructure. For this, the developed world should provide development aid to the developing countries. Second, a dynamic farm market to encourage farmers to improve productivity in order 'to feed a growing world market'. To quote him, 'One country's temporary food security can be another's food scarcity.' In order to turn this crisis into a political opportunity, both developed and developing worlds should invest more in agriculture and reform global farm trade. This line of thought has been shared by many western and Indian scholars of neo-liberal perspective. Sunil Kewalramani (2008), a consultant with multinational companies, is of a similar view that the US in the 1970s changed its policy to encourage output rather than to support prices by limiting production and imposing export curbs. Boosting research on improving farm yields, investing more in irrigation and rural transportation and powering farms with solar and wind energy seem necessary to him to tackle the impending food crisis. He thinks even GM food is essential for the developing countries.

On the other side, two views have emerged, mostly in developing countries, with an eco-sustainability and social equity perspective. First, the diversion of agricultural lands from foodgrains' production to bio-fuel (ethanol) should be reversed immediately, especially in United States of America. This practice is taking deep roots and even in some developing countries like Brazil and India, the cultivation of 'jatropha' (bio-fuel) is slowly picking up. As a report by Oxfam (2008) points out, rich countries' demand for more bio-fuels in their transport is causing food price inflation. Grain reserves are now at an all-time low: Rich countries spent up to 15 billion dollars in 2007 supporting bio-fuels while blocking cheaper Brazilian ethanol, which is far less damaging for global food security. Consequently, bio-fuels are responsible for 30 per cent of increase in global food prices, pushing 30 million people worldwide into poverty. Hence, developed countries should scrap bio-fuels' targets, including the EU plan to get 10 per cent of its transport fuel from renewable sources like bio-fuels by 2020. Global bio-fuel production is projected to rise from 1.3 million barrels per

day in 2010 to 2.7 million barrels per day in 2030 with the US accounting for almost half of that growth.

Further, a study by US scientists led by Jennifer Burney (University of California) analysed 30 years of data in India and found that air pollution caused wheat yields in densely populated States to be 50 per cent lower than what could have been in 2010-up to 90 per cent of the decrease in potential food production is linked to smog (mix of black carbon and other pollutants) and the rest 10 per cent decrease is linked to global warming and precipitation level. Obviously tackling global warming requires international action while the problem of smog can be tackled at national level. Kyoto protocol is yet to be implemented by developed countries like US, Canada etc. Actually there is 'common but differentiated responsibility' at global level.

Again in many developing countries, animals are fed food-grains for getting more meat though animals are very inefficient converters of food-grains to meat- a cow eats 16 kg of foodgrains to develop only one kg of beef! But unfortunately, as Arun Firodia rightly points out, over 70 per cent of foodgrains produced in the US are consumed by cows and pigs for producing more meat. An average American eats 125 kg of meat annually (against Indian average of just 3 kg) and all Americans eat 35 million tonnes of meat every year (against just 3 million tonnes in India). In China, annual per capita meat consumption is 70 kg (total 100 million tonnes in a year). World meat consumption increased five-fold in the last five decades, leading to diversion of foodgrains to animal feed. So, for countries like the US and China, meat is the actual food and not foodgrains, hence they don't bother much for the price rise of foodgrains. Again, Arun Firodia rightly points out that for producing just one kg of beef, 10,000 litres of water are needed. But an animal generates 100 times more waste than a human being-so how to dispose off such a huge waste of these 50,000 million animals? And the processing and storage of meat require a huge amount of energy. Hence, if humans consume grains directly, rather than cycle them through animals to eat their meat, there would be enough food to feed the entire world.

M. S. Swaminathan (2004) has rightly suggested the following nine point State Action Plan for food security.

- a) To identify who are hungry-about 10-15 per cent of villagers (as found in Tamil Nadu)
- b) People should be made aware of the development and welfare programmes schemes of central and State governments through 'entitlement cards' (disaggregated by gender, age, caste and class, giving details of each family, its entitlement and how to access it).
- c) To eliminate energy deprivation and under-nutrition, to have a lifecycle approach of horizontal linkages among vertically structured programmes.
- d) Integrated food-based approach to hidden hunger through chemical and bio-fortifica-

- tion.
- e) To ensure safe drinking water-Jal Swaraj is doing good work for water security.
  - f) To provide opportunities for sustainable livelihood-microfinance-led self-help groups should be organised with market linkages, otherwise it would remain a `numbers game'; further, a 'paradigm shift' from unskilled to skilled work is needed to overcome poverty.
  - g) Special attention to pregnant mothers and infants (as low-weight baby at birth-2.2 kg or below-is prevalent) is necessary and also to the adverse female-male sex ratio in many States in India. So maternal and foetal under-nutrition is to be accorded priority, as malnutrition is reducing national GDP by more than 3 per cent.
  - h) Capacity-building programmes should be organised in such a way that all able-bodied persons are ultimately able to earn their livelihood. While the deprived people may be helped under State support, training and empowerment should be combined so that even after the discontinuing of the State support, this lateral learning may provide food with freedom and human dignity, and not make people 'beneficiaries' of a 'patronage' approach. Actually, according to Swaminathan, people are not the beneficiaries; rather government officers are the 'real beneficiaries' as 85 per cent of the public money in the form of taxes goes to their salary!
  - i) The formation of a consultative Group for Freedom from Hunger at State level under the Chairmanship of Chief Minister is imperative in order to coordinate civil society organisations, women's groups, government departments, academic experts, media, and international agencies like FAO, WFP, UNICEF, UNESCO and UNDP.

Swaminathan Swaminathan also suggests employment guarantee schemes with a paradigm shift at national level from "jobless" to "job-led" growth, 'from green to evergreen revolution', and an Employment Impact Audit in all government programmes and mobilisation of one million elected women members of panchayats. To quote him, 'We must establish community Food, Feed and Fodder Banks in every State.... We may consider developing a Job for Indians Act in order to provide guidelines for achieving the goal of work for all. "Work for all" is the only means of ensuring "food for all" in an economically sustainable manner.' We have MNREG Scheme since 2005 for providing at least 100 days of employment for adults in rural India.

In fact, we have to give the highest priority to the basic needs of all human beings- food, water, primary health, education, shelter and clothing- in an integrated manner, not merely as a risk management or relief measure. Not only 'development with dignity' (Amit Bhaduri) but also 'food with dignity' is the need of the hour as right to food is an integral part of our fundamental right to life as enshrined in Article 21 of the Indian Constitution as well as in Article 25 of the Universal Declaration of Human Rights (1948). That is, in most of the development programmes/schemes like Mahatma Gandhi National Rural Employment Guarantee Scheme, Mid-day Meals, Integrated Child

Development Scheme, 'Swachh Bharat' etc, the component of nutritious food and safe drinking water should be included through entitlement card so that it may become inclusive real social development. However, to avoid the sole dependency and patronage syndrome, it is imperative that most of the youth working in employment schemes are trained adequately for new or complementary skills, hence upskilling, bi-skilling, multi-skilling and reskilling is very much needed in the whole India. In addition, awareness about requirement of nutrition at the various stages of lifecycle is to be generated, especially about micronutrients, absorption capacity of body and inadequacy of calories. Hence, nutrition-based, food-based and knowledge-based approaches should be adopted simultaneously. But for that there should also be genuine land reforms in States like Bihar, AP, Rajasthan and MP, Again special attention should be given to vulnerable groups, 'hunger pockets', etc. This requires a strong political will as well as administrative will. Pradhan Mantri Fasal Beema Yojana is a good step indeed.

Second, to realise such a lofty ideal, we have to adapt the decentralisation of scheme formulation and implementation of minor public works through Panchayats with more transparency, accountability and shared benefits by practising the concept of 'think globally, act locally.' No doubt, in a large number of cases of Panchayat works, there is corruption involved, but it may be eliminated through proactive and regular checks and balances like social audits by both the local supervisory/monitoring authorities and the civil society organisations (CSOs) and NGOs. Further exemplary punishment should be imposed on defaulter panchayats' functionaries but they should be given more funds, functions and functionaries. Panchayats, CSOs and NGOs can easily manage food banks locally. Many self-help groups of women have successfully operated PDS shops in Bihar. This needs scaling up in other parts of India too.

Third, since adequate quantity of foodgrains is always available in government godowns with increasing costs of storage, it would be appropriate to give foodgrains to 'Above Poverty Line' (APL) families also. National Advisory Council earlier rightly recommended (on 14 July 2010) to go in for a universalisation of grain - entitlement across the country in a phased manner as more coverage ensures less leakage: one-fourth of the poorest blocks (about 2000 blocks) to be brought under the ambit of National Food Security Act (2013) in the first phase and in the remaining 6000 blocks special food distribution scheme to be strengthened with a focus on infants, children, the aged, pregnant women, the homeless, primitive tribes and seriously ill persons. But under the National Food Security Act 2013, only two-thirds of population will get 35 kg of foodgrains (rice at the rate of Rs.3 and wheat at rate of Rs.2). Further, in all states the allocation and lifting of food grains by PDS dealers should be publicised on websites and new modes of mass media, (twitter, facebook etc. and they should use computer for detailed accounting). All class II officers of blocks/tehsils should make transparent & regular inspection and vigilance under video camera. Since 1997 Government of India launched Targeted Public Distribution System (TDPS) and now it estimates 6.52 crore families as Below Poverty Line (BPL). Government of India has developed

National Transparency Portal for TDPS to provide all relevant data in public domain. All states have been advised by Union government for fair price shop Automation. But still the fair price shops' dealers need more commission due to increasing cost of transportation etc. Following measures have been taken : 30 states/UTs have eliminated 493.83 lakh bogus ration cards; Panchayats have been involved in vigilance committees to monitor FPS in 29 States/UTs, display of BPL lists at FPS in 32 States/UTs, display of districtwise and FPSwise allocations of food grains on website for public scrutiny in 22 states, door step delivery of food grains to FPS Is being made in 20 States/UTs. yet, the fact remains that about 1/3rd of food grain released to States does not reach the actual beneficiary (Khera 2011) due to the being sold in black market (especially to flour mills) are rorts in FCI/state godowns. (in UP, Bihar, West Bengal, Delhi leakage is more). However, Dreze & Khera (2013) estimated that at all India level PDS will reduce the poverty gap index of rural poverty from 18 to 22%. Infact against the target of 2/3rds population coverage by PDS under FS Act, only 44% of total population is covered under PDS so far. But in states which are less conducive to grow food grain like J&K, Himachal Pradesh, Sikkim, Arunachal Pradesh, Mizoram, Assam, Tripura, Meghalaya & Uttara Khand, PDS is relatively more effective.

Fourth, there should be more public investment in agriculture, especially irrigation, because still about 55% of the Indians are directly engaged in agriculture (though there is 'disguised unemployment' because more than required family members are employed for agricultural tasks). This has to ensure both bringing unused lands under cultivation and increasing yield per acre- production and productivity. Undoubtedly, various case studies (including the one in Sultanpur, UP by this author) have clearly found that public investment in agricultural infrastructure induces private investment in various agricultural activities. Allied agricultural activities like dairy, animal husbandry, goatry, piggery, fisheries, poultry etc. should be promoted on a large scale. Further, agriculture is not merely a means of livelihood but also a social and cultural way of life; hence attention should be paid to sensitivity, preferences, food habits, and experiential knowledge of the local people while adapting new technologies for production and ecological sustainability at the same time. Most of Indians eat pulses and edible oils of particular varieties but over the years consumption of pulses and edible oils per head is quite less. For instance, per capita consumption of edible oils per year in India is only 16.2 kg against the same being 27 kg as world average (in 2013-14). About 50% of domestic demand of edible oils is met by imports (crude palmoil 50.4%, RBD palmolien 24.2%, sunflower oil 13.7%, soybean oil 10.7% in 2013-14). Similarly the per head consumption of pulses is negligible in India (about 35 gram per day per head) both due to non-availability and lack of affordability due to high prices (Arhar dal being sold at Rs. 100-120/Kg in 2015-16) though it is the main source of protein for most of rural population.

Fifth, the policymakers have to ensure that agriculture should continue to get various subsidies in fertilisers, seeds, irrigation, pesticides, etc. However, it should be changed from chemical fertilisers to green and bio-fertilisers, from chemical pesticides/insecticides/weedicides to integrated bio-

pest management, from GM seeds to improved indigenous seeds, from flood irrigation to drip irrigation because Green Revolution in Punjab, Haryana and Western UP has also proved detrimental in terms of water table going down fast, increasing salinity in soil, high quantity of residues of pesticide/insecticides/weedicides found in foodgrains, pulses, fruits and vegetables grown there. These are resulting into serious diseases like cancer. Food security also requires food safety. There should be only one standard for safe drinking water in India just like developed countries and the packaged drinking water companies should be penalised for about 35 times more pesticides than the European Union norms for drinking water and cold drinks (as found by Centre for Science and Environment, New Delhi in 2003). The high potential of traditional indigenous knowledge system should be tapped fully. Thus a 'paradigm shift' from green revolution to 'Evergreen Revolution', to use M.S. Swaminathan's term, is earnestly called for. In this regard Government of India's 'Act East' (in place of 'Look East') policy is appreciable and needs to be expedited on the ground.

Sixth, minimum support price (MSP) should be fixed one and half times the actual costs of agricultural production as farmers are in loss due to rising costs of production and lower prices for their produce in open market. Hence lakhs of farmers have committed suicides in southern and western States and 40% farmers have left farming and migrated to work as non-farm workers. Agricultural Costs and Prices Commission, headed by an economist, should be replaced by an active and vibrant Kisan Ayog, headed by an actual and well-informed farmer.

Finally, the procurement of foodgrains should be decentralised by all States as is being done in West Bengal, M.P., Chhattisgarh, Uttarakhand, Odisha, Tamil Nadu, Gujarat, Karnataka, Kerala, A.P., Bihar, Rajasthan, Punjab and Telengana in order to have savings in food subsidy, more efficiency and extending benefits of MSP to local farmers. In case of less procurement than allocation by central government, the latter, through FCI, compensates the concerned State and this should continue further.

These measures are realisable for 'real social development' with genuine political and administrative will. For this, we have to wake up 'here and now' because the food question cannot wait any more in the present context of severe mass poverty and partial hunger in many parts of India like Bihar, Odisha (KBK), Eastern UP, Bundelkhand, Rajasthan, Uttarakhand, Chhattisgarh, West Bengal, Assam, Jharkhand and Andhra Pradesh. We have to ensure food sufficiency and availability, economic capability, social equity, cultural acceptability and ecological sustainability of agriculture in an integrated way so that there is an intra-generational and inter-generational equity for an inclusive society. To conclude, there has been no famine in India in post-independence period (as it took place in 1943 in Bengal leading to 1.5 million deaths)- this shows better production and food security to poor people, yet full food security in a critical holistic perspective has not been achieved so far. In fact, we have to ensure eradication of poverty and stabilisation of prices of food grains, pulses, edible oils etc. in the long run. The declared vision of Government of India is to

ensure food security for citizens of India, hence we have several miles to go to realise this goal.

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# GOODS AND SERVICES TAX (GST) AND INDIAN ECONOMY: THE ROAD AHEAD

**Jagdish Prasad\***

*India has witnessed substantial reforms in indirect taxes over the past two decades and the recent one is Goods and Services Tax (GST) which has been implemented from 1st July 2017. It has been claimed that the implementation of GST will simplify the complexities of the indirect taxation system which will have significant impact on reducing the cascading or double taxation effect on the one hand and on raising the revenue of the country by stamping out the tax evasions on the other. It is also anticipated that the expected benefits of GST will encourage economic growth. An attempt is made in this paper to analyze the likely implications of GST particularly in the context of boosting up the Indian economy. The findings indicate that the implementation of GST is a challenge as well as an opportunity. For economic growth, the opportunity lies in the production sector which cost will be lowered down and the domestic product will become more competitive which may also increase export of the country. This would have positive impact and may be able to accelerate economic growth (GDP) by 1.5 to 2.5 per cent. This contention could be supported by the fact that the GST will benefit all the stakeholders namely, trader, consumer and the government. Taking together all the benefits of GST it will provide sufficient scope for consistent Indian market which would have significant impact on the development of the economy as a whole.*

Keywords: Goods and Services Tax, Value Added, GDP, Economic growth, Domestic markets, India

## **Background Information**

There has been prolonged and serious debate in the country over various issues of reforms in indirect tax system in India over the past two decades. The evolutionary process of indirect tax reform in the perspective of GST dates back to 1986 when the then Prime Minister Vishwanath Pratap Singh launched the Modified Value Added Tax (MODVAT). This decision was further strengthened with the idea of a single common goods and services tax in 1999 when the then Vajpayee government set up a committee headed by the then Finance Minister of West Bengal, Asim Dasgupta to design a GST model. Again in 2003, the Vajpayee government constituted a Task Force under Vijay Kelkar to recommend tax reforms. This Committee recommended rolling out GST which was also suggested by the 12th Finance Commission. It received a strong and positive response when the Congress led UPA government came into power and the then Finance Minister P. Chidambaram continued work on the same and proposed a GST rollout by 1st April,

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2010. However, before this date line, Asim Dasgupta resigned as the head of Committee on GST due to political change in West Bengal replacing the CPI (M) government by Trinamool Congress. Consequently, GST rollout from April 1, 2010 could not be made feasible. After four years, in 2014, the present NDA Government re-elected into power under the leadership of Sri Narendra Modi. Within a span of seven months the government showed the strong inclination to implement GST in the country. Following this, the Finance Minister Arun Jaitely introduced the GST bill in the Lok Sabha. The bill was approved and also, the Lok Sabha passed the Constitution Amendment Bill (101 Amendment Act 2017), paving the way for implementation of GST in the country. Finally, in August 2016, Rajya Sabha also passed the Amendment Bill. Following it, 23 states over the 15-20 days ratified the GST bill (Table 1) and the then President Sri Pranab Mukherjee gave his assent to it. It was then finally decided for smooth GST roll out from 1st July 2017.

**Table 1: List of States Who Ratified the GST Constitution Amendment Bill**

Sl. No.	States	Date of Ratification	Sl. No.	States	Date of Ratification
1.	Assam	2nd August 2016	2.	Andhra Pradesh	8th September 2016
3.	Arunachal Pradesh	8th September 2016	4.	Bihar	16th August 2016
5.	Chhattisgarh	22nd August 2016	6.	Delhi	24th August 2016
7.	Goa	31st August 2016	8.	Gujarat	23rd August 2016
9.	Haryana	29th August 2016	10.	Himachal Pradesh	22nd August 2016
11.	Jharkhand	17th August 2016	12.	Madhya Pradesh	24th August 2016
13.	Maharashtra	29th August 2016	14.	Meghalaya	9th September 2016
15.	Mizoram	30th August 2016	16.	Nagaland	26th August 2016
17.	Odisha	1st September 2016	18.	Puducherry	2nd September 2016
19.	Punjab	12th September 2016	20.	Rajasthan	2nd September 2016

## Genesis

The implementation of GST is a significant step to simplify the complexities of the indirect taxation system in the country. Its main focus is on reducing the cascading or double taxation effect on the one hand and to raise the revenue of the country by stamping out the tax evasions on the other. The available data indicate that there has been continuous decline in the ratio of indirect tax to total tax revenue which may be due to tax evasions (Table 2). It can be noted from the table that the share of indirect tax to total tax revenue was 83 per cent during the year 1990-91 which declined to 63 per cent in 2000-01 and further declined to 47 per cent in 2013-14. This may be also due to cascading effects of the indirect taxation system.

**Table 2: Tax Revenue of Central Government (in Billion Rs.)**

Year	Tax Revenue	Direct Tax	Indirect Tax	% share of Indirect Taxes	Excise Duty	Custom Duty
1990-91	429.78	69.03	360.75	83	141	206.14
1995-96	819.39	222.87	596.52	72	221.76	357.57
2000-01	1366.58	496.51	870.07	63	497.58	341.63
2005-06	2702.64	1206.92	1495.72	55	866.42	466.45
2010-11	5698.69	3135.01	2563.67	45	1102.22	975.98
2011-12	6297.69	3433.10	2864.54	46	1162.26	1056.14
2012-13	7421.15	3973.45	3447.69	46	1378.19	1154.51
2013-14	8840.78	4728.61	4112.17	47	1572.26	1310.94

Source: Budgetary Documents of the Government of India and Finance Accounts (various issues)

Earlier, the taxation system was based on the principles of federalism dividing the taxation powers between the Centre and the States. Both levels of the government had some exclusive areas where they can levy a tax. Income tax included based on the company profits was the exclusive domain of the Central Government. These taxes were referred to direct taxes.

Indirect taxes were the taxes levied on the manufacture of goods, consumption, and provision of service. These taxes came under the domain of the Central Government. This taxation system was supposed to have much complexities and also having concealed expenses for the trade and industry which not only gave the scope for tax evasions but also increased consumer's burden. This is even termed as 'tax on tax'. Consequently, the credit of excise duty and service tax paid by the traders at the phase of manufacture was not available to them while paying state level taxes or VAT, and *vice-versa*. The 'tax on tax' also adversely affected the prices of goods which unnaturally get inflated. So, the main logic for a single tax like GST has been seen in the perspective of reduction in the consumer's burden on the one hand and making the Indian products more competitive in the domestic as well as in international market. Furthermore, GST with its transparent feature is easy to be administered. The genesis of GST is, therefore, is that all the expected benefits of GST will encourage economic growth. As such, the perception is that GST will provide sufficient scope for consistent Indian market which would have significant impact on the development of the economy as whole.

### **GST Model**

The execution of GST was a turning point in the history of indirect tax reform which was also historically launched at mid-night on 30 June 2017 amidst the session of both the Houses of Parliament convened at the Central Hall of the Parliament. However, there were criticisms by the opposition parties claiming that the launching of GST is just an eye-wash and there is no difference

between the GST and the existing taxation system. Virtually, nothing new concepts have come out except to unify the several former taxes and levies. It will also affect the Indians especially the middle, lower middle and poorer classes. Despite this criticism the benefits of GST can be seen in its unitary character primarily based on consumption which means that taxes are paid to the state where the goods and services are consumed not the state in which they were produced. As such, the single GST replaced several former taxes and levies which included both at the Central and the State level. The details of various taxes levied by the Centre and the State before the implementation of GST are given in Table 3. All these taxes are subsumed into GST.

**Table 3: Taxes Levied by the Centre and the State**

Sl. No.	Centre Level	State Level
1.	Central Excise Duty	a. State Value Added Tax/Sales tax
2.	Additional Excise Duty	b. Entertainment Tax, Central Sales Tax levied by the Centre and collected by the States
3.	Service Tax	
4.	Additional Custom Duty commonly known as Countervailing Duty	c. Octroi and Entry Tax
5.	Special Additional Duty of Custome	d. Purchase Tax e. Luxury Tax

It can be noted from the table that all the taxes subsumed in GST include excise duty, services tax, additional custom duty, surcharges, state-level value added tax and Octroi. Other levies which were applicable on inter-state transaction of goods have also been done away within GST regime. GST is, thus, levied on all transactions such as sale, transfer, purchase, barter, lease, or import of goods/or services. In principle, GST has been adopted a dual GST model. This means that taxation is administered by both the Union and the state governments. Transactions made within a single state are levied with Central GST (CGST) by the Central government and state GST (SGST) by the government of that state. For inter-state transactions and imported goods and services, an integrated GST (IGST) is levied by the Central Government.

From its administration point of view, Goods and Services Tax Network (GSTN) has been proposed to be formed as a non-profit organization for the purpose of creating a website/platform for all the concerned parties related to the GST, namely, stakeholders, government and tax payers to collaborate on a single portal. The portal, when up and running, is supposed to be accessible to the Central Government which allows it to track down every transaction on its end while taxpayers are advised to have the ability of connecting this to their tax returns. The IT network was touted to be by unnamed private firm. The known authorised capital of GSTN is Rs.10 crore in which Central Government holds 24.5 per cent of shares while the State government holds 24.5 per cent and rest with private banking firms for smooth running of the transactions.

Above all, the GST is governed by a GST Council and its Chairman is the Finance Minister of India. Under GST, goods and services are taxed at the following rates, 0, 5%, 12%, 18% and 28%. There is a special rate of 0.25% on rough precious and semi-precious stones and 3% on gold. In addition, a cess of 15% or other rates on top of 28% GST applies on few items like aerated drinks, luxury cars and tobacco products. It is more important to note that the rate of GST in India is between double to four times that levied in other countries like Singapore. While making a comparative analysis of implementation of GST in various Asian countries it can be noted that no distinction is made between goods and services for levying the tax. Also, goods and services attract the same rate of tax (Table 4)

**Table 4: List of Asean Countries Implementing VAT/GST**

Sl. No.	Country	Year of Implementation	Current Rate (%)	Sl. No.	Country	Year of Implementation	Current Rate (%)
1.	Bangladesh	1991	15.0	2.	China	1994	17.0
3.	India	2005	12.5	4.	Iran	2008	5.0
5.	Japan	1989	5.0	6.	Jordan	2001	16.0
7.	Kazakhstan	1991	12.0	8.	Kyrgyzstan	1999	20.0
9.	Lebanon	2002	10.0	10.	Mongolia	1998	10.0
11.	Nepal	1997	13.0	12.	Pakistan	1990	16.0
13.	Papua New Guinea	2004	10.0	14.	South Korea	1977	10.0
15.	Sri Lanka	2002	12.0	16.	Taiwan	1986	5.0
17.	Turkmenistan	2007	20.0	18.	Turkistan	1993	15.0
19.	Uzbekistan	1992	20.0				

Source: Lourunathan F and Xavier P, (2017), "A Study on Implementation of Goods and Services Tax (GST) in India: Prospects and Challenges", *International Journal of Applied Research*, 3 (1), pp.626-629.

## Review of Literature

Since the primitive days whether barter or monetised economy, the primary aim of taxation was to raise the revenue of the government. This contention is even mentioned in Kautilya's Arthashastra stating that 'taxes are often perceived to be a measure for raising resources for the government'. In the modern days also, tax, whether direct or indirect, is the main source of revenue of the government. However, there has been a continuous debate about the reform process of taxation system so that it must not be regressive rather progressive. Since the implementation of GST there has been much debate on its implications particularly in the context of Indian economy. Many studies which have come out recently mainly focus on likely implications of implementation of GST for the Indian economy. In a recent study, it has been found that the shifting to GST as a single tax from the complicated various forms of indirect taxes is a positive step in accelerating the process of economic growth in India (Vasanthagopal, 2014). Also, in another study, it has been concluded that implementation of GST will remove the economic distortion prevailing in the indirect taxation

system. This study also points out that implementation of GST will also encourage unbiased tax structure which is indifferent to geographical locations (Kumar, 2014). This finding is further supported by a study which concludes that implementation of GST in India is expected to benefit all the stakeholders namely, trade, industry, consumer and the government. This is due to the fact that there have been provisions of a more comprehensive and wider coverage of input-tax set-off and service tax set-off, subsuming of several taxes in the GST and thus, phasing out of CST. Sehrawat and Dhanda (2015) in their studies stated that GST will give India a world class tax system by grabbing different treatment to manufacturing and service sector. However, they also find out challenges in the implementation of GST. Efforts need to be made to resolve the battling interest of various stakeholders and accomplish the commitment of cardinal reform of indirect tax structure in the country. However, there is also divergent view suggesting that GST is not good for low income countries (Mawuli, 2014). This study points out that the GST does not provide broad based growth to poor countries. Even if the GST is implemented, the rate of GST should be less than 10 per cent. A study using Least Square Dummy Variable Model on the post-effect of the GST on national growth in different Asian countries came to the conclusion that there is positive and significant relationship between household consumption expenditure and government consumption expenditure after the implementation of the GST (Venkadasalam, 2014). However, there has not been uniform effect of the GST among various countries. The study points out that Philippines and Thailand show significant negative relationship with their nation's growth. Meanwhile, Singapore shows a significant positive relationship. Such a difference on post-effect of GST on nation's growth may be on account of the fact that the impact varies depending on the governance, compliance cost and economic distortion. The inference that can be drawn from this study is that the positive effect of GST could be much visualised with the help of a neutral and rational design of the GST. The design should be in such a way that the GST is simple, transparent and significantly enhances involuntary compliance.

### **GST and Indian Economy**

The foregoing review of literature indicates that the implementation of GST will bring about many benefits mainly increasing the revenue of the government on the one hand and gearing up the economic growth on the other. As such, this has been general perception that the implementation of GST will benefit the economy in various ways. This will happen on account of removal of complexities of indirect taxation system in the country and consequently, improving the country's revenue ratio and also having impact on reducing inflation. Though it is not feasible to assess the post-effect of GST on the Indian economy at present but there is feasibility of analysing the likely implications of GST on the Indian economy on the basis of its various forms of benefits. The implications are that increase in revenue may have resultant effect on increase in income and output in various sectors of the economy. As such, GST will greatly benefit the production sector due to its low rate in the production sector. This would have positive impact and may be able to acceler-

ate economic growth (GDP) by 1.5 to 2.5 per cent. If this becomes reality, GST would be most welcome step. However, the service sector which is major contributor to GDP (57.9%) may face difficulty and this may adversely affect the overall growth of the economy. For example, service tax has already been a hike from 12 per cent to 14 per cent. The present GST rate is 18 per cent which is 4 per cent more than the previous rate. Also, the states may lose the revenue because the state will get less revenue from it due to distribution of revenue from service tax by 50-50 per cent. These losses could also be added by the losses of revenue from the inter-state CST. This may affect the GDP adversely. No doubt, there has been provision for compensating the losses to the state. Under the provision of GST, the one per cent tax will be given to the states for compensating their losses. Likewise, it has also been opined that GST is not likely to give any incremental tax revenue to the government, because some production sector already generates revenue at around 26 per cent. Despite all these expected shortcomings, it could be said in the perspective of benefits and advantages of GST that Indian economy will be benefited in various ways and as a result, economic growth may be accelerated which is today a major challenge to the Indian economy. It should be noted here that recently, the GDP growth rate has come down to 5.7 per cent which is the lowest as compared to the past period. It is thus a major challenge to accelerate the growth and it is expected that with the help of GST this challenge could be met.

So far as benefits of GST are concerned, it may benefit to all the stakeholders namely, trader, government and consumer. For traders, there could be multiple benefits such as reduction in the range of taxes along with reducing the cascading effects of 'tax on tax'. Also, there would be balance of taxes for export which could provide the scope to promote export. This is a dire need of the country because in recent years, there has not been increase in its export and the challenge of accelerated growth could not be possible if there would not be increase in its export growth. One of the major causes for low GDP is due to decreasing trend in export growth. GST may take care of it through developing the Indian market as common national market or common economic market which may have also positive impact on export market. Furthermore, for the benefits of the trader class, GST will reduce in tax cost and also, reduce the cost of compliance. So, there will be multiple benefits of GST to traders and it will have good impact on the Indian economy.

The GST is equally beneficial to consumer in many ways. First, there would be reduction in cost of goods and services due to removal of double taxation or cascading effect of taxes. This will increase the purchasing capacity of the consumer and following the laws of economics, the consumer may buy more units which will increase demand for the product and consequently, production will increase. Second, an increase in income of the consumer will pave the way for increase in saving also which may go into the way of investment. This contention is proved on the basis of consumption function which states that total consumption increases but not by an equal amount of increase in income.

The government will also be benefited from the implementation of GST due to its simple and single tax structure along with its high level of transparency. The business enterprise will have to show the tax applied in sales invoice and consequently, consumer could know how much tax he is paying on buying the product. This will improve compliance and revenue collection meaning thereby less evasions of the tax. The transparency will also broaden the tax base which will again improve the revenue collections. The increase in revenue collections as also indicated earlier may be used for financing development activities. The benefit of consumer in terms of savings may also be used for investment which together will boost up the economy. Taking together all these benefits of GST accruing to the stakeholders it may be expected that it may provide scope for growth to the Indian economy.

### **Conclusion**

From the foregoing analysis it could be conclusively said that the implementation of GST is a bold step taken by the present Union Government to reform ill-prone taxation system prevailing since long. The reality is now 'one nation one tax'. It will not only combat the problems of cascading effect of previous taxation system and tax evasions but also broadening the tax base. Apparently, it will increase revenue of the government which can be utilised for development activities which in turn will provide enough scope for national economic growth. At present, on the economic front, the country is facing three major challenges mainly, accelerated growth, employment and social justice. The implementation of GST may prove as an engine which will drive the economy in a positive direction. It will have significant impact on production sector reflecting in lower cost of production and also, making the domestic product more competitive. No doubt, GST will give India a world class system. However, there are several limitations and challenges to achieve the objectives of GST but with the help of good financial planning as an input GST may give good output to the nation.

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# CONTEXTUALIZING CSR AND POVERTY WITH SPECIAL REFERENCE TO INITIATIVES OF TATA STEEL IN JHARKHAND

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## Abstract

*Tata Steel as one of the leading business houses of this country is considered as the pioneer in practicing philanthropy and corporate social responsibility (CSR) as an obligation to its workers and the society where it operates. The present paper examines the role of Tata Steel Limited Jamshedpur in alleviating the sufferings of the poor and promoting quality of life in a sustainable approach through its corporate social responsibilities. This account stems out of the mega research project – “contributions of Tata Steel towards CSR and sustainable development” conducted in 35 villages of Jharkhand under the prestigious JRD Tata Chair at XISS, Ranchi. Using ethnographic method in Idalbera village (one of the service villages of Tata Steel in East Singhbhum district of Jharkhand State) this paper tries to examine the intervention provided by Tata Steel and also find out the gaps and issues in the CSR approaches for poverty alleviation and the attainment of quality of life of the poor residing in the company’s in the operational area. The findings of the study reveal that Tata Steel Rural Development Society (TSRDS) has helped the people of Idalbera village by improving their infrastructure, literacy, irrigation facilities and health care services to a large extent which are pro-people. However, the CSR activities of the Tata Steel alone cannot help in reducing the poverty of its operational area. There remains the role of governments and donor agencies and working both with firms and civil society groups to formulate policies and programmes to reduce poverty. Based on the analysis of data finally, the paper also tries to find out the solution by suggesting appropriate policy formulation.*

**Keywords:** Corporate Social Responsibility, Poverty Alleviation, Ethnographic Method, TSRDS, Jharkhand

## Introduction

Poverty may be defined as a condition of not having the means to fulfill the basic needs (food, clothes, shelter, education, health and other amenities) in life. It is a widespread problem in developing countries like India. Broadly speaking, Indian poverty is predominantly in the rural areas where more than three quarters of all poor people reside. It is also very uneven across different regions of the country. Of the 282 million poor people in India 228 millions live in villages. Similarly, out of

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20.8 million poor people in Jharkhand 15.7 million live in rural areas. People of rural areas are poor because either they have no knowledge of how to produce more or they have no means of production or the productivity of their assets is too low to provide them requisite income to be above poverty line (Prasad, 2001).

With the advent of India's independence, adoption of the Constitution and initiation of the Five Year Plans for development, efforts were made to implement the plans for the well-being of the poor. The makers of modern India took the pledge of transforming the long suppressed and much exploited Indian society into a Welfare State in which every citizen could secure social justice and a guarantee of the satisfaction of his fundamental necessities. In order to ensure the redemption of this pledge in free India, a set of social objectives was enshrined in the Constitution under what we call the Directive Principles of State Policy which required: (a) that the citizens, men and women equally, have the right to an adequate means of livelihood; (b) that the ownership and control of the material resources of the community are so distributed as best to sub serve the common good; and (c) that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment. The three sectors – Governments, Corporate ventures and NGOs – of the society have been fully involved in this objective.

Here we talk about the role of corporate houses in alleviating the poverty in society at large. The corporate houses know it very well that trade and society cannot function in isolation. As part of the linkages, relationship and interface between business and society they have been practicing CSR for alleviating poverty and provide quality life to the people since their inception. In spite of the efforts made by all the three sectors of our economy since the last Twelve Five Year Plans to increase the output of agricultural produce, many parts of India are still haunted by the specter of hunger and malnutrition. We have not been able to provide even basic needs of the people. The challenges for corporate is not only the 'business' but sustainable development of society where broader social issues like equity and equality, transparency, human rights, environments, poverty, health and education of community and ethical conducts will have to be adhered too (Agenda 21, UNDP, 2002).

The people suffering from hungers have more than doubled from First Five Year Plan to the Twelfth Plan. Although there is a growing literature on poverty alleviation and pro-people development through corporate social responsibilities (Gandhi, 1961; Paulo, 1972; Makower, 1995; Chamber, 1997; Arnold & Day, 1998; Quazi & O'Brien, 2000; Utting, 2003; Saxena, 2005; Ahmed et.al, 2007; Prahalad & Krishna, 2010; Srivastava, 2010; and Prasad, 2001; 2011) but there is a lack of ethnographic research<sup>1</sup> and in-depth studies in the existing literature. The present study is an attempt to study the role of Tata Steel in alleviating poverty through corporate social responsibility using an ethnographic research. This paper is a part of the larger comprehensive study on "contributions of Tata Steel towards CSR and sustainable development" being conducted by the JRD Tata Chair at Xavier Institute of Social Service (XISS), Ranchi.

## Theory and Evolution of CSR in India

The theory of CSR revolves around the fact modern corporation has created, and continues to create, many social problems and therefore, it is appropriate to force them to assume responsibility to address these problems by devoting some of their resources in the form of huge human and financial capital.

The term CSR may be new in India but the concept of CSR is not new for India. It has been followed in our country since ancient times. The concept of helping poor and less fortunate people in our country is a very old tradition and followed by different religion with different names. Such as donation of certain amount of one's earning specifically for helping the poor and disadvantaged people in Hindus is called as "*Dharmada*", in Muslims it is named as "*Zakaat*", and "*Daashaant*" in Sikhs (Panda, 2008).

The concept originated as a result of social issues like poverty, unemployment and pollution. During pre independence era India followed the idea of setting up charitable foundations, educational and healthcare institutions, and trusts for community development by some of the industries emerging in India. Initially, CSR was practiced by a philanthropic approach, i.e. making contribution towards the society by donating money or equipments to the organizations, employee volunteering etc. These charitable works were utilized by the companies as a measuring tool for their CSR activities. The philanthropic approach to CSR was no compulsion and hence was not incorporated directly into an organization's core business plan (Pralhad & Krishna, 2010).

The term CSR came into existence in early 1970s although it was further abbreviated. During the 1980s and 2000, corporations recognized and started accepting their responsibility towards the society, people and institutions across all section of society started supporting it. This can be supported by the fact that there was significant increase in the number of Fortune 500 firms from less than 50% in 1977 to approx 90% by the end of 1990 (Sundar,2013). The evolution of CSR in India can be understood by a chronological order of four thinking approaches according to a survey done by Tata Energy Research Institute (TERI).

**Ethical Model (1930–1950):** It was a pre independence model supported by Mahatama Gandhi for community development. According to this approach the business managed their business entity as a trust held in the interest of the community. This model was called as trusteeship model which was followed by many family run business houses such as Tata group to contribute towards the socio-economic development of the country.

**Statist Model (1950–1970s):** This model was followed in the post independence era which was driven by mixed economy more inclined toward socialist kind of economy under the rule of Jawahar Lal Nehru. The corporate responsibility in this era was decided by the state ownership and legal requirements.

**Liberal Model (1970s–1990s):** The model implies that it is significantly important for a business to generate wealth lawfully and contribute to society through taxation and other charitable works.

**Stakeholder Model (1990s – Present):** According to this model the profits earned by business also have certain share for societal responsibility to be fulfilled by the corporate. The companies need to perform according to triple bottom line approach. The businesses are also focusing on accountability and transparency through several mechanisms (Woodward, 1998).

Recently, the government has realised the significant role of business in inclusive growth of country. So, Policies have been introduced in India regarding CSR, as in many parts of the world, now the corporate social responsibility has emerged from a utopian concept to a must-do activity (Sundar, 2013). Primary amongst these are the National Voluntary Guidelines (NVG) on Social, Environmental and Economic Responsibilities, 2011, and the Companies Act, 2013. Clause 135 of the Companies Act, 2013, addresses Principle 8 of the NVGs, that of inclusive growth and equitable development. It mandates companies with a certain net worth of Rs. 500 Crore or a turnover of Rs. 1,000 Crore or net profit of Rs. 5 Crores, has to spend 2% of their average profit after taxes (PAT) for three consecutive years on CSR activities. Given the developmental challenges India faces, companies have several opportunity areas to invest in and address these challenges. However, whether this compulsion of spending 2% of average profit on CSR achieve something for development of society or just turn into a book-keeping activity needs to keep a check on it (Ministry of Corporate Affairs, GOI, 2013).

### **Tata's Initiatives towards Poverty Alleviation through Corporate Social Responsibility**

The origins of ethical business and concern for the society lie in the pioneering efforts of 19<sup>th</sup> century corporate philanthropists such as Cadbury Brothers in England and the Tata family in India.

The Articles of Association of Tata Steel emphasizes that social obligation beyond the welfare of employees should be accepted as part of the objectives of Tata Group. “Every company has a special continuing responsibility towards the people of the area in which it is located and in which its employees and their families live. In every city, town or village, large or small, there is always a need for improvement, for help, for relief, for leadership and for guidance. I suggest that the most significant contribution organized industry can make is by identifying itself with the life and problems of the people of the community to which it belongs and by applying its resources, skills and talents, to help them”.

The Tata Steel limited has been taking sincere initiatives for the development of poor people in its operational; area since the beginning of the twentieth century. The company's approach to village adoption can be classified into two main categories: (a) task adoption and (b) area adoption.

Task adoption implies identification of the specific needs of villages and concentration of efforts on meeting them, for example, supply of fertilizers and pesticides by companies like Gujarat State Fertilizers Company Limited, fertilizer Corporation of India, Sandoz (India) Limited, Rallis India Limited and others. Task adoption also includes taking up of specific activities which involve the specialization available with the company or organization, for example, low cost rural housing, construction of wells and provision of water pumps.

Area adoption, on the other hand, refers to attempts of industry to choose one or more villages and provide all the service and other inputs required to improve life in that area. The efforts of Indian Explosives, Chemical & Fibres of India Limited (CAFI) and Usha Martin Black (Wire Ropes) limited, provide an example of this. Provision of seeds and fertilizers supported by requisite extension work, irrigation and water management, medical aid, education and road building, has been undertaken by these companies in the villages adopted by them.

Tata Steel implements its social responsibility initiatives primarily through its Corporate Sustainability Services Division (CSSD) and through three nonprofit organizations it has established. These are the Tata Steel Rural Development Society (TSRDS), Tribal Cultural Society (TCS) and Tata Steel Family Initiatives Foundation (TSFIF). Under the Sustainable Livelihood Programme the TSRD Society aims to enhance the livelihood of rural people specially tribal people of some villages in Saraikela Kharsawan district by improving irrigation facilities in the area.

Tata Steel Rural Development Society (TSRDS) was established in 1979. The main beneficiaries of the scheme are not only villages and villagers surrounding Jamshedpur but also those at far flung areas surrounding Noamundi, West Bokaro, Jharia and Jamadoba. This society started with a modest target of reaching out 30 villages. Over the years it has been working in hundreds of villages employing a large number of full-time workers and has a budget of several crores. The bulk of this is provided by Tata Steel. The rest is contributed from government sources and international bodies.

The society has helped people in the villages in many ways. They are working in improving its connectivity by making link roads and boring wells for irrigation purposes. The distribution of water to arable lands is managed by a committee called *Pani Panchayat* consisting largely of women for enhancing productivity. The society's staff provides seeds, fertilizers and pesticides. This society has made significant contribution to improving the quality of life of tribal communities like Ho, Santhal and Birhor.

Steps have also been taken to improve literacy rates in the operational areas. Several initiatives have been taken to spread education in all the slum areas and those which have a large presence of scheduled castes and tribes. Camp schools are organized to bring back school drop-outs.

Tata Steel provides curative, promotive and preventive health care services to improve the health status of the local communities. Mobile medical units and health check-up camps provide extended services both to urban slums and remote rural areas. Other interventions include outreach clinics, immunization and MCH services.

Tata Steel supports the need for the development of scheduled tribes and castes through its policy of affirmative action. A tribal Culture Centre was started in 1993 for the promotion and preservation of indigenous art and culture and to improve the health, aspiration and livelihood opportunities of marginalized weaker communities. A socio-economic survey of primitive tribes like Sabar, and Birhor was conducted in four villages of East Singhbhum district. On the basis of this survey certain interventions were made to preserve the culture of these tribal communities.

In the year 1958, the management felt that caring for its own employees was not sufficient and something was required to be done for improvement in the quality of life in the poorer sections of the population in Jamshedpur. With this end in view Community Development and Social Welfare Department was created. The programmes included aims at transformation in the life of people surrounding the Steel Company through adult literacy, primary education, family planning, small savings, cultural programmes and sports.

### **Objectives of the Study**

This paper explores the contribution of Tata Steel towards poverty alleviation through corporate social responsibility. The focus of this research is on the nature and types of CSR activities which create social engagement among local poor and fight poverty and improve living conditions and quality of life.

### **Methodology**

This account stems out of the mega research project – “contributions of Tata Steel towards CSR and sustainable development” conducted in 35 villages of Jharkhand under the prestigious JRD Tata Chair at XISS, Ranchi (Prasad & Kumar, 2016).

This paper is based on an ethnographic research conducted in Idalbera – one of the service villages of Tata Steel, with a multi-disciplinary approach using both quantitative as well as qualitative data. The advantage of ethnographic method is that – it captures detailed and nuanced portrayals of a field site. It emphasizes both what people say and what they do and the disconnect between them i.e. discrepancies between verbal behaviour and actual practices (Singh, 2017). The study included both desk and field reviews from secondary and primary sources. The sample size was decided keeping in mind the characteristics of the selected beneficiaries.

## Sample Size

The sample size involved the respondents out of the local beneficiaries covered under the Tata Steel Rural Development Society (TSRDS) programmes. Out of the total number of household beneficiaries (56), only 30% i.e. 18 beneficiaries were selected on the basis of Systematic Random Sampling method covering all social groups among the selected beneficiaries for the study. Besides, three more non-beneficiaries (respondents) of the programmes, one each from the social groups were also selected for the study. Thus, in all 21 respondents were interviewed during the pilot study. Sample size of the study is given as follows:

**Table 1: Sample Size and Selection of Beneficiaries-Respondents for the Study of Idalbera Village**

Total Number of Households	Total No. of Beneficiaries covered under TSRDS Project in Idalbera (PP and SHG)	Sample Size	
		Beneficiary selected for survey	Non-Beneficiaries Respondents selected for survey
<b>130</b>	<b>56 (43%)</b>	<b>18 (30%)</b>	
ST: 59	SHGs 35	ST: 15	01
OBC: 56	Pani Panchayats 21	OBC: 03	01
SC: 15		SC: Nil	01

Source: Primary data collected from field work, 2011.

The field work and data collection for the study was done by the research team in two spells. The research team visited Idalbera - First for five days i.e. 20<sup>th</sup> April to 24<sup>th</sup> April, 2011; and Second for eleven days i.e. 4<sup>th</sup> July to 14<sup>th</sup> July, 2011 to obtain information on the qualitative and quantitative aspects of the data. The research team had camped in Idalbera village throughout the entire duration of field work. The methods and tools of data collection included observation, interview, focus-group discussions and case studies. The ethnographic Case studies were selected purposively. Valuable information was collected from both the secondary and primary sources. The authors camped in the village for 14 days.

## Data Presentation and Analysis

### *Ethnographic Profile of Idalbera Village*

Idalbera village is situated on the banks of Swarnarekha river. It is located at a distance of 13 Kms. south of district headquarters of East Singhbhum (Jamshedpur town). From Simuldanga village on NH-33, it is interiorly located at a distance of 5 kms. The village is well connected by a motorable road for the nearest urban centre. The total area of Idalbera is estimated at 521.15 acres.

### Social Structure of the Village

The residential pattern of Idalbera village conforms to the general pattern as described above. The whole village is divided into various caste/tribal groups living in four localities – *Neech Para*, *Unch Para*, *Tetenga Basti*, and *Kenddih Tola*. The early and original settlers of the village are the tribals (Bhumij) who own majority of agricultural holdings and manly live in *Neech Tola* which is on the fringe of the village near the Swarnarekha river. At the entrance of the village we find the *Unch Para* where the houses of Kurmis on both the sides of road are built in a clustered fashion. In the other two localities of the village - *Tetenga Basti*, and *Kenddih Tola* we find mostly the Yadavas, Telis, Lohars, Chamars and Nais. The details are provided in Table 2.

**Table 2: Communitywise Distribution of Households and Population at Idalbera Village**

Localities of the village	Community/ Caste	'Surname/ Sub-Caste	Category	No. of Households	Population
Neech Para/Tola	Bhumij	Singh, Munda, Sardar	ST	44	236
Unch Para/ Mahto Tola	Kurmi	Mahto	OBC	32	173
	Bhumij	Singh	ST	04	22
Tetenga Basti	Lohar (Iron Smith)	Karamkar	SC	07	35
	Nai (Barbar)	Pramanic	SC	03	15
	Santhal	Manjhi	ST	07	38
	Teli (Oil Processor)	Gorai	OBC	07	37
	Gwala (Milkman)	Gaud, Gop	OBC	11	62
Kenddih Tola	Chamar (leatherman)	Machchua	SC	04	20
	Gwala (Milkman)	Pradhan, Gaud	OBC	05	27
	Bhumij	Singh	ST	04	22
	Lohar	Karamkar	SC	01	05
	Teli	Gorai	OBC	01	06
			<b>Total</b>	<b>138</b>	<b>698</b>

Source: Primary Data collected from field work, 2011.

Idalbera is a mixed group village comprising of 130 households of which 59 belong to STs; 56 households belong to OBCs, and 15 belong to SCs. The total population of Idalbera village is 698 of which 343 are males and 355 are females. Community wise distribution of population shows that STs are in majority with 318 persons followed by OBCs with 305 persons and SCs with 75 persons. The Sex Ratio (females per thousand males) in the village is 1035. The community structure of the population of Idalbera consist of 8 caste/tribals groups. These are Bhumij, Santhal (ST); Kurmi, Teli (oil processor) and Gwala-milkman (OBC); and Lohar (iron smith), Nai (barbar) and Chamar – leather worker (SC). Among the scheduled tribes Bhumij are in majority – numerically and economically. Similarly among the OBC Kurmis constitute a fairly large portion of the population next to Bhumij. Study reveals that agricultural land holdings wise Bhumij are more rich but have no

education whereas the Kurmis (Mahto) have less agricultural land as compared to Bhumij but are educationally sound and are clever. Age group wise distribution of population at Idalbera village shows that majority (36.82%) of the population lies in the age group of 15-35 years followed by the age group of 36-60 years (21.78%) and 6-14 years (20.49%). Minimum percentage (6.02%) of population was found in the age group of above 60 years.

The details of the description of population at Idalbera village are provided in Table 3.

**Table 3: Category and Genderwise Distribution of HHs and Population of Idalbera Village, 2011**

Sl. No.	Category	No. of HHs	Gender		Total (%)
			Male	Female	
1.	ST	59	156	162	318 (45.56)
2.	OBC	56	150	155	305 (43.70)
3.	SC	15	37	38	75 (10.74)
	<b>Total</b>	<b>130</b>	<b>343</b>	<b>355</b>	<b>698 (10.74)</b>

Source: Census of India, 2011.

### **Educational Status**

It was found that majority of the villagers (46.7%) were illiterate and 53.3 percent were literates. Among the literates majority of the villagers (28.94%) were educated up to only class fifth. 15.19 percent had their education between class sixth to class ninth. Further, there were only 37 (5.3%) matriculates, 17 (2.44%) intermediates, 3 (0.43%) graduates and only 2 (0.29) post graduates in this village.

### **Occupational Structure**

Idalbera is primarily an agrarian village. Since the Bhumij and Mahto are numerically preponderant, they own a large part of the village land. The values of land in an agricultural economy must be fully appreciated to understand the village economy. In Idalbera, land is not only a source of livelihood for majority of the villagers but also a symbol of material security and well being. Everyone in the village would like to possess more land than he has, for more land means more to eat and more comfortable margin on which one can attain both livelihood and luxuries. The occupational structure of Idalbera village depicts that 33.67 percent of the total workforce is engaged in cultivation, 40.96 per cent in agricultural labours, 22.86 per cent non-agricultural labours, 2.01 per cent in service, and 0.5 per cent trade and commerce. Moreover, livestock such as ox, buffalo, cow, goat, sheep, hen, duck, etc. were found in 87 families. Overall participation rate for the village is 57.02 percent. The main workers in the village comprise of 31.95 percent where as the marginal workers and non-workers are 25.07 percent and 42.98 percent respectively.

### **Drinking Water Facilities**

The villagers collect water for drinking from hand pumps and wells. There are 7 wells in this village which are privately owned. Similarly, there are 3 private hand pumps. Besides, there are other hand pumps and wells constructed by the government also.

### **Irrigation Facilities**

Idalbera is a rain dependent village for cultivation of crops and vegetables. However, the Swarnrekha river is a natural source of irrigation for those villagers whose agricultural fields are near the river. With the intervention of TSRDS one Pani Panchayat has been constituted comprising of 21 villagers. This Pani Panchayat has installed a lift irrigation with pumping set near the Swarnrekha river which supplies water for irrigation to its members. Now a days due to advancement some villagers (non-members of Pani Panchayat) also hire pumping sets from outside the village for the purpose of irrigation.

### **Banking Facilities**

Generally the villagers have their bank accounts in the nearby branch of Jharkhand Gramin Bank which is located at Mango in Jamshedpur. The villagers make their saving and loan transactions in this branch itself. In addition the village also has two Self Help Groups (SHGs) which act as banks for savings as well as provide petty loans to its members at minimal interest rate (Rs. 5 per Rs. 1000 per week).

### **Health Facilities**

The villagers of Idalbera go to the health centres at Simuldanga, Dimna and Mango to seek treatment for minor illness. For major illness the villagers go to Father (St. Joseph) hospital at Bhilaipahari or to TMH at Jamshedpur. However, the villagers also prefer to visit to doctors and hospitals for treatment to Govt. hospital Sakchi, Jamshedpur, Mercy Hospital, Harpal Singh Hospital, Mango, and other health centres at Pipla, Baridih, Simuldanga, Mukhiyadanga, Dhadkidih, Haldipukhur, Sidhulota, Lupung, etc.

### **Government Programmes**

As usual, the village has generally remained left out so far as the benefits of government development programmes are concerned. Recently, ten persons, have been sanctioned old age pension scheme. Besides a few students of dalit community have got scholarships under the SC students scholarship programmes from the government. The National Rural Employment Guarantee Programme is not at work in the village; although, 39 persons have reported to have their 'Red Cards'. In Idalbera, about 119 households are electrified while 11 households have not got electricity facility.

## Village Leadership and Organizations

Earlier villagers of Idalbera were entirely dependent on the Kurmis of the village so far village leadership and organization is concerned. Under the circumstances of backwardness they could not develop any initiative nor could they be involved in risk taking activity. They did not have any time orientation nor could they plan for the future. But these days the struggle against exploitation has created considerable awareness in the village. The credit for all this goes to community leaders of the village like Negi Singh, Phanibhushan Mahto, Niranjan Singh, Jagarnath Singh, Debnath Singh, Duryodhan Singh, and others. Besides, these volunteers have so far managed to sustain this awareness, unity and social action.

### History of Tata Steel's Intervention in Idalbera

With the sustainable development approach, the TSRDS attempted to influence village life from several angles, economic, social and cultural but – the emphasis was on economic activities. Roughly speaking, the work done by the TSRDS till 2011, shows three broad phases in the nature and tempo of the activities it pursued. Some of the activities like formation of SHGs, agriculture and irrigation through Pani Panchayat, medical assistance and sanitation services, continued and developed throughout the period but many others because of their once-for-all character or other causes, lasted for short periods. However, all of them can be identified with certain specific periods for narration and analysis. The broad three phases along with their time span are:

- i. The preparatory phase (1996 -1997)
- ii. Task adoption phase (1998 -2006)
- iii. Withdrawal phase (2007 onwards)

A brief account of the principal activities undertaken in each phase is presented below in order to provide a birds –eye view of the range they covered and the problems they faced.

(i) *The Preparatory Phase (1996-97)*: This phase covered the first two years of the project during which Mrs. Shakti Sharma was directly responsible for the work at Idalbera. In this period, TSRDS was primarily occupied in determining Idalbera to be included in the project and ascertaining its felt needs and priorities.

Accordingly, during this period, Negi Singh first came in contact with some officials of TSRDS like Vishwanath Singh Sardar, Millu Sardar who belonged to Bhumij community and Felix Ekka (of Pipla Centre) and Shiv Shankar (of Bhilaipahari area). He explained to them the problems of his village and the need of development. Looking in to the matter these officials under the leadership of Mrs. Shakti Sharma made a visit in this village to learn their problems and plan for a need based development work. The visiting team found that due to lack of irrigation facilities agricultural fields of Idalbera is only rain dependent despite having a huge agricultural area. As a result the cultivators

could only grow one crop in a year. To change the cropping pattern and agricultural produce the TSRDS team decided to help the villagers by installing a lift irrigation system on the bank of the river Swarnrekha. Accordingly, in 1997 the TSRDS officials started its initiative to establish lift irrigation facility at Idalbera in order to provide irrigation water to the farmers for agriculture.

(ii) **Task Adoption Phase (1998-2006):** Water is a critical input for achieving higher agricultural growth and ensuring greater food security. Access to adequate water is one of the leading factors limiting development in rural areas. For rural communities, dependent on rainfall for agricultural sustenance, any improvement in irrigation facilities has a cascading effect on their income and hence on their quality of lives. Keeping this in mind, the TSRDS started concentrating mainly on the installation of Lift Irrigation system (**Pani Panchayat**) and formation of **Self Help Groups** in Idalbera village. For the establishment of Lift Irrigation facility at Idalbera the farmers were requested to constitute a samiti and also contribute some amount for the proposal. Initially, the villagers did not agree for contribution but after a lot of explanation and understanding they agreed to do so. The villagers formed the society and named it as “Swarnrekha Pani Panchayat” (SPP) with considerable members of 20 farmers. The 20 members together contributed Rs. 20000 (Rs.1000 each). The secretary of TSRDS Mrs. Shakti Sharma, along with other officials came to Idalbera regarding the place where pumping set machine could be installed. Several meetings were held and then the TSRDS officials with the help of the Pani Panchayat members finalized the area near the river keeping in mind the nearness to the water resource and the coverage area of the beneficiaries. The villagers also provided labour force for the construction of well, irrigation shed and drainage system (furrows) for carrying the irrigation water to the low areas. The Pani Panchayat at Idalbera was inaugurated by Mr. Middhya, head, TSRDS in July 1998 and the irrigation started in November 1998. Since then the lift irrigation water is used for vegetable growing only. Paddy cultivation is partly dependent on rain water harvesting. The Lift Irrigation usually does not function between July-November (rainy season) as due to rain the river is in full spate and the well gets submerged. The structure of SPP and its function is summarized as shown in Table 4.

**Table 4: Structure and Function of Swarnrekha Pani Panchayat at Idalbera**

1.	Establishment	The Idalbera lift irrigation was initiated in 1997 as a joint venture with L. D. Javeri Trust, The Swarnarekha Pani Panchayat was formed in 1998.
2.	Objective	The prime objective of the project was (i) to provide assured irrigation facilities throughout the year; (ii) to promote growing of vegetables and other cash crops and (iii) to inculcate modern agricultural practices.
3.	Design	Swarnarekha River acts as natural perennial water resource. A pumpset lifts the water from the well constructed on the banks of the river. Through pipeline of 2100 feet (500 feet underground pipe of 6 inch; 1600 feet pipe of 4 inch) the water is carried to the field. There are three hydrants from which water is further distributed either through furrows(for low lands) or through portable pipes.
4.	Capacity of machine	8 HP (Kirloskar Engine)

5. Command Area	Rabi: 25 acres, Zaid: 15 acres
6. Distribution Arrangement	Through furrows for low areas & through pipes (4 inch & 3 inch pipes) for uplands.
7. Composition	At present the Pani Panchayat comprises of 2 tribals and OBC. Though the numbers of tribal are much more as compared to the numbers of OBC, no undue influence of any caste is seen in the group.
8. Governing Body	President, Vice-President and Operator cum Treasurer are the three posts. The posts are elective in nature though since the time of inception the same persons have held the post. During interview it was observed that the President and the Vice-President did not have much role. The Treasurer in fact is the person who was responsible for informing the group regarding the money in the bank, the total expenditure, and where it has been spent, i.e., expenses in the repair of the machine etc. If some major expenditure has to be undertaken for repair of the machine or a part has to be replaced the operator raises the issue in the meeting and decision is taken.
9. Governance and Decision Making Process	Highly democratic, all the members irrespective of their land holding have their right to speak and have an influence on the decision making. The matters raised during the meeting are; crops to be grown, repair of the pumpset, marketing problems, distribution of water, etc. Any person can raise an issue during the meeting and the matters are discussed and every person is given an opportunity to have his say. Final decisions are taken either by consensus or by voting. The group is very cohesive and has a very good understanding for the needs of other members.
10. Meetings	The meetings of the Pani Panchayat are held every month and the attendance is more or less 100% (in case of any member being absent another member of his family represents him). A contribution of Rs. 10/- per member per month is being collected during each monthly meeting.
11. Distribution Pattern	Through rotation system and priority for the need based
12. Charges	Initially the members and non members were charged differently. At present the charges for irrigation water supply are – Rs. 65/- per hour. This includes Rs. 20/- per hour as machine hiring charges (cost of Mobil and maintenance charges), Rs. 5/- per hour as operator charges and Rs. 40 per liter per hour as diesel charges or Rs. 25/- per hour as machine hiring charges + Diesel charges for both members as well as for non members inclusive of operator's charges. Apart from this it is the farmers (beneficiary's) responsibility to make the furrows and join the pipes etc., so that the water reaches his field. Usually the non-members do not get any chance to get water, as the LI system is busy in supplying water to the members themselves who are given priority.
13. Investment	A total investment of Rs. 100000 out of which approximately 40000 (Rs. 20000 in cash & Rs. 20000 in the form of labour) was contributed by the beneficiaries.
14. Operator	The operator charges Rs. 5/- per hour. Apart from running the machine it is the duty of the operator to maintain the machine for which training to the operator has been given by TSRDS. For any major breakdowns money is withdrawn from the bank and is invested in the repair of the machine.
15. Training to Farmers	Several training programmes have been organized by TSRDS to provide agricultural training to the farmers of Idalbera. These programs have covered

	<p>issues like good agricultural practices, use of fertilizers, HYV and pesticides, Crop demonstration, Social and Agro forestry etc.</p> <p>After the training TSRDS adopted a methodology for promotion of Rabi Crops. In the first year (1999-2000) they provided seeds, fertilizers, Pesticides and spray machine at a subsidy of 75%, the next year (2000-2001) the subsidy was reduced to 50% and after that year the last subsidy was of 25% in the year 2001-2002.</p>
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Source: Primary data collected from the field, 2011.

Formation of Self Help Groups is the other important activity of the TSRDS in Idalbera village. The formation of self help group in Idalbera may be traced back to 1998-99 when TSRDS staff came to the village and explained the villagers about the benefits of SHGs and then motivated them for membership. Initially the villagers needed time to get convinced with the benefits explained by the officials of TSRDS but gradually a self help group under the name of *Maali Phool* was formed with 15 members. This group was formally registered in 1999 under *Swarnrekha Mahila Mandal Sangh* promoted by PRADAN NGO. With the passage of time the size of self help group kept on changing. New members joined the group where as some old members discontinued due to reasons like marriage, death, irregularity in attending meetings or default in repayment. Every Tuesday weekly meetings are held. The President of *Maali Phool* is Lalita Singh and the Cashier is Sangeeta Rani Singh. Looking at the success of *Maali Phool* self help group, in Idalbera another self help group in the name of *Gulaab Phool* has also been formed in 2009 with 20 members.

There is no doubt that TSRDS entered Idalbera village with rural development activities especially with the installation of Lift Irrigation system (Pani Panchayat) and the formation of SHGs but they had sustainable development approach in their mind which propagates self dependency and self reliance in the long run. Accordingly, after the training to the members of Pani Panchayat, TSRDS adopted a methodology for promotion of Rabi Crops by giving a subsidy policy in the distribution of seeds, fertilizers and other agriculture related requirements. In the first year (1999-2000) they provided seeds, fertilizers, Pesticides and spray machine, containers for storing yield (drums) at a subsidy of 75%, the next year (2000-2001) the subsidy was reduced to 50% and after that year the last subsidy was of 25% in the year 2001-2002. According to the beneficiaries respondents TSRDS has stopped giving any subsidy on seeds and fertilizers after 2002.

Similarly, in the area of Health and sanitation TSRDS had started with preventive and promotive health care programmes in Idalbera village in the initial years. The TSRDS team used to practice – clinical outreach programme through mobile clinic; immunization; community-based primary health care and training; sexual and reproductive health; population stabilization; health awareness on common ailments; awareness about safe drinking water and sanitation in the village. The TSRDS team used to visit weekly during the initial years (1998-2003), then gradually the frequency of their visit started decreasing from monthly to half yearly (2004-2007). Then after nine years of the

initiation of these programmes the higher authorities of TSRDS team have been visiting this village once in a year. However, the TSRDS animator is still in regular touch with the beneficiaries till today and he visits the village off and on to get a sense of the project activities.

*Withdrawal Phase (2007 onwards):* There is no doubt that TSRDS entered Idalbera village with rural development activities especially with the installation of Lift Irrigation system (Pani Panchayat) and the formation of SHGs but they had sustainable development approach in their mind which propagates self dependency and self reliance in the long run. Accordingly, after the training to the members of Pani Panchayat, TSRDS adopted a methodology for promotion of Rabi Crops by giving a subsidy policy in the distribution of seeds, fertilizers and other agriculture related requirements. In the first year (1999-2000) they provided seeds, fertilizers, Pesticides and spray machine, containers for storing yield (drums) at a subsidy of 75%, the next year (2000-2001) the subsidy was reduced to 50% and after that year the last subsidy was of 25% in the year 2001-2002. According to the beneficiaries respondents TSRDS has stopped giving any subsidy on seeds and fertilizers after 2002.

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### **Impact of the Tata Steel's Intervention on the Villagers**

(i) *Changes in Cropping Pattern:* Prior to the intervention of TSRDS the farmers (except for one farmer – Phanibhushan Mahto who practiced double cropping) only grew one crop i.e. Kharif crop. During the rest of the year (Rabi & Zaid seasons) the farmers used to migrate to other places in search of job (labour). But after the intervention of TSRDS the members are now totally depended on agriculture throughout the year there by reducing the migration rate during Rabi and Zaid seasons. TSRDS started its intervention with contacting and organizing people. Awareness building was given prime importance. Prior to pump installation training on modern agricultural practices were given. Laying of pipes and hydrants followed this. Bank account of the Pani Panchayat was opened. Crop demonstration and distribution of seeds was also done. During the study most of the beneficiaries responded that TSRDS has taught us to grow varieties vegetables by using irrigation water from Swarnrekha Lift Irrigation facility thereby doubling our yearly income. The villagers

have learnt to be self dependent and self reliant from TSRDS. In the beginning monthly meetings were held with TSRDS officials to inform them about the monthly activities of the irrigation project.

(ii) *Increase in Yield and Income:* All the 21 members of Pani Panchayat have been benefited by the lift irrigation facilities provided by TSRDS. Prior to the lift irrigation system these members were only dependent on rain for paddy cultivation. The agricultural land after Kharif season used to remain fallow. Thus the members used to be hardly benefited from their agricultural land. The implementation of lift irrigation system has not only changed the cropping pattern but also the cultivation area which has increased by the introduction of Rabi and Zaid crops. It was found that almost all the members of Pani Panchayat are now getting benefited from their agricultural practices as their yield has increased (from 2.7 Quintal per Bigha to 5.5 Quintal per Bigha) thereby doubling annual profit. The operator of the lift irrigation system Shri Taroni Singh earns Rs. 5 per hour as operator charges. He has been provided training by TSRDS on maintenance, minor repairs, handling of funds and maintaining the accounts. All the members actively participate in the meetings of Pani Panchayat as most of them are benefited by it.

It was also found that there was an increase in agriculture practice (Kharif, Rabi and Zaid) of the members of Pani Panchayat of Idalbera village between 1997-2011. It was also found that the area under cultivation for Kharif season (paddy cultivation) has decreased as compared to 1996. The reason cited by the farmers was that the margin of profit from vegetables (Rabi & Zaid crops/vegetables) was more as compared to the paddy cultivation (Kharif crop). This change could not have been possible without the training and awareness programmes on issues like good agricultural practices, use of fertilizers, HYV and pesticides and crop demonstration, imparted by TSRDS along with installation of lift irrigation facility and distribution of seeds, fertilizers, pesticides and spray machine at a subsidized rate.

(iii) *Allied Income Generating Practices:* Another interesting finding was that almost all the members of Pani Panchayat reared goats and had a small poultry farm apart from agricultural practice. These also supplemented their income. When asked about goat rearing and poultry farming the respondents said that this income acted as fall back during the bad times.

(iv) *Change in Consumption Pattern and Food Security:* The consumption pattern of the family has also undergone change. Now there is no food insecurity in the families of Pani Panchayat members as the farmers grow more paddy and vegetables which last a longer period. Moreover, now days we find accessories like TV, cycle, electric fans, etc. in their houses which earlier was not seen. They are also spending adequately on festivals and on the education of their children.

(v) *Women Empowerment:* The impact of the formation of Pani Panchayat and installation of lift irrigation system was also found among the women folk as they have been very much involved in the project by TSRDS. Prior to the lift irrigation project women were only involve in their household

chores and at the most worked as casual labourer. But post lift irrigation project the women have formed a Self Help Group (SHG). The members of SHG have taken a land on lease (2 bighas) and they do floriculture almost every year which fetch them an annual income of Rs.20000 – 30000. The women are now happy as they are also engaged in income generating activities. They feel that although their work load has increased but they don't mind putting the extra effort apart from household chores as they no longer have to work for anyone else outside the family. The intervention of TSRDS and its outcome has empowered the women of Idalbera and strengthened their role in decision making which is reflected more through self help group activities. The details of the impact of SHG on women have been dealt in the next section.

(vi) *Self Reliance and Sustainable Development*: The TSRDS formed the Pani Panchayat and installed the Lift Irrigation system at Idalbera in 1998. The members were provided awareness and training on issues like good agricultural practices, use of fertilizers and pesticides, etc. and also provided seeds fertilizers and pesticides at a subsidized rate for only first three to five years. After that the TSRDS gradually started withdrawing from the village. The members of the Pani Panchayat gained heavily from the training and other interventions of TSRDS. As a result the members have been holding regular monthly meetings and participating actively. They are taking good care of their maintenance fund which has been created by the members for major repairs and replacement (if necessary) of the machine. No money is due at the charges for the water is collected in advance by the operator. From 1998-2010 the pump set (8 HP) has been repaired many times and replaced twice (once in 2003 and again in 2009). In the first time the machine was replaced by purchasing a second hand machine with the help of contributions made by the members themselves i.e. without any support from any organization or Bank. However, in 2009 the machine was replaced by a new one by arranging funds partly from the members and partly by the contributions made by TSRDS. It was found during the interview with Pani Panchayat members that they are ready to generate resources (funds) by common pool for the purchase of new machine in case of any mishap in future.

Now TSRDS has stopped giving any subsidies for seeds, fertilizers, etc. and are out of sight from the village but the group is still maintaining and doing well. With the passage of time, some of the Pani Panchayat members have been replaced due to their death. The group members have been repaying all its dues and have been conducting meetings regularly. There is a good understanding among the group members. The operator has over the years gained good technical knowledge and is an expert of machine repair. The group has now become self reliant as the members are now making more profit by practicing agriculture as their main occupation. The budding self reliance among the members of Pani Panchayat indicate towards sustainability in the near future.

### Cast Study - 1

Niranjan Singh Sardar (male, 50 years, English pass) is a farmer by profession. He is also ward member of Idalbera village Panchayat. His wife is the AWW of this village. He has four sons and one daughter. One of his sons are working as laboratory attendants in the RVS College of Engineering and Technology. The other children are students and seeking education from nearby school and colleges. He is having 18 bighas of agricultural land. Besides he has a small mango and guava orchard. Prior to lift irrigation project at Idalbera he could not grow much crops in his agricultural fields as his land was not fertile and there was not enough water during summer season (cultivation was only rain dependent). As a result, he could only cultivate paddy in his fields and his agricultural yield was very low.

#### Case 1: Towards Self-Reliance and Sustenance: Case of Pani Panchayat

Sl. No.	Parameters	Baseline (Prior to TSRDS intervention, 1997)	After the intervention of TSRDS (Jan.-Dec. 2010)
1.	Total land (in bighas)	20 Settlement - 1 Cultivable land - 12 Fallow land - 6	19* Settlement - 1 Cultivable land - 18 Fallow land - Nil
2.	Cultivable land (bigha)	12	18 Paddy - 10 Vegetable - 6.5 Orchard - 1.5
3.	Irrigated land (in bigha)	12 (only rainfed)	18 (both rainfed & lift irrigation)
4.	Cropping Pattern Mono Cropping Double Cropping Multiple Cropping	Yes No No	No Yes Yes
5.	Paddy yield per bigha	2.7 quintal	5.5 quintal
6.	Annual revenue from all sources (Rs.)	Paddy cult. - Rs.9,990 Mango (2 Qtl.) - Rs.2000 Guava (1Qtl.) - Rs.500 Poultry - Rs.1000 Milk - Rs.2,500 Others - Rs.1000	Rs.76,500 Veg. Cult. - Rs.20,000 Mango (5Qtl.) - Rs.20,000 Guava (3Qtl.) - Rs.1,5000 Poultry - Rs.2000 Milk - Rs.4,500 Salary of Wife - Rs.24,000 Salary of Son - Rs.60,000 Others - Rs.2000
		<b>Total - Rs.16,990</b>	<b>Total - Rs.2,10,500</b>
7.	Annual Expenditure	Rs.14,500	Rs.1,50,000

Source: Primary investigation

After the TSRDS intervention in terms of lift irrigation project and agricultural training his life has changed. As a result of agricultural training he uses modern technology in his agricultural practices. With the help of irrigation facility from the Pani Panchayat he has made agriculture as his prime occupation. From mono cropping he has moved to double and triple cropping. Earlier out of 18 bighas of land he could only make use of 10 bighas for paddy cultivation during Kharif season only. In the rest of the year his land used to remain fallow. But now he is practicing three crops in a year. In Kharif season he cultivates paddy and in Rabi and Zaid season he goes for vegetable cultivation in the remaining 6 bighas of land with the help of lift irrigation facility and good knowledge about agricultural practices. Now he is involved in paddy cultivation for six months and then another six months in vegetable production like cauliflower, cabbage, tomato, ladyfinger, brinjal, *barbariti*, etc. This has been made possible due to the irrigation facility that was introduced by TSRDS in 1998. Despite last year being the rainfall deficient season, water was available for the Pani Panchayat members to harvest their crops. There is no doubt that the lift irrigation facility has led to an increase in the total area under cultivation. Moreover, as a result of training provided by TSRDS Niranjan Singh is making best agricultural practices and the land's fertility has also improved. "Earlier I was making only seasonal profit but now I am profiting throughout the year," said Niranjan Singh when asked about the difference the Pani Panchayat programme had brought to his life.

### **Case Study - 2**

Taroni Singh (Male, 45 years, Ninth pass) is a farmer by profession. He is also the operator cum cashier of the Pani Panchayat at Idalbera. He lives with his old mother, his wife and his four small daughters. He has 7 bighas of land and he is busy throughout the year in cultivation. He cultivates paddy during Kharif season and vegetables in the Rabi and Zaid seasons. During the interview he said "earlier my land would remain fallow and the crops that would grow were of very poor quality. I used to be involved in agriculture only for six months in paddy cultivation. For the next six months I used to go out in order to work as wage labour. But now with the formation of Pani Panchayat and lift irrigation system I am able to cultivate vegetables as well. Now due to availability of irrigation facility the land is very fertile and productive. Moreover, the same land can be used to grow different variety of crops throughout the year. Apart from our personal consumption, now I am able to sell vegetables at a profit as much as Rs. 20,000 each year. This gives us additional revenue so that we can save and we are saving Rs. 5500 per year", said Taroni Singh. This change in Taroni Singh's life is attributed to the formation of Pani Panchayat and installation of lift irrigation system by TSRDS. This case clearly depicts that the consistent hard work of Taroni Singh and his family and the fruits of training provided by TSRDS long back have made him confident and self dependent and he is happily living his life with his family and enthusiastically raising his four small daughters for their better future.

### Case Study - 3

Sandhya Rani Singh (Female, 35 years, 8th pass) is a house wife living with her disabled (paralytic) husband and three small sons in the *neech para* locality of Idalbera. She is also an active member of Maali Phool self help group. Her husband Shri Debnath Singh was not disabled by birth as he was in his good health and was one of the prosperous and happy farmers of this village. He has 20 bighas of land including a garden of 3.5 bighas. Long back, TSRDS had planted some trees like *subabul*, *sagun*, *gamhar*, *arjun* tree, etc. in their garden for the protection of environment. He used to grow crops as well as vegetables in his landholdings. He was also running his PDS (Public Distribution System) shop which he had started at his house in 2009. During July-August 2009, one day while distributing kerosene he had a quarrel with a villager (Napit Burhi) over the demand for extra kerosene oil which Debnath resisted being unfair. The customer was known to be a black magician in the village. Therefore, on Debnath's refusal to provide him with extra kerosene he performed his art of black magic on Debnath to harm him and as a result he became paralytic. Another black magician Hari Bhumjain (sister's daughter) also performed black magic on Debnath due to same reason. As an outcome one day while returning from Simuldanga after asking his client about the payment of borrowed money, he was down with feeling of uneasiness. After having lunch he went for siesta. When he got up in the evening his left limbs became senseless. Since then he visited and consulted many doctors and hospitals for treatment to Simuldanga, Dhadkidih, Haldipukhur, Sidhulota, Lupung, etc. He has spent more than 1 lakh for treatment so far. But till today he is symptomatic.

After the disability of her husband Sandhya has been taking care of all the household activities like taking care of agriculture, PDS shop and children. Now a days her source of income are vegetable cultivation, PDS shop (through distribution of rice, wheat, sugar and kerosene oil), paddy cultivation and small poultry. She is an important member of Maali Phool self help group which she had joined at the time of its formation. She has been benefited from the SHG in a number of ways. She has attended the training programmes by SHG on capacity building and also on the practice of advanced agricultural technology. As a result she is now confident and empowered to handle her economic responsibilities as well as family affairs easily. Utilizing the inter loaning facility she has taken loans from the SHG several times for creating assets. In 2009 she had taken a loan of Rs. 10000 from the SHG to purchase a cow which she had purchased in Rs. 6000. This investment gave a multiplier effect as since then they are consuming 1.5 litres of milk daily and she has also been selling the surplus milk which fetches them an income of Rs. 10,000 per year. Moreover, from the cow now they have two calves (one male and female) as an asset. Similarly, she had taken loan of Rs. 5000 for cultivating vegetables last year which gave them an income of Rs. 10,000 at the end of the season. The above case study reflects that she has been benefited heavily from the *Maali Phool* Self Help Group as it provides economic help to carry out her agricultural activities and also provides awareness and capacity building to make her empowered and self sustained which is

reflected through the fact that after her husband's disability she is herself managing the entire affairs of her household easily and tactfully.

#### **Case Study - 4**

Sangeeta Rani Singh (Female, 25 years, 9th pass) had joined the Maali Phool SHG in 1998. She lives in a joint family comprising of nine members i.e. with her parents, two brothers, three sisters and her sister-in-law. According to her, Juhi didi and Mala didi from TSRDS had motivated her to join the Maali Phool SHG. They had explained that "at the time of financial crisis there is no need of asking money from others. Rather you start saving your own money through SHG and you get rid of borrowing during the time of crisis". Accordingly she had joined the SHG by opening her account with Rs. 5 per week. She reported that this amount changed to Rs. 10 and Rs. 20 per week in 2001 and 2007 respectively. Now it is between Rs. 10 to Rs. 50 per week. At present all the three other sisters have also joined this SHG and she has become the treasurer of the group. According to her, joining the group proved to be very helpful as it changed her life. After attending the awareness, capacity building and other training programmes (on livestock rearing, poultry and on paddy and vegetable cultivation) now she feels to be self dependent, empowered and self sustained. She had taken a loan of Rs. 2000 from the SHG for agriculture in the year 2009. She had spent this amount on fertilizer, seed, labour, etc. for cultivation in her land. In 2010, agriculture harvest brought her Rs. 6000 as income excluding the harvest for household consumption and other expenses on social activities. This saved income gave a multiplier effect as out of the saved Rs. 6000 she used Rs. 3000 for vegetable cultivation (cabbage and cauliflower) which brought her an income of Rs. 31,000 at the end of the season. But to her bad luck she had to spend the entire amount in the treatment of illness of some of her family members during the next year as every month she had to spend more than Rs. 2000 on the ill members of her family. As a result the original amount of loan could only be paid back by her by the end of next year.

The SHG from time to time also provide group loans on subsidized interest rates. Availing this facility in 2001 an amount of Rs. 25000 was taken as group loan from the Jharkhand Gramin Bank at Mango, Jamshedpur. Out of this Rs. 5000 was invested by the group for floriculture (cultivation of marigold flower). After six months the group came out with a very good harvest of flowers (8 quintals) which they sold in the market at the rate Rs. 15 per kg. Thus the group earned Rs. 12000 from the cultivation of marigold flower. The amount of Rs. 25000 was returned as loan repayment to the bank and the income was distributed equally among the members. Again in 2004 a group loan of 2.5 lakhs had been taken from the Gramin Bank out of which the subsidy loan was Rs. 1.25 laksh. This time the amount was distributed among the SGH members and as such each member got Rs. 8300 as subsidy loan. Accordingly, all the four members of this household received their share of loan amount. Sangeeta purchased 4 sheep and 1 goat with this amount and she is rearing them for creating a good asset. The loan has been paid back by her in due course of time. During 2006 she again took a loan of Rs. 6000 from the SHG to go for paddy cultivation on the

agricultural land of 2.5 bighas which they had taken on lease for 10 years. Now in this piece of land they produce 16 quintals of rice every year. In 2010 her family purchased 2.5 bighas of land from the government under the *Bhumidaan Yojna* of government. They spent Rs.5000 on the purchase of land, Rs. 1500 on the charges of *Ameen* (land measuring official) and another Rs. 1500 on throwing a feast to the villagers on this occasion. Now on this piece of land her family cultivates rice, maize, vegetables, etc. which brings them adequate income apart from household consumption. Thus her family has been successful in creating sustainable assets by the help of Maali Phool SHG. According to Sangeeta we have been benefited by the interventions of TSRDS in this village. Prior to TSRDS entry in this village we had to work as labourers for earning and living. But after the intervention of TSRDS we have now lift irrigation facility which has helped us to go for vegetable cultivation. With the formation of SHG we have developed awareness, courage and self reliance. Now we don't have to work as labourers – “with paddy and vegetable cultivation we have started generating very good income”.

### **Findings and Discussion**

Adopted in 1996, TSRDS has completed 15 years of its service in Idalbera village. The village during the years has undergone several upheavals leading to major changes. The single crop areas of the village beneficiaries have been turned into double crop areas. Credit goes to the Pani Panchayat society of the village. Another noteworthy feature of this period was a rather satisfactory growth in agricultural production and income. SHGs of the village have empowered the women beneficiaries and their earnings to a considerable extent. It may be said that TSRDS has helped the beneficiaries of Idalbera village in improving the life and level of their living, if not entirely at least to a significant level. The beneficiary group at Idalbera has stood the test of time to certain extent as they are earning and the major income source of the families is now agriculture (including vegetable cultivation). The efforts put in by TSRDS and its outcome has in a very tangible way empowered women beneficiaries and strengthened their role in decision making. Besides, some intangible impact have also been observed as conflicts among the villagers are not present as not a single Court case was reported by the respondents during the study.

Broadly speaking, the beneficiaries of the village have not achieved the status of sustained changes in their life, although they are leading towards self sustenance and self reliance to some extent. An objective, hind sight assessment brings out some of the drawbacks of the work at Idalbera village which led to the failure of many important activities and retarded the pace and magnitude of progress. They are listed below in brief.

By and large, the specific items in the work programme for each year were selected on an ad hoc basis, without adequate consideration for the priorities of the area and the adequacy of the field staff. No serious thought was given to the feasibility of these projects in Idalbera village.

Considering that the chief objective of the TSRDS was an integrated and sustained development of the villages, side by side with the large investment in physical assets, it should also have assigned a high priority to the improvement of human resources. But the vital importance of this factor for the rapid and sustained progress of Idalbera was not adequately realized.

Ultimately, the villagers himself will have to be the main architect of his progress and for this it is essential to encourage and develop self-reliance to the maximum extent. The TSRDS was conscious of this requirement and, therefore, insisted on local contribution for each of the project and activities it started. Medical assistance alone was offered free of cost for a long time.

However, there has not been much noticeable change in the attitude and outlook of the respondents. The desire to be self reliant and to do hard work is weak. The work suffered heavily for want of a proper organizational set up in the village for planning and execution. Barring a few exceptions it was unfortunate to have the services of competent coordinator and worker who lived in the village and identified himself with the villagers he lived with. However, no effort was made to organize him and to make him function as a team member.

Finally, one of the discouraging features of TSRDS programme at Idalbera is that it has been taking funds for development projects by various funding agencies or government. These projects are only implemented by the TSRDS where as it claims as its own contribution for the development of the communities. For example Total Sanitation Campaign (TSC, rural housing programme, etc of DRDA (government) are implemented by TSRDS and claimed as their work. Therefore, TSRDS must honestly keep its commitment; and management should take note of this.

### **Recommendations**

Based on the ethnographic study of the Idulbera village it may be argued that CSR should not stop after extending certain intervention or services to the community rather it should continue till the community becomes self propelled and self reliant so as to sustain itself in terms of poverty alleviation and quality of life by its own developments.

In this regard, TSRDS may adopt a *Chakriya Vikas Paranali* (CVP) or the system of cyclic development which aims at fighting poverty in rural areas for sustainable development through resource management. The main objective of CVP is to establish a cyclical system of investment in the un-irrigated and wastelands for rural self reliance. It envisages a onetime capital investment in land to ensure generation of employment, intermediary benefits and income to the villagers in rotational cycle of seven to eight years.

The process of “detaining, retaining and utilizing rain water, as it falls and where it falls is the first principle for regeneration of wastelands and successful management of land and related resources. The second most important principle is the concept of decentralized grass-root level planning

through which the communities are empowered to take all decisions from planning to the implementation stage. All the workers of the CVP actively participate in Eco-service appraisal and preparation of master plans. The management of land is strictly on water shed basis.

Under the CVP, the uncultivable wastelands belonging to different owners will be pooled together to constitute an economically viable unit of at least 8-12 acres of land. The CVP envisages equitable distribution of economic gains both to the land owners and the landless. The system of distribution of intermediary benefits and final income from the pooled based land will be as under:

- a) 10% for the village welfare fund
- b) 30% for the land owner
- c) 30% for the CVP workers
- d) 30% as the capital for reinvestment in the village

All the CVP workers would be recruited from village and the entire work related to the treatment of land would be done by workers who are referred to as sustainable development practitioners in CVP terminology.

This model of sustainable development may be adopted by the Tata Steel in its adopted villages, under the CSR programmes to start with Idalbera village on an experimental basis. So far as capital investment of this test model at Idalbera is concerned, initially Tata Steel may spend considerable amount out of its net profits on CSR.

## **Conclusions**

The role of corporate in fostering development among poor local communities in our country has been a subject of debate among academic and development practitioner circles. Presently CSR initiatives by many companies do not directly include poverty reduction as a major objective directly focusing rather on environmental issues, labour and human rights. However, the corporate claim that by adopting CSR they are making growth more inclusive and more equitable, and thereby reducing poverty. Although poverty reduction has not been an explicit element of CSR, this does not necessarily mean that the adoption of socially responsible business practices has no impact on poverty in developing countries.

However, the corporate houses like Tata have taken a more direct interest in pro-people development work, either by providing finance to voluntary agencies engaged in rural welfare or by taking up the welfare work themselves through 'adoption' of villages. Tata Steel has been implementing its social responsibility task initiatives primarily through its corporate social services and through three nonprofit organizations it has established. These are the Tata Steel Rural

Development Society (TSRDS), Tribal Cultural Society (TCS) and Tata Steel Family Initiatives Foundation (TSFIF).

The case studies reveal that Tata Steel Rural Development Society (TSRDS) has helped people in the village studied by improving its connectivity by making link roads and boring wells for irrigation purposes. Steps have also been taken to improve literacy rates in the operational areas. Several initiatives have been taken to spread education in all the slum areas and among the scheduled castes and tribes. Camp schools are organized to bring back school drop-outs. Tata Steel also provides curative, promotive and preventive health care services in its industrial zone which are pro- people.

The field data also indicate that there has been an increase in the sharing of resources (both money and goods) by the beneficiaries. The efforts put in by TSRDS and its outcome has in a very tangible way empowered the women and strengthened their role in decision-making and they are now moving towards self reliance and self sustenance. The group has stood the test of time, the beneficiaries are earning and the major income source of families is now agriculture. The single crop areas of the beneficiaries have been turned into second and third cropping area with the introduction of water harvesting structures.

Along with some positive findings it has also been observed that the people's aspirations and expectations from the company have reached a high level. Any programme meant for the development of the poor who are stratified into different segments, should look at the needs of each individual segment. Then only such programmes would perhaps be far more effective in meeting the needs of the poor. A better understanding of the poor, their skills, their preferences for jobs, and wage rates would be beneficial to match the job opportunities with their needs.

Finally, although the house of Tatas is famous for its philanthropy the CSR activities of the company alone cannot help in reducing the poverty of the people in its operational area. There remains the role of governments and donor agencies. For CSR to come good, it is important for all stakeholders such as donors, governments and civil society to collaborate to formulate policies and programmes for the development process and thereby reduce poverty.

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# MANAGING HUMAN CAPITAL: A DOZEN HATS FOR HUMAN RESOURCE MANAGER IN CHANGING BUSINESS ENVIRONMENT

Kameshwar Pandit\*

## Abstract

*Managing change is probably the single-most important issue today for all those who have undertaken the difficult task of managing organizations. Present- day changes are taking place at a rapid pace that cannot be handled by traditional management concepts, organizational structures and systems because the society is no longer stable, predictable and certain. As long as society is relatively stable and unchanging, the problems it poses to members tend to be routine and predictable. But when there is accelerated change, more and more novel and first time problems arise, and traditional forms of organizations prove inadequate to manage in the new conditions. It is says that extent to which firm is able to attain its corporate objectives critically depends on its ability to understand the opportunities presented to it and constraints imposed by its environment. "Organizations that do not confirm to environmental requirements are selected out i.e. they die" The firms are increasingly required to cope with scorching pace of change with managing human capital. To handle such a complex human capital HR Mangers has to wear a dozen hats of managerial and administrative. The managers has to select which hat is most appropriate for the occasion and remember that the HR Officer has to juggle several hats at the same time in real life.*

*The paper deals with **firstly** the emerging challenges faced by organizations in the present globalizing era and its impact on human capital of the organizations .**Secondly**, the growing importance of human capital with special focus on knowledge human capital and **finally** to managing change the managers has to play strategic role has to wear dozen hats.*

**Keywords:** Human Capital, Intellectual Capital, Social Capital, Manageing Organization, Corporate Restructuring, Strategic Human Resource Management

## Introduction

Human capital is emerged with new force and is almost at the top of agenda in national policies of developing countries and developed nations. The concept of human capital is multi-dimensional and it covers development of human skill, knowledge, creative abilities, talent ,aptitude values, attitudes, approaches and beliefs of individuals involved in the affairs organizations and economic development. Ghoshal has classified human capital under three categories as Intellectual Capital, Social Capital and Emotional Capital (Ghosal, 1999). Intellectual capital consists of specialized

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knowledge, skill and expertise, cognitive complexity, learning capacity, information technology etc., whereas social capital relates to structure, quality and flexibility of human relationship network, sociability and trust-worthiness both inside and outside of the organization. Emotional capital consists of self-confidence, ambition and courage, risk taking ability and resilience of the individuals. The challenges of competing on human capital is the challenge of managing the interactive cycle of building and leveraging intellectual, social and emotional capital.

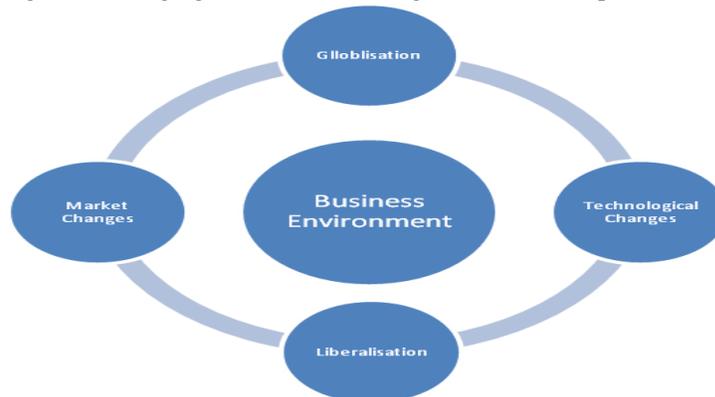
Changes are taking place in the environment that affect business organizations as well as human capital of the organizations. Due to globalization we are forced out of the zones of cultural comfort and pushed into interactions with diverse group of people who are very different from us. Corporate restructuring including reduction in middle management, more women in work force, greater transparency, new federal and state regulations, increasing level of education, growth in services and white collar job which have forced organizations to change in their way of working. Globalization, liberalization and deregulation have resulted in organizational redesign.

Hence, Managing change is probably the single-most important issue today for all those who have undertaken the difficult task of managing organizations and for this the managers has to wear a dozen hats of management.

### **Challenges Faced by the Organization in Global Competitive Era**

Four key constituents of the changes, viz. globalization, liberalization, market changes, and technological changes which has dynamic relationship as illustrated in figure. Any change in one constituent alerts the position of other.

Figure 1: Changing Environment of Organization: Principal Constituents



In the dynamic world, competition is inevitable. Yesterday's best organizations are disappearing from today's list of the best. Every year the name of the Fortune 500 companies reflects how competition impacts the fate of the organizations. Gone are those days when excellent organizations

used to have a life cycle of excellence for a very long period. Climbing to the top is relatively easy than staying at the top. Many organizations have grown at a very faster speed but simultaneously they failed to sustain their growth. Sustenance of growth requires proportionate development. This is a qualitative difference between growth and development..A bright example could be the growth of a filariasis patient who adds some kilograms to his body weight because of the elephant leg, which is a growth but not development. Similarly, organizations may have assets worth of crores, but if their turnover and profitability are not remarkable they may loose in the race.

The world class organizations are those who are ahead of competitions have managed to maintain sustainable competitive growth. The success stories of these organizations have proved that people make difference, not the technology. It is the superior talent in the organizations, which will make the organization different and will be tomorrow's prime source of competitive advantage. The CEO of Allied Signal Larry Bossidy has rightly pointed it out: *At the end of the day we bet on people, not on strategies.* A high speed positive culture enables an organization to be more competitive and development oriented. In the long run competitiveness derives from an ability to build, at lower cost and more speedily than competitors, the core competencies that spawn unanticipated products.

Excellent organizations do not aim to achieve one time profitability; rather they focus on excellence in every aspect of the business including people, technology and performance and also to maintain it at an optimum level. Successful organizations not necessarily are excellent. Most of the large, apparently successful corporations are profoundly unhealthy. Dine has stated that even small organizations, such as cooperatives, are apparently unhealthy, as they seem to be poor at individual and leadership development and are prone to succession crisis in both the primary and secondary tiers, They are unhealthy because they lack transparent decision making accountability. Hence, to achieve excellence, organizations should be healthy in managing human capital.

### **Growing Importance of Human Capital in Globalized Era**

Human Resource is a critical resource, a key resource for organization performance. Man is active resource and he mobilizes other resources. Other resources i.e. land, money machine material, management, time, fun etc are passive. Man has potential to develop and grow. Man is dynamic in nature. Viability and effectiveness of an organization depends upon the people. Man is the ultimate resource. In fact, man management is oldest management. An organization is composed of people- the human resource- who come from different walk of life and who are different from one another in their psychological make up. There is diversity in human resource. Human beings differ from one another in their basic mental abilities, personality, motor ability, interest, skills, attitudes, culture, educational qualifications and training etc. The performance of human beings and their behavior

when engaged on particular job is influenced by intangible physiological and social factors. To deal with them effectively is both difficult and challenging and is all together a different job from that of handling inanimate. Human beings have to be *handled with care* by HR department and the HR professionals should be expert in the art of what is usually called “Human Relations or Human Engineering”.

Some professionals and management thinkers have expressed their views about the importance of human resource as under: “Of all the tasks of management, managing human components is central and most important task because all else depends on how well it is done” (Rensis Likert); “Business is human organization, made or broken by its people” (Drucker, 1975); “Take our 20 best people and virtually overnight we become a mediocre company” (Bill Gates); “Take my physical assets, leave my people, and in five years I will have it all back” (Alfred Sloan of GM Corporation, USA).

The above messages suggest HRM is crucial in an organization. The greater the effectiveness and productivity of personnel, the more will be effective functioning of an organization. It is the people in the organization who make difference. Eventually, everything boils down to people. How to manage them and train them in order to score competitive advantage over rivals. Positioning HR to create value is central concern of every manager in any organization. This coordination depends on effective human resource management.

Human Resource Management focuses on corporate goals by optimally allocating the HR’s for maximizing the productivity and satisfaction of members. Human Resources are competitive advantage, add values. The focus now has shifted to involving the human resource rather than using them as a tool for production. The concepts of employee involvement such as quality circles, participative forums, team work, autonomous groups etc are now being used. The focus is on Human Dignity.

### **Human Resources in Knowledge Era**

Today’s world is characterized by intensifying competition and is witnessing the increasing importance in the service sector. The increasing demand for better services, and in order to meet these demands effectively, the country has to inculcate the right skill and knowledge required in service sectors.

The technological revolution and application of new technology, which is still unfolding is likely to change human societies in way that are beyond anyone’s imagination and comprehension now. To be benefited from this global technological advancement much of which is taking place in the industrial economies as well as service sectors will require significant investment in human resource development in developing countries.

Bill Gates, in the year 2000 has said in his book, *Business @ the Speed of Thought*, “Information Technology is all set to metamorphous business process at a lightening speed” No doubt, the

industrial development of economic progress of any nation is directly associated with a perceptible change in technological parameters of production. But the process of development is no more conditional by technical co-efficient and the rate of growth of physical capital alone. Human Capital is already surging a head to replace **physical capital** as the sole mover of growth process.

### **Strategic Role of Human Resource Manager Having Dozen Hats**

Strategic human resource management (SHRM) represents a relatively new transformation in the field of human resource management. SHRM is concerned with the role of human resource management systems play in firm performance, particularly focusing on the alignment of human resources as a means of gaining competitive advantage. Organizations are becoming aware that successful human resource policies and practices may increase performance in different areas such as productivity, quality and financial performance. Strategic HRM deals with 'those HR activities used to support the firm's complete strategy (Wright and Snell, 1998). Walker (1992) defines Strategic HRM as the means of aligning the management of human resources with the strategic content of the business. This is based on the concept of strategic fit, which states that to maximize competitive advantage; a firm must match its capabilities and resources to the opportunities available in the external environment. This is called the strategic fit model. In this model, human resource managers often wears a number of Hats, i.e. fulfill a number of roles. HR Officer is multi-faceted and in fact he/she wears a dozen hats viz.

*The Advisory Hat:* He/she advise the line management in all matters relating to people management so that motivational levels are kept high. Stress levels are reduced and productivity is increased.

*The Conscience Keeping Hat:* The humanitarian aspect of management, ethics and governance fall within his/her purview of responsibilities. Management is informed about its ethical obligations towards the internal customer (employees), the external customer (client) and the society at large.

*The Counseling Hat:* In the course of work the employee faces a lot of problems many of which are not job related. These may be related to issues of health, finance, housing, or social mores. The task of ameliorating these problems and giving wise counsel falls to the lot of the HR officer.

*The Mediating Hat:* During inter union and intra union rivalries and during employer-employee conflicts the HR Officer mediates to diffuse the situation and insure that conflict does not escalate.

*The Representative Hat:* In front of the larger civil society the HR officer represents the human face of the capitalist and during grievance handling sessions he/she acts as employees' voice to convince the employer to demonstrate equity and social justice especially in non-unionized organizations.

*The Record Keeping Hat:* In matter of time keeping, wage and salary administration, statutory compliance and personnel records, HR Officer acts as a maintainer of records.

*The Statutory Hat:* Under a plethora of labour legislations the HR officers has to insure that statutory compliance takes place. In addition he/ she has to deal with matters in Labour Courts , Industrial Tribunals, and National Tribunals . Hence, his/ her knowledge of labour laws must be up to date.

*The Welfare Hat:* Under the provisions of the Factories Act the HR Officer (Personnel Officer) performs a welfare function looking after canteens, latrines, crèches, hospitals, consumer co-operative societies etc. His/her employment is quite secure.

*The Problem Solving Hat:* In case of disputes as well as issues involving human resources in any way, the HR Officer is expected to deal with the situation at hand and solve the problems arising thereto from.

*The Change Agent Hat:* The HR Officer is initiator, catalyst and manager of all change processes within the organization and this is because there is an inherent resistance to all change and it is his/ her task to marginalize this resistance.

*The Decision Making Hat:* As a part of the strategic management team, he is a part of the decision- making process formulating policies and procedures to facilitate the decision.

*The Decision Executing Hat:* Once the decision is made, it has to be carried out and enforced to meet the interests of the organization. It is the task of the HR Officers to facilitate this process simply because most decisions involve a human angle.

Managing change, managers must select which hat is most appropriate for the occasion and remember that they have to juggle several hats at the same time in real life.

## **Conclusion**

The strategic HRM concepts need to be implemented in the organization through all the HR systems and sub-systems. All the HR activities require to be strategized to be aligned with the organizational strategy. The vital function in Strategic HRM is the strategic staffing and strategic HRD which will help the organization to recruit competent need based people and also develop and equip the existing people with the skills needed to enhance their efficiency. The other functions of HRM like performance management, compensation management, and reward systems are also needed to be strategized. The role of HR Officer is multi-facets and multi-dimensional with a dozen hats of HR responsibilities. To managing global changes and to make human capital and organization more

effective, HR managers have to wear a dozen hats and to handle the delicate and complex situation they have to juggle several hats at the same time in real life.

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# EMPLOYEE ENGAGEMENT AND STRATEGIC HUMAN RESOURCE MANAGEMENT: A CASE STUDY OF ALLAHABAD BANK

Diwakar Kumar\*

## Abstract

*Employee Engagement is aligning the management of human resources with strategic contents of business. The organization must match its capabilities and resources to the opportunities available in the external environment. Strategic management as the set of decisions and subsequent actions used to formulate and implement strategies that will optimize the fit between the organization and its environment in an effort to achieve organizational objectives. The present study focuses on understanding the challenges and opportunities in the banking sector. Employee engagement in Allahabad Bank and how the bank uses the Strategic Human Resources Management (SHRM) to remain competitive is the key focus area of the study. One who is fully absorbed by and enthusiastic about the work is the engaged employee.*

**Keywords:** Competitive Advantage, Employee Engagement, Non-homogeneity in Population, Positive Environment, Clear Communication.

## Introduction

Strategic Human Resource Management encompasses all those H R activities which are used to support the organisations competitive strategies. It is, thus, a means of aligning the management of human resource with strategic contents of business. In order to maximise the competitive advantage, an organisation must match its capabilities and resources to the opportunities available in the external environment. In the modern globalised era SHRM is being practiced as a dynamic and creative means to achieve increased productivity and profitability, improved morale and career development of employees, better industrial relations etc. to achieve the organisational goals.

SHRM is, thus, an approach which may have multiple dimensions. The present study is deliberately focussed on assessing the impact of SHRM on employee's engagement in Allahabad Bank which is the oldest public sector bank of the country.

Indian banking has come through a long way from being a sleepy business organisation to highly proactive and dynamic entities. Advancement of telecommunication and information technology has led to a number of reforms. But on the other side of the coin there have been continuous

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accumulation of morass brought out by three decades of controlled management which has adversely affected the profitability. The accumulation of NPA is the other factor which has threatened capital adequacy and continuous stability. Therefore, it is warranted to understand the challenges and opportunities in the banking sector. The key areas have to be identified to remain competitive and enhance soundness.

### **Sample Size**

As on March 31, 2016 the manpower component of Allahabad Bank was 24,569 employees, out of which 12,270 were offices, 8,349 were clerks, and 3,950 were sub-staffs. Since the canvas of the study was large and there was non-homogeneity in the population, stratified sampling techniques has been applied. A sample size of 456 respondents comprising of 23 from clerical cadre, 204 from junior management, 196 from middle management and 33 from senior and top management was finalised.

### **Employee Engagement**

Employee engagement deals with the relationship between organizations and its employees. An “engaged employee” is one who is fully absorbed by and enthusiastic about their work and so takes positive action to further the organization’s reputation and interests. This is the hardcore fact that the future business performance and revenues and profitability of an organization no longer depends upon traditional capital management and investment and portfolio management. But the success of any organization in this constantly changing world of work depends upon human capital management. Since the mantra of success of any organization is the higher involvement, engagement and dedication of employees towards their jobs and their continuous performance to attain more, it is necessary to keep their spirits high, motivate them to perform their best always and generate a breed of satisfied and dedicated employees.

An organization has to prepare and design an employee engagement survey and then proceed to analyze the results. Based on that action planning and action follow up is required in order to ascertain whether the action taken has moved in the right direction or not and is producing the desired results or not.

### **Data Analysis**

The researchers administered the pre-tested information schedule and the results were tabulated to find out the prevailing scenario and how far the Bank has been successful in aligning SHRM with organizational goal. The findings are presented in the tabular form and charts.

Table 1 shows the details of the employee engagement. It can be noted from the table that the overall average about employee engagement, the average scale is 3.81 out of 5. It means that skill management index is 76.28 per cent for Allahabad Bank employees.

**Table 1: Employee Engagement**

<b>Employee Engagement</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
My Bank encourages me to clearly voice my views/opinions and has defined mechanisms for me to make suggestions to the top management	6	16	54	290	90
My bank has an effective employee communication program through internet, newsletter, briefings, e-mails, etc.	0	18	66	292	80
While finalizing a transfer decision, my preference and constraints are taken into consideration	8	16	114	290	28
My Bank has an efficient employee grievance redressal mechanism	0	15	190	210	41
Before my last posting, Bank ensured proper matching of my skill set with the skills required for the role	8	24	110	224	90
My Zone/Branch/Department's business targets are communicated well to me	0	36	56	300	64
<b>Total</b>	<b>22</b>	<b>125</b>	<b>590</b>	<b>1606</b>	<b>393</b>
<b>Average</b>	<b>3.66</b>	<b>20.83</b>	<b>98.33</b>	<b>267.66</b>	<b>65.60</b>
<b>Round Average</b>	<b>4</b>	<b>21</b>	<b>99</b>	<b>268</b>	<b>66</b>
<b>Scale</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Average * Scale</b>	<b>4</b>	<b>42</b>	<b>297</b>	<b>1072</b>	<b>330</b>
<b>Average * Scale/Round Average</b>			<b>3.81</b>		

Source: Based on primary data.

Table 2 shows that the status of the encouragement by the bank to make suggestions to the top management as per the defined mechanism. The table shows that the bank encourages to make suggestions to the top management as they have defined mechanism.

**Table 2: Status of Encouragement by the Bank in Making Suggestions**

<b>Total</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
456	6	16	54	290	90

Source: Based on primary data.

Chart 1



Table 3 presents the findings on effective employee communication. It was found that the bank has effective employee communication programme through internet, newsletters, briefings, e-mails, etc.

**Table 3: Effective Employee Communication**

Total	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
456	0	18	66	292	80

Source: Based on primary data.

Chart 2

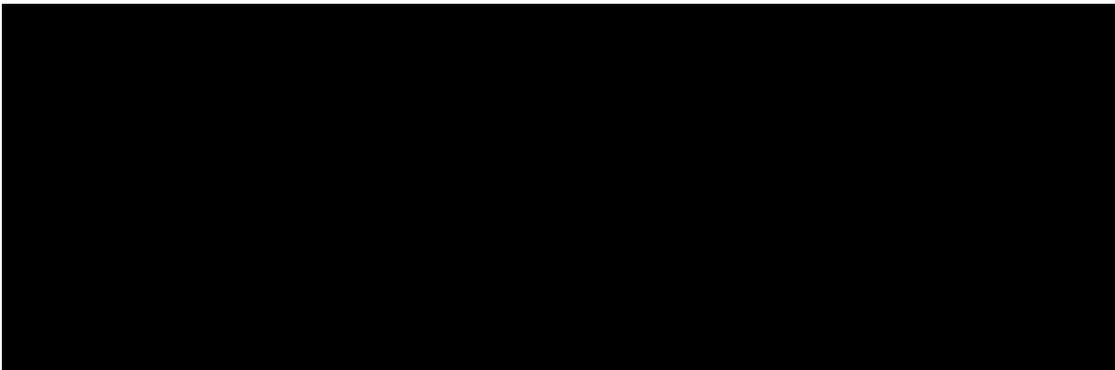


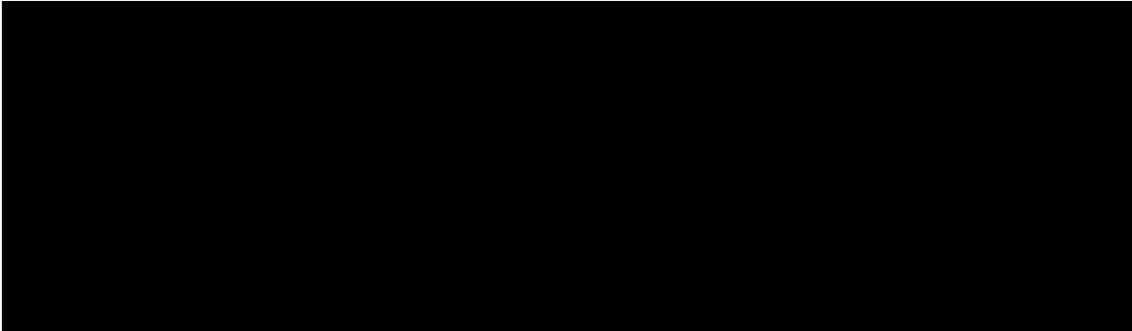
Table 4 presents the picture of transfer decision while taking into account the employee's preferences and consideration. The results indicate that due considerations pertaining to preference and constraints are taken into account while finalizing transfer decision.

**Table 4: Status of Employee's Preferences on Transfer Decision**

Total	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
456	8	16	114	290	28

Source: Based on primary data.

**Chart 3**



**Table 5: Status of Opinion on Efficient Employee Grievance Redressal Mechanism**

Total	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
456	0	15	190	210	41

Source: Based on primary data.

**Chart 4**

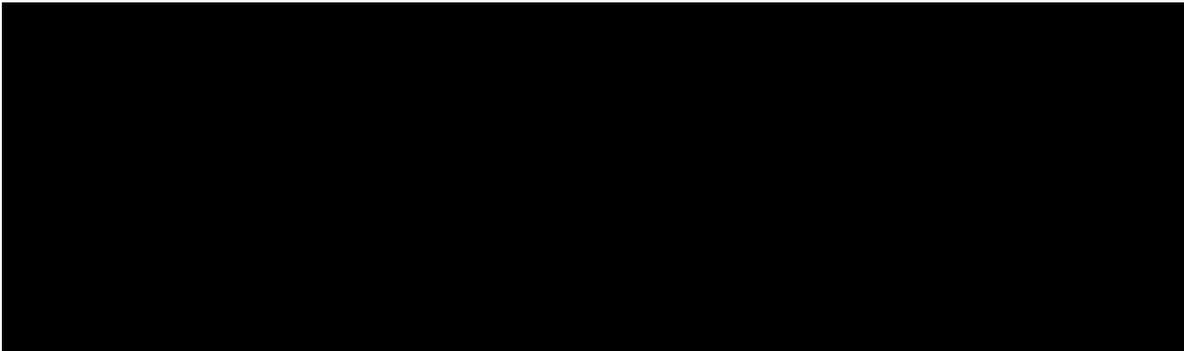


Table 5 shows the findings related to an efficient employee grievance redressal mechanism. The respondents expressed that the bank has an efficient employee grievance redressal mechanism.

**Table 6: Status of Skill Set Up**

Total	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
456	8	24	110	224	90

Source: Based on primary data.

**Chart 5**



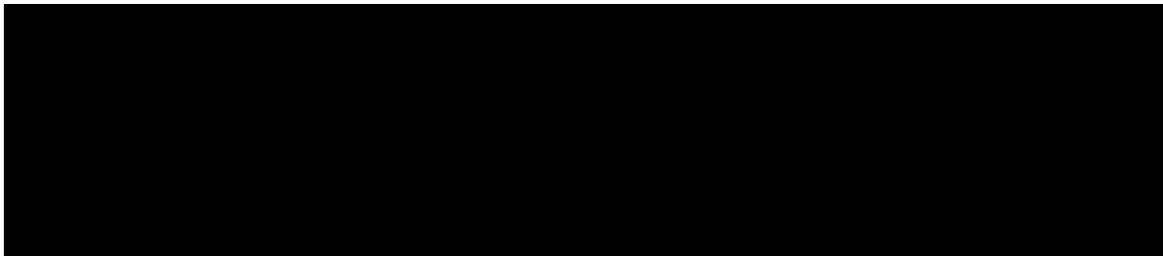
It can be noted from Table 6 and Chart 5 that the bank ensured proper matching of the skill set with the skills required for the role.

**Table 7: Status of Communication Regarding Business Target to the Employee**

Total	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
456	0	36	56	300	64

Source: Based on primary data.

**Chart 6**



An attempt has also been made in this study to identify the reasons for the stay of the employee in the bank. The details of the findings are presented in Table 8.

**Table 8: Reasons for Employee's Stay in Bank**

Reasons	No. of Respondents
Fair and Objective Career Progression	204
High Quality and Satisfying Work	90
Inspiring Leadership (Immediate Bosses and Senior Leadership)	75
High Quality Training Opportunities Helping in professional Development	200
Appropriate recognition wherever required	36
Competitive Salary/Monetary Incentives	148
Attractive Perks (e.g. housing)/ Non-Monetary Incentives	240
Opportunity to Work in Roles that I have enjoyed Sense of Pride for the Organization	204

Source: Based on the information collected from the employees.

It can be noted from the table that 204 respondents choose fair and objective career progression, Altogether 90 employees choose high quality and satisfying work whereas 75 employees choose inspiring leadership. It has been further noted that 200 employees choose high quality training opportunities helping in professional development; 36 employees choose appropriate recognition whenever required, 148 employees liked to go with competitive salary/monetary incentives, 240 respondents choose attractive perks (e.g., housing, entertainment, newspaper, mediclaim facilities)/non-monetary incentives and 204 respondents choose opportunity to work in roles that I have enjoyed, sense of pride for organization. The mean value of following respondent-employees to choose most appropriate reasons are as follows:

- a. Fair and objective career progression
- b. High quality training opportunities helping in professional development
- c. Attractive perks (e.g., housing)/non-monetary incentives
- d. Opportunity to work in roles that I have enjoyed sense of pride for the organization.

### **Conclusion**

Thus, this study related to the employee engagement in Allahabad Bank showed that owing to clear communication, positive work environment, inspiring leadership and progressive management, the employees appeared to be fully engaged. A very significant number of respondents expressed adversely which appeared to be because of personal attributes. The study reveals that continuous communication is the key factor of employee engagement. The work environment

matters in context of employee engagement and the environment is proportionately related to engagement. The more we apply the SHRM practices more engagement for the employees.

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# ADJUSTING CONTROL CHART: P-CHART PERSPECTIVE

Satya Prakash Ranjan\*

## Abstract

*In Statistical Process Control (SPC) there are various types of Chart like c-Chart, p-Chart, R-Chart, X-bar Chart etc. which helps in calculating data for false check. p-Chart is useful in counting data (information) which is an experiment consisting repeated trials where each trial results in either success or failure and the probability of success is same on every trial i.e. data are said to be Binomially distributed. However p-Chart Control Limits are symmetrical when the Binomial distribution is non-symmetrical. This can result in high false detection of 1 in 11.5 plotted points on Upper Control Limit (UCL). This result may provide false signal while investigating extent of wastage of resources. On the other hand Lower Control Limit (LCL) has tendency to detect false above 1 in 1000. Such a large data investigation takes lot of time in detecting quality improvement possibility.*

*This paper tried to help in correcting both the above problem through adjusting both UCL and LCL respectively. This adjusted UCL and LCL results in exact required p-Chart based on the assumptions of Binomial distribution.*

**Keywords:** Control Chart, Binomial distribution, p-Chart, Upper Control Limit, Lower Control Limit, Statistical Process Control

## Introduction

Walter Shewhart in the early 1920s has propounded and given the world of manufacturing and other processes a new conceptual paradigm to enhance the accuracy of statistical result through Statistical Process Control (SPC) tool i.e. Control Chart. It is a graphical representation of an unusual performance. A Control Chart helps to understand the collection, organisation, analysis and extracting results of various processes information. The result shows a random fluctuation of event whether high or low in comparison to expected process performance.

The average Run Length (ARL) of any statistical control chart is described as the average number of dots which are marked before the process goes out of control. This ARL variation depends on size run length or shift. When there is significant shift the ARL squeezes and become near to 1 (One). This squeezing denotes false signals, means large to maintain process under control. If there is no change in ARL then it should be referred as False Detection Time (FDT) and  $1/\text{FDT}$  is referred as the False Detection Rate (FDR).

Statistical Control Charts are based on Normal Distribution and plus minus 3 Standard Deviation (SD) because 3 SD gives the maximum probable accuracy. Eg. X and  $I_N$  charts (Taylor 2017b).

The  $p$ -chart assumes Pass/Fail data and is based on the Binomial Distribution because the nature of data are said to be discrete. The Binomial Distribution has 2 parameters where data Size is denoted by 'n' and data Probability is denoted by 'p'. Here;

$$\text{Average} = np \text{ and } \text{SD} = \sqrt{np(1-p)}$$

The Standard (STD) Control Limits for a  $p$ -chart are:

$$\text{LCL}_{\text{STD}} = np - 3\sqrt{np(1-p)} \text{ and } \text{UCL}_{\text{STD}} = np + 3\sqrt{np(1-p)}$$

We know the Binomial Distribution is not a symmetrical distribution while Standard Control Limits are symmetrical, the FDRs of a  $p$ -chart will be different from the above scenario. An assumed 3 standard deviation control limits are said to be near normality because most data distributions have a high percentage of values within 3 standard deviations of the average data. Though assumption may be true in most of the cases therefore, for the  $p$ -chart the FDR can be as high as 1 in 11.5 which is not an acceptable rate.

This paper tries to present the FDR for  $p$ -chart and proposes a solution by adjusting control limit to some extent.

### **Purpose of the Study**

The main purpose of this study is to provide a solution for a robust quality control to any process because, for the  $\text{LCL}_{\text{STD}}$ , the FDR is consistently above 1 in 1000 which takes time to detect False to make improvement.

### **Objectives**

1. To understand the Binomial Distribution of data for known standard deviation ( $\pm 3$ )
2. To minimise the time in False detection to speed-up the process.

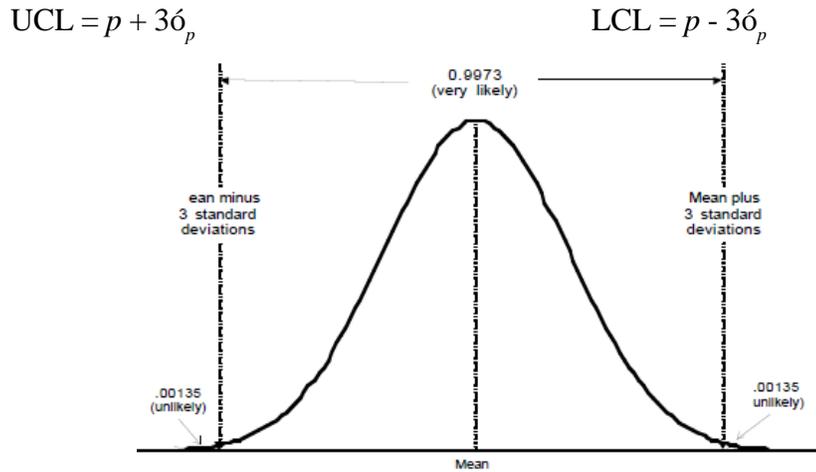
### **Significance**

The paper may be relevant for the healthcare practitioners, manufacturers and researcher seeking an introduction to and near accuracy of  $p$ -chart method in false detection or further insight into enhancing performance and the controlled process for Binomially distributed data.

### **Literature Review**

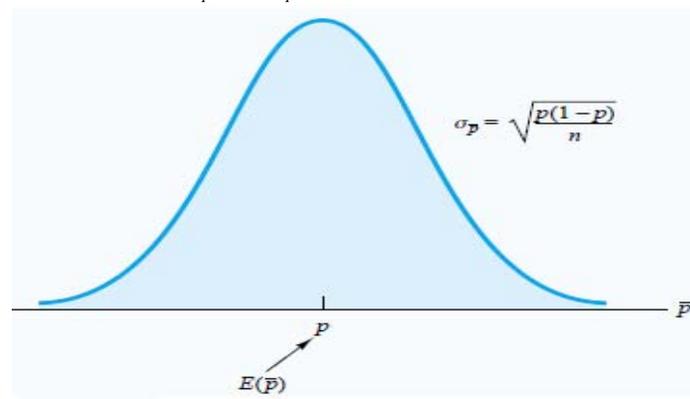
The limits for the  $p$ -chart are set at 3 (Three) standard deviation above and below the proportion defective when the process is in control.

**Clifford B. Wilson** therefore stated that the upper and lower limit for  $p$ -chart would be;



**Fig. 1. Depiction of UCL and LCL at  $\pm 3$  Standard Deviation**

The sampling distribution of  $p = \hat{\sigma}_p$  and  $\hat{\sigma}_p = \sqrt{p(1-p)/n}$ , and can be depicted as below;



**Fig. 2. Depiction of  $\hat{\sigma}_p$**

**Wayne A. Taylor:**  $p$ -chart has different properties and works differently than X-chart when detecting that process is going out of control. In an X-chart the downward and upward shift can signal a shift of an ARL from the target and process going out of control. The FDR then will indicate 1 in 370. But for a  $p$ -chart the failure or nonconforming or true/false units will indicate an increase in number of signal of out-of control process. Therefore, it is quite significant to have a 1 in 370 FDR related with UCL. It would be problematic if the FDR decreases below 1 in 200 units because it represents about double the number of false signals.

In  $p$ -chart the LCL signals an enhancement in quality. The result and analysis of false detection related with LCL is quite different from the result and analysis of UCL.

It is also suitable to have a 1 in 370 FDR related with the LCL for better improvement in process or quality. It would be problematic if the FDR decreases below 1 in 200 because it will clearly indicate that the process is going out of control.

The paper Adjusted Control Limits for U Charts, **Taylor (2017a)**, describes how the FDR for U-chart can be as high as 1 in 11.5. This also happens with and true for  $p$ -charts which is unacceptable FDR which is given below. In the this paper efforts has been made to determine the standard control limits for  $p$ -chart and to use it safely even if FDR goes beyond 1 in 200 units. And an effort has also been made to handle out of control process situation if FDR goes beyond 1 in 200 units.

Figures 3 to 7 show that the FDR represented as a function of the average count ( $n \times p$ ). The formulas of the FDR are represented in Discussion section of this article. Here the FDR is not represented by a continuous and smooth curve while represented as oscillation pattern because the counts are in the form of integers. Whenever the UCL or LCL crosses the integer value units the FDR jumps and fall thus creating a, oscillation wave with Peak and Trough.

As long as  $np \geq 10$  and  $np \leq n-10$ , the FDR will fall above 1 in 200 units which is also applicable to all sample sizes whether it is  $n=20$ ,  $n=30$ ,  $n=50$ ,  $n=100$  or even  $n=1000$ . As  $n$  increases the FDR becomes closer to the desired 1 in 370 units over a wider range.  $p$ -chart with standard control limits shall be used only when  $np \geq 10$  and  $np \leq n-10$  and this is because the Binomial distribution is approximated by the Normal distribution.

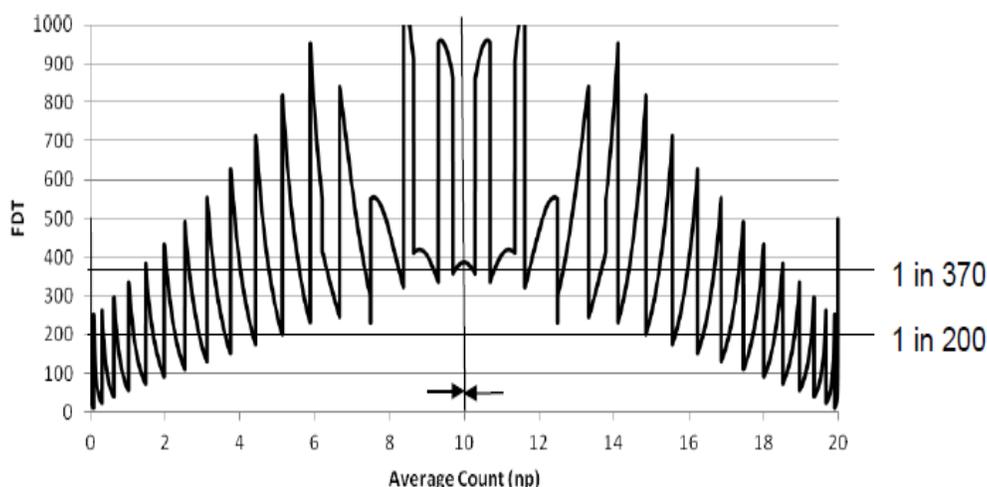


Fig. 3. FDR for Standard Control Limits when  $n=20$

Fig. 4. FDR for Standard Control Limits when  $n=30$

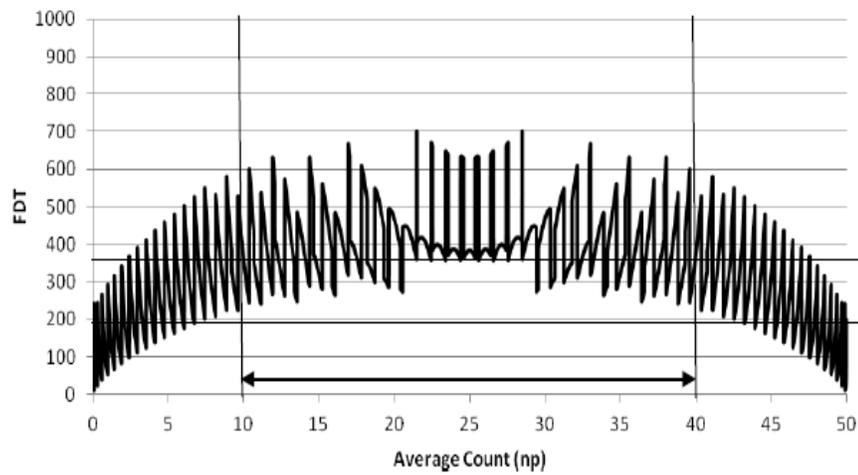


Fig. 5. FDR for Standard Control Limits when  $n=50$

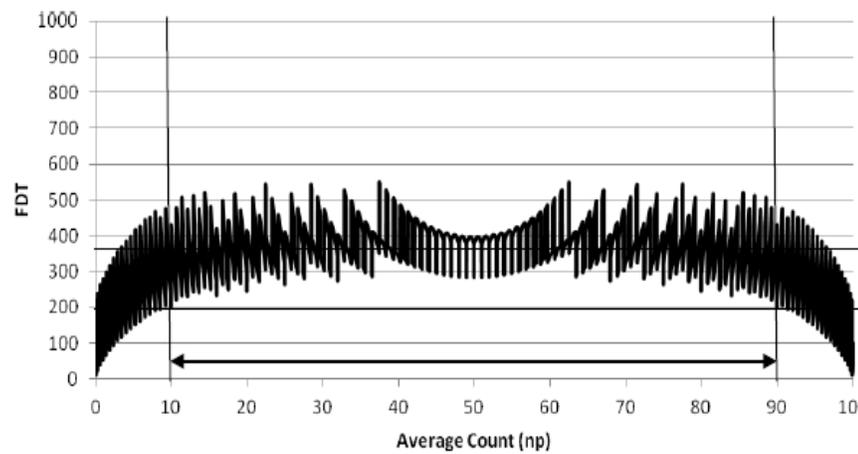
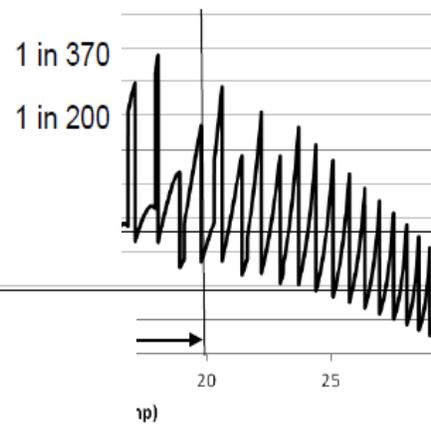


Fig. 6. FDR for Standard Control Limits when  $n=100$



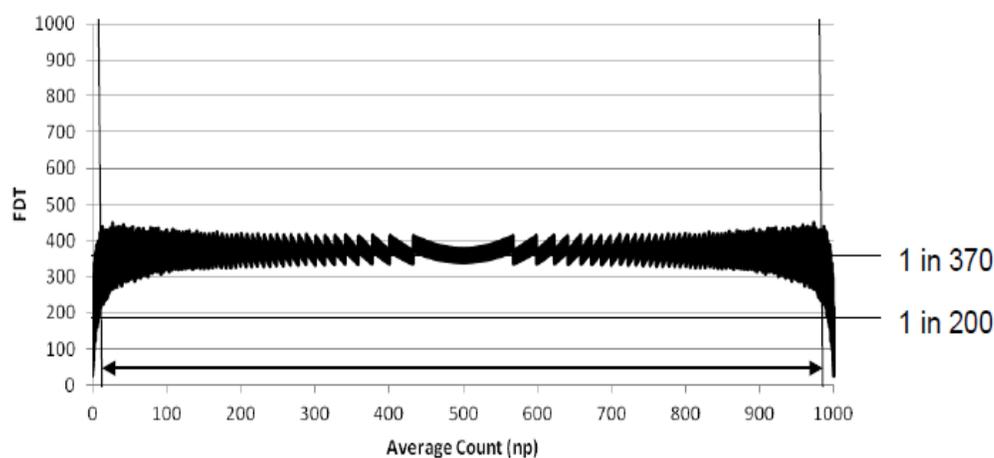


Fig. 7. FDR for Standard Control Limits when  $n=1000$

With the help of Fig. 3 to 7 we can understand that when the value of  $n$  increases the FDR becomes closer to the desired 1 in 370 units over a wider range on oscillated graph. The same is given in the table 1 below.

Sl No	Fig. No	Value of $n$	Value of $np$ (Left)	Value of $np$ (Right)
1	3	20	10	10
2	4	30	10	20
3	5	50	10	40
4	6	100	10	90
5	7	1000	10	990

Table 1. FDR for Standard Control Limits when with variable  $n$ .

### Decision Process Hypothesis

Result of statistical process control:  $p$ -chart is designed in such a way to identify whether the assignable causes of variations are present in the ongoing process. way.

		Probability of Production Process	
		$H_0$ True (Process Under Control)	$H_0$ False (Process Out of Control)
Decision Process	Continue Process	Acceptable Decision to Continue	Type II Error (Accepting an Out of Control Process to Continue)
	Adjust Process	Type I Error (Adjusting an Under Control Process)	Acceptable Decision to Continue

Table 2. Decision Process Hypothesis

The Production Managers of manufacturing organisation must then perform required action to eliminate the assignable causes and return the manufacturing process to an in – control state. This is presented in table 2 in page 81.

## Discussion

**James C. Benneyan** Either an  $np$  or a  $p$  control chart should be used when analyzing discrete data that are distributed according to a binomial distribution as depicted in Fig. 8, Fraction of dichotomous cases generated by a process that result in a certain outcome and sample size can change from sample to sample. For example, Fraction of surgeries that develop a surgical site infection, Fraction of patients who receive an antibiotic on time, Fraction of patients readmitted etc.

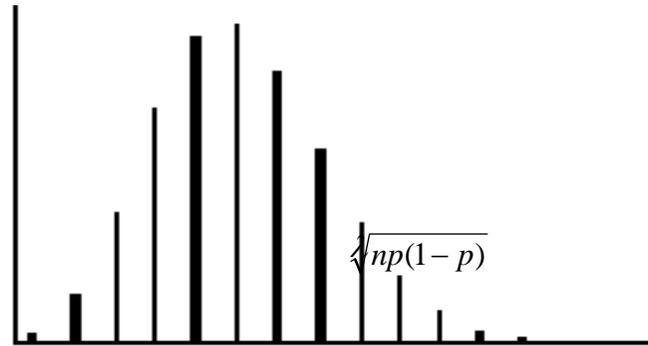


Fig. 8. Binomial distribution of data

It has been generally observed that  $p$ -chart have an average count i.e.  $np < 10$ . **Taylor (2017c)** observed that the  $p$ -chart is the best suitable with more accuracy chart for pass/fail counts having  $np < 25$ . The opportunity with  $p$ -chart is, when the  $np < 25$  then it also include  $np < 10$  where we need to adjust the control limits.

While adjusting the control limit we take average count as a constant, as  $n$  increases to greater value the Binomial distribution converges to the Poisson distribution i.e.  $\lambda = np$ . Here  $\lambda$  is used for Poisson distribution. This means the adjusted control limits for the U chart in **Taylor (2017a)** may be used with a  $p$ -chart. The adjusted control limits for the P chart are:

$$UCL_{Adjusted} = np + 2.782 \sqrt{np(1-p)} + 1 \quad LCL_{Adjusted} = np - 2.782 \sqrt{np(1-p)} + 1.1$$

These UCL and LCL are the adjusted control limits for the U chart with the standard deviation of Binomial distribution substituted for the standard deviation of Poisson distribution.

Figures 9 to 12 represents the FDR of the adjusted control limits for a function of the average count ( $n \times p$ )  $p$ -chart. Here the FDR is exactly calculated based on the Binomial distribution.

In all the charts the FDR is near exact than 1 in 200 units. Here we found that if  $n=50$  then the FDR diverges from 1 in 370 units but if  $n=100$  or above then the FDR almost stay near the 1 in 370 area. Therefore, for  $np < 10$  and  $n \geq 100$  the adjusted control limits may be used for better result.

Now we can write the formula for  $n \geq 100$  and  $np > n-10$ , using the symmetry the adjusted control limits will be:

$$UCL_{Adjusted} = np + 2.782 \sqrt{np(1-p)} - 1.1 \quad LCL_{Adjusted} = np - 2.782 \sqrt{np(1-p)} - 1 \quad - 1$$

In the situation where  $n < 100$  and either  $np < 10$  or  $np > n-10$  we should cumulate data until there are at least 100 samples.

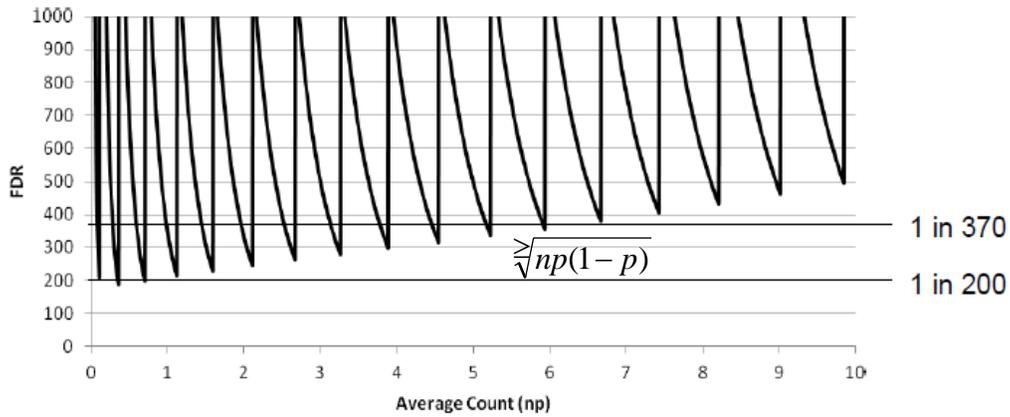


Fig. 9. FDR for the Adjusted UCL when  $n=30$

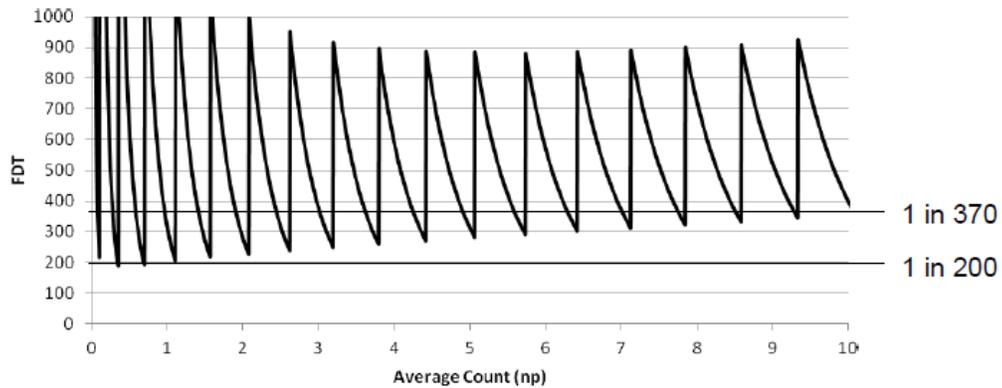


Fig. 10 FDR for the Adjusted UCL when  $n=50$

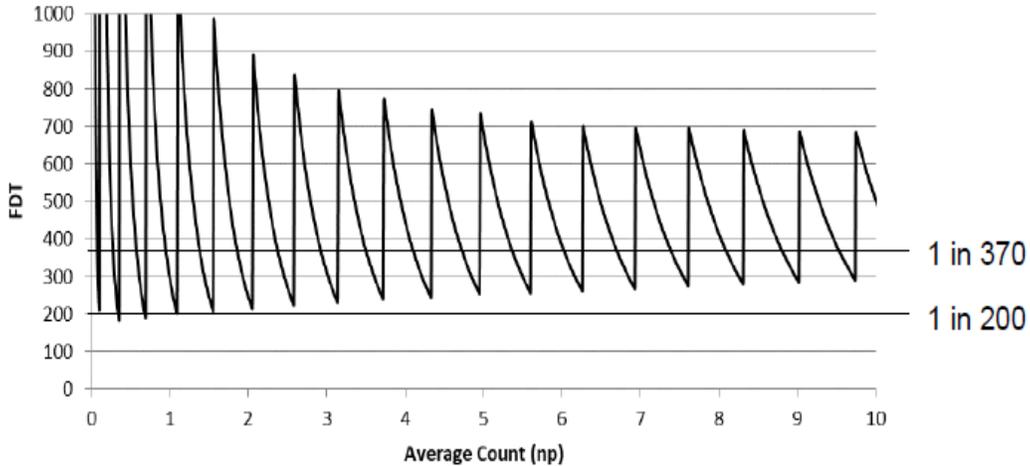


Fig. 11 FDR for the Adjusted UCL when  $n=100$

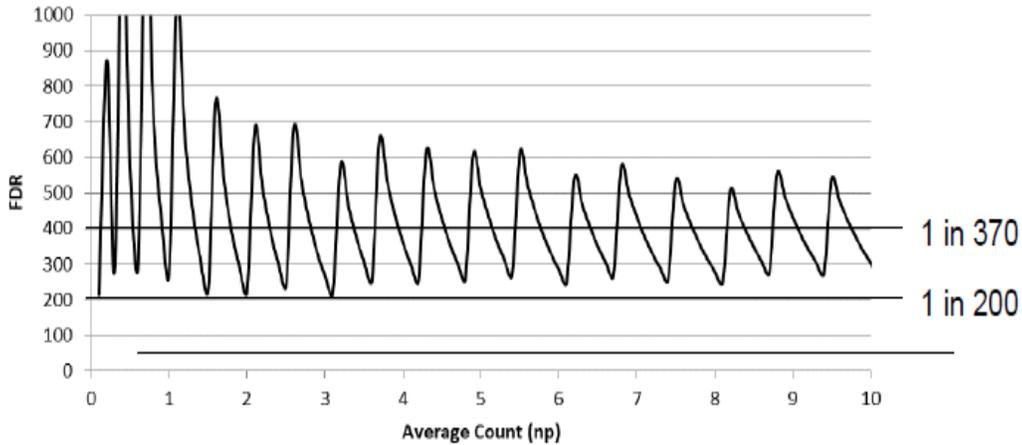


Fig. 12 FDR for the Adjusted UCL when  $n=1000$

$p$ -chart Formula: We have assumed in the Fig. 9 to 12 that each point is a count  $F_i$  ad the Binomial distribution having parameter  $n$  and  $p$ . This can be mathematically written as;  $F_i \sim (n,p)$

We know from that the Binomial distribution has following properties;

Average =  $np$  and Standard Deviation =  $\sqrt{np(1-p)}$

Here  $p$  is used to calculate the standard deviation which simplifies the  $p$ -chart because a separate calculation of standard deviation is not required. This makes the  $p$ -chart more powerful and accurate for Binomial data. Here we see when the counts are larger and spread over the ARL, the counts tend to vary more than the Binomial distribution due to dependencies which results in over dispersion. Hence for the Binomial distribution, the numbers of falling units  $F_i$  are plotted with the help of following control limits of  $p$ -chart.

$$LCL_{\text{Counts}} = np - 3\sqrt{np(1-p)} \quad \text{and} \quad UCL_{\text{Standard}} = np + 3\sqrt{np(1-p)}$$

$LCL = 0$  (whenever the lower control limit is negative)

$UCL = n$  (whenever the upper control limit is greater than  $n$ )

Therefore, the adjusted control limits for  $n \geq 100$  and  $np < 10$  are:

$$UCL_{\text{Adjusted}} = np + 2.782\sqrt{np(1-p)} + 1$$

$$LCL_{\text{Adjusted}} = np - 2.782\sqrt{np(1-p)} + 1.1$$

$$= 0 \text{ for } p \leq \frac{2.77024877318692 + \sqrt{6.46427826534363 - 9.36600203111234/n}}{n + 7.74049754637384}$$

The above  $p$  value is calculated based on adjusting LCL to 0 (zero). **Taylor (2017c)** The value  $2.78217496688721 = -\{2 \phi(-3)\}$  has been chosen to get the same FDR for UCL as standard deviation control limits. This is approximately 1 in 370.

Then the adjusted control limits for  $n \geq 100$  and  $np > n-10$  are:

$$UCL_{\text{Adjusted}} = np + 2.782\sqrt{np(1-p)} - 1.1$$

$$= n \text{ for } p \geq 1 - \frac{2.77024877318692 + \sqrt{6.46427826534363 - 9.36600203111234/n}}{n + 7.74049754637384}$$

$$LCL_{\text{Adjusted}} = np - 2.782\sqrt{np(1-p)} - 1$$

The FDRs are:

$$FDR_{\text{Lower}} = \frac{1}{\text{Binomial}[\text{ceil}(LCL) - 1 | n, p]}$$

$$FDR_{\text{Upper}} = \frac{1}{1 - \text{Binomial}[\text{floor}(UCL) | n, p]}$$

$$FDR_{\text{Both}} = \frac{1}{\text{Binomial}[\text{ceil}(LCL) - 1 | n, p] + (1 - \text{Binomial}[\text{floor}(UCL) | n, p])}$$

Here, Ceiling = rounded off value up to an integer.

Floor = rounded off value down to an integer

Binomial = the binomial distribution function.

Here, for a standard control chart of counts is referred to as an np-chart and for a p-chart, proportions  $P_i$  are plotted based on the sample sizes  $N_i$ :

$P_i = F_i/N_i$ , with  $F_i \sim \text{Binomial}(N_i, p)$

Then the standard control limits for  $P_i$  are;

$LCL = 0$  (whenever the lower control limit is negative)

$UCL = n$  (whenever the upper control limit is greater than 1)

Likewise, the adjusted control limits for  $n \geq 10$  and  $np < 10$  are:

$$UCL_{\text{Adjusted}} = p + 2.782 \sqrt{\frac{p(1-p)}{N_i} + \frac{1}{N_i}}$$

$$LCL_{\text{Adjusted}} = p - 2.782 \sqrt{\frac{p(1-p)}{N_i} + \frac{1.1}{N_i}}$$

$$= 0 \text{ for } p \leq \frac{2.77024877318692 + \sqrt{6.46427826 - 9.3660020}}{(N_i + 7.74049754637384)}$$

The adjusted control limits for  $n \geq 100$  and  $np > n-10$  are:

$$UCL_{\text{Adjusted}} = p + 2.782 \sqrt{\frac{p(1-p)}{N_i} - \frac{1.1}{N_i}}$$

$$= 1 \text{ for } p \geq 1 - \frac{2.77024877318692 + \sqrt{6.46427826534363 - 9.36600203111234 / N_i}}{(N_i + 7.74049754637384)}$$

$$LCL_{\text{Adjusted}} = p - 2.782 \sqrt{\frac{p(1-p)}{N_i} - \frac{1}{N_i}}$$

## Conclusion

As we get to know that  $p$ -chart is widely used for pass/fail count data where the data are Binomially distributed and this is mostly used for counts less than 25. In Binomial distribution of data, the use of  $p$ -chart is best option because it optimises the standard deviation estimation. Though, it is not always true that  $p$ -chart wholly dependent on Binomial distribution because Binomial distribution get skewed when data get distorted while the  $p$ -chart follows only symmetrical control limits.

It is also found that the standards UCL's false detection rate is 1 in 11.5 for low counts which is very high. It does not stay above 1 in 200 unless the average counts touches 10 or less than  $n-10$ .

Here, adjusted UCL resolve this issue by fixing it at  $n - 100$ . It keeps the FDR above 1 in 200 and averages near 1 in 370. Therefore, the adjusted UCL enhances the detection of signals when the process is going out of control for any large number is it follows the Poisson distribution. But, for the standards LCL the FDR keeps the data counts above 1 in 1000 which makes standard LCL slow while detecting improvement in quality or when the process goes out of control. Thus the adjusted LCL helps the  $p$ -chart in quickly detecting the signals when the process tends to go out of control. This also justify that the adjusted  $p$ -chart is based on the assumption of Binomial distribution of data.

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## Limitations & Future Research Directions

The said work needs huge data collection and its rigorous analysis, therefore, due to paucity of time the data and its mathematical presentation in this paper has been taken from the work of **Wayne A. Taylor** to make it more understandable, that the adjusted  $p$ -chart is more useful in quality improvement as it detects false very quickly. There is ample scope of future work in this direction in various industry and manufacturing plant level to improve the process quality of different business functions.

## Acknowledgments

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## Commentary

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# HOW TO DOUBLE THE FARMER'S INCOME UNDER LIVELIHOOD CRISIS

Ghanshyam Kumar Pandey\*

### Abstract

*Government of India set a policy target to doubling farmer's income by 2022. But it has not been mentioned that either it should be nominal or real income to be doubled. Earlier studies show only few states in past doubled farmer's income achieved in real term. Here, bases on a field survey the economic wellbeing of the farmers are explored. In the State of Bihar, farmers do not have sufficient income to cope of with their current consumption expenditure; then how it is possible to enhance the income without investment.*

### Introduction

Farmers and agriculture has been always a great matter of concern in the agrarian economy. Since the most of India's population are engaged in farming, a main focus of economic policy in India is to raise farmers' income. But, rising farmers' income is found upsetting in the country (Chand et al. 2015). Prime Minister Narendra Modi unveiled a seven-point strategy to double the income of farmers in six years with measures to step up irrigation, provide better quality seeds and prevent post-harvest losses in 2016. An important aspect of the policy stance is the identification and targeting of low-income farmers, as unless it is known who within agriculture have low income and/or are disadvantaged in terms of access to technology, markets, credit, information and infrastructure, it would be difficult to accomplish the desired goal (Birthal et al., 2017). At the same time Indian agriculture is passing critical time. Day by day news are coming from the different parts of the country about the farmers' suicides due to agrarian crises and farming distress. However, agriculture is not always a panacea for poverty reduction. The poor farmers are more vulnerable to this risks. Agriculture is always associated with economic and natural risks. The produce is good, a glut in the market can through low prices lead to poor returns from cultivation (Mishra, 2007). Increasing cost can also adversely affect returns. When flood and drought occurs the production declines sharply and farmers are even not in position to feed their family. In both the cases farmers hashed. Ultimately the disappointment leads to take some serious step like suicides.

India is a larger agrarian economy which is facing crisis and it has two dimensions. On the one hand, there is a livelihood crisis that threatens the very basis of survival for the vast majority of small and marginal farmers as also of agricultural labourers. On the other hand, there is an agricultural

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development crisis that lies in the neglect of agriculture arising out of poor design of programmes and allocation of resources and having resulted in declining productivity and profitability (Reddy and Mishra, 2009). Thus, we could focus more here on first dimension and that is livelihood crises which is ultimately depends on farmers' income. In India the number of cultivators has been fluctuating, the percentage of cultivators has been coming down steadily. It has declined from nearly 50% in 1951 to 24% in 2011, which means the number of farmers has come down by half. However, agriculture laborers have been increased from 19.5% to 30% during the same period of time (GoI, 2015). A situation assessment survey of income, consumption and productive assets of farmers' households conducted by NSSO 2003 showed that 96.2% of the farmers' households surveyed, owning less than 4 hectare of land, had incurred monthly consumption expenditure in excess of their average monthly income from all sources. However, the recent report of NSSO on situation assessment survey shows that more than half (52%) of the agricultural households in India are under indebted. Which have been significantly increased by around 4% from 2003. Thus, If there will be not employment opportunity availed in the rural area and when the farmers will not get sufficient price for their crops, then where is the question arises to double their income?.

Therefore, there is need to understand the socio-economic status such as livelihood issues of these farmers. Most of the studies available in this field from the secondary data like NSSO and others. The present study concerned with different categories of farmers in Bihar which is the key focus in Indian context as during the recent years, the economy has shown turnarounds, throwing new issues and acquired considerable attention for its remarkable performance in the development front. Moreover, the study focuses the issues related to economic wellbeing of farming households such as income, consumption expenditure behavior, poverty, productive assets and indebtedness. A sample of 528 farming households captured all the size holdings were surveyed from each agro-climatic zones of Bihar through the structural questionnaire during the 2011-12. In the survey questions were asked related to income, consumption, indebtedness and assets in details.

## **Findings of the Study**

### **Socio-Economic Background of Farmers**

The results of the survey shows that around half of total population is either uneducated or educated below the primary level with 64% dependent on their family. Only just over half of the households are living in the puccahouses and the most difficult thing faced by farmers was insufficient market. The survey pointed out the fact that the majority of farmers were unaware about the MSP of major crops. Agricultural marketing still continues to be in a bad shape in rural Bihar. In the absence of sound marketing facilities, the farmers have to depend upon local traders and middlemen for the disposal of their farm produce which is sold at throw-away price. It was noted that more than 80% farmers sold their crops after harvesting to the Baniyas. These Baniyas are the middleman who brought crops at price lower than the MSP fixed by government. In the absence of proper storage

facilities farmers were sold to these middlemen. Family size had found to big in the state of Bihar. On an average 7.71 members found in each family and it is increased with the increase in the size of holdings. Majority of the marginal farmers were near to landless (most of the farmers have land under 5 Katha ). Around 65% of the farming households don't have access the electricity at their home and only few farmer access electricity for agriculture and that is less than 1%.

### **Income, Consumption and Productive Assets**

Households income is one of the alternative indicators to measure the wellbeing of the people. The agricultural activities are season-oriented and their income is based on the vagaries of the monsoon. It was found that among the different sources of income of the farming households the Farm Business Income was the major source of income for average farming households in the state followed by hiring-out agricultural machinery and equipment and remittances. The total income of the farming households earned from all the sources was Rs. 62588 annually. Some of the results of the study goes beyond the traditional perception of Indian village economy; such as while discussing the structure of income and earning opportunities, it reveals that hiring out agricultural machinery and equipment has emerged as a new source of income for only those who own them (it is specially with the medium and large farm size categories) and it may be also cause for increase inequality among the others classes. Remittances was only contributed around 6% of the total income even though migration is highest among the other states in India. The income level of the small land holder's is much below than larger one due to uneconomic size of holdings. However, the share of income from the dairying and poultry in the total income is very low which contributed less than five and half per cent of the total income for the farming households. The value of Gini coefficient is 0.41 for all the farming households in the rural areas of Bihar. Which shows the large inequality prevailing among the farmers.

Further, the survey shows that on an average farming households, consumption expenditure on non-durable items accounts for a major portion of the total consumption expenditure followed by expenditure on services, social-religious ceremonies and durable commodities. It was interestingly found that the share of consumption expenditure on health care is more than expenditure on education for an average farming households. It may be due to unavailability of government primary health care facilities at the village level, mostly farmers depended upon private health care/clinic, and these institutions have taken higher charges for their services. The results clearly indicate that average propensity to consume is more than one for all the farm-size categories except for large farmers. It means all the farm-size categories excepted for large farm size category they were not able to maintain their consumption expenditure from their current income from all the sources and this is quite similar result to NSSA situation assessment survey 2003. Still state is underdeveloped in agriculture and it can be seen from the existing productive assets among the farmers. There were only 4.73 tractors and 44.69 pump set for 100 farming households. These owners of assets exploited small farmers by taking a very high charge for their services i.e., 1500 to 2000 per acre

for ploughing land and 115 to 130 per hours' charge for pump set to irrigate their land. These lead of small farmers to increased their input cost and significantly reduced their net income from agriculture in the state. Further the field survey shows the result that the level of education of the households' head, total rooms availability, size of the holdings, irrigated land, value of total output of crops per acre, and all the productive assets is higher is the reason for more farming households' income.

### **Poverty and Indebtedness**

The result of the surveyed shows that as per as government norms of 36% of the total farming households are still under the poverty line. However, according to world bank criterion for per capita \$1.25 per day expenditure, there were around 91% farming households under the poverty line. Its shows the destitute situation of farmers in the state. Since independence of India, the main objective of the national agricultural policy is to improve farmers' access to institutional credit and reduced their dependency on informal institutions. Informal credit is often usurious (Kumar et al., 2017). The growing discontent among farmers is primarily because of poor remuneration from agriculture produce (Narayanmoorthy, 2017). Around half of the farming households of the state of Bihar was under debt and this percentage was inversely related with farm-size categories. A large portion of loan taken by small farmers is spent on meeting a daily need because of insufficient income to provide proper food and others things. However, majority of debt has been taken from institutional sources and used for productive purposes by the larger size of holdings in the state. Still the majority of landless and small land holders was mainly depended on non-institutional sources and paid higher rate of interest (sometimes they paid more than 100% rate of interest per annum) and exploited by money lenders/large farmers land owners.

### **Conclusion**

In the state of Bihar more than 96% farmers are marginal and small having less than 2 hectares of own land. Farmers' income from all the sources are not sufficient to maintain their daily expenditures. Majority of them are under debt trap. There is no another employment opportunity available in the state. In the absence of alternative opportunities; a pertinent question arises how to double the income of these farmers? Even if the infrastructure related to agriculture is made available; that would not be sufficient in the absence of minimum own land. As far as remittances are concerned (as out migration from the state is highest among the other states) yet that is not enough to provide them sufficient income. Most of the people who have migrated are unskilled, illiterate and agricultural labourer who moves for seasonal employment and wages. More than half of the income earned from these activities are spent on room rent, food and other expenditures and they are not able to saved Rs. 5000 per months. There is a promising sector (livestock) which if harnessed fully can contribute a lot to enhance the income of the farmers in the state. Thus, government have formulated

the policies taking the above mentioned points into consideration. Without creating opportunities in non-farm sector it would be difficult to achieve the target of doubling farmers' income by 2022.

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## BOOK REVIEW

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*Economic Realities of Emerging Bihar (An Appraisal of the Constraining Forces Behind Development Programmes) Essays in Honour of Shikhsharatan Dr. Binoy N. Verma*, edited by Ajay Kumar and Hem Chandra Lal Das, B. R. Publishing Corporation, Delhi, 2015, pp.xxi +372, Rs.2250/

### Jagdish Prasad\*

This book is a gift to the readers giving honour to Dr. Binoy N. Verma, edited by his disciple - editors, Dr. Verma, the doyen of Indian agricultural economics, has not established himself as a brilliant teacher but also as a researcher which is evident from enriching the literature in the field with his writing on the process of Indian agricultural development particularly in the context of Bihar. His association with many academic institutions on both national and international level has led him to the recognition of highly respected teacher and researcher. Obviously, the scope of the book lies in the contribution of those scholars who have worked under his guidance in different areas of development of Bihar. The article include in this book are summery form of theses done by his scholars over the period. The book is, indeed, a carefully documented analysis of development of Bihar comprising a collection of 10 articles spread over three sections following specific theme in each section.

Section I on 'Production Pattern, Distribution System and Vulnerable Population in Bihar' provides a succinct and perspective overview of the changes observed particularly in concern with agricultural production and distribution. The first article presented in this examines the farm size, productivity, profitability and returns to scale in agriculture with the help of a case study. The subject matter is specifically concerned with the problems of small size farms. The findings indicate that the problems of small size farms are well known such as traditional cropping pattern having dominance of food grains, low cropping intensity due to low irrigation facilities and predominance of family labour in cultivation practices etc. The most important finding has been reflected from the analysis of farm business income which indicates that there is greater efficiency of small farms as compared to large farms. It means that small farms have large potential to accelerate the agricultural growth if their basic problems of agricultural practices are being removed. In macro perspective, Bihar's agriculture is of small farms owing to the fact that 92 per cent of total farms are small and marginal farms. As such, the development of agricultural sector very largely depends upon the prosperity of small farms. The author has made quite useful study indicating the need for restructuring agricultural development policy which may take care of problems of small farms.

The second article deals with the subject of regional disparities and role of area planning for overall economic development of Bihar. The author making use of Iyenger's multi-value development indicators and 18 broad development indicators divided all districts of Bihar into four clusters

namely, very high development region, high development region, medium development region and low development region. These clusters speak themselves that there has been high degree of regional disparities in the state and also causing high degree of regional imbalances. The author has also made theoretical analysis of regional imbalances dividing into two categories, i.e., 'natural imbalance' and 'created imbalances'. The created imbalances are man-made and more problematic which can be corrected with the help of are based planning in the broad perspective of regional planning. The author opines that hardly any serious underdevelopment of the state. In this context, he advised that the process of planning must have a new orientation. He advocates that in the planning process there needs to follow growth centre approach. This calls for the task of identifying growth centre to be entrusted to the block level planning. Thus, the author has given importance to grass root planning which may show the new path of development of the state.

Also, in the perspective of regional analysis, the third article presents an inter-regional analysis in the context of agricultural efficiency. The agricultural efficiency has been examined on the basis of measurement of agricultural development concerning with production efficiency. A composite index has been constructed for the 15 major states of the country. These states were further grouped in 4 regions on the basis of tenancy system. The regions of tenancy system were categorised as Zamindari, Ryotwari, Mahalwari and Jagirdari. This means that the level of agricultural efficiency in different regions. The finding indicate that the level of agricultural efficiency in different regions. The finding indicates that the Mahalwari region is at the top of level of agricultural efficiency followed by the Ryotwari region. The Zamindari region is at the bottom level followed by the Jagirdari region. The point of concern is that Zamindari region needs special attention in which most of the eastern states fall such as Bihar. These calls for taking into account both the institutional and agricultural factors which need to be improved for raising agricultural efficiency. Naturally, on the one hand, agrarian structure needs to be reformed with the help of land reform and technological progress with improved accessibility of the farmers to technology should be developed on the other. Bihar deserves special attention in this regard for acceleration in its agricultural growth. The strategies suggested in this study would go a long way to improve the level of agricultural efficiency in the states.

The fourth article is concerned with two main aspects of agricultural sector in Bihar. First, it deals with demand and supply of food grains. Second, it analyses the various aspects of food administration. The demand side of food grains has been extensively discussed in the perspective of population trend, i.e., per capita requirement of food grains and the supply side has been discussed with the production pattern. The food administration takes the distributional aspect of food grains. Both the aspects have been extensively discussed by the author delineating the production features as well as the role of the government in managing the distributional mechanism of food grains.

The study proves its essence in the sense that it deals with both the production and distribution aspect. However, there are certain constraints to production and distributional efficiency. The author in this regard has come out with some important suggestions which may be quite useful to the policy makers.

The theme of the fifth article relates to the public distribution system which is an important segment of food administration. The author has dealt the issues of public distribution in the context of vulnerable population. Since the beginning of the planning it has been considered as one of the most important strategies of government's welfare policy. In the broad perspective, its main concern was public distribution system. The findings indicate that merely 16 per cent of vulnerable population has been benefitted from the public distribution system which is indeed very disappointing. However, this study has been done much earlier and so, its finding cannot be generalised in the changing scenario of management of food economy there has been turning point in the name of the policy of food security. Despite this fact, the relevance of study cannot be denied.

The second section of the book comprises two studies. The first study presents a quantitative analysis of absorption of surplus manpower in gainful economic activities particularly in various government programmes whereas the second study examines the role of agricultural university. The genesis of the first study depends upon the hypothesis that in India, the surplus manpower in agriculture is an inevitable consequence. The evidence of widespread disguised unemployment in agricultural sector is a glaring example of it. The author put forth the argument that the problem of surplus manpower can be solved only with the approach of increasing employment opportunities for rising labour force in the agricultural sector itself owing to the fact that the absorbing capacity of non-agricultural sector is very limited. The author in this study has tried to explore various alternatives for possibility of employment opportunities in many sub-sectors of the agricultural sector and finally, comes out with the conclusion that generation of rural employment based on local resources is the most viable option for absorption of surplus manpower in agriculture. So, the author finally opines that the priority should be given to emphasise the introduction and effective implementation of the production programmes of resource-based village/agro-industries particularly in the area with high pressure of surplus labour in agriculture.

The author in the second article presents an overview of agricultural education with reference to Rajendra Agricultural University. Customarily, first, he discusses the various functions of the agricultural universities and points out the importance of the role of agricultural university in agricultural development. However, assessing the function and performance of Rajendra Agricultural University based on the survey (field) study the author points out that despite some functions being performed by the universities much still remains to be done for fulfilling the objectives of agricultural university in the context of agricultural development. In the concluding part of his study he very beautifully summarised scope of improving the functions of agricultural universities.

The discussion on land reforms has always been related to understand the characteristic feature of tenancy relation which appears to be highly exploitative due to iniquitous agrarian structure. Such discussion is of special significance in case of Bihar which is not only predominantly agrarian economy but also very adversely affected in its agricultural development due to slow progress of land reform measures. The first paper in the third section of the book takes up this issue and the author has tried to examine the implementation of land reforms in the perspective of political and administrative constraints. Like many other studies on land reforms this study also point out the gloomy picture indicating conclusively the failure of the land reforms in bringing about egalitarian social structure through elimination of iniquitous agrarian relations. In the concluding part of this study he has come out with many important suggestions particularly in concern with political and administrative aspects. Obviously, the author has laid a stress on a strong political as well as administrative zeal to make the land reforms programme successful.

In the second paper of this section, an important theme concerned with the women agricultural labour has been discussed with the help of a case study. The survey was done in Tharu and non-Tharu blocks of West Champaran district which is the border district of Nepal. The rationale lies in the cultural differences between Tharu and non-Tharu women agricultural labour. The study indicates that there are differences in working days, performance for doing work outside villages, wages, etc., between Tharu and non-Tharu women agricultural labour. The differences in wages have also been noted among male and female agricultural workers. One of the most important findings is that due to introduction of technology in agricultural sector there has been more displacement of women agricultural labour. As such, there is negative relationship between agricultural development and displacement of women agricultural labour in both the Tharu and non-Tharu areas. The author in his paper also discussed about the policies and programmes of welfare of women. After having reviewing the various policies and programmes of both the Central and State governments he comes to the conclusion that no specific policy and programmes for improvement in the working and living conditions of women agricultural labour has been initiated. The author in this regard has come out with a chain of suggestions which will go a long way to improve the working conditions of women agricultural labour.

Following the above theme the last paper of this section and also of the book discusses about the rationale of women empowerment in general and comes out with the view that much needs to be done particularly in institutional framework for making the women empowerment avenues more effective. Her thesis may prove to be a good guideline for making women empowerment programme more effective.

In the last section of the book, the editors have presented concluding version in the framework of 'SWOT' analysis. On the whole, the book makes an interesting reading and an in-depth discussion on the emerging economic realities of Bihar. Also, the book carries valuable information on agrar-

ian economy which is the backbone of the economy of Bihar. This is a welcome addition to the available literature on the socio-economic development of Bihar in general and on agricultural economy in particular. This is a good reading for scholars, policy makers and all others who are interested in understanding economic realities of Bihar's development in its various dimensions.

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*I, Dr. Jagdish Prasad, do hereby declare that the particulars given above are true to the best of my knowledge and belief.*

*Date: December, 2017*

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*Jagdish Prasad*