Chapter II

Literature Review

The chosen area of research for my doctoral study is “Indian Agriculture – Trends in Food grain Production and Implications on Food Security in India – A post 1980s Study” for which the following literature has been reviewed, comprising of 40 different papers, articles and books of various eminent authors. As I have taken most of the literature from different books, related to my study area, as they are very rich and vast in explanation, have tried the most to condense them in a way not miss the author’s primary objective. Based on the dimension of the different authors’ explanations, the review has been classified into five sections, like, 1. Literature that addressed the issue from the demand Point of view 2. Literature that addressed the issue from the Supply Point of view. 3. And the explanations particularly related to some countries. 4. Food Security under Free Trade and Economic Reforms. 5. Presentation of the Intensity of Indian food security situation in general.

Brief Outline of Literature

Salient and prominent issues that came up in this review comprise of various dimensions. Issues range from both demand and supply side that would influence or disturb Food insecurity and also other conceptual and policy interventions that relate to the food insecurity.

Major issues that that influence Food security in India are lower Purchasing Power of the people, inappropriate international trade measures that have negatively affected Indian farmers. Also the severe levels of poverty, less access to sanitary and hygienic environment and low access to safe drinking water and toilets would also affect food security negatively.

Also the lower public support to agriculture (especially in the post 1990s period) and lower productivity and lower per hectare yield had reduced the aggregate food grain production which in turn reduced the per capita net availability of food grains. Even the Social Safety Net Programmes like PDS, ICDS (Integrated Child Development Scheme), MDS (Mid day meals Scheme) etc., have been inadequate and
insufficient and low quality of delivery proved failure to eradicate food insecurity among poor people. Apart from this, on the Global front as well as in INDIA, off late there appeared to be a Change in Dietary patterns, as there is a more shift towards modern fast foods, fruits, vegetables, meat, fish from the traditional cereal foods. It had necessitated diverting large amounts of food grains towards feeding of cattle and thereby reducing the per capita availability to direct human consumption.

Export Led Growth that had been adopted in the post liberalization era had failed to release heavy work force that is engaged in agriculture and also affected Indian farmers severely as there is a shift from food grain cultivation towards commercial crops, thereby reducing the production of food grain production and led to increase in food prices and leading to deprival of access of food grains to poor people. Increase in the input costs and reduction in output prices have also led to the grave situation of food insecurity. Most of the Indian farming comprises of Small and Marginal Farmers, which is 80 per cent. Plight of these people is very much severe, as there has been not much focus on increasing their income as it has been given to increase the aggregate production.

Population Pressure also has led to increase in demand and thereby reduced the per capita availability of food grains and also increased the food prices. Along with low production and low purchasing power, there also exists Ineffective Food Management, which is making food distribution complicated and expensive. In the modern day, as far as food security is concerned, Role of Media and Local appropriate political will has been very much insufficient and disappointing. Even the attention towards implementing Land Reforms and also active role of local governments towards achieving food security has not been given much priority by the policy makers. Even the domestic restrictions to movement of food grains also not helping the cause either.

Environmental Degradation, uneven monsoon, increases in temperatures also taking a serious toll on food grain production and threatening food security in near future. Alarming Malnutrition Trends, prevalence of underweight and anemia among children and women and low Body mass Index also indicate a serious threat of food security in India. In this background there also concepts that have been suggested to establish food security like, Right to Food have gained momentum. It aims to provide legal entitlement to food grains to poor households at cheaper prices through an effective procurement and distributive mechanism.

Thus the review of literature enabled us to gain a clear picture regarding causes, composition, obstacles, perspectives and challenges and solutions that are there while dealing the concept of food security. It also
enabled us to identify the research gap and also to formulate our objectives. Following review would enable us to go through different views with regard to the complexion of food security in India.

I. Review Pertaining to the Demand Side of Food Security:

01. Per Pinstrup – Andersen (2004-05)

In this chapter the author tries to present the gravity of food security concern in India and also explains the progress and problems and defective policies engaged in Indian agriculture. And also tries to present the resolutionary measures in order to make agriculture viable, reliable in the context of changing food security system and existing WTO regime. He also highlights the importance of market structure in uplifting the agriculture.

Though the food availability in India might be a state of plenty, India also must grapple with the paradox of persistent hunger. Still half of them suffer from malnutrition, where it is only 33 per cent in Sub Saharan Africa. The problem is even more compounded for girls born into tribal and schedule caste families, who are far more likely to be poor and food insecure. Insufficient intake of these micro-nutrients often called ‘hidden hunger’ affects vast number of people, with serious public health consequences.

In order to counter these kinds of alarming situations, many state and central Governments have introduced many social beneficiary schemes like MDMS (Mid-day Meals Scheme), ICDS (Integrated Child Development Scheme) and TPDS (Targeted Public Distribution System), but their affect has been marginal. There are also number of factors which are responsible for this food insecurity of the people. Important among them all is the poverty, which prevents the poor people from purchasing required food grains in the form of low purchasing power. One of the important resolutionary measures to eradicate this condition is to invest in human resources, which will bring in more health, educational and employment opportunities, which ultimately lead to their income increases and economic growth.

The existing controls and subsidies created an era of scarcity and halted the creation of an integrated national food system. Because, these controls and subsidies have not really benefited rural poor, instead, at least half of the fertilizer subsidy goes to keep several inefficient domestic fertilizer farms in business, at high cost to the treasury. Irrigation subsidies promote excessive use of agricultural water and actually drain funds away from the maintenance of irrigation infrastructure. Power subsidies contribute to corruption and pilfering of supplies that are reported as agricultural uses. Subsidies also create regional inequalities by the way of keeping bigger agricultural states on the advantageous side. Therefore in order to protect the consumers from high input prices and the effects of liberalization, Government must run the appropriate safety net programmes. Here comes the major role, to be played by effective TPDS and FCI.
Trade liberalization must also take into account non trade concerns like ‘food security, sustainable development and poverty alleviation’.


Here the main focus of the author is to present the changing structure and composition of food basket both in rural and urban areas, especially he explains the decreasing rates of food grain consumption in rural areas, mainly the cereals, due to various economic and non economic factors.

Apart from tastes and preferences, higher prices of non food grains and non-food items like milk, meat, fish, textiles, modern cosmetics, furniture, medicine, cinema, entertainment…etc, showing a declining trend on cereal consumption in rural areas. Therefore, both the income and price variables do influence the per capita consumption of food grains in the expected direction, but their impact is more pronounced among the lower expenditure groups and their overall impact is wearing out over a period of time.

Cereals being a low cost source of energy the nutritional status of the poor can be improved through subsidized sale of food grains in the form of PDS. Given the expected population growth by 2020, this declining trend in per capita consumption on account of the development of rural infrastructure, mechanization, urbanization and other factors including changes in tastes and preferences, is likely to make a difference of about 20 million to the household demand for food grains in 2020. However, this may be neutralized by the increasing demand for cereals as animal feed to the extent of about 10 million tones. Despite this fall in per capita demand, the total demand for food grains will increase on account of population growth.


The objective of this paper is to examine the dimensions of food insecurity and suggest that rights perspective would be important to improve public action. Firstly it examines the progress in availability, access and adequacy. Food and nutritional security implies the ‘availability of food at all times, that all persons can have access to it, which is nutritionally sufficient in terms of quantity, quality and nature which is acceptable with in the given culture.’ In terms of non cereal food items like fruits, vegetables, milk, meat and fish, India has not achieved self sufficiency in terms of per capita availability. In terms of food security, we need to take into account both adequacy and nutrition also.
Availability of physical access of food grains at the nutritional level isn’t a problem. However it is a problem for the North Eastern States and other remote and tribal areas. Also, it is a problem of vulnerable groups such as old age population, pregnant and lactating women, children, tribals..Etc; there also exists an intra household disparity in consumption especially among rural poor. Food distribution isn’t based on “need”, breadwinner gets the sufficient food, where as the women and children are on the disadvantageous side. Even among the children mostly the boys are given primary importance than girl children. Of course these intra household disparities are not all pervasive. In this respect, India has violated right to food in its worst form. There have been starvation deaths in many other places such as in Kashipur in Orissa and Ananthapur and Mahabubnagar in AP. The KBK (Kalahandi-Bolangir-Koraput) region in Orissa, is one of the highly food insecure regions in the country.

Although it is difficult to make Right to Food fully justifiable, some interventions are possible to improve food and nutrition situation of the country. And Government also started many schemes like PDS and child nutrition programmes like, ICDS (1975) and Mid day Meal Scheme,, these schemes also suffer from problems like leakages, poor infrastructure, low coverage, low expenditure per child, non accountability, poor monitoring system, financial allocation, meal infrastructure, low quality items and cooking, lack of kitchen facilities etc..

Finally the Rights Based Approach must follow transparency, equity, accountability discrimination and equal participation. And the key elements like Political Will, Resources, Effective Implementation, Right to information, Social mobilization, Decentralization…etc; in the process of implementing any welfare program must be followed. In order to realize Right to Food, Other rights such as right to water, right to employment, right to health and right to education are very much important. Infact, right to employment is an important one for the fulfillment of right to food.


Here the author tries to explain the gravity of food grain insecurity in India and tries to suggest some measures to overcome the situation in future. Although, there are safety net measurements of GoI, the FAO has listed out India as one of the countries which has failed to achieve the targets of the ‘World Food Summit – 1996’, in terms of reducing the number of undernourished. Through concerted efforts of scientists and farmers, India could able to overcome the state of food deficit. In fact we are faced with the paradox of a huge buffer stock of food grains, while also having the largest population of undernourished in the world.
In India, the food is there but it isn’t reaching the people. In order to ensure that the food is accessible to all, the primary issues of addressing the questions of access and affordability. There is every need to initiate ‘job led economic growth’. There is a unique situation, where in there are mountains of grain while millions are suffering with hunger which is due to insufficient access or purchasing power. This situation can be addressed through various measures like... Establishing ‘National Food Guarantee Scheme’, Strengthening PDS, decreasing income inequalities and increasing purchasing power, job led economic growth and farm diversification, decentralized procurement and decentralized storage will help to minimize transport cost and transaction costs and establishing community food banks at local level. Attention should be focused on both production and consumption. Enhancing production through an evergreen revolution is a primary task. Therefore the future of food security depends upon population stabilization, preservation and sustainability of arable land by looking after soil health and replenishment of fertility and conservation and careful management of all water resources, so that more crops can be produced per drop of water


On the eve of 60 momentous years of independence, the country is justifiably proud of its number achievements. But there is a long way to go before the ideal of food secure India is accomplished. In order to eliminate hunger and establish food security to the poor, WFP has been striving along with government of India. The sad part is that one person in every 5 Indians is suffering from some sort of hunger. ‘Hunger’ according to Jean Dreze and Amartya Sen, is that “intolerable in the modern world” in a way that never existed as it’s ‘so unnecessary and unwarranted’.

India is the best case of how food self sufficiency at the national level hasn’t got translated into household level. Disappointingly, large number of malnourished people ranging nearly 214 million who are chronically food insecure. And about 40 million people are exposed to natural calamities. And 50 per cent of children (majorly tribal and rural) are stunted and undernourished, people with low birth weight are 23 per cent and 68 children out of 1000 people die even before reaching the age of a year. It only shows that there is high prevalence of anaemia as well as micro nutrient deficiencies. (Courtesy U.N.Information Centre, New Delhi)


This paper attempts to show how the levels and quality of food consumption and nutrition for the poorer sections have connection to what is happening to agriculture. The current trends in India are that farm
incomes are decreasing, composition of food basket is rapidly changing along with the serious down fall in the consumption of cereals in rural areas.

At the house hold level, food security became a main problem due to the lack of purchasing power and also due to the increase in cost of production. In this context of food security, women are at the disadvantageous side without having proper access to the food and absolutely having no ownership rights over the land. Moreover, there is an increasing stress on farm incomes to meet non food needs. In this context, farming has been slowly switching over to the cash crops from the traditional food grains. Situation is far worse today with raising prices of pulses and low yields of pulses, the main protein source of India.

On the other hand, under the present imperfectly competitive markets, gains from terms of trade are limited. Agricultural production’s response to favourable shifts in terms of trade is inelastic because of supply constraints. Trade reform is unlikely to help farmers in India gaining from higher international prices. If commercialization has to ensure food security, it must be accompanied by public intervention that modifies the rigors in the market. Cheaper food may available from abroad but their food is produced with enormous subsidies to their farmers. Loss of subsistence income was the far more damaging to food security than loss of income from market based self sufficiency. Quite alarmingly, in the recent past growth rate of employment lagged behind population growth rate.

Therefore in this context without any hesitation, we can say that Indian agriculture is in Doldrums. Time is ripe for launching a series of revolutionary measures on a war footing to uplift the agriculture totally by increasing the farm incomes and reducing the poverty levels with the only soul aim of achieving food security for all Indian downtrodden sections.

7. Ray; Shovan (2007)

Here the study primarily examines how the agriculture affects food security at the National and household level. Although the green revolution technology resulted in greater self sufficiency in food production and reduced import dependence, it didn’t benefit uniformly farmers from different regions and different socio-economic backgrounds. Though it solved the food security problem at aggregate level, it was left to subsidy programmes such as the PDS to take care of food security at household level.

Despite increases in agricultural production and self sufficiency, we are at a paradoxical situation where huge food surpluses at the aggregate national level coexist with large undernourished and poor
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population. Along with this, excessive use of green revolution technologies led to substantial use of arable land and environmental degradation, soil erosion, water logging and salinity. Green revolution also failed to benefit the farmers in unirrigated and marginal areas, where a large percent of the population continues to be poor. Though the post 1990’s NSS data shows an increasing trend in per capita incomes and declining trend in poverty in India, but it was accompanied by fall in the per capita consumption of cereals.

And, the low levels of nutrient intake among the poor stresses the importance of keeping food prices low to these households with an effective PDS, as 90 per cent of the population consuming less than norm of calorie intake, appears to be increasing for rural India over different NSS rounds. And as much as 50 per cent of children continue to be malnourished and a large percent of adults chronically energy deficient. Therefore agriculture must be corroborated with high technology and other infrastructural facilities. And this technology must be able to reach the poor and must be in a position to increase the incomes of small and marginal farmers. Otherwise, very soon there arises a possibility that in future India could become dependent on imports for its requirements of food grains.

8. Acharya; Shabd S (2007)

Here the author tries to explain us the structure of Indian food grain production, availability, food policies over the years and current status of food security in India. Only India alone shares 16.7 per cent of world’s food consumers.

Demand for food exceeded supply, food prices were ruling at high levels and more than half of the population was living below poverty line with inadequate purchasing power. With high levels of population of growth, the dependence on imported food increased further. Also, proportionately there was less area under cereal production. Emphasis was mainly on food imports, rationing and price controls.

Therefore the strategy to improve food security must encompass programs to uplift the agriculture through technology, research and development, investment, increase in rural infrastructure, advancing the production incomes of small and marginal farmers, creating non-agricultural employment opportunities, property rights of small farmers and fisherman must be secured, supply of farm inputs at lower prices, price support, maintaining price stability, building buffer stocks and strengthening PDS, environmental sustainability and improvements in food marketing system and implementation of direct food assistance programs and increase in the access to education and primary health care, must be focused heavily in order to achieve sustainable food security, as liberalization gradually and negatively effecting the food security in terms of decreasing purchasing power and economic access.
9. Kumar; Praduman (2005)

In this chapter, the author tries to present the depth of food security situation in India and also presents the possible future prospects, opportunities and challenges. He also emphasizes the necessity to empower the small and marginal farmers in order to achieve food security in the future. India has made impressive strides on the agricultural front during the last 3 decades.

Still about 25 per cent of children suffer from serious malnutrition and more than 50 per cent of the preschool children and pregnant women are anaemic. The massive increase in population and substantial income growth demands an extra 2.5 million tons of food grains annually, besides significant increases needed in the supply of livestock, fish and horticultural products. Assuming growth in per capita GDP will be 3.5 per cent, the demand for food grains in the year 2020 is projected to be 256 million tones and also the demand for sugar, fruits, vegetables and milk and meat and eggs is also likely to increase substantially.

In the light of these challenges, the question is, who will feed India. And the possible answer is, the burden of feeding India heavily lies on the majority of small farmers of the country. Small farmers including marginal farmers, although they own only 35.5 per cent of the total cultivated land, their contribution to the overall national as well as household food security and hunger alleviation is proportionately much larger and has been increasing. Moreover, the number of small holdings and small farmers has steadily been increasing. By the year 2010, the holdings of marginal and small farmers will be about 119 million which will constitute about 82 per cent of the total holdings and 46 per cent of the total cultivated land.

Small farmers who constitute more than 50 per cent of the country’s population also account for more than half of the number of hungry and poor people. Here the question is whether is the smallness of the majority of farm sizes, which is the main cause for perpetuating the hunger and poverty, what are the opportunities to improve the productivity of their land, which would liberate them from hunger and poverty. There is every need to increase the role of small farmers to fight against the hunger and poverty.


This food insecure atlas primarily focuses upon the severity that is prevalent across urban India. It reveals that more than 38 per cent of children under the age of 3 in India’s cities and towns are underweight and more than 35 per cent of children in urban areas are stunted. Even the calorie intake of the urban poor is very low as per the specification of ICMR (Indian Council for Medical Research).
If we can observe the cereal consumption of urban people, it shows that the “cereal intake of the lowest 10 per cent of the population is negatively related to the extent of urbanization”. This atlas shows that lowest income urban people in all states eat less than the state average. More interestingly, the diet of the lowest deciles in all states is barely diversified and hardly contains vegetables, fruits, pulses, meat, fish, milk and eggs. For the country as a whole, more than 14 per cent of the urban population is dependent on casual labour, for the lowest 10 per cent of urban population in India, 37.49 per cent are engaged in casual labour and 41.34 per cent are self employed, suggesting that vast majority of urban poor are vulnerable to undernourishment. It also says that discrimination (both caste and gender) at the social level translates into discrimination in livelihood access, food access, access to medical relief and access to education. And in case of urban India, as a whole, 47.5 per cent of the urban schedule caste population is in the four lowest monthly expenditure classes; in case of ST population proportion was 43.1 per cent.

An integrated approach that focuses on the provision of affordable food to the urban poor along with the development of employment and educational opportunities, improved access to permanent shelter, sanitation facilities, safe drinking water and improved medical care for impoverished sections of the population is vital in addressing the significant levels of urban economic deprivation.


In this chapter the author, firstly presents the structure and composition of self employed poor in India and then tries to present the obstacles that these people are up against in meeting their food requirements. Total of 120 million persons are self employed, perhaps 80 per cent of whom are below the poverty line and others not too far above it. The typical self employed poor person in India is likely to be: rural, female, illiterate, a member of a ST or SC, living in a landless household and dependent on wage earnings. But these are all mostly vulnerable sections in the society.

In India there exists a large amount of buffer stocks and persistence of poverty and food insecurity as existing social safety nets and PDS’ have not lived up to their expectations. Now the issue is to increase the incomes of the lower income group to provide food security. Therefore strategy must evolve to increase the income opportunities of these people and providing proper price for their agricultural and other self made and collected products. In addition to this, they must be given appropriate shares and facilities in resources like land, water and forests. Especially, land reform must be implemented strictly, but the thing is that, though we have launched them long back, but most of the poor has not reaped any benefits out of this. Therefore there should be a strategy that needs to come up, it’s like ‘making it more
expensive for the large land owners to cultivate, which is by increase in alternative wage employment opportunities for the landless whenever there is an increase in area under cultivation, as well as increase in cropping intensity, then there will be increased demand for labour and wage rates. Then the large land owners will be on the side of selling off part of their land. In this way land less labour can be given some share of land, leading to their income generation opportunities. Production also must be diversified from cereal crop production like paddy to other cereals like pulses, oil seeds, spices, vegetables, fruits, fodder, fuel wood and timber.


In this paper the author primarily explains the functioning of a food assurance scheme that has been implemented in AP and he also gives us the brief picture of the existing plight of food insecurity in India.

“Food Consumption cannot be Post phoned”, therefore the perfect food security, necessitates the elimination of chronic poverty. In the last 10 (between 1994-2004) years, our Governments have subsidized over Rs.23, 000 per household and yet hunger continues to increase with 42 per cent of Indian rural population receiving less than the accepted daily food requirement. Indian Governments are starved of cash, the bulk face competing demands on its financial resources and find themselves in misery when it comes to uplifting the poor. The bulk of the poor live in dry land and resource poor areas. There also exists a rapid and continuing decline of rain- fed based coarse cereals such as Jowar, Bazra, Ragi consumed by the poor.

The areas with highest incidence of hunger are chronically drought prone, food deficit, long unemployment periods, irregular agricultural incomes and falling public investment and backing of private investment due to scared risks and also go for migration. Therefore in addressing hunger, we must offer a stiff competition with non food items and make expenditure on food the household priority in our strategy. And the future well being of our farm produce can be advanced only by accessing the huge consumption potential among the poor and not just by catering to the tastes of the rich.

II. Review Pertaining to the Supply Side of Food Security:


In this chapter, the author presents the trends in food grain self sufficiency of India since the independence and also tries to present the production trends and maintenance of food grains by FCI and
changing consumption patterns of the consumers over the years especially in the context of new economic reforms.

The rise in total factor productivity, the per head growth rate in the output of food grains was close to 1 percent in the first decade of the green revolution and accelerated further to just over 1.5 percent in 1980’s. Consequently the dependence on imports declined in the first green revolution period. Net import of food grains were either negative or less than 1. The relative prices of food grains showed a decline after the mid 1970’s and there was a rise in real wages of farm labour.

Later on, for four years in the first half of the 1990’s, the rise in the prices of food grains being even higher. As such, there was a rise in poverty and inequality in the immediate post reform period and slower reduction in poverty thereafter. The most important problem concerning food management in India is to overcome chronic or long-term food insecurity by ensuring adequate nutrition to the whole population on a sustainable basis. As food basket is getting more and more diversified with changing tastes and preferences, food supplies have to be increased. The real challenge is to ensure adequate purchasing power in the hands of those suffering from chronic food insecurity. Reforms are expected to generate productive employment necessary to overcome chronic food insecurity. At the same time public support to poverty alleviation programs and subsidized food for the vulnerable sections will have to continue but only as a supplementary to the employment oriented growth.


Here the author elaborates the global tendencies of food prices which ultimately lead to the food problems. Global food shortages and steep rise in the prices of food products in the international market have become major concerns for developing countries. According to World Bank P.Robert B.Zheollick, a doubling of food prices over the last three years could potentially push 100 million people in low income countries deeper into poverty and consequently to food insecurity. Recent trends indicate that increasing energy prices have made agricultural production more expensive via raising the cost of mechanical cultivation, inputs like fertilizers and pesticides and transportation of inputs and outputs. The high cost always deters the marginal and small farmers to use modern farm practices and inputs to augment food production. If food prices are controlled through banning exports or reducing import duties, as being done by several countries, including India, farmers would get disincentive to produce more food grains that adversely affects the food supply.

The trade liberalization and the fast growing income of middle class households are the main causes of diversion of cultivated area from food grains to high value horticulture, floriculture and other cash crops.
The area under food grain has declined by 6 million hectares between 1990-91 and 2005-06 globally. He says that food security should not be linked only to the supply of food grains because the dietary pattern of people is changing due to increase in per capita income, urbanization and more availability of fruits/vegetables and livestock products. But the high growth in these products may not help the common masses to improve their nutritional status as they have little or no access to fruits and livestock products. The steady rise in the subsidy as percent of agriculture GDP crowded out the real investment in the agriculture. Therefore price stabilization should obviously come through rising food production and productivity that require increased investment in agriculture, in addition to providing incentives to farmers to grow more food.

3. Ray; Mukesh (2008)

Here the author tries to present and explain the causes and consequences of food price hike both at global and Indian context. Most parts of developing countries are reeling under severe stress of feeding its population. Record world prices for most staple foods have led to 18 percent food price inflation in China, 13 per cent in Indonesia and Pakistan and 10 per cent or more in Latin America, Russia and India according to the United Nation’s FAO. Wheat has doubled in price, Maize is nearly 50 per cent higher than a year ago and rice is 20 per cent more expensive. According to FAO, this food crisis has three major reasons behind it.

Firstly the increased use of bio-diesels, for which tones of cereals is being diverted to produce ethanol and millions of hectares of land being diverted to jatropha plantation. Secondly: The increased consumption of meat, which requires millions of tones of cereals to feed the cattle and poultry. Thus the cereals which could have fed humans are used for feeding cattle and poultry to produce meat. Thirdly the impact of climate on the crops, severe droughts, floods and untimely rains have destroyed crops in huge quantities. According to him, Indian production hasn’t declined till now (We might experience low production in the khariff, due to untimely rain), we hardly produce any bio fuel and our per capita meat consumption is below 1kg, which is one of the lowest in the world (USA-50kg).

Now the present Indian context requires Ever green revolution in Indian agriculture. As most of the land quality at present has deteriorated beyond repair, water levels have reached danger marks, farmers committing suicide and the input cost in farming has risen above output cost. The Green Revolution has died and has killed thousands of farmers with it and millions more are in a position to take their lives. Both the problems of access to food and low productivity could have been structurally resolved by successful land distribution.

Here the main focus is on explaining how the increase in prices is leading to the food insecurity in India. In the capital Delhi, milk costs more than last four years, edible oil prices have climbed by a whopping 40 per cent over the same period. More crucially, rice prices have risen by 20 per cent and prices of certain lentils by 18 per cent. Rice and Lentils constitute the staple food diet for majority Indians. It is observed that one out of every four Indians lives with less than 1 dollar a day and three out of four people earn 2 dollars or less. Agriculture, on the other hand, has grown by hardly 2.5 per cent over the previous 5 years and the trend rate of growth is even lower if the past decade and half is considered. Consequently, per capita output of cereals (wheat and rice) at present is more or less at the level that prevailed in the 1970’s.

Given the low power of India’s poor, even a small increase in food prices contribute to a sharp fall in real incomes. The current crisis in Indian agriculture is consequence of factors like – low rise in farm productivity, unremunerative prices for cultivators, poor food storage facilities resulting in high level wastage, fragmentation of land holdings and a fall in public investments in rural areas, especially in irrigation facilities are also to be blamed. None of these populist initiatives will really work until India’s rulers begin giving its ignored farmers the importance they deserve.


Here the main emphasis is on presenting the critical food problems that are prevailing globally. Countries like Mexico, India and Yemen have witnessed food riots this year. People have Argentina have boycotted tomatoes in the recent presidential elections when the prices became hyper expensive than meat and in Italy also, shop owners had organized a one day ban of ‘Pasta’ to protest hike in prices. In October, government of Russia, in order to erase apprehensions ahead of parliamentary election, announced a freezing of prices for bread, milk and other food items. According to FAO, at nearly 100 dollars a barrel and the oil prices have pushed the cost of food imports to sky level and thereby leading to global hunger and social unrest.

According to FAO, price increases are a result of record level oil prices, farmers switching out of cereals cultivation to grow more of bio fuel crops and also inconsistent climate and increasing demand from countries like India and China. Hardest hit will likely be Sub Saharan Africa, when many of the world’s poorest nations depend on high cost energy as well as food imports and the cash poor governments have to choose one between two, and FAO says the former has almost always won out in the past, resulting in more people become malnourished. Moreover, the current record prices for freight shipping brought on
by record fuel prices have further exacerbated the problem. An estimated 854 million people or one in 6 in the world already doesn’t have enough to eat according to WFP.

If we observe the demand side, one of the key issues is biofuels that are produced from food crops such as sugar cane, corn and palm oil are seen as easing the world’s dependence on gasoline or diesel, with 1/4th of the USA’s corn harvest in 2007 diverted towards biofuel production, the resultant rise in cereal prices has already shown an impact on the cost and availability of food articles. Critics worry that the gold rushes towards. Biofuels are taken away food from the hungry.


The paper attempts to analyse the changing pattern of food grain production system and derive certain policy interventions in view of its relative importance in achieving avowed growth rates envisaged in the XIth five year plan. Rice and wheat are the two most important staple crops which play a crucial role in food security in India. The per capita availability of rice as well as other food grains has been decreasing over the recent years. But any negligence of these two major food grain crops in future may cause huge damage to the entire economy.

As the area under wheat ceased to grow at desired rate, which has been covering around 26 million hectares, the continuation of decline in production is likely to be disastrous. A study shows that a rupee invested in paddy renders loss of 6 paise in 2001-02, while the return seems to have improved at a marginal increase of 23 paise to a rupee invested on wheat as compared to earlier years. This indicates that profitability of paddy is more at a stake than wheat. The pace of increase in production and productivity of rice has been uneven and the disparity is highly pervasive among the states and across the diverse eco systems. The cost of production has changed marginally in the past couple of years; the gross return is declining faster from Rs.29157 in 2000-01 to Rs.25487 in 2002-03. This has resulted to fast declining in profit margin of the farmers. If this situation persists, we may need to import more and more food further, it hardly provides solution to the looming food production crisis and food security.

Although wheat is comparatively a profitable crop the sustainability has become upper most concern among the wheat farmers of late. The declining trends in profitability across the regions support the fear factor. Assuming weaker link or disconnect between production and procurement volume, the current situation warrants more research attention and appropriate policy intervention to firm the production strategy. It may be mentioned that although the production variation is around 2 million tons during past 2 or 3 years, the import has a higher volume, which has already crossed 5 million tons in 2006 due to deficient procurement and stock. Therefore the integrated approaches like second green revolution,
reaching out to the target farmer groups for wider impact and also undertaking unified approach with the help of modern technology.


Sustained rise in per capita income accompanied by rapid urbanisation, better infrastructural facilities and changes in tastes and preferences in South Asia are diversifying the consumption basket in favour of high value foods such as vegetables, eggs, meat, milk, fruits and fish. Even the poor prefer to buy these value items.

Interestingly, per capita consumption of cereals in South Asia is gradually declining, while that of high value commodities is rapidly rising. Such a shift in consumption pattern towards ‘High Value Commodities (HVC’s)’ will have profound impact on agricultural production, marketing, processing and retarding the environment. Experiences from South East Asian and Latin American countries reveal that a shift in production portfolio opens growth opportunities that augment income, generate employment opportunities, alleviate poverty and improve sustainability of agriculture. South Asian countries are mostly dominated by small holders; they are confronted with high transaction costs, market risks and possess less marketable surplus in order to tap the opportunities emanating from high value agriculture. Therefore, to promote agricultural diversification towards HV (High Value) food commodities, especially benefitting small holders, there is a need to strengthen farm-firm linkages and integrate domestic and global markets through appropriate policies and institutional arrangements. The supply chain from production to market and consumer, ‘from plough to plate’ needs to be strengthened by reducing intermediaries and improving market efficiency through appropriate policy formulations, investment and institutional support.


Here the author tries to explain the food grain production in India over the years, especially during the five year plans.

The Government initiative in capital formation was high during the early green revolution period, in the later period, the excessive subsidies in agriculture and diversion of funds from irrigation to anti-poverty programs were the hindrances in the growth of public capital formation in agriculture. Further, the Government had to spend huge sums on fertilizer subsidies, in addition to expenditure on extension services, agricultural universities and so on. Thus, the agriculture became a high cost economy and the increasing capital output ratio in this sector was an enduring reality.
The hallmark of the green revolution is that, by the late 1970’s, India achieved self sufficiency in the food grain production, overcoming the painful memories of agrarian crisis of the mid 1960’s. Then during the neo-liberal reforms, the agricultural GDP decreased from 3.08 per cent during 1981-82 to 1990-91 to 2.38 per cent during 1992-93 to 2003-04. Overall decline in agricultural growth is due to various factors like, WTO, oil crisis, increase in subsidy, farmer suicides, and increase in population, irrigation, low capital formation and open market operations.


In this chapter the author mainly tries to explain the composition of food security from point of view of various population groups and also presents production and availability trends in food grains over the years. He has also tried to present the challenges in view of the future increasing food requirements and comes up with some revolutionary policy measures. Food security at household and individual level must be taken care with intensely. Food security must also involve economic growth, especially access to resources, education, especially women, population programme, nutrition, lowered birth rates and increased child survival, sustainable environment democracy and participation and accountability must be the natural antidotes to starvation and malnutrition of food.

The 1990’s has witnessed a sharp fall in the growth rate of production which was almost equal to population growth rate, implying a stagnant per capita production of land. The declining trend in the growth rate of food production during the 1990’s has serious implications for national food security. It appears that major constraints are emerging in both dimensions of area expansion and steeping up yield through expanded coverage of HYV.

In order to counter these challenges and establish a food secured situation, there has to be institution and structural transformation in main areas like poverty alleviation, employment generation and introducing innovative agricultural policies. Along with the achievement of economic growth, there should be a proper trickle down mechanism in order to achieve distributional equity up to the ground level. Along with demand diversification of rural economy and creating non-farm employment opportunities are very eminent, which can increase the incomes of the rural poor and in that way their purchasing power can be increased.


Here the author tries to explain the defects and disadvantages involved in the present single state zonal system for food grains. He also opines the importance of establishing free trade in food grains amongst
the states in order to march towards the goal of food security. The variety in soil climate condition in India has led to a substantial measure of regional specialisation in the production of crops. But in times of acute shortages of food, regions which specialise in the production of food crops are placed in an unduly favourable position at the expense of areas which specialise in non food crops and which earn valuable foreign exchange for the nation.

The exponents of this view also contend that increasing disparities in the market prices of food grains between different states do not reflect the inequitable character of distribution. But the ground realities are different, it’s true that the cordoning off of surplus pockets would minimize the competition from traders and facilitate procurement by the state, but this approach has not been taking place at the ground level. Because, procurement could also be done through a system of levy on the cultivators while removing the ban on the free movement of food grains among states. Moreover, there are surplus and deficit pockets even within the surplus state.

The fact is that single state zones were the direct result of the anxiety on the part of surplus states to meet their own consumer needs first. If restrictions on free trade are removed, there will be a possibility of surplus states’ food grains being transferred to deficit state. Because, consumption in the surplus states is being subsidized at the expense of the consumers of the deficit states, due to price disparities. Therefore Central Government can lessen its burden by allowing free trade, along with building up of stocks with itself and surplus states must also agree to share the distress equitably with the rest of the nation.

III. Review pertaining to the Free Trade and Economic Reforms-Food security:


Here the author primarily tries to focus upon the changing structure of global food basket, changing patterns and the future challenges in the process of reaching food security at global scale. According to UN and World Bank Poverty estimates, globally 2.8 billion people live on less than US 2$ a day, which is well over 2/5ths of the World’s population and 1.2 billion people live in extreme poverty defined as less than US 1 $ a day.

In SSA, food insecurity is also deeply entwined with HIV/AIDS along with the factors like poverty, land degradation, fuel problems, social instability and violent and ethnic conflicts. Today, 12 per cent of Americans (roughly 35 million) are considered to be food insecure, 4 per cent ‘with hunger’ (over 2 million), while 65 per cent are considered ‘overweight and obese’ and 30 per cent obese, according to a surgeon, obesity would soon be responsible for killing as many Americans each year as smoking.
According to him, global diet is more and more getting inclined towards meat eating and livestock products which in turn is pressurizing the agriculture to produce more and more grains like maize and soya beans to feed the cattle. Crop research in the dominant cereals coupled with rising inputs brought a near tripling of the world’s annual grain harvest between 1950-1990 (primarily due to increase in productivity). While the human population has more than doubled since 1950, meat production grew nearly fivefold by volume, implying a doubling of meat consumption in the average diet of every single person on Earth amidst a soaring human population. In the same way on a global scale, per capita egg production also doubled as did the per capita fish production. The depressed world agricultural prices created a serious problem for poor farmers in developing countries who must compete in global and domestic markets with these low priced commodities and lack safeguards against import surges. Increasing animal production expands not only agricultural land space but its demands on other resources such as water and energy and also requires more fertilizers and chemical waters, for e.g.: livestock in USA consume roughly 70 per cent of all domestic grains.

Interestingly, an edible unit of protein from factory farmed meat requires 100 times more fresh water and more than 8 times the fossil fuel energy than does an edible unit of protein from grain. Also, meat and dairy have higher refrigeration demands. The waste of farm animals also contribute to 16 per cent of the world’s emission of methane, a greenhouse gas and which are projected to increase by 60 per cent in coming decades.

2. Basu; Nilotpal (2008)

In this article, the author tries to present the complexion of food Crisis in the context of speculative trading and ineffective political policies. Global food crisis is very much ubiquitous on the streets of several nations across Asia, Africa and Latin America. Numerically the present crisis will push an additional 100 million to go hungry along with the existing 845 million. Adding to the situation the price of wheat has gone up by 130 per cent over the last year, while that of rice has doubled in Asia in the first quarter of 2008 alone. If we can go into the causes for this situation, it reveals that the present crisis is not triggered by any sudden slump in production. In fact, farmers across the world have produced a record 2.3 billion tons of grain in 2007, up 4 per cent on the previous year.

The very notion of national food security was given a complete go by local food production for local requirements and was replaced by imperatives to approach the global market place to access their food needs. Therefore the crisis induced situation has fuelled speculative activities. Food crisis has also seen that in virtually all sectors associated with food economy, the global MNC’s have made a severe impact.
From fertilizers to seeds, pesticides, food processing, retail food chains, in all the sectors the MNC’s have (Monsantos, Nestles, Walmarts, Cargills) recorded super profits during the last few years, especially the last year.

Even the present sky rocketing food prices in India have global connections, including some misgoverning by Indian policy makers, like the NDA Government, which took all measures to align the Indian food economy with the global market. The question therefore is the political will, and that will has to be forced through exposure of the Government’s inaction and wishing away the problem by citing global connection. If Governments or PM thinks otherwise, it will be a tragedy for our people and boon for the speculators.


Here the author tries to explain the effect of defective agricultural policies in India and the impact of WTO’s trade policies over India. From a food grain led growth during 1970’s and 80’s, pattern of growth is changing fast towards horticultural products, livestock products and fishery. Food grain growth was largely driven by technology, incentives by government in terms of support procurement prices and heavy investment in public sector, but the agriculture growth of 1990’s seems to be demand and market driven.

This deceleration of growth in crop output is bound to adversely affect the poor people. In a study, its observed that in India ‘a 10 per cent reduction in food supplies reduces the consumption of the wealthiest 5 per cent of the people by 8 per cent where as poorest 20 per cent people are forced to cut down their consumption by 40 per cent. Though India has moved from chronic food scarcity to food surpluses in the last few years, yet large section of our people still have one of the lowest per capita calorie consumption and 50 to 80 per cent increase in the income of rural poor is spent on food. But the integration into global market can be a two edged sword for farmers in developing countries, trying to take the advantage of the widening access to external trade by diverting resources and workforce to cash crops. But this means that the local food production declines and food dependence sets in.


Here an attempt is made to explain the effects of free trade in agricultural commodities from the Indian point of view. Especially from the Indian food security context, commitments under WTO may lead to severe food shortages.
Opening up of domestic agriculture to world agriculture would mean that domestic prices would be strongly influenced by world prices. This was feared to invite wide gyrations in domestic prices, as world prices are inherently more volatile. This will adversely affect the cultivators when prices fell and consumers, when prices increased. The crash in domestic prices of wheat in the post harvest period in 2000 was considered to be a direct result of this policy. There are apprehensions that in due course, it may adversely affect food security. And agreeing to contain subsidies to agriculture (domestic Support) or to consumers below a prescribed limit wasn’t considered to be in India’s interest from the viewpoint of ensuring food security to people.

Therefore, opening up of imports of agriculture without first creating a level playing field, could invite a deluge of subsidized imports hitting the very production base of agriculture in these countries. These developing countries often faced chronic shortage of foreign exchange which makes large scale purchases of basic food very vulnerable. Big countries like India also feel that with their entry into world markets, world prices of agricultural commodities would raise, which in turn mean greater hardship to the poor masses. Thus the creation of conditions for a level playing field becomes a sort of pre-requisite for the opening agriculture to world trade without putting food security in jeopardy, both at the national and household level.


Here an attempt is made to analyze several conceptual levels of food security and examine how they have been affected by multi lateral trade reforms. It also considers what alternatives might be useful to reduce vulnerability to shocks that threaten food security.

The export subsidy theory may not serve the purpose of economic development of developing countries, as it only reduces the export prices beyond domestic prices. The agriculture support prescribed in negotiations through green and blue box also will not give any positive boost to the developing countries’ agricultural sector, as they are mostly expensive and difficult to administer. Even the amber box (Specific subsidies that support internal prices, are paid on the basis of prices, subsidize commodity specific inputs and otherwise distort the incentives to produce and consume specific products) also not appropriate for rural development, also extremely inadequate tools for poverty reduction.

Even the tariff food security (for domestic support) did not provide the developing countries sufficient flexibility. These Uruguay round negotiations imposed constraints on the ability of developing countries to push forward with policies and programmes that will promote agricultural growth improve agricultural
incomes and thus contribute to a significant increase in food security at the personal and family levels especially in rural areas.


Here the author tries to present the negative aspects of free trade and the trade agenda of the developed countries and how it is negatively affecting the food security and economic development of food exporting developing countries. He also explains us about the concepts of real population and nominal population.

He says that there exists an inverse relation between primary exports and food grains availability in the developing agricultural countries. Poor developing countries have the capacity to produce a qualitatively different and quantitatively more extensive vector of outputs and their very richness of land resources have made demand targets of the greed of developed countries.

As the land is scarce and limited, developing countries can only focus upon increase in productivity as most of the cultivable wastes have disappeared. Developing countries are being pushed under the impression that, with the increase in exports they would be able to increase their foreign exchange reserves and as a result, they would be able to import the required food grains or other required items. But unfortunately, their foreign exchange reserves have not increased due to the fact that there exists an immense competition among developing countries to export food products, which ultimately led to decrease in export prices and reduction in foreign exchange reserves. Moreover the domestic devaluationary trends and deflationary trends have not earned anything out of food grains’ export. Generally India and China are the most populated countries in the world, but these two are basically still developing countries. The very term “population pressure” implies that population is so large as to make excessive demands on available resources.


Here the authors try to focus upon the necessity of private sectors role in dealing the problems of food security, especially in the context of globalization and decreased role of the state. In India there exists totally two extreme and opposite situations, on the one side there we have overflowing granaries but on the other side we have widespread poverty. Despite several social safety net initiatives taken so far, there still exist chronic poverty, hunger and undernourishment. On the other hand, India requires a shift in
public policy to the principles of market and competition from the traditional one of regulation and support, as the earlier socialism has not been successful in suppressing inequalities.

In India, according to NSS survey, while the actual food deprivation level in India is less than 2 per cent, the malnourishment figure is as high as 40 per cent & therefore it has to be dealt immediately. Looking at the counter argument, it is the inefficient distribution system and the improper pricing mechanism that has created the obvious distortion in the demand pattern of the country. In this context private sector assumes a greater role, as corporate India today is trying out new models of farmer – corporate consumer linkages. They will be able to invest in improving supply and logistic networks including cold chain and retailing infrastructure, supply chain improvements, building brands and developing markets, deliver market knowledge at affordable prices and facilitate the development of market friendly policies. Therefore the private sector can play an effective role by joining hands with the Government in capacity building, training progress and for training the trainers.

IV. Review Pertaining to Food Security in few Countries:

1. Lea Terhune (2008)

Here the author tries to examine the regional implications of a global food shortage especially in the South Asian Countries. The most affected by the current global food crisis are the poor, particularly in developing countries and more importantly a large number of people the steep food prices spell disaster live in South Asia. Globally rice is an important staple, is in short supply. The UNO reports that, Nepal, which imports much of its rice, has 2.5 million people in immediate need of assistance and 3.9 million more whose welfare may be compromised by rising prices.

Even in Afghanistan and Pakistan, people are protesting against high wheat prices, that many can’t afford to buy flour to make bread. Bangladesh likewise is afflicted and its agriculture is greatly disrupted by frequent floods. In the light of these problems, US Government has asked these countries to implement food export bans. India, which is a regional leader and emerging global economic powerhouse, fails to deliver sufficient food to several hundred million of its people despite its 8per cent annual growth in its economy. Though India created enormous opportunities for accelerated human development, it has achieved only modest progress in poverty reduction. According to UNDP 2007/08 report due to the main reason of growing agriculture short falls resulting from inefficiencies in policies and infrastructure.
In this context, India needs to revitalize its policies through embarking upon modern green revolution. As the second largest rice growing nation in the world, India should play an important role in alleviating the global food crisis. Improving productivity of Indian agriculture can help mitigate both Indian and global food shortages and pressures on food prices.


This article mainly explains about the domestic production of rice and wheat, and the achievement of self sufficiency and food security in Bangladesh. Rice is the major food commodity (both in production and consumption) for the 70 per cent of the people. Moreover food procurement was done more flexibly through price stabilization which ultimately paved the way for the smooth functioning of PFDS (Public Food Distribution System).

The major policy changes that the Government of Bangladesh adopted were, encouraged the private sector to import the food grains. Along with this, production also increased due to the liberalization of imports of diesel engines and pump sets for tube well irrigation, fertilizer application and planting of High Yielding Variety (HYV) rice and wheat, production increased from an annual average of 1, 00,000 tones in 1969-70 to an average of more than 1.8 million tons in 1999-00 due to sevenfold expansion in area and a doubling of wheat yields.

Along with the Government policy interventions like, in addition to investments in research and extension, input subsidies and credit programmes, government’s food policy has also included market interventions and distribution programmes related to PFDS. Unlike in India, before its reforms in 1990’s, where the state governments or FCI operated through monopoly procurement and levies on rice millers, domestic procurement in Bangladesh consists of voluntary sales by producers and millers. Moreover the procurement price isn’t floor price or MSP, since the Government isn’t committed to procure all grain offered for sale at that price, rather the volume of domestic procurement is effectively determined by quality, not by price considerations.


Here the authors try to compare the functioning of PDS’s in India and China, and their role in resolving the food security problem. By the early 1990’s, there were still more than 800 million people, mostly in developing countries, who didn’t have enough food to meet basic nutritional needs.
The number of people undernourished in India and China, stands at 363 million (2/3rds are in India) accounting for 43 per cent of the world total (FAO-04). Both countries suffer from huge population, limited agricultural resources, unstable and predictable world markets, presenting potential threats to national system. Ever since India became independent and founding of the People’s Republic of China in the late 1940’s, both the countries encountered severe shortage of food. One of the important policy instruments is the use of the PDS’s.

In China, Grain coupons were issued to the needy, which can be used in Government’s grain stores, restaurants, manufactured food stores and so on. By the early 1990’s, both the countries had spent huge amounts on food subsidies. They also tried to re orient the PDS towards more needy. But gradually, in this process China tried to reduce subsidy burden by cancelling the PDS.

Both countries took steps to involve the local/state Governments in the system in implementing PDS, China sought to establish a command position for Government organizations in the grain market and thus monopolized grain marketing. GoI has also tried the same thing but failed. Consequently, less than 10 per cent of the grain production in India is handled by Government and the rest is left to the private market. Indian PDS is intended to cover a certain minimum of the eligible groups coming to the fair price shops. But China, took the responsibility to feed the entire urban registered population. As a result, quantities handled by the Government of India are much lower than those handled by China.

4. Bhargava; Pradeep and Manju Balana (2007)

In this chapter, authors mainly focus upon the gravity of food security, in South Asian countries particularly through the concept of right to food. One of the basic freedoms is being able to avoid hunger, starvation and undernourishment. And also distress situations such as floods, drought and conflict compound the violation of the right to food. In this study we look at the food security situation in three countries namely Sri Lanka, Bangladesh and also India.

These South Asian countries have done well in the last three decades to increase their production by 100 per cent. Unfortunately the increases in production have not been matched by equal distribution. Both India and Pakistan have made great progress in food production and are almost self sufficient as far as cereals are concerned. But still the incidence of food poverty is very high. But increase in production or development doesn’t necessarily ensure an over-all well being in a country. It depends upon how the increased income is distributed and how people have the access to the basic amenities like food and health.
In case of Sri Lanka, ethnic clashes and political instability are the primary causes effecting food security. Therefore the Government food benefits and medical facilities are kept away for these people. In case of Bangladesh, floods were a normal part of the economic system. The 1998 floods were dubbed as the floods of the century, but private markets and appropriate government investments and imports and policies were somewhat successful in managing the situation. Between 1998-99, private sector rice imports, equaling 2.42 million tones, supplemented domestic food supplies, this was made possible from the large stocks of food grains maintained by the Government-owned FCI. Moreover the PDS under the SAP, was placing significant pressure on the Government of Bangladesh to reduce the public food stocks. Many feeding programmes in Bangladesh had shown little impact in ensuring food security. The bottom deciles of population were worse off than the upper deciles in terms of calorie intake and higher level of indebtedness.

Author says that there has been a decent increase in the availability of food grains per capita during the last three decades in South Asian Countries, but the distribution of income and food has remained skewed and there is a high incidence of food poverty.


In this chapter the author manly emphasizes the necessity of Science and Technology to be more public oriented and common good, with the sole aim of uplifting the agricultural productivity. He also briefly explains about the existing trends in food security both at national and global level and also puts forward the future implications in the light of existing challenges especially with reference to Asia Pacific region.

The productivity improvement associated with the green revolution is best described as ‘Forest or Land Saving Agriculture’. Coming to the current Indian situation, population increase is on the raise and improved purchasing power among the poor will bring in more demand for food, since under nutrition and poverty go together. At the same time per capita availability of arable land is shrinking. And water use efficiency is still on the whole low and water markets and disputes are growing. Along with these various forms of biotic and abiotic stresses are spreading. There is still a widespread mismatch between production post harvest technologies, especially among perishable commodities like fruits, vegetables, flowers, meat and other animal products, affecting the interests of both consumers and producers.

Industrial countries are responsible for much of the global environmental problems such as changes in temperature, precipitation, sea level and incidence of ultra violet – B radiation, which throw serious challenges for the intensification and diversification of agriculture in developing countries. Importing
food and other agricultural commodities will hence have the same impact as importing unemployment. Therefore what we need now is an environmentally sustainable and socially equitable green revolution and can be termed as ‘Ever Green Revolution.’ food security implies livelihood security at the level of each household and all members within and involves ensuring both physical and economic access to balanced diet, safe drinking water, environmental sanitation, primary education and basic health care.

V. Review Pertaining to General Observations in recent Food Security:


Here the author tries to present the progress of Indian agriculture over the years and also tries to project the future challenges ahead for Indian agriculture. India has bigger challenges ahead and we have to shoulder the responsibility of more than 300 million people that remain undernourished. In the 21st century food needs of a population over billion people will have to be met. Moreover, the role of agriculture cannot be limited to fulfilling food requirements of the people, but would have to address the issue of providing enhanced incomes to farmers through higher value addition to their produce. Major environmental issues to sustainable agri-growth must be integrated into future development policies. New agricultural technologies such as those provided by bio technology, information technology and eco technology will need to be explored and harnessed.

It’s estimated that by 2020, food grain requirement will be of the order of 340 million metric tons if we are to feed a population of about 1300 million. Future strategies to ensure a minimum growth of 4.5 per cent per annum will envisage implementing agriculture reforms through policy and institutional changes. We would need 120 million tons of rice, 92 million tons of wheat, 20 million tones of pulses, 11 million tons of edible oils, 165 million tones of milk and milk products and 113 million tones of fruits and vegetables. Therefore future India’s population will not survive without new revolution, along with the conventional adoption of technology, we need to adopt technologies like, bio technology, eco technology, diversification, integrated pest management and of course information technology to a higher magnitude.


This chapter presents the growth of food grain production and availability over the years. The rift between the growth of agriculture and non agriculture began to widen since 1981-82 and more importantly since 1996-97, because of acceleration in the growth of industry and services sectors. However the growth in agriculture sector is lower than in the non-agriculture, but remained higher than the growth of population. As a result, India almost became self sufficient in food grains and hardly any food imports during the
period 1976-77 to 2005-06 except occasionally But there have been fluctuations in food grain crop productions, especially in the post liberalized era. Productivity of crops in India isn’t only low relative to other countries; there is a considerable interstate variation too.

Climate variability caused by erratic rainfall patterns and increases in the severity of droughts, floods and cyclones and rising temperatures, has been the causes of uncertainty and risk resulting in huge losses in agriculture production and the livestock population in India. This mission aims at increasing the food grain production of above crops through area expansion and productivity enhancement as well, restoring soil fertility and productivity, creating employment opportunities and enhancing farm level economy to restore confidence of farmers of targeted districts. In order to live up to the future challenges agriculture needs to be given primary importance from all angles. For e.g. increasing farm incomes, domestic price stability, market access etc;


Here the author tries to explain the communal discrimination that has been hurting the right to food of Dalits in the process of implementing Government programs like MMS (Mid Day Meals Scheme) and PDS. Here the argument is based on the field survey done by the “Indian Institute of Dalit Studies” in 513 villages of Rajasthan, UP, Bihar, AP and TN. Firstly we will examine the argument from the point of view of the implementation of “Mid-Day Meal Scheme (MMS)”.

In the process of implementation of this MMS scheme, Dalit children in schools are sometimes, made to sit out or barred or served less quality food or denied food. Sometimes teachers also discriminate Dalit children. Mostly or ideally the scheme is expected to be maintained in schools, but sometimes in some villages this is maintained in Hindu temples or elsewhere. This has completely forbidden the Dalits to avail the MMS benefits. When it comes to cooking, when a Dalit women cooks or prepares the food, it led to the opposition from upper caste students, parents and teachers. She has been made or compelled to withdraw herself from the cooking duties. Very rarely these MMS’s are run in Dalit localities, mostly run in dominant caste localities. For example: MMS’s run in Dalit areas, account for 12 per cent in Rajasthan, 19 per cent in TN, 46 per cent in AP and 10 per cent in UP. When it comes to the Dalit cooks in all the respondent villages Rajasthan accounts for 8 per cent, TN 31 per cent, and AP 49 per cent.

There also exists discrimination against dalits in terms of charging higher prices, giving less quality and quantity, sometimes made to wait for longer times. Some of the leaders even show caste biasedness towards their own castes. The study shows that 26per cent of PDS dealers practice untouchability. These
percentages are AP-11 per cent, TN-25 per cent, UP-35 per cent, and Bihar-59 per cent. All these trends have been depriving the Dalit from the right to food.


In this article, the author tries to put forward the exact causes and political misrule behind the import of wheat in first half of the year 2006. In Feb-2006, Government decided to import 5 lakh tones of duty free wheat, with the argument that the wheat prices in the South (Kerala & Karnataka) have to be brought down. It happened exactly during the time when there was a hardly a month and a half for the rabi harvest to commence. Again in April 2006, when the current harvest was in full swing, Government announced that it would import other 30 lakh tones of wheat, citing low procurement and falling stocks as reasons. Along with this, it has offered Rs.50 as bonus over the MSP which is fixed at Rs.650 per quintal for the season. As Government knew that the buffer stocks with the FCI were low, it should have acted more cautiously. But surprisingly FCI continued with the release of wheat under the open market sales scheme. It was reported that between Feb and April, the FCI sold out 7 lakh tones of wheat to private traders.

The ground reality is that these outputs were cornered in large quantities by flour mill owners and multinational operators like Cargil India, Continental and ITC (with consent of the Government) at lower than the prevailing market price. These operators have mostly contracted most of their purchases outside the registered Mandis, therefore it’s difficult to estimate the extent of the arrivals. It’s also very evident from the past experiences that procurement is not exceptionally sensitive to the volume of production.

Instead of resorting to productive utilization, the Government allowed the FCI to relax surplus stocks to private exporters at or below the BPL issue prices (under the nomenclature of ‘transport subsidy’) to escape action from the WTO. This led to the exports of wheat by the private exporters from the country, registered four and a half fold increase in the first five years of this decade to 32.2 lakh tones, as compared with 29.7 lakh tones reported in the corresponding period of 1990’s.

If politics will over rule food security, the present wheat import programme need not necessarily end up here. In that case the repercussion could be far reaching. Dr. M. S. Swaminathan believes that, the decision to import wheat is the outcome of complacency that has implications for both food and nutritional security. Government also discarded the possible and dangerous plant diseases through the imports of wheat which ultimately could destroy the wheat crop.

In this chapter, the author emphasize the necessity of the media’s role or communication in taking the ideas and fruits of developmental programmes to the ground level in order to achieve food security or avoiding malnutrition.

According to ‘National Readership Survey 2003’, in India TV viewership is 404.45 million, followed by Print media with 190.78 million, Radio with 167.88 million, C & S Channels with 152.62 million, Cinema with 53.42 million and finally Internet with 7.63 million users. But unfortunately there still exists 400 million people who are not exposed to any media at all. There are already some problems running with the media interventions, but the results and the progress of these programs is negligible and disappointing.

Therefore there is a need to establish social marketing approach in the process of implementing any developmental or public health programmes. The total annual advertising budget of the industry in 2003 was way above Rs.8000 crores in India. But, unfortunately most of these ads are over, pan masala, alcholol…etc; Now the modern slogan is that ‘From Know-how to Do –How’, which is a communication challenge. In India, media support especially needed for food production, technology management of agriculture, water management, post harvest technology, access to food, housing, sanitation and safe drinking water in various forms.

Why in India mostly the developmental programmes don’t reach the poor and mostly turn out unsuccessful. The primary cause for this is, ‘we have not been using right techniques to reach the people’. If a paan masala maker, soap maker and cigarette manufacturing can sell death to millions, why can’t we sell life through our programmes like immunization, nutrition, family planning, housing, rural development, agricultural practices, water conservation, literacy, food grain production etc; Therefore we have to overcome these hurdles, through various innovative measures, especially involving both public and private media as the primary source of reaching poor while implementing any developmental programme.


The main focus of the author in this chapter is to analyse the roles of state, market and civil society in solving the problems of food insecurity. On the worldwide basis average daily per capita dietary energy supply increased from less than 2300 k.calories in 1961-63 to 2440 in 1969-71 to 2720 in 1990-92 and is expected to reach a value of 2900 calories by 2010 AD. But still the larger number of people in developing countries may continue to face acute problem of food insecurity.
The main reason for the absence of nutritional security or even the narrowly defined food security (calorie based), is that we have taken a balanced view on the respective role of the state, markets and civil society in ensuring food security.

*State* interventions are of direct and indirect natures in taking up food insecurity. Indirect interventions are investment in R&D in agriculture or investment in infrastructure or institution of land reforms and in the same way direct measures are trade policies, price policies and by public distribution of food. Widespread move of LDC towards globalisation and free trade have pushed them to wean away from the policy of food self sufficiency and started to organise the production on the basis of comparative costs expenditure due to changes in international markets like heavy reduction of food grain prices. Moreover, these free trade policies push for frequent shifts in cropping pattern by domestic producers to suit the year to year changes in international prices.

Though the subsidy system exists in order to cover the price difference (between procurement and issue price), but most of these subsidies are accruing to richer farmers. Because the poor farmers do not possess much marketable surplus to benefit from high administrative prices, in fact, as net buyer of food grain they are the losers.

An efficient functioning *market* would be able to provide food grains in all seasons at stable prices only with the additional cost of storage. If the price in the off season is more than the storage cost, the market can be considered inefficient. In the same way, if the cost of food grains at different locations is more than the transport costs, or the prices in different locations are not moving in the same direction and with similar pace, the market is not performing its functions efficiently. And market imperfections mainly push back the poor in terms of unequal bargaining power of different economic agents, asymmetry of information and moral hazards. This again due to prevailing problems like illiteracy and lack of communications due to their isolated locations where the poor are concentrated. Apart from poverty, market imperfections make the poor more vulnerable in terms of food security.

*Civil society* in this context, the author means is the local body or village level administration Unit namely Panchayat Raj. He feels that they can ensure lower Transaction cost, assure greater transparency and cope with problem of free riders in the implementation of welfare programmes and even the PDS can be entrusted with this local unit, thereby minimising leakages and corruption. These units can also act as watch –dog as well as advocacy functions and point out the defects and fights the malpractices that prevail in the implementation of other welfare programmes at village level. And they can also play more ethical role in ensuring food security.