CHAPTER 6

FOOD INSECURITY IN INDIA UNDER WTO REGIME

Purposes of this chapter are following:

1. Alternative model of agriculture to WTO model, i.e. Liberalization of agriculture

2. Answer of what domestic policy options under the Agreement are available for these countries to improve their food security situation?

3. How is it that this country, an agricultural giant and a driver of worldwide growth, is not able to ensure food security at India?

4. What are the implications of the world seeds industry for the country’s food security? How can the country’s seeds industry be developed?

5. Should there be a separate Food Security Box? If so, what should be the constituent components

This chapter examines the state of food security in India, based on an analysis of a selection of indicators of food security and nutritional wellbeing during the period 1995-2011 within the context of the WTO Agreements. Ensuring food security that is the access of the population to sufficient food to meet its nutritional requirements is a basic objective of governmental policies in agrarian developing countries like India. Hence, food security issues cover not only issues related to the availability and stability of food supplies but also to issues of access to this supply i.e., related to the resources that may be needed to procure the required quantity of food.

This study aims to help identify how a future multilateral agreement on agricultural trade can provide a secure framework within which India can
pursue effective policies to ensure their food security. Rising incomes, urbanization, and shifting consumption patterns have increased food consumption in many areas of the world. According to the Millennium Ecosystem Assessment, the prospect of providing sufficient food to sustain another 2 billion people by 2020 has rightly focused attention on the very real threats to food security if the productivity of agricultural systems cannot keep pace with this demand. As these systems are under increasing pressure to meet the growing need for food, it is also vital that the environmental challenges associated with food production are addressed effectively – water pollution, pesticide use, land degradation and greenhouse gas emissions, amongst others (ICTSD, 2009). Since 2008, a large number of governments have shown markedly more interest in the question of how to manage volatility in global commodity markets, and how to protect people from escalating food costs. (Sophia, 2010).

In many countries, health problems related to dietary excess are an ever increasing threat. In fact, malnutrition and food borne diarrhea are become double burden. Agriculture remains the largest employment sector in most developing countries and international agriculture agreements are crucial to a country's food security. Some critics argue that trade liberalization may reduce a country's food security by reducing agricultural employment levels. Concern about this has led a group of World Trade Organization (WTO) member states to recommend that current negotiations on agricultural agreements allow developing countries to re-evaluate and raise tariffs on key products to protect national food security and employment. They argue that WTO agreements, by pushing for the liberalization of crucial markets, are threatening the food security of whole communities.

By 2050, the world’s population will stabilize at about 9 billion, but because of increasing consumption in developing countries, it will be equivalent to 12
billion people placing demands on the global food system, compared to today’s consumption rates. Given currently available technologies, current consumption patterns, and the negative effects of climate change, food security for all cannot be achieved. According to IFPRI research, the current recession and the corresponding reduced investment in the global economy will lead to an increase in agricultural prices in the medium term, with the number of hungry (Joachim, 2009).

The aggregate impact of changes in trade policy on the food security of a particular country would depend on the relevant strategy pursued: food self-reliance or food self-sufficiency. Self-reliance in food is when a country pursues an externally oriented trade regime with a view to earning enough from its exports of goods and services to finance its food requirements. On the other hand, the food self-sufficiency approach entails the country meeting its food requirements—or a substantial part of it—from domestic production. (Samuel, 2006).

But economists argue that trade liberalization should enhance food security, enabling imports to offset production shortages. The purpose of this research is to determine how the Indian governments address long-run chronic and short-run acute food insecurity, and whether that has changed as a result of the considerable trade liberalization already undertaken by developing country food importers, largely due to conditionality of structural adjustment programs. Lessons will also be drawn for the design of future trade policy reforms that could further impact food security. Ever since India became a signatory to the WTO Agreement on Agriculture (AOA) in 1995, a concern that has been raised repeatedly is whether agricultural trade liberalization would destroy India’s food security.
6.1 What is Food Security?

Food Security as defined by FAO is the physical and economic access for all people at all times to enough food for an active, healthy life with no risk of losing such access and as such is directly connected with livelihood in the developing countries. The World Food Summit of 1996 defined food security as existing “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life”. Commonly, the concept of food security is defined as including both physical and economic access to food that meets people's dietary needs as well as their food preferences. Food (in)security is primarily a phenomenon relating to individuals, and is determined by three sets of factors concerned with supply, access and guarantees to food (Christopher).

In most developing countries, an important determinant of food security is food production. This is because most of the food-insecure people live in rural areas, earn a substantial share of their income from agriculture, and meet a significant share of their food requirements directly from their own food production (Salih, 1994).

Food security, trade liberalisation and the World Trade Organisation (WTO) have all been at the centre of various public and expert debates, amongst academicians, policy makers, in the media and in the civil society at large, both at national and international levels. Quite often, the various views expressed in these debates start from widely differing premise, even different notions of what constitutes food security, its links to international trade, the role of WTO in influencing food security, and so on.

6.2 Food Insecurity in India due to WTO
Harmony with nature, and the expression of gratefulness to mother earth for bestowing on us the fruits of our labour nurturing her, constitutes the core elements of the agrarian tradition in India. Many developing countries including India fear that with trade liberalization they have given up tools to address both chronic and acute food insecurity. Hence, food security is prominent in their WTO negotiating positions on agriculture. In India, this is a critical issue since a large section of the population is dependent on agriculture for their livelihood, and the poor consumers already spend an overwhelming share of their income on food (Hoda et al., 2002).

In India, till the ‘80s, food grains production increased much faster than the growth of population. For example, the production increased at a compound growth rate (CGR) of 4.3 per cent in the 1950s, 2.5 per cent in the 1960s, 2.3 per cent in the 1970s and 2.9 per cent in the 1980s, whereas the comparable growth rate of population was around 2.2 per cent. This made the food situation comfortable. The per-capita availability of foodgrains was only 409g/day in 1961, which increased to 510g in 1991.
In the decade of the 1980s, the population grew at a compounded annual growth rate (CAGR) of 2.1%, while foodgrain production rose by 3.1% CAGR. Thereafter, the growth rate of foodgrain production slowed down considerably, so much so that during the current decade (till financial year 2009-2010), the growth rate of foodgrain production was way below that of population increase.

With India’s population estimated to reach 1.3 billion by 2017, the Government of India estimates that the country may fall short of 14 million metric tons of food grains. This has created the need to meet rising food needs by improving India’s crop productivity through the use of technology and innovations in agriculture.
India, with a billion plus population, has put agriculture at the heart of its economy and food security at the centre of its agriculture policy (Vandana, 2004). However, all the decisions and policies of a free and independent India which replaced colonial policies of land alienation, and concentration on ownership of land, super exploitation of the peasantry, the creation of famines are being undone through globalization and WTO agreements.(Vandana, 2004)

For large agrarian developing countries like India, food security is an important and integral element of national security. Physical access to food in developing countries can be ensured only through a certain minimum level of self-sufficiency. Further, the subsistence and livelihood of farmers in large
agrarian economies can also be seriously jeopardised due to cheap/subsidised imports. Other factors like the limitations of developing country farmers to change to other crops or to shift from agriculture to manufacturing or services, and the inability of developing countries to set apart required foreign exchange resources for making purchases from the volatile global markets, as also the difficulties in ensuring timely distribution of imported food grains to remote and backward areas are also significant issues in safeguarding the food security and livelihood in these countries.

Indian agriculture is unique because it has to meet the needs of over 1 billion people as well as provide liveable wages and income to nearly 600 million of its employees. The former is well reflected in India’s share of global commodity production. For example, in 2006 India was the world’s second largest producer of rice, sugar, milk and cotton, and third largest producer of wheat. Despite production volumes, food shortages and price inflation can destabilize the political environment and hence, food security and price stability are important policy objectives. Since agriculture is the major source of income to a large share of the Indian population, any structural adjustment arising from external sources is of serious concern to Indian policymakers. (Munisamy, 2008).

Several commodities like wheat, coarse grains, oilseeds, vegetable oils, sugar, dairy products, fruits and vegetable which are of great significance for food security in developing countries have been subjected to high levels of export subsidies by the developed countries. By artificially depressing the international prices, these subsidies in developed countries lower the farm incomes of otherwise efficient producers in importing countries and thus adversely affect their livelihood. It is in this context of high trade distortions being practised in developed countries that the developing country members
would require an appropriate level of tariff protection. As such any reduction in tariffs by the developing countries could be considered only after substantial reduction in trade distorting domestic subsidies and elimination of export subsidies (Ministry of Commerce and industry, 2001).

Rice is a primary staple food in India, can ill afford to depend on National market for meeting their food security needs. Though free trade can go a long way towards meeting food security needs of countries deficient in food grain production it cannot be relied upon as a safe option particularly in times of war. For, in times of war food may be used as a blackmailing weapon by enemy States to demoralize the country engaged in war. Apart from that, a country may not have adequate foreign currency reserves to finance import of food grains. Food security cannot be left to the mercy of free trade mechanism by countries where primary staple food is rice. It is because tradable surplus of rice in world market is not enough to take care of food security needs of even one country with sizable population. For example, total consumption of rice in 1998 in Malaysia was around 30 million tonnes while the amount of rice trade that year in international market was just around 20 million tonnes. The tradable surplus in world rice market cannot take care of a 210 million strong population of Indonesia, let alone India with population over 1 billion. The food security concerns of Member States are also echoed in the preamble to the Agreement on Agriculture.

The food security in India facing the problems of both controlled and uncontrolled marketing deficiencies. Unless that sector is sustainable you cannot really look for options for people to achieve food security in the immediate short or even mid-term. Unfortunately, in the past, the food security issue was delinked from agricultural production. Around 35 per cent world’s food insecure population lives in India and 10-15 per cent of the total households in India are
food insecure, and do not get an assurance of getting at least two meals a day. Though PDS is a major step in bringing the food security clause into the mainstream, many of the states do not get the proper support from the State itself. There are problems of health and education access because of the increasing expenses incurred on costly food. Landlessness and the casualisation of labour have grown, and the seasonality of rural work has sharpened every decade, every year.

6.2.1 From food first to trade first: How corporations are taking over Indian agriculture through trade

Trade liberalisation and globalization of agriculture is robbing the peasants and landless workers of already low incomes and livelihood security. There are three mechanisms by which the rural producers are either being super-exploited or they are being rendered dispensable.

1. Destruction of the market support at domestic level both in terms of procurement and in terms of guarantee of Minimum Support Price (MSP). The MSP is to agriculture what minimum wages are in the individual and service sectors, the minimum prices a farmer should receive to cover costs of production and her/his labour. However, as a result of globalisation, the government has started to withdraw from its role in procurement and price regulation. Riots have occurred in different parts of the country with farmers protesting against lack of markets and fall in prices of agricultural commodities.

2. Diversion from food crops to perishable cash crops and promotion of monocultures thus creating market dependency on corporate monopolies. Globalisation policies have promoted the idea that farmers should shift from food grains and staples to vegetables and fruits. Export promotion zones for
fruits and vegetables are a major thrust area in the new agriculture policy. On the one hand this erodes food security for households and the nation. On the other hand it pushes farmers into distress sales, since fruits and vegetables cannot be consumed or stored at the household level.

3. Removal of Quantitative Restrictions (QRs) on imports and dumping of subsidised, artificially cheap imports. A dispute initiated by the U.S. against India in the WTO forced the removal of QRs. This has translated into destruction of domestic markets and prices in India being perturbed by the artificially low international prices of commodities. While forcing India to remove import restrictions and reduce domestic support to farmers and the poor, the US has further increased its farm subsidies to USD 180 billion over the next six years amounting to USD 20 billion annually. Most of these subsidies go to agribusiness and to capture export markets. In addition, $10 million funding was made available for export promotions by 65 U.S. trade organizations under the 2002 Market Access Program (MAP) and another $90 million for Market Access under the fiscal year 2002. The Farm Bill 2002 also provides that MAP funding be increased to $200 million by 2006.

Transnational agribusiness giants like Cargill, ADM and Conagra are, in fact, the only beneficiaries from the liberalization of imports and removal of import restrictions. They benefit both from using their immense financial clout to depress world prices during procurement and hike it during sales, as well as from the various subsidies that are given to them for both exporting as well as importing, from both exporting and importing countries. A recently released report from the International Agriculture and Trade Policy Institute has shown that in four major U.S. commodities, the level of dumping has increased since 1995 when the W.T.O. came into force, even though the proclaimed aim of

6.3 WTO Role on Food Security in India

The Uruguay Round Agreement on Agriculture mentions food security as a legitimate “nontrade” concern of agricultural policy, but the agreement focused exclusively on liberalizing trade in agricultural products.

WTO members have constantly been confirming their commitment to the objective of sustainable development. They all are convinced that the aims of upholding and safeguarding an open and non-discriminatory multilateral trading system and acting for the protection of the environment and the promotion of sustainable development can and must be mutually supportive. (Anil, 2004). S&DT related to rural development and food security was also specifically identified as an objective of the agriculture negotiations in the Doha Declaration.

But here I think results from WTO to Indian food security have a negative impact. There are three dimensions: ecological security; livelihood security and food security are essential elements of an agriculture policy which is sustainable and equitable. Sustainable agriculture is based on sustainable use of natural resources-land, water and agricultural biodiversity (including plants and animals). The current globalization processes of agriculture through WTO threaten to undermine all three dimensions of agriculture policy. They are undermining ecological security by removing all limits on concentration of ownership of natural resources- land, water and biodiversity, and encouraging
non-sustainable resource exploitation for short-term profits. The WTO agreement on agriculture combined with TRIPs agreement implies total monopoly over agriculture by a handful on global corporations, and total vulnerability of farmers to crop failure and indebtedness. (Chandra, 2004)

6.3.1 Role Of TRIPS on Food Security in India

Another WTO agreement – TRIPS – also affects human rights in agriculture, because it makes it mandatory for countries to provide patent protection for micro-organisms, non-biological and micro-biological processes as well as providing protection for plant varieties either by patents, or by an “effective sui generis system.” The fear of such a system of patent protection on genetic resources for food and agriculture is that it could raise the cost of seed and agricultural inputs making them unaffordable for small-scale farmers in developing countries. Another problem is that TRIPS allows patenting of the shared knowledge of indigenous communities. The patenting of seeds coupled with technologies such as “terminator” technology could have drastic effects on the human rights of farmers in India. Farmers are committing suicides, reports of starvation deaths have become common, foreboding a return of famines last experienced under British rule. This chapter examines these developments in detail and proposes an agenda for creating an alternative future of food and highlights the current practices that are working towards this alternative.

Further, globalization of agricultural trade poses a great challenge to the future world food security. The control of seeds and agricultural research in a handful of MNCs – Gene Giants – Monsanto, DuPont and Syngenta, not only renders the food security of the world vulnerable in the hands of these commercial enterprises but may also tend to affect the quality and well-being of everyone with food habits totally dictated by the MNCs to appease their “hunger
for corporate wealth and power”. The rich nations are adopting any and every type of means – fair or foul, to protect their farmers. Farmers in the LDCs, whose very economic survival depends on being able to save seeds from one year to the next, are ruined by added input costs. Ironically, the community which helped MNCs develop the new varieties of crops are not only denied ownership rights but are also made to pay royalties for use of their own resources. Apart from the need to purchase seeds every year, they perforce have to use chemical herbicides and fertilisers. Uniformity in plant varieties and mono-cropping world over may also affect the gene pool, perhaps, irreversibly, besides rendering food security totally dependent upon the stability of the international seed supply industry. (Lalitha, 2006 et.all)

6.3.2 Role of AoA on Food Security in India

I feel that at this juncture it is important to closely examine this aspect of the AoA, so as to ensure that the reform process in the agriculture sector takes into consideration the food security and other non-trade concerns of countries like India. At the same time, as indicated in the preamble, the AoA recognized non-trade concerns (NTCs) of countries. These NTCs included food security and the need to protect the environment.

AoA addresses food security issues. The trading system also plays a fundamentally important role in global food security. For example, it ensures that temporary or protracted food deficits arising from adverse climatic and other conditions can be met from world markets.

Concerns had been expressed about the possible impact of the WTO-AoA on poverty and food security in LDCs and net food-importing countries before the conclusion of the Uruguay Round (Husain 1993), and after the Agreement became effective (FAO 1999; Michalopoulus 1999, 2000). However, it has been
noted that the predicted price increases and volatility would depend on the pace of agricultural liberalization in the OECD countries and the specific response to the Agreement of the (developing) countries with comparative advantage in agriculture. Furthermore, changes in world food prices reflect the on-going liberalization of agriculture in developed countries rather than the WTO-AoA *per se* (Page and Davenport 1994).

Agricultural trade liberalization, promoted under the AoA, threatens the strong base of farmer-oriented agriculture in favour of industrialized and mechanized agriculture largely carried out and controlled by transnational commodity producers and traders from developed countries. The consequence is often a *de facto* discrimination against the poorest and most vulnerable sectors of society, contrary to human rights. All agricultural products are subject to liberalization under the AoA. This is a concern especially with regard to staple foods that are vital for food security and which can guarantee the right to food. For example, the main food crop of Bhutan, Bangladesh, India, Nepal and Sri Lanka, is rice. A study on the import pattern of food grains in these countries reveals those most are not self-sufficient and are becoming increasingly dependent on rice imports. Over the period 1995 to 1999 the total import of rice in the South Asian region increased by 132%. This increases the risk that South Asia will face worsening food insecurity, and with it the adverse affects on the enjoyment of human rights such as the right to food, to health and to an adequate standard of living.

An examination of India’s implementation experience since 1995 reveals that the AoA has, in fact, had little role to play in shaping agricultural policies. More importantly, there is little concrete evidence that agricultural trade liberalization has been detrimental to India’s food security. In the AoA, trade and
commerce come first — in other words, corporate profits take priority over the health of the planet or people. (Ravinder, 2005).

For instance, in domestic support, the product-specific support remains negative for most products and below the de minimis for others. Non-product-specific support also remain below the de minimis limit even if calculations are made without taking into account the exemptions for input subsidies for low-income and resource-poor farmers. This has been true of the 1980s and has continued well into the 1990s. It is only with the international prices crashing to extraordinary low levels that for some products, the product specific support may have turned positive, but this too is unlikely to have exceeded de-minimis levels. India continues to use no export subsidies (excepting for alleged subsidization of wheat exports in 2000-01). As for market access, during the Uruguay Round, India bound its tariffs at levels that were among the highest in the world, at 100% for raw commodities, 150% for processed agro-commodities and 300% for most edible oils (with a notable exception of soya oil at 45%). India has also been able to revise tariffs upwards after renegotiations in respect of products in which these had been bound at low levels in past negotiations (including milk powder, rice, maize etc.). Recent declines in tariff rates imply that the applied rate of customs tariff in India has generally been far below the high rates of ceiling bindings for almost all agricultural products. Still, the existing tariff levels have enough water that offers adequate protection to India. Also, when the QRs were removed in April 2001 a “war room” was set up to track imports of about 300 sensitive commodities most of which were agricultural products. Against this background of implementation experience, it is now time to ask if the AOA has threatened India’s food security.
An extensive overview of several crops over the past 3 decades suggests that India is competitive in several major agricultural commodities, and that trade liberalization per se would not necessarily have an adverse impact. Commodities such as rice and wheat, India’s major staples, are not only efficient import substitutes but also emerge to be export competitive for several years. Most other commodities belonging to the pulses group or coarse cereals appear to be efficient import substitutes, although not export-competitive. Under the circumstances, there is little threat of a deluge of cheap imports on a regular basis. The only major uncompetitive commodity – even as import-substitutes – seems to be oilseeds and edible oils, which are currently produced at high cost in India. Milk (SMP) too may be of some concern here, although trends in the 1990s are encouraging. Overall, Indian agriculture seems reasonably competitive. In conjunction with the adequate protection offered by tariffs, it is evident that the removal of QRs, in particular, and import liberalization in general has not led to any surge in imports. The only commodity group, which has seen dramatic rise in imports, is edible oils, where India is highly uncompetitive.

At the same time, as indicated in the preamble, the AoA recognized non-trade concerns (NTCs) of countries. These NTCs amongst others, included food security and the need to protect the environment.

There are no measures for food security and rural development purposes that are prohibited by the AoA. For instance, public stockholding and domestic food aid, etc. are all exempt as Green Box measures. Similarly, investment and input subsidies to low-income and resource-poor farmers have also been exempted from any reductions for developing countries.

Thus, so far, there has been no constraint imposed by the AoA on India to meet its food security concerns. Under the circumstance, demanding a “food
security box” as India has done or a “development box”, as some other developing countries have, is quite unnecessary. In fact, they could be losing propositions, since it would only reinforce demands from highly protected developed countries (in Europe and East Asia) to include their multifunctionality concerns as exempt support. (Hoda et all, 2002)

The trade-liberalizing impact of the WTO-AoA, at least in the short run, was expected to lead to higher food prices with diverging effects on net food-importing and exporting countries, as the practical outcome of the OECD countries’ protectionist regimes has been to lower world market prices. It would also entail significant redistributive impact in both developed and developing countries with gains and losses to producers and consumers, respectively, in the developing countries (Laird, Peters and Vanzetti 2004). While higher export prices are good for producers (and exporters), they hurt those countries that depend on subsidized imports (and hurt the urban poor) as they face higher food bills (and prices for basic foods). This could undermine food security. The WTO-AoA is expected to have a positive impact on net food-exporting countries because higher world food prices increase export revenues, even if export volumes were to remain fairly stable, or do not fall more than the proportionate increase in price. Thus, depending on the transmission effect of world prices, producer income and their food security could be boosted. For the group of net food-importing countries, the level and variability of prices induced by the WTO-AoA raise two interrelated issues: first, how would these influence household food security; and second, how to track this impact with regard to the different sections of the community, in particular the urban and rural poor, and producers versus consumers. This in turn raises one conceptual and practical issue— what are the main income (entitlement) sources of the poor, and how will
liberalization impact on these? Considering that labour is the income source for most of the poor, how will liberalization affect real wages? And for those poor who earn a part of their income from the production and sale of agricultural products (as in SSA, for example), what will liberalization do to their profits (Panagariya 2002)?

It is enshrined in the Preamble to the Agreement on Agriculture (AoA) that commitments under the reform programme for trade in agriculture should be made in an equitable way among all Members, having regard to non-trade concerns, including food security. Article 20 of the Agreement, which mandates negotiations for continuation of the reform process, also recognizes that non-trade concerns, such as food security should be taken into account in the negotiations (Ministry of Commerce and industry).

Three areas of exports which have been heavily promoted under the new trade liberalization regime are aquaculture, floriculture and meat. According to the accepted ideology of free trade the export earnings from exports of farmed shrimp, flowers and meat would finance import of food. Any short fall of productive capacity from growing food for domestic consumption to producing luxury items for consumption by rich northern consumers would be more than made up. However, it is neither efficient nor sustainable for India to produce shrimps, flowers and meat for export. In each case more food production capacity is destroyed domestically through diversion of resources and destruction of ecosystem than the food that can be purchased on global market through exports. India can buy only one fourth the foods it could have grown with export earnings from floriculture. Food security has therefore declined by seventy five per cent, and foreign exchange drain increased by more than a 100 crore. In the case of meat exports, for every dollar earned, India is destroying
fifteen dollars worth of ecological functions performed by farm animals for sustainable agriculture. Cattle in India are the sources of organic fertilizers and renewable energy. In the case of shrimp exports, every rupee of export earnings has generated more than five rupees of ecological destruction of water, biodiversity, agriculture and fisheries. Industrial shrimp destroys 200 times more area than the actual size of ponds through Stalinization of ground water, pollution of coastal water, destruction of agriculture and mangroves. (Chandra, 2004)

6.4. Reasons of Food Insecurity in India

The main reasons of food security is discussing following

6.4.1. Concentration of land ownership

Zamindari abolition was one of the most important steps taken in independent India and the most significant instrument of social justice was the land reform legislations in different states to ensure equitable entitlement to land and to prevent concentration of land ownership. Land reforms such as operation Barga which put land back in the hands of the tiller were also introduced in Bengal. However, during the last sixteen, after WTO requirement, globalization and economic reforms in agriculture have in effect meant an undoing of the earlier reform process guided by values of social justice and equitable distribution of resources. While the positive protections afforded to small farmers and poor consumers and to self-reliance in food for the country have been removed, the reform’ package has increased the tendency of centralized control over agriculture.

The main argument used for the industrialization of food and corporatization of agriculture is the low productivity of the small farmer. But in
terms of food and nutrition productivity per acre, in terms of efficiency in water use, in terms of creation of livelihoods small farms are more productivity than large ones. Even the World Development Report (WDR) has accepted this fact. Even biologically, small diverse farms have higher productivity than large monoculture farms as long as multiple yields are taken into account. FAO data on total farm output confirms this. In India, a 0-5 acre farm had a productivity of Rs. 735/acre while a 35 acre farm had a productivity of Rs. 346/acre.

For instance, Karnataka has amended the Land Reforms Act of 1961, which undoes the radical reforms that made the tillers the owners of land and prevented non-agriculturalists from becoming absentee landowners. Described as ‘predatory capitalism and legalized land grab’, these amendments reintroduce land leasing, allow non-agriculturalists and industrialists to own land, and remove land ceiling for aquaculture, horticulture, floriculture and housing industry. The government of Maharashtra has relaxed restrictions on conversion of agricultural lands to non-agricultural land. The agricultural Land Ceiling Act has been amended to permit large land holdings leading to skyrocketing land prices (Vandana, 1996).

6.4.2. Water privatisation, water monopolies

Trade liberalisation is also leading to the privatisation of water and creation of water monopolies. Water is being reduced to a commodity, owned and traded by water giants—Suez, Vivendi, Bechtel, Thames-RWE. The World Bank policy paper on liberalisation of agriculture recommends the creation of ‘markets in tradable water rights’. This institution of tradable water rights is a guarantee for diverting water from small farmers to large corporate super farms. In the logic of the market, tradable rights have a tendency to be sold to the highest bidder and hence lead to water-power linked to concentration of wealth,
and to over-exploitation and misuse of water, since those who deplete water resources do not have to suffer the consequences of water scarcity. Besides, aggravating the already severe ecological crisis in water resources, tradable water rights will destroy the social fabric of rural communities and create discord and disintegration. Tradable water rights are based on the assumption that no ecological or social limits should be placed on water use. Such use without limits leads to abuse. For instance, the new Agriculture Policy of Karnataka talks of a shift from “top down to bottom up” approach. What it implies, however, is that the control over water resources will move upwards from small and marginal farmers to large corporations and agribusiness interests who can buy up the “water equity shares” of “water users associations” and establish monopoly control on water. The massive $200 billion project of River Linking will also rob rural communities of their riparian water rights. The project, the government claims, is justified on grounds of increased food security through increased irrigation. However, higher water use does not translate into higher food production or nutritional security. Green Revolution crops use 5 to 10 times more water than native varieties. Paddy and Sugarcane use 5 to 10 times more than millets, which provide higher nutrition. Food production could be increased five fold without increasing irrigation by shifting to water prudent but nutrition rich millets [Vandana, 2001]. The sale of Ganga water to the French company Ondeo Degremont (subsidiary of Suez Lyonnaise des Eaux Water Division—the water giant of the world) for the Sonia Vihar water treatment plant in Delhi exemplifies the way privatisation of water is being pursued. 635 million liters a day of water would be made available from the Upper Ganga Canal, one of the oldest canals in Western U.P. While Delhi residents will benefit and the company expects to make Rs. 100 million (10 crore) per annum, mainly based on government guarantees as in the Enron/Dabhol project, farmers of Western U.P.
will lose Rs. 2 billion annually, the total “investment” by the company. This project will obviously affect the agricultural output and the food security of the region where the canal had been irrigating for more than one century [Vandana et al, 2002]. The farmers are understandably agitated and the people staying in the region have opposed the project, asserting that the “Ganga is not for sale”.

6.4.3. Weaker domestic marketing reforms

Most importantly, domestic marketing reforms continue to be the weakest link in Indian agriculture. There is no other explanation for the peculiar paradox that India confronts today: where large sections of the more than one billion Indians suffer from poverty, malnutrition and lack easy access to food while the government holds mammoth foodstocks (estimated at about 60 million tonnes) some of which are rotting in the godowns. The Food Corporation of India, which is responsible for procurement, stocking and supplying the Public Distribution System (PDS), is highly inefficient. Leakages from the PDS are huge. Restrictions on private stockholding (through limits), movement of grains and levies (on rice and sugar) all fragment the Indian market. As a result, grain flow from surplus to deficit areas is hindered and with the inefficacy of the PDS system particularly in areas where it is most needed, it is natural that food security becomes a major cause for concern (Hoda et al, 2002). This shows the following figure.
6.4.4. Patents on life and seed monopolies

Seeds and biodiversity, which have been the common property of farmers and local communities, are being transformed into private property of a handful of corporations—Monsanto, Syngenta, Duport, Dow, Bayer. These chemical giants now control seeds. India, in fact, is losing its biological and genetic resources, the basic wealth of our country, and the biodiversity based knowledge of our local communities mainly through biopiracy. The piracy and patenting of our rich biodiversity by the MNCs, institutions and individuals especially from the Western world is inflicting great injury to the natural resources of our land and people. If this is not arrested by appropriate legislation and policy measures, there would be incalculable damage done to the nation and the coming generations (Vandana et al., 2002). India is a signatory of the two international treaties that have an impact on the nation’s biodiversity wealth and
on peoples’ rights to use it and conserve it responsibly. These are the Convention on Biological Diversity (CBD) and the Trade Related Intellectual Property Rights (TRIPs) Agreement under the WTO. India on behalf of a group of countries including Brazil, Bolivia, Cuba, Dominican Republic, Ecuador, Thailand, Peru and Venezuela has submitted a paper to the TRIPs Council of WTO, on “The Relationship Between the TRIPs agreement and the Convention on Biological Diversity and the Protection of Traditional Knowledge”, calling for amendments in TRIPs to harmonise it with the CBD. However, at the domestic level, India has harmonised its Biodiversity laws to be consistent with the unamended TRIPs agreement. The Government of India has enacted new legislations to implement these international obligations which would far reaching implications for the lives and livelihoods of millions of Indian people. The new corporate-driven intellectual property rights regimes (IPRs), especially the Trade Related Intellectual Property Rights Agreement of WTO is leading to seed monopolies and biopiracy. Seeds have been evolved by nature and farmers over millennia. This collective, cumulate heritage is now either being destroyed by introduction of monocultures of non-renewable seeds or being hijacked by global corporations through patents and biopiracy. Seeds have been evolved by nature and farmers over millennia. This collective, cumulate heritage is now either being destroyed by introduction of monocultures of non-renewable seeds or being hijacked by global corporations through patents and biopiracy. When a seed is patented or covered by breeders’ rights, farmers can no longer save or exchange seed freely. Seed saving and seed exchange in defined as a “theft” in intellectual property law. The Indian legislations that have an impact on biodiversity and people’s rights are: Patent (Second Amendment) Act, 2002; Protection of Plant Variety Protection and Farmers’ Rights Act, 2001; and the Biological Diversity Act, 2002. The country has amended its Patent Act 1970 for the second time, in May 2002, since TRIPS came into force. The first amendment (undertaken in 1999) was to introduce exclusive marketing rights and mail box arrangement to implement Art. 70.8 and 70.9 of TRIPS. There are two amendments in the definition of what is not an
invention that has opened the floodgates of patenting of genetically engineered seed. First, in Section 3(i) of the Patent Act, 1997, the word “plants” have been omitted. According to Section 3(i), the following is not an invention: ‘Any process for the medical, surgical, creative, prophylactic or other treatment of human beings or any process for a similar treatment of animals or plants or render them free of disease or to increase their economic value or that of their products.’ The omission of “plants” from this section implies that a method or process modification of a plant can now be counted as an invention and can hence be patented. Thus the method of producing Bt.cotton by introducing genes of a bacterium Bacillus thuringensis in cotton to produce toxins to kill the bollworm can now be covered by the exclusive rights associated with patents. In other words, Monsanto can now have Bt. cotton patents in India. The second amendment has also added a new section 3(j). This allows production or propagation of genetically engineered plants to be counted as an invention, and hence patentable. The section 3(j) excludes as inventions “plants and animals. . .including seeds, varieties and species and essentially biological processes for production or propagation of plants and animals”. However, the emergence of new biotechnologies is often used to define production of plants and animals through genetic engineering as not being essentially biological. Without such a clear definition, 3(j) allows patents on GMOs patentability and hence opens the floodgate for patenting transgenic plants. The language of 3(j) is a verbatim translation of Article 27.3 (b) of TRIPs into India law. Article 27.3(b) of TRIPS states: Parties may exclude from patentability plants and animals other than microorganisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, parties shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. This provision
shall be reviewed four years after the entry into force of the Agreement establishing the WTO (Vandana, 1997).

6.4.5. Technologies of dependency and corporate control

One of the key areas of globalisation has been the entry of global corporations in the seed sector. Control over seed is control over the food system. Besides controlling seed through patents and intellectual property rights, corporations like Monsanto and Cargill (now owned by Monsanto) are using technologies of dependency to force farmers into seed dependency. The new seeds are non-renewable—they yield a crop, but the crop is useless for seed because of hybrids based on malesterility, and the impending introduction of “terminator” seeds—seeds which are engineered to be sterile. Corporations are breeding seeds that need chemicals—life herbicide resistant varieties. Even varieties like Bt. Cotton, need more pesticides because they are prone to more diseases and pests.

Here I showing the suicide of farmers in Andhra Pradesh (A state in India) after and before Bt.Cotton implementation-
6.4.6. Recent Food Crisis in 2008

From 2003 to their peak in mid-2008, the international prices of maize and wheat roughly doubled, while rice prices tripled in a matter of months rather than years (Derek, 2010). The laundry list of popular explanations includes rising oil prices, growing biofuels demand, evolving Asian diets, declining research and development in agriculture, slowing yield growth, low stocks, macroeconomic imbalances, financial speculation, droughts, and export restrictions.

6.4.7. Furthermore, in the absence of micro-credit and technical support, the richer farmers have proved more adept at exploiting opportunities. The subsidy model has therefore disadvantaged the 75% of farms which cover less than two hectares. The majority of these smallholdings are rain-fed, vulnerable to drought and flooding associated with the vagaries of a monsoon climate.

6.4.8. According to the government’s State of Environment Report 2009, about 15% of agricultural land has been degraded through excessive application of
subsidised chemicals. And almost a third of India’s groundwater aquifers are now classed as critical or semi-critical.

6.5. Does Food Insecurity is a Problem?

6.5.1. Does Biotechnology help for food security

Dr R.K. Pachauri, director-general, The Energy Research Institute, was of the view that science should be harnessed in a way that people accept it. “Science and technology have enormous role to play in agricultural development. Biotechnology can play a role in facing the challenges of food security.”

Although plant biotechnology is considered to provide solution to the growing food insecurity among developing countries like India, lack of appropriate and concrete answers to the concerns rose relating to the environment have induced the developing countries to tread cautiously in the area of transgenic crops. One reason for the slow spread of transgenic crops in developing countries is that governments in many developing countries are withholding approval for the release of GM crops due to their insufficient technical, financial and infrastructure capacities to assess GM crops for biological safety. (Lalitha, 2004)

6.5.2. Does import help for Food security

As imports, traded foods can play an essential role in food security. Many of the world’s poorest countries depend on imports, both as food aid and commercially. But imports need careful management if they are not to undermine or even destroy, rather than support, local production systems. Import prices are set by wholly different factors than those affecting local supply, including hidden and open domestic and export subsidies to producers and
trading companies in the country-of-origin that result in unfair, and unsustainable, competition.

6.6. Role of Indian Government to Prevent Food insecurity in the time of WTO

Indian government has taken number of steps to sustain food security in India. Some of them are-

1. The government favors direct investment in household food security rather than rural infrastructure. It proposes fundamental reform of the long established Public Distribution System (PDS) which offers 180 million poor families the opportunity to purchase food and cooking essentials at discounted prices.

2. Subsidies for farmers appear likely to remain in place. Indeed, the 2008 budget introduced a loan waiver scheme which wrote off debts totalling $14 billion for tens of millions of farmers. This was a response to the mounting tragedy of 90,000 suicides of since 2001, most of them believed to be related to crippling debts for farm inputs.

3. Development and government agencies are piloting schemes for more sustainable farming practices. There are promising results from community management of groundwater resources, where neighborhood farmers recognize a shared interest in recharging aquifers. Micro-irrigation sprinkler technologies are attracting widespread interest as the alternative to wasteful flooding methods.

4. As a step towards food security, which has assumed special relevance in view of recent international developments, the National Food Security Mission aims at increasing cereal and pulses production by 20 million tons over a five year period.
The pressures on India are higher given that it is among the very few countries in which the bound tariffs (i.e. maximum tariffs allowed under the WTO regime) are at levels that are significantly higher than most developing countries. It is, however, important for India to maintain tariffs on products that are critical from the point of view of maintaining food security and livelihoods given that the international prices of many of these commodities have remained sticky at low levels in recent years, a point that was made earlier. (Biswajit, 2004)

6.7. The Case of Edible Oils

Edible oils is one of the main items which need by Indian people, so the production and availability of edible oil is necessary for food security.

From 1970s to the late 1980s, India was a heavy importer of edible oils. In 1986–1987, India produced 3.9 MT of edible oils, and imported 1.5 MT (28% dependency). However, thanks to the Technology Mission on Oilseeds, the total oilseed production soared from 11.3 MT in 1986–1987 to 21.5 MT in 1993 (10.5% average annual growth). Imports fell to a negligible 0.35 million tonnes. In 1998, as a temporary shortage of edible oils, combined with unchecked hoarding drove up prices, the government liberalised imports. At the same time the US flooded the world market with soyabean and soya oil, further driving down international prices of soya meal and all edible oils. As a result India has become the largest edible oil importer in the world. 43% of the total edible oil available in the country is imported. As the acreage under oilseeds decreases, with farmers reeling under the price collapse, further imports are envisaged. Thus, while removing of subsidies and creation of a “level playing field” was the most important argument used by the government for joining WTO in 1974, northern subsidies have actually increased and the playing field has become more uneven. The removal of QRs when combined with dumping becomes a genocidal trade
system in which small peasants are wiped out to create global corporate monopolies over food, resulting in the dismantling of the domestic food production system. In the face of rising subsidies and increasing dumping, import restrictions and countervailing duties are a right, a survival necessity, as countries like India, Argentina, Philippines have proposed. WTO has robbed countries of this right through Art. 4. India and other developing countries should focus on stopping dumping by eliminating Art 4 of Agreement of Agriculture (AoA) which is the basis of the destruction of food security and rural livelihoods in the Third World. Once this crippling clause is removed, countries can start building a global system on citizens initiatives and national priorities that ensures sustainability, supports small farmers, ensures just prices, prevents dumping, protects the countryside and the environment and ensures good, safe, adequate food for all.

6.8. The case of Bt. Cotton

Bt cotton is generally engineered form of natural cotton, and it possesses a gene Bt.

Table 6.1

State wise Bt.Cotton coverage in India 2009/10

(In lakh ha; 1lakh=100000)

<table>
<thead>
<tr>
<th>State in India</th>
<th>Total Area</th>
<th>BT area</th>
<th>Non Bt area</th>
<th>% of BT of 2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharastra</td>
<td>35.03</td>
<td>30.48</td>
<td>4.55</td>
<td>87</td>
</tr>
<tr>
<td>Gujarat</td>
<td>26.24</td>
<td>15.39</td>
<td>10.85</td>
<td>96</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>13.31</td>
<td>12.64</td>
<td>0.67</td>
<td>95</td>
</tr>
</tbody>
</table>
The above table indicates that Maharrastra is the biggest producer of cotton in India, followed by Gujarat and Andhra Pradesh. Bt cotton has not started yet in Uttar Pradesh and Orissa. The following figure indicate this idea (based on above table)

<table>
<thead>
<tr>
<th>State</th>
<th>Area (ha)</th>
<th>Bt Area (ha)</th>
<th>Non-Bt Area (ha)</th>
<th>Bt Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madhya Pradesh</td>
<td>6.46</td>
<td>6.06</td>
<td>0.4</td>
<td>94</td>
</tr>
<tr>
<td>Punjab</td>
<td>5.36</td>
<td>5.14</td>
<td>0.22</td>
<td>96</td>
</tr>
<tr>
<td>Haryana</td>
<td>5.39</td>
<td>5</td>
<td>0.39</td>
<td>93</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>4.44</td>
<td>2.8</td>
<td>1.64</td>
<td>60</td>
</tr>
<tr>
<td>Karnataka</td>
<td>4.16</td>
<td>2.62</td>
<td>1.54</td>
<td>63</td>
</tr>
<tr>
<td>Orissa</td>
<td>0.54</td>
<td>0</td>
<td>0.54</td>
<td>0</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>0.86</td>
<td>0.25</td>
<td>0.61</td>
<td>29</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>0.24</td>
<td>0</td>
<td>0.24</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>102.03</strong></td>
<td><strong>80.38</strong></td>
<td><strong>21.65</strong></td>
<td><strong>79%</strong></td>
</tr>
</tbody>
</table>

The commercial planting of Bt. Cotton in the country took place in 2002, but the cotton crop failed and the government did not clear its cultivation in North Indian states. Leading agricultural scientists, experts and academicians in India have acknowledged the failure of Bt. Cotton on the following counts: drying and falling of squares without boll formation, reduced boll formation, small sized bolls, very short staple length, very little resistance to boll worm, and requiring 2–3 sprays for control of boll worm, not resistant to dry spells, low yields (only 2–3 quintals for MECH 162), low market value and cost-benefit ratio not on par with non-Bt cotton. The then Health Minister Dr. C.P. Thakur, also observed that Bt cotton products could have long term environmental and health effects. A study by the Research Foundation for Science, Technology and Ecology conducted in Maharashtra, Madhya Pradesh, Andhra Pradesh and Karnataka showed that not only did Monsanto’s cotton not protect the plants from the American Bollworm, but there was a increase of 250–
300% in attacks by non-target pests like jassids, aphids, white fly and thrips. In addition, the Bt plants became prey to fungal diseases like root rot disease or fusarium. The Bt. cotton varieties gave very low yields. Even the staple lengths of whatever little cotton was produced were so short that it fetched a very low price in the cotton market.

Corporate seeds are creating a deep crisis for farmers because of high costs of seed, high dependence on costly inputs (pesticides, herbicides) and high levels of unreliability and crop failure. While costs of cultivation are higher because of costly non renewable seeds and chemicals, the price of agricultural produce is collapsing due to removal of price and import regulation, a direct result of trade liberalisation. As production becomes more costly, and agricultural prices fall, indebtedness and economic displacement become the fate of the peasantry, played out in its most tragic expression through farmers’ suicides. More than 20,000 farmers have committed suicides because of the debt trap of high cost seeds over the last few years. Farmers are spending Rs. 100,000 per acre and in a good harvest earning Rs. 10,000, a recipe for debt and suicide. Peasant survival, just and remunerative prices, conservation and sustainable use of vital natural resources, including soil, water and biodiversity, healthy food production, maximisation of nutrition per acre and remunerative farmers’ incomes per acre demands that farmers shift from technologies created for corporate control and maximisation of corporate profits to eco-friendly, farmer friendly technologies such as organic farming.

6.9. Farmer’s insecurity of Kerala under WTO regime

Here is just evaluate the farmers of Kerala where they facing some food insecurity.
The destiny of more than 80 percent of Kerala’s agricultural commodities and products is dependant on home and international trade. Because of their perennial nature, rapid adjustments to changing market conditions are difficult in the case of plantation crops like tea, coffee, rubber, coconut and many spices, for which Kerala is famous. The global farm trade scenario started changing after the introduction of a multilateral trading system under the Agreement on Agriculture (AoA) of WTO in 1995. So far, the anticipated enlarged market access following the AoA of WTO is yet to materialize. Many inequities have become clear in AoA, which has proved to be an unequal trade bargain between industrialized and developing countries. Fortunately, there is an opportunity now to rectify some of the gross inequalities and infirmities characteristic of the existing AoA, during the ongoing post-Doha negotiations. The present Report therefore offers suggestions for the consideration of the Government of India, based on the UN Millennium Goals for Poverty Eradication, as well as on the principle that trade should strengthen and not erode the livelihoods of small farmers and farm and plantation labour. That farming constitutes the backbone of the livelihood security system of predominantly agricultural and rural economies should be recognized in the re-negotiated AoA. Ultimately, when trade becomes free and fair, global competitiveness can be achieved only through domestic productivity, quality and value-addition revolutions.

The most essential or the staple crop is the rice or paddy. About 600 varieties of rice are grown in the sprawling paddy fields of Kerala. In fact the Kuttinad region of the district of Kerala is known as the 'rice bowl of the state' and enjoys a significant status in the production of rice. Next to rice is another very important crop which is known as Tapioca and is cultivated mainly in the drier regions. Tapioca is a major food of the Keralites. Other cash crops that
constitute the agricultural sector include Tea, coffee, cashew, coconut, areca nut, ginger and coconut. In fact coconut provides the principal source of income in Kerala- from coir industry to coconut shell artifacts; coconuts bring most of the economic gains to Kerala. Approximately, Kerala provides about 70% of Indian output of coconuts.

The abundance of water due to the 34 lakes and other small streamlets, innumerable backwaters and water bodies and 49 rain-fed rivers flowing over the terrain of the state and also the adequate annual rainfall of 118 inches received by this state probably facilitates agriculture to a great extent and hence the economy of the state is dominated by agriculture.
I suggest the following to Government of Kerala to consider a Sustainable Trade Security System for its farm products and following also-

1. Launch a productivity, quality and value-addition movement in all agricultural crops
2. Launch a Quality Literacy movement both for products intended for domestic consumption as well as for export.
3. Introduce appropriate aquarian reforms to safeguard the livelihoods of fisher communities
4. Take measures in consultation with GOI to prevent abuse of the provision for concessional imports for re-exports
5. Promote organic farming and establish a Centre for Research on Organic Farming and Certification
6. Ensure that Kerala’s heritage in Ayurveda is maintained in its pristine purity and prevent the growth of “quick money making” institutions, which will bring Ayurveda into disrepute; establish a herbal biovalley and herbal sanctuaries.
7. Strengthen the infrastructure for health, spiritual and nature tourism
8. Organise a chain of **Krishi aur Udyog Vigyan Kendras** to continuously update the skills of farm women and men in both on farm and off –farm enterprises.
10. Establish a WTO Media Cell for providing authentic information to the media and through them the public on the ongoing post-Doha
negotiations as well as on all other matters related to farm trade, both
domestic and global.

11. Organise a Consortium of Innovative Farmers for Kerala’s Agricultural
Transformation to expand the extrapolation domain of the experiences and
achievements of small working farmers who have demonstrated how
higher productivity and income can be achieved on small holdings.

12. Establish a Virtual University for Agricultural Trade as a 21st century
institution, based on the ongoing Information and Communication
Technology Revolution in Kerala, for taking the latest information on all
matters relating to agricultural production, marketing and pricing to every
farm family in Kerala at the right time. The Virtual University will be
based on the integrated use of the Internet, Cable TV, Community Radio
and Malayalam newspapers

6.10. Solution to Food Insecurity in India

Positive actions on India are urgently needed to prevent an escalation of
political insecurity resulting from the crises and to ease the burden on poor
people. Particular attention should be given to failed states, which face major food
security threats and suffer from inadequate state capacity. New forms of
coordination between military and diplomacy actions on the one hand, and
developmental and market actions on the other, are required

These are set to grow in number, given that food security is a strategic,
national defense issue for India, which must, above all, ensure that its 1.1 billion
inhabitants are fed. Aware of this,

1. The Indian government is adjusting customs duties to ensure sufficient
domestic supply. The government is also monitoring imports of
agricultural goods deemed sensitive in nature (for competing directly with
nationally-produced goods), such as dairy, fruit, nuts, coffee, tea, grains, food oils and spices.

2. The government may also decide to limit exports in order to preserve national supply and the stability of domestic prices (this happened in 2006 for legume exports). Wheat exports were also prohibited, in February 2007, to contain a rise in domestic prices.

3. **Promote pro-poor agricultural growth.** Since small farms are predominant in the India and farm sizes are decreasing further, the productivity of smallholder agriculture is key for promoting agricultural growth. It is crucial to expand smallholder access to finance, risk management strategies, inputs, services, and extension, and increase investment in rural infrastructure.

4. **Expand social protection and child nutrition.** To protect the basic nutrition of the most vulnerable and improve food security, social protection and nutrition actions are also needed. Protective actions, including conditional cash transfers and employment programs, are necessary to mitigate short-term risks, while preventive actions, including school feeding and early childhood nutrition programs with universal coverage, are needed to avoid long-term negative impacts.

5. Government acquires and subsidises the sale of certain commodities through the Public Distribution System (PDS) that is targeted at low-income families. Over the years PDS has become more targeted, while procurement by government agencies has continued to swell. The result has been a substantial increase in stocks, which greatly exceed the levels considered necessary to ensure food security and the costs associated with
maintaining these stocks. Long term interim policy changes have to be brought about in this regard.

6.1.11. Summary

Towards this end, a bold, proactive negotiating stand and aligning with those like the Cairns Group or China would be essential. India should also secure SSGs to protect from import surges, particularly for products where international markets are highly distorted. Equally important are “behind the border reforms” of considerable scale and magnitude. Domestic marketing reforms should be undertaken so that there is one integrated market for food within India and restrictions do not prevent inter-regional flows in a timely and efficient manner. In the context, apart from price reform, a crucial link is institutional reform in both procuring and distribution, which must be undertaken to ensure better household food security. Proper targeting of food subsidies and eventually moving on to a food stamp system should also be pursued. In view of global food insecurity, use of biotechnology and innovations in agriculture can improve yields and provide relief to the farmers, say experts.

Every measure should be taken to safeguard the livelihood security of the farmers, the vast majority of whom are resource-poor operating small and marginal holdings. Hunger has always been an issue that needs attention for humanitarian as well as developmental reasons.

Various Indian public and private sector institutions are conducting extensive agriculture and plant research to increase food security and provide nutritionally-enhanced food to meet the nations’ growing food and nutrition.

A reversal of neo-liberal policies in agriculture has become absolutely essential to revive the livelihood systems of rural households in India. However,
I would like to argue here that resistance to neo-liberalism can be successful only if the struggle is fundamentally linked to the struggle to resolve the old agrarian question. The strength of the resistance to neo-liberalism in India would continue to depend on the mobilisation of poor peasants and agricultural labourers around demands that directly relate to their material conditions of life and work. Allowing for diversities, it remains the case that ending discriminations based on class, caste and gender in India depends critically on weakening the material basis of the landlord- and upper caste-hegemony in the villages. Imperialism has not changed this basic reality of the Indian village.

There is a fear of further decline in the growth of food grains production due to problems of sustainability and the ongoing diversification efforts in the high-potential areas like Punjab, Haryana and Uttar Pradesh. Interestingly, Punjab, having just 1.5 per cent of the geographical area, contributes about 13 per cent to food grains production. However, it is now finding it difficult to sustain the existing level of production owing to problems such as decline in the water table, pest resistance in crops, or deteriorating soil health.

The WTO agreement also affects the food security in different way. Hence, it's now the high time to the Government to come out with a new strategy to secure food in India for non-secured people.

There is a lurking fear that trade liberalization and consequently, greater integration of Indian agriculture into world markets through removal of restrictions on exports and imports would lead to a deluge of cheap imports threatening food security. This would wipe out the production base, creating unemployment and deepening poverty. Similarly, exports of agricultural produce would reduce domestic availability of cheap food. Also, the price volatility accompanying liberalization would push the poor to the very brink of
destitution given their limited capacity to bear risks. This is articulated in statements such as this: “importing agricultural commodities into India means importing unemployment into the country”. There is also an overall feeling that the AOA is an ‘unequal treaty’ unduly favouring the rich countries. In order to evaluate these concerns, it is first and foremost essential to examine what the AOA entails for India, how India has implemented these commitments and in what ways these impinge on India’s food security. (Hoda et al, 2002). The AoA also recognize non-trade concerns, such as food security and the protection of the environment would have to be taken on-board while the Agreement was being implemented member countries. If so, farsighted donor and government investments in raising agricultural productivity, and policies on behalf of stable food production and prices, might go a long way to preventing food crises in the future.

A new Green Revolution is required to deal with the current food security crisis. Spillane (1999) reported that by 2020 “cereal production will need to increase by 41%, meat by 63% and roots and tubers by 40% . . . without any significant expansion of agricultural area.”. New agricultural technologies should contribute to food security through increasing the aggregate supply of food. To this end, policies are required to promote agricultural research which could contribute to food security in developing countries, particularly in relation to orphan crops. (Michael, 2010)
REFERENCE


