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FOOD SECURITY AND ITS RELATION TO AGRICULTURE, HUNGER, POVERTY

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ABSTRACT

Worldwide around 852 million people are chronically hungry due to extreme poverty, while upto 2 billion people lack food security intermittently due to varying degrees of poverty. Six million children die of hunger every year. Ending 2007, export restrictions, world oil prices at more than $ 100 a barrel, global population growth, climate change, loss of agricultural land to residential and industrial development, and growing consumer demand as pushed the prices of grainstuff. Nonetheless, food riots have recently taken place in many countries across the world. Moreover, global credit crisis has affected farm credits. In developing countries, often 70% or more of the population lives in rural areas. Agricultural development among small farmers and landless people provides a livelihood for people allowing them the opportunity to stay in their communities. In many areas, land ownership is not available. Therefore, direct relationship exists between food consumption levels and poverty. Families with the financial resources to escape extreme poverty rarely suffer from chronic hunger, while poor families not only suffer the most from chronic hunger, but also the segment of the population most at risk during food shortages and famines. In this regard, food security is a complex issue. This evolves a urgent need to improve the efficiency of the various food schemes initiated by the government and make it more available and free of corruption and urban bias.

INTRODUCTION

Food is the basic necessity of life, the shortage of which can have serious socio-economic and political repercussions. India, being the second largest country in the world in terms of population has to cautiously review the issue of its food security in the light of changing world economic system, fast increase in population and emerging environmental issues in the areas of high potential agriculture. Emergence of the World Trade Organization (WTO) in 1995 is believed to have deep implications. Therefore, it is important to review the existing status of food supply and demand in the country and the impact of changes in the world economic order on food security, and to suggest possible corrective policy measures.

After independence, the food situation was grim and all out efforts were made to increase foodgrain production through area expansion and improvement in productivity per hectare. Thus up to mid sixties, compound growth rate of foodgrain production was as high as 2.96% as compared to population growth of 2%. Thus, the situation to some extent improved although we had to depend heavily on imports in order to maintain the level of per capita availability. An

average of 5.75 million tonnes of foodgrains was imported every year which put heavy economic and international political pressures on the nation.

Mid-sixties to mid eighties fall in growth of foodgrain production was to 2.81% but was still higher than the population growth of about 2.1% per hectare productivity and thus production of foodgrain crops improved as a result of diffusion of green revolution to the potential areas. This glorious period turned the deficit food economy into surplus but unfortunately, we could not manage the surpluses properly either through scientific storage or through domestic distribution or through exports. The recent period witnessed emerging issues of sustainability due to degradation of natural resources in high potential belts and occurrence of two drought years (2000-01 and 2002-03). For the last one decade, the country is hovering at around a production level of 210 million tonnes, showing an annual growth in foodgrain production by only 1.18% as against population growth of 1.93%.

NATURE OF THE PROBLEM

India at the time of its independence was engulfed in serious food shortage. During the mid-sixties the green revolution made a spectacular increase in food production, particularly in wheat and rice. The production of wheat increased from 11 million tonnes in 1961 to 87 million tonnes in 2008 and that of rice from 34.6 million tonnes to 92.2 million tonnes during this period as seen in Table I.

The compound growth rate (CGR) in foodgrains production during the past half a century was 2.48 per cent while population increased at 2.2 per cent. The production of rice increased at CGR of 2.67 per cent per annum, in case of wheat at 5.32 per cent while coarse cereals grew at 0.99 per cent and pulses production increased at 0.55 per cent. This helped to ease the situation of overall food availability. The country was annually importing foodgrains till the 1980's but it has now become one of the major exporters of cereals. The per capita availability of cereals increased from 408.7 g/cap/day in 1961 to 510.1 g/cap/day in 1991 and recently it declined to 436 g/cap/day in 2009 as shown in Table 1.

Table 1: Production, import and availability of foodgrains

Year	Gross production (million tonnes)			Net Imports (million tones)	Per capita net availability (g/day)			
	Rice	Wheat	Food-grains		Cereals	Pulses	Food-grains	Population (million)
1961	34.6	11	82	3.5	339.7	69.0	408.7	442.4
1971	42.2	23.8	104.4	2	417.6	51.2	468.8	551.3
1981	53.6	36.3	129.6	0.5	417.3	37.5	454.8	688.5
1991	74.3	55.1	176.4	0.6	468.5	41.6	510.1	851.7
2001	86.3	68.5	196.7	-2.89	386.2	30.0	416.2	1027.0
2009	99.2	80.7	234.4	-14.4	394.2	41.8	436.0	1153.1

Source: Economic Survey, 2009-10

Table 2: Per capita availability of quality food and income level

Year	Milk (g/day)	Fish (g/day)	Eggs (no/day)	Fruits (g/day)	Vegetables (g/day)	NNP at 199-00 prices (Rs./capita)
1960-61	124	0.7	0.02			7121
1970-71	112	0.9	0.03			8091
1980-81	128	1.0	0.04			8594
1990-91	176	1.2	0.07	87	160	11535
2000-01	217	1.5	0.09	133	263	16173
2008-09	263	1.7	0.13	145	302	33588

Source: Ibid

But the availability of pulses declined at a faster rate. On the other hand, the production of more nutritious food like milk, fish, eggs, meat, fruits and vegetables went up substantially. But the fast growth of population resulted in a slow growth of per capita availability of such food items. Moreover, earlier the poor had better access to proteinous food like pulses and are now deprived of it. As per Table 2 the general economic growth, measured by per capital NNP at 1999-00 prices during this period, registered an increased from Rs. 7121 per annum in 1960-61 to Rs. 33588 in 2009-9 (almost 5 times) but the absolute size of population below the poverty line with poor accessibility to food did not show a significant decline, despite of decrease in the percentage of those below the poverty line.

BASIC CONCEPT OF FOOD SECURITY

Food security implies to the availability of food and one's access to it. A household is considered food-secure when its occupants do not live in hunger or fear of starvation. According to the World Resources Institute, global per capita food production has been increasing substantially for the past several decades. In 2006, MSNBC reported that globally, the number of people who are overweight has surpassed the number who are undernourished – the world had more than one billion people who were overweight, and an estimated 800 million who were undernourished. In China too, the world's most populous country, is suffering from an obesity epidemic. In India, 30 million people have been added to the ranks of the hungry since the mid-1990s and 46% of children are underweight.

UN's Food and Agriculture Organization (FAO) has observed that food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. Similarly, United States Development of Agriculture (USDA) implies that food security for a household means access by all members at all times to enough food for an active, healthy life. It consists at a minimum (i) the ready availability of nutritionally adequate and safe foods, and (ii) an assured

ability to acquire acceptable foods in socially acceptable ways (i.e., without resorting to emergency food supplies, scavenging, stealing, or other coping strategies) (USDA).

The stages of food insecurity range from food secure situations to full-scale famine. "Famine and hunger are both rooted in food insecurity. Food insecurity can be categorized as either chronic or transitory. Chronic food insecurity translates into a high degree of vulnerability to famine and hunger; ensuring food security presupposes elimination of that vulnerability. Chronic hunger is not famine. It is similar to undernourishment and is related to poverty, existing mainly in poor countries.

FOOD SUBSIDY

In order to balance social system, the PDS of foodgrains was adopted which cost the state exchequer heavily. Intervention of the government in the foodgrain market in 1967 by way of providing price support to farmers was a desirable step but for which the price of foodgrains would have crashed in the wake of the Green Revolution. This was done through a procurement and public distribution system. In the process, an effective and remunerative price support to producers and cheap food to consumers resulted in food subsidy, which increased from Rs. 2.850 crore in 1991-92 to Rs. 17499 crore in 2001-02 and further to Rs. 58242 crore in 2009-10. The picture is more vivid in Table 3.

Table 3: Economic Consumer and Subsidy on Wheat and Rice

(Rs. tonne)

Year	Economic cost		PDS issue price		Total Food Subsidy (Rs. Crore)
	Wheat	Rice	Wheat	Rice	
1991-92	391	497	280	377	2850
1995-96	584	763	402	537	5380
1998-99	800	995	250-650*	350-905*	8700
20201-02	853	1098	200-610*	300-795	17499
2004-05	1019	1304	415-610	565-795	25800
2009-10	1457	1874	415-610	565-795	58242

**Figures for population Below poverty line and Above poverty line respectively.*

Source: Economic Survey, 2009-10, Government of India

The differentiated price policy for people below and above the poverty line (BPL and APL) since 1997-98 further widened the gap between the economic cost and the sale realisation of wheat and rice, raising the food subsidy to a record level of Rs. 58242 crore in 2009-10 of which about 40% went in for procurement. The total food subsidy thus accounts for about 4 per cent of the nation's fiscal expenditure. In delivery system, it is important to mention that the Food Corporation of India being the sole government agency dealing with it, inefficiencies occurred which necessitated the entry of private trade to create a competitive spirit. Moreover, price differentiation for APL and BPL families results in pilferage with the poor still devoid of access

to food. Food example, the issue price per qtl of wheat and rice in case of poorest families stood at Rs. 415 and Rs. 565 while in case of above poverty line, it was Rs. 610 and Rs. 795 respectively. This calls for measures and programmes to improve their purchasing power by creating employment opportunities, food-for-work, strengthening consumers' cooperatives etc.

THE AGRICULTURE-HUNGER-POVERTY NEXUS

Eradicating hunger and poverty requires an understanding of the ways in which these two injustices interconnect. Hunger, and the malnourishment that accompanies it, prevents them from escaping poverty because it diminishes their ability to learn, work, and care for themselves as well their family members. Food insecurity exists when people are undernourished as a result of the physical unavailability of food, their lack of social or economic access to adequate food, and/or inadequate food utilization. Food-insecure people are those individuals whose food intake falls below their minimum calorie requirements, and those who exhibit physical symptoms caused by energy and nutrient deficiencies resulting from an inadequate or unbalanced diet or from the body's inability to use food effectively because of infection or disease. Malnourishment also leads to poor health hence individuals fail to provide for their families. If left unattended, hunger sets in motion an array of outcomes that perpetuate malnutrition, reduce the ability of adults to work and to give birth to healthy children, and erode children's ability to learn and lead productive, healthy, and happy lives.

There are strong, direct relationships between agricultural productivity, hunger, and poverty. Three-quarters of the world's poor live in rural areas and make their living from agriculture. Hunger and child malnutrition are greater in these areas than in urban areas. Moreover, the higher the proportion of the rural population that obtains its income solely from subsistence farming (without the benefit of pro-poor technologies and access to markets), the higher the incidence of malnutrition. Therefore, improvements in agricultural productivity aimed at small-scale farmers will benefit the rural poor first. Increased agricultural productivity enables farmers to grow more food, which translates into better diets and, under market conditions that offer a level playing field, into higher farm incomes. With more money, farmers are more likely to diversify production and grow higher-value crops, benefiting not only themselves but the economy as a whole."

POLICY MEASURES - AN SAFEGUARD

In recent years, there has been a shift in policy focus towards household level food security and per capita food energy intake is considered as a measure of food security. The government has been implementing a wide range of nutrition intervention programmes for achieving food security at the household and individual levels. The Public Distribution System (PDS) supplies food items, such as food grains and sugar, at administered prices through fair price shops. There have been a range of food-for-work and other wage employment programmes. Another approach adopted by the government is to target women and children directly; which includes mid-day

meal programme for school going children and supplementary nutrition programme for children and women.

According to NSS, per capita cereal consumption has been declining since the early 1970's despite a significant rise in per capita cereal production. This can be attributed to changes in consumer tastes, from food to non-food items and, within food group, from coarse to fine cereals. The decline in cereal consumption has been greater in rural areas, where the improvement in rural infrastructure has made other food and non-food items available to rural households. In fact, the primary responsibility for raising agricultural productivity and exploring the vast untapped, potential of the sector rests with State Governments. However, Central Government supplements its efforts through a number of schemes and programmes. They are:

1. Food Management Policy-Some Recommendations

The Department of Food & Public Distribution constituted a High Level Committee for formulating a long term Grain Policy for the country. Some of the major recommendations of the Committee are enlisted below:

i) Since payments by the FCI as statutory levies to state governments are essentially transfers from the centre to the state governments, these should be eliminated in case of foodgrains. These should be taken care of separately between the Centre and the states without involving the FCI or by including these levies in the economic cost of the FCI.

ii) Quality norms should be strictly adhered to while procuring foodgrains for PDS distribution. If relaxation is given, it should be accompanied by appropriate price reduction.

iii) MSP for paddy should be fixed only for a single grade instead of Common & Grade A classification being followed at present.

iv) Open Market Sale Scheme (OMSS) prices should cover not only the acquisition cost but should also reflect the differences in the costs of transportation and storage at different points of sale.

v) APL price should be reduced to 80 per cent of the economic cost and BPL price to 50 percent of the economic cost excluding statutory levies. This would also help to improve the viability of the fair price shops in the distribution network.

vi) BPL price should be fixed according to the number of member in the family at say 5 kg per person at BPL price per month or 20 kg per family whichever is higher.

vii) Universal PDS at BPL prices may be introduced for calamity affected areas.

viii) Employment generation programmes should be expanded for creating an effective demand for foodgrains.

2. National Mission for Sustainable Agriculture

The adoption of 'ecological agriculture', which integrates natural regenerative processes, minimizes non-renewable inputs, and fosters biological diversity, has tremendous scope for reducing emissions and enhancing soil carbon sequestration. Many more ecological agricultural practices also constitute effective strategies for adapting to climate change, which is a priority for developing countries. This calls for more investment and policy support to be developed to this productive and sustainable form of farming. Thus, the National Mission for Sustainable Agriculture (NMSA) is one of the eight Missions under the National Action Plan on Climate Change (NAPCC) has been conceptualized. It seeks to address issues regarding 'sustainable agricutlure' in the contest of risks associated with climate change by devising appropriate adaptation and mitigation strategies for ensuring food security, enhancing livelihood opportunities, and contributing to economic stability at national level. For promotion of dry-land agriculture, it would receive prime importance by way of developing suitable drought and pest resistant crop varieties and ensuring adequacy of institutional support. The Mission would also expand its coverage to rainfed areas for integrating farming systems with livestock and fisheries. The Mission identifies ten key dimensions for promoting sustainable agricultural practices, which will be realized by implementing a programme of action (PoA). The Mission also emphasizes the need to harness traditional knowledge and agricultural heritage for in-situ conservation of genetic resources.

3. Macro Management of Agriculture

The Macro Management of Agriculture (MMA) scheme was revised in 2008 to improve its efficacy in supplementing/complementing the efforts of the States towards enhancement of agricultural production and productivity and provide opportunity to draw upon their agricultural development programmes relating to crop production and natural resource management, with the flexibility to use 20 per cent of resources for innovative components. The revised MMA Schemes has formula-based allocation criteria and provides assistance in the form of grants to States/UTs on 90:10 basis except in case of the north-eastern States and Union Territories where the Central share is 100 per cent. MMA assistance during 2010-11 has been used to treat 3.02 lakh ha of land under the National Watershed Development Project for Rainfed Areas (NWDPRA) and 1.94 lakh ha under River Valley Projects (RVP) sub-schemes and for financing acquisition of 10,208 tractors and 5766 power-tillers among other farm machinery.

4. The National Food Security Mission (NFSM)

The NFSM was launched in Rabi 2007-08 with a view to enhancing the production of rice, wheat, and pulses by 10 million tonnes, 8 million tones, and 2 million tonnes respectively by the close of the Eleventh Plan. The Mission aims to increase production through area expansion and productivity; create employment opportunities; and enhance the farm-level economy to restore confidence of farmers. The NFSM is presently being implemented in 476 identified districts of 17 States of the country. Besides, a series of activities for more vigorous promotion of pulse

crops has been adopted under the NFSM to intensify the pulse production programme from 2010-11.

5. The Rashtriya Krishi Vikas Yojana (RKVY)

The RKVY was launched in 2007-08 with an outlay of Rs. 25,000 crore for the Eleventh Plan to incentivize States to enhance public investment so as to achieve 4 per cent growth rate in agriculture and allied sectors. During the three-years period 2007-10, an amount of Rs. 7895.12 crore was released under the RKVY. Out of the budget provision of Rs. 6722 crore for implementation of the RKVY in the States, and amount of Rs. 3986.76 crore has been released as on 25 November 2010.

6. The Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM)

The ISOPM is being implemented in 14 major States for oilseeds and pulses, 15 for maize, and 10 for oil palm. The pulses component has been merged with the NFSM with effect from 1 April 2010. The Scheme provides flexibility to the States in implementation based on a regionally differentiated approach to promoting crop diversification. Under the Scheme, assistance is provided for purchase of breeder seed, production of foundation seed and distribution of certified seed, distribution of seed minikits, plant protection chemicals, plant protection equipment, weedicides, gypsum/ pyrite/ liming/ dolomite, sprinkler sets, and water carrying pipes, supply of rhizobium culture/ phosphate solubilizing bacteria and improved farm implements, publicity, etc. The Oil Palm Development Programme under the ISOPOM is being implemented in the States of Andhra Pradesh, Karnataka, Tamil Nadu, Gujarat, Goa, Orissa, Kerala, Tripura, Assam, and Mizoram. Its Maize Development Programme is under implementation in 15 States, viz., Andhra Pradesh, Bihar, Chhattisgarh, Himachal Pradesh, Jammu and Kashmir, Gujarat, Kanataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal.

7. Drought Management

Due to deficit rainfall during south-west monsoon 2010 in Bihar, Jharkhand, Orissa, and West Bengal, the Central share of the State Disaster Response Fund (SDRF) for 2010-11 has been released to enable these States to expeditiously take the necessary drought-mitigation measures. In view of drought/deficit rainfall in certain regions, it was decided to implement a Diesel Subsidy during kharif 2010 in drought/deficit rainfall areas to save the standing crops in the field.

SUMMING UP

Total foodgrain production has to match with the requirements taking into account population growth and shin from cereals to non-cereal quality food as evidenced from NSS data. For this purpose, it has to be borne in mind that the potential areas of the country like Punjab, Haryana,

Western Uttar Pradesh and Andhra Pradesh have already reached at a plateau from where further significant increase would be a miracle in the absence or advancement of production technology. Such areas should follow a steady pace of diversification towards high value farm products and thus meet the nutritional requirements of the vulnerable sections of society but simultaneously the deficit be met from areas having still high potential in rice and wheat production through improving irrigation and streamlining the other input and services. The policy thrust on population control is also urgently needed as a long run solution to the problem. To improve the efficiency of foodgrain procurement and delivery systems of the country, private trade in foodgrains should be encouraged. The production and quality oriented research and extension systems can go a long way to help the situation.

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