

Micro-Level Food Insecurity in Contemporary India: Perspectives of the Food Insecure¹

by

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*“Dadaswa Annam, Dadaswa Annam, Dadaswa Annam”
 (“O’King provide food, provide food, provide food”)*

-----Lord Krishna’s first commandment to Yudhistir at the closure of Battle of Kurukshetra

I. Introduction

The issues revolving around Food Insecurity have afflicted us throughout recorded history. We are at a peculiar crossroad when the nation is confronted with a painful disjuncture: we have the highest production of food ever and we, at once, have the largest number of people who go Food Insecure to bed everyday and many even die of starvation. It seems that though there is apparently food security and absence of Food Insecurity at the national level, food security at the micro-level is in jeopardy and Food Insecurity haunts millions of people. *This paper is an attempt to examine the face of Food Insecurity at the micro level, from the perspective of those who suffer from the pangs of Food Insecurity. It focuses on the temporal dimension of Food Insecurity, in terms of seasonality and inter-month variations in food consumed and in the variety, palate and nutritional content of the people’s diet. There are few studies which have focussed on these aspects of Food Insecurity in contemporary India. To put the debate in perspective the paper will also briefly look at some of the macro-variables to indicate the state of Food Insecurity at the macro-level as well. The analysis here is based on secondary and primary data, but principally on “participatory” primary data.*

Section –II is a brief description of the *methodology* and techniques used in the study. It also gives a brief idea of the villages covered. Section-III provides a *definition of food security* and Food Insecurity and the logic for including the different elements in the *definition of food security* and Food Insecurity. Section-IV is a brief description of the different *elements of India’s food production and distribution*. Section V very briefly describes the reality of food security and Food Insecurity, *from the macro perspective*. Section VI contains the *micro-picture* of food security from the *8 villages* of four states from the perspective of those who suffer Food Insecurity. It is in this section that attention is drawn *to the temporal dimension of Food Insecurity*, in terms of *seasonality and inter-month variations in consumption, variety, palate and*

¹ Views expressed in this paper are of the author’s own and do not in any way reflect the views of the institution to which he belongs.

nutrition in food consumed by the people in the villages. Section VII is a *summary* of conclusions. The concluding section has some elements of policy *recommendations*.

II. The Methodology

In this paper the macro-picture is described in terms available secondary data which is in abundance. The micro-picture will be based on Participatory Learning and Action (PLA) techniques, successor to what used to be earlier called PRA or RRA methods. The methods used have been, primarily, historical transects, seasonality analysis, Food Calendars and semi-structured interviews (see Mukherjee, 1994 and Mukherjee, 2001 for a description of these methods). The micro-study was carried out in the villages in two villages from Haryana, three from Uttar Pradesh, one from West Bengal and two from Orissa.

The villages have been so chosen that they reflect different socio-economic realities. There is one Haryana village which is from the green revolution heartland producing primarily food crops, viz., wheat, while the other is also from the green revolution heartland but producing primarily cash crops, viz., vegetables. Of the three villages studied in eastern Uttar Pradesh, the poverty heartland of India, one is a village marked by 'concealed tenancy', one is a village which is highly stratified along caste lines while the third is a village of small and marginal farmers. The village in West Bengal is a tribal village in a state, ruled by the left parties for decades, registering high growth in agricultural production. The two villages studied in Orissa, relate to villages frequently visited by natural calamities, the latest being the super cyclone that hit them in October 1999.

III. The Concept of Food Insecurity

Food insecurity has been variously defined. For our purposes, a nation or a community or a household is considered to be free from food insecurity if six conditions are met:

- a) *Food is available at all times.* That is, there is enough food in the system. In the absence of enough food in the system at all times, people can not access food and must, therefore, go Food Insecure.
- b) *Food that is systemically available is also culturally acceptable.* People will not eat food, which is not acceptable culturally (in the broad sense). A Hindu may not eat beef, even when it is available. A Muslim may not eat pork, even if Pork goes abegging.
- c) *People have economic access to food.* That is, people have the purchasing power to buy food. Even if culturally acceptable food is available in the system, people will go Food Insecure if they have no purchasing power to buy that food, or what is called economic access. In the great Bengal famine of the early 1940s, people were dying outside granaries full of food grains, because, inter alia, they had no purchasing power to buy the food (Sen, 1986).
- d) *People have physical access to food.* That is, people can buy food if they have the purchasing power. There must be outlets where people (especially the aged, the disabled, the sick and the ostracized like people with HIV/AIDs) can buy food, which is culturally acceptable and if they had the purchasing power to do so.
- e) *Food that people consume has the requisite nutritional value for a healthy life.* Food that people can access must have nutritional value. Consumption of food, which has no nutritional value will leave people without energy for a healthy life and hence food insecure.
- f) *People have access to potable water, for absorption of food by the body.* Unsafe drinking water will prevent absorption of nutrition from food into the body, because unsafe drinking water leads to diseases and other forms of attrition.

Whenever any of these conditions or some combination thereof are violated, food security is jeopardized, and food insecurity sets in. Symptomatically when none is undernourished and no one faces absence of access to food, we have absence of food insecurity. There is a subtle distinction between hunger, food insecurity and starvation, which is of fundamental importance.

In Official parlance Food Insecurity is often defined in terms of calorie intake. The “subadjacent Food Insecure comprise those consuming between 18000-2200 calories per day; medial Food Insecure are those who with calorie intake between 1600-1800 a day; and the ultra-Food Insecure have the lowest calorie intake (less than 1600 calories per day”. (Gaiha and Kulkarni, 2008)

IV. Elements of India’s Food Economy.

IV. A. Food Production

It is often said India is today *self sufficient* in food production. India’s food output in recent years has been around 205 million tones per year. In 2000 it was 209 million tons and even in 2006, it was 208 Million tons. The annual compound growth in food grains production during the last decade at around 3.6 per cent had generally outstripped the growth in population, which stood at about 2 per cent per annum. And the buffer stock of food held by the Government of India is in excess of 18 million tons of food, according to the Economy Survey 2006-2007.

IV. B. Food And Public Action

For long the Government believed that the food produced in the country did not reach certain sections of the population. The Government of India, therefore, made two interventions. One, it set up the Public Distribution System (PDS) and two, it established the system of price incentives to farmers, to grow more food and sell them to the Government for feeding into the PDS. Started in early 1960s, PDS entails supplying to the vulnerable sections of society essential commodities, notably food grains, at subsidized prices, to shield the poor from the volatility of prices and fluctuations in the supply of essential commodities. In the macro-micro terminology, the PDS in India is intended to translate the macro level self-sufficiency in foodgrain production to micro level food security by ensuring access to food and other essential commodities, to poor families. The PDS in India has a network of over 4,00,000 fair price shops (PFS) and is suppose to serve about 220 million families (Hindustan Times, First Editorial, 3 January 2008) who live below the poverty line) and is probably the largest such distribution system in the world. Many noted commentators, including Sen (1998) maintains that India could avoid large scale famines and saved millions of lives because of the PDS, something that other countries which did not have such a system, such as China, failed to prevent.

IV. C. Incentives to farmers to go more food

To sell food grains through the PDS, the Government procures foodgrains, mostly rice and wheat, at a declared procurement price and provides a minimum support price to farmers. The prices are designed to promote farming and encourage surplus farmers to continue to grow more food in response to price incentives. For good or bad the minimum support prices for wheat and rice declared by the Government from time to time, have pitched the domestic prices of wheat and rice above their current international market prices. In consequence the Government is able to build up a food stock of millions of tons which was likely to shoot up to 20 million tons this year.

The high level of food production and the extensive network of PDS outlets, taken one with the other, have succeeded in creating as impression that people in India is food secure and issues around food insecurity are things of the past. The bureaucracy and the political executive have particularly endorsed this view.

IVD. The PDS That does not work

The PDS failed to reach the poor effectively, urban bias and lack of transparency and accountability. Although the PDS is a centrally sponsored program, its implementation is dependent on the State Government. In States with appropriate political and administrative and infrastructural facilities, the public distribution system has worked; in most it has floundered.

Due to poor targeting the system is being used (misused) by all irrespective of the standard of living. Of the food provided through the PDS, 36 per cent of wheat, 31 per cent of rice and 23 per cent of sugar are diverted away from the PDS. Diversion of rice is 64 per cent in Bihar and Assam. Diversion in wheat is 69 per cent in Punjab and 100 per cent in Nagaland. Excepting for sugar, Jowar and standard cloth, there is virtually no variation in the utilization of items supplied according to levels of living. The objective of resources transfer has not been achieved.

The leakage from the system and other wastes associated with PDS is proverbial. The inefficiency of the entire bureaucracy of food is questioned. Studies by the National Council for Applied Economic Research (NCAER) and ORG-Marg in 2007 confirm what many suspected: that India's "targeted" public distribution system (TPDS) does not reach out to the poor. A decade ago, India moved from a system of universal coverage to one of providing subsidized grain to the poor and non-poor at different prices. This kind of targeting was seen as a way to address the food and nutritional needs of the 220 million below the poverty line. But that has not happened.

The NCAER study estimates that 40 per cent of the ration cards meant for the people living below poverty-line are held by those who are non-poor. The diversion of subsidized grain meant for those above the poverty line into the open market is just as rampant. The NCAER study further found the existence of about 23 million fake ration cards, including 11 million in Uttar Pradesh alone, some of which are perhaps used to siphon off APL grain. TPDS has helped neither BPL nor APL card holders. It is one of the biggest rent-seeking programmes of the government.

A not insignificant number of observers believe that the PDS has served the interest of the big farmers only, who had surplus to sell to the State (NCAER, 2000). Consequently no attempt has been made to extend the coverage to PDS to other crops and the required back up R&D have not come about.

In fine, States with appropriate political, administrative and infrastructural facilities, the public distribution system has worked but in most others it has floundered. Due to poor targeting the system has being misused extensively. The inefficiency of the entire bureaucracy of food has come out in harsh relief.

V. The Reality at the Macro-Level

However, the harsh reality is that despite this huge food production, a huge buffer stock and an extensive network of PDS, millions of people are food insecure and many even die of starvation. Food Insecurity and tragedy hit different parts of the country every year. Happenings in Kashipur, Orissa where thousands of villagers in the summer of 2000 were at the brink of starvation death, because they had only mango kernels to eat, had shaken the conscience of the people of the country. Kashipur is not unique. The cruel starvation deaths, sale of children and post-harvest migration in other parts of Orissa have attracted international attention. Meena Menon (1999)

wrote: “In the impoverished, drought stricken area of Kalahandi, a man sold his daughter for 30 kg. of rice. These are not isolated cases.” Small wonder then, that as on date around 320 million people are Food Insecure, a fact which has galvanized even the Supreme Court of India to hand down a directive to the Central and State governments, “to devise a scheme where no person goes Food Insecure when the granaries are full and lots being wasted due to non-availability of storage space” (Sharma, 2001). Now, according to Government of India, the .

The Average Indian is Food Insecure

Indeed it is an even harsher reality that the average Indian is Food Insecure. Despite the impressive output of food grain, our current availability of cereals per capita is only 390 grams per day. Indeed the per capita availability of cereals and pulses has declined over the last 15 years. The per capita net availability of pulses is about 31.5 grams per day and the per capita net total food availability is 422.4.grams per day (Economic Survey, 2006-2007). Even allowing for errors in calculations, the sad fact remains that hundreds of million of Indians have much less than 422 gm per day, for that is only the average. Nutritionally for a healthy life per capita availability of cereals and pulses per day should be at least 510 grams per day. The per capita availability of cereals and pulses for the Indians is, therefore, below the acceptable level for a healthy life. And hence, the average Indian is Food Insecure because she or he does not have food which gives her or him the required nutrition.

The picture becomes worse, if we take a differentiated look. On an average daily food consumption should provide us about 2400 K. Cals per person. But for the poorest 30 % of the people, their food intake provides them with only about 1600 K. Cals. About 60 % of India’s children suffer from malnutrition. Over 74 per cent of all children under 3 years of age suffer from anemia, with the percentage going as high as 84 per cent in Haryana. As much as 53 per cent of India’s children under the age of five are malnourished, as compared to 32 per cent in sub-Saharan Africa. The recently released results of the third (2005-06) National Family Health Survey (NFHS-3) show that almost half (46 per cent) of all children under three are underweight and almost 80 per cent of children in the age group of 6-35 months are anemic. (**Strategies for Children under Six** by Working Group on Children Under Six, Economic and Political Weekly, 29 December 2007). Nearly 52 per cent of married women in India between the age of 15-45 are anemic, as compared to only 20 per cent in sub-Saharan Africa (The Food Insecurity Project, 2001).

Calculations of general undernourishment—what is sometimes called “protein-energy malnutrition”—is nearly twice as high in India as is in Sub-Saharan Africa on an average. Judged in terms of usual standards of retardation in weight for age, the proportion of undernourished children in Africa is 20 to 40 per cent, whereas the percentage of undernourished Indian children is a gigantic 40-60 per cent. (Scrimshaw, 1998). While Indians, therefore, live longer than Africans, nevertheless there are many more undernourished children in India, in both absolute terms and as proportion of all children, than in Africa. Thus Sen (1995) pointed out, these stark figures confront us with the fact that the forces of normal mortality—unprevented by good nutrition and healthcare—kill more people every four or five years in India, than the death toll of the world’s largest recorded famines.

The future looks as dim. Just as the per capita availability of cereals and pulses has declined over the last 15 years, by reversing the trend cereals availability will have to increase by about 70 million tones, which is not easy because over the last 15 years, cereals output increased by just 30 million tones. Given the food price volatility in the global market, dependence on imports for

more than 10-15 per cent of our needs, will be courting disaster. Some experts believe the remaining increase will have to come through higher output of vegetables, poultry and milk.

VI. THE REALITY AT THE MICRO-LEVEL

Looking at the macro-picture tells us a sad story but it still does not tell us the full story. The pictures of food insecurity at the micro-level are even more compelling, to which we may now turn.

VI.A. Food Insecurity in West Bengal

VI.A.1. Food Insecurity in a Tribal Village: Village Krishna Rakshit Chak

Krishna Rakshit Chak is a tribal village in Midnapore District in West Bengal. The villagers are landless and all belong to Lodha tribe. **Food Insecurity** in the village was studied in 1993, 1995 and in 1998, through Food Calendars. In the three repeated exercises, the women were encouraged to prepare the Food Calendars. At the beginning, in 1993, women were hesitant and shy, but once prodded, they soon were able to engross into intricate details of food consumption, procurement and intra-household distribution of food. It is important to lay down the process followed in the successive iteration of producing Food Calendars in Krishan Rakshit Chak as also in other villages covered in this study.

Using various locally available material like stones, pebbles, leaves etc., and traditional knowledge of time and space, women first wrote down on the ground the 12 months (according to the Bengali Calendar) and identified various parameters related to food consumption. The months were written down as the first column and the parameters relating to food consumption were written down as the first row. Once the first row and column were written down, the villagers used stones to indicate the relative amounts of each item of food consumed in the different months. For instance in column 2 of Table-1, against the month of Magh, the consumption of rice was shown by placing 15 stones under the column head rice. Then against the month of Phalgun, the consumption of rice was shown by 9 placing stones under the column head rice. This means that the consumption of rice had declined in Phalgun vis-à-vis Magh. And so on for each month and each item. In effect there was ordinal ranking of consumption levels of each item of food in different months.

It should be noted that across different months and between different items in the food basket, women of Krishna Rakshit Chak have only indicated relative changes in consumption and *not absolute quantities* of food consumed during the different months of the year. Each column in the Food Calendars is to be read as “stand alones”, indicating the relative amount of the particular food item (named as the Column Head) consumed. In Table-1, Column 1, for instance, the women depicted the pattern of rice consumption through the twelve months of the year. And so on. It is reiterated that these numbers do not indicate the absolute quantities of rice consumed during these months, such as 15 kg in Magh, 9 kg in Phalgun and 2 kg in Push.

Additionally, numbers across the columns are non-additive and non-comparable. Thus the number 15 under Rice against Magh and the number 13 under Potatoes against Magh, do not indicate that the consumption of rice was higher than the consumption of Potatoes in Magh. The reason is that the ordinal rankings down each column are non-additive. This is the schema followed in all the Tables showing the Food Calendars.

Table-1
Seasonal Food Calendar of Village Krishna Rakshit Chak, Midnapore, 1993.

Month	Rice	potatoes	Pulses	Vege- tables@@	Fruits@	Food@@ from Water Sources	Others from Wild
1	2	3	4	5	6	7	8
Magh (Mid-Jan. to Mid- February)	***** ***** ***	***** *****	***	Cabbage	-	-	Wild borums and wild rabbits
Phalgun (Mid-Feb. to Mid- March)	***** ***	***** ****	**	spinach	-	-	Neem Leaves
Chaitra (Mid- March- to Mid- April)	****	****	**2	Pumpkin	-	Fish and Wild Water Plants	-
Baisakh (Mid- April to Mid-May)	****	***	*	Pui Leaves and Herbs	Mango Jackfruit	Fish, snails and wild water plants	-
Jyastha (Mid-May to Mid June)	****	****	**	Lota, Leaves and herbs	Mango Jackfruit	Fish, Wild Water plants	-
Asardh (Mid-June to Mid- July)	****	***	***	Jhinge (nearer to Sukini), Green Papaya	-	-	-
Srabon (Mid-July to Mid- August)	****	****	*****	Green Papaya	-	-	-
Bhadra (Mid- August to Mid-Sept.)	****	***	***	Green Banana	-	Fish and snails	-
Ashwin (Mid-Sept. to Mid- Oct)	****	***	**	-	-	-	-
Kartick (Mid-Oct. to Mid- Nov.)	**	***	**	radish, Leaves	-	-	-
Ahgrayan (Mid- November . To Mid-	****	****	*****	tomatoes	-	-	-

Dec.)							
Poush (Mid-Dec. to Mid- Jan)	*****	***** **	***** *	brinjals	-	--	Wild Rabits

Notes:

(i) The number of “star” marks under column heads Rice, potatoes, Pulses represent the number of stones used by the villagers to show the consumption of the relative item of food.

(ii) @Fruits from some trees growing near ponds and elsewhere in the village.

(iii) @@ From CPR and Forests.

(iv) Prepared by Women’s Group, Krishna Rakshit Chak, Midnapore, West Bengal. 4.2.93.

Table-2
Seasonal Food Calendar of Village Krishna Rakshit Chak, 1995.

Month	Rice	potatoes	Pulses	Vegetables \$	Fruits #	Fish \$	Snails \$	Others from Wild \$
1	2	3	4	5	6	7	8	9
Magh (Mid-Jan to Mid- Feb.)	***** ***** ***	***** ***** *	***	-	-	-	-	-
Phalgun (Mid-Feb. to Mid- March)	***** ***	***** *****	**	-	-	-	-	Neem Leaves
Chaitra (Mid- March- to Mid- April)	*****	***	-	-	-	-	-	-
Baisakh@ (Mid- April to Mid-May)	****	***	-	-	-	-	-	-
Jyastha (Mid-May to Mid June)	****	***	-	-	-	-	-	-
Asardh (Mid-June to Mid- July)	****	**	-	-	-	-	-	-
Srabon (Mid-July to Mid- August)	****	***	-	-	-	-	-	-
Bhadra (mid- August to Mid-Sept.)	**	-	-	-	-	***** *****	-	-

Ashwin (Mid-Sept. to Mid- Oct)	****	***	**	-	-	***** *****	*****	
Kartick (Mid-Oct to Mid- Nov.)	**	***	***	Leaves	-	***** *****	*****	
Ahgrayan (Mid-Nov. top Mid- Dec.)	****	****	*****		-		-	-
Poush (Mid-Dec. to Mid- Jan)	*****	***** ***	*****		-		--	-

(i) The number of “star” marks under column heads Rice, potatoes, Pulses represent the number of stones used by the villagers to show the consumption of the relative item of food.

(ii) @ This is the first month of the Bengali Calendar.

(iii) # Fruits from some trees growing near ponds and elsewhere in the village.

(iv) \$ From CPR and Forests.

(v) Prepared by Women’s Group, Krishna Rakshit Chak, Midnapore, West Bengal.

Table-3
Food Calendar, 1998 of Village Krishna Rakshit Chak

Month	Rice	Potatoes	Pulses	Vege-tables from CPR	Fruit from CPR	Fish from CPR	Snails from CPR	Others from Wild
1	2	3	4	5	6	7	8	9
Magh (Mid-Jan. to Mid- Feb)	***** *****	*****		-	-	Some Fish	-	-
Phalgun (Mid-Feb to Mid- March)	***** ***	****		Yes	-	Fish, Jhinuk	-	Neem Leaves
Chaitra (Mid- March to Mid-April)	*****	****	-	-	-	-	yes	Rabits
Baisakh** (Mid-April to Mid- May)	***	***	-	Brinjals	-	-	Snails, Jal Geri	Jhinge
Jyastha (Mid-May to Mid June)	***	***	-	Kalmi Sak, Susmi Sak, Gim Sak,	-	Fish	-	-
Asardh (Mid-June to Mid- July)	***	*	-	Wild Potatoes, Mushroom	-	-	-	-
Srabon (Mid-July	****	*	-	-	-	Weeds,	Yes	-

to Mid-August)								
Bhadra (Mid-Aug. to Mid- Sept.)	***	-	-	-	-	“Laatha”, “Chang”, “Fusati”, “Magur”	Snails (Samuk)	-
Ashwin (Mid-Sept. to Mid-Oct)	***	-	-	Jhinge Borbotee Snake Gourd	-	“Punti”, “Magur”, “Chang”	-	
Kartick (Mid-Oct. to Mid- Nov.)	***	-	-	Sak, Seem, Pui Sak	-	Fish	-	
Ahgrayan (Mid-Nov. to Mid- Dec.)	***** ***** **	**	-		-	Fish	-	-
Poush (Mid-Dec. to Mid-Jan)	***** ***** **	**	-	Sak, Radish	-	-	--	-

The number of “star” mark under column heads Rice, Potatoes, Pulses represent the number of stones used by the villagers to show the consumption of the relative item of food. “Yes” means occasionally consumed in insignificant amounts, not worth quantifying. Prepared by Women of Krishna Rakshit Chak, Midnapore, West Bengal.

The three Food Calendars show two *food systems*. People consume rice, potatoes etc, which are food produced by the application of technology in the economic sense. This is called food derived from the “primary food system”. People also access fish, fruits, honey, gums, small animals, birds, tubers, snails, leaves, leafy vegetables etc from the common property resources, micro-environment (Chambers, 1992) and forests, and from gleaning and collecting food from lands belonging to richer, relatively well-off farmers, in neighbouring villages. This is called food from the “secondary food system” (Mukherjee, 1994a).

The poor villagers of KRC, therefore, not only collect, gather and hunt food from the CPRs, forests and micro-environments, but also glean food from the land of richer farmers. The cabbage, pumpkins, ridge gourd (*Jhinge*), papaya, green banana, radish, tomato and brinjals etc. (that the poor villagers collect from other farmers’ lands and gardens) as part of the produce of CPRs are the crops which the well-off farmers do not harvest from their lands, because they are damaged by pests or insects, frost bitten, hit by hailstorm, or disease. Both systems of food play critical roles in providing food to the villagers of Krishna Rakshit Chak.

Seasonal Variations from Primary food system

The Food Calendars also reveal that there are seasonal variations in availability of food from both the systems. Rice consumption reaches its peak in Magh (mid-January to mid- February) after which it declines until Chaitra, (mid-March to mid-April) to remains stationary through to Ashwin (mid-September to mid-October). After Ashwin it further declines of the earlier period in Kartick (mid-October to mid-November). Rice consumption generally picks up in Agrayan (mid-November to mid-December). Thus consumption of rice, the principal staple food in Krishna Rakshit Chak, reaches the lowest level of consumption during the hot summer months of Chaitra, Baisakh and Jaistha, (mid-March to mid-June). It then continues to be low throughout the monsoon season of Asard, Srabon and Bhadra, (mid-June to mid-September). Consumption of

rice is thus the lowest when the work-load is the highest. Levels of consumption of potatoes and pulses similarly shows significant variations and they reach the lowest during summer and monsoon months.

Seasonal Variation from the Secondary Food System

Some vegetable from the CPRs and forests, and food of one kind or the other from the secondary system, are consumed by the villagers of Krishna Rakshit Chak almost all through the year except in Aswin. Unlike the primary food system, the secondary food system can not be analyzed in terms of variations in individual items, because most of the food from the secondary system are seasonal. For instance, fruits such as Mangos and Jackfruit, from CPRs are available only in Baisakh and Jyaistha (mid-April to mid-June). Fish, snails and wild water-plants are consumed in Chaitra, Baisakh, Jyaistha (mid-March to mid- June) and Bhadra (mid-August to mid-September) only.

There are, however, certain notable features of the secondary food system, which warrants a few comments. First, the secondary food system provides fiber, animal protein and nutrition in the diet of the villagers of Krishna Rakshit Chak. In the absence of the secondary food system, it would have left the quality of the food consumed by the villagers so much more deficient in nutrients and vitamins. Second, the number of foods that the villagers access from the CPRs and forests, are more and higher when the basket of food from the primary food system is the lightest, viz., the months of Chaitra to Bhadra (mid-March to mid-September).

The Two Food Insecurity-Periods

The Food Calendars also reveal that people suffered *differentiated Food Insecurity*. They are Food Insecure throughout the year but they are moreso during some months. Let us look at columns 2, 3 and 4 of 1993 Food Calendar. There are two “**Food Insecurity periods**” for the villagers of Krishna Rakshit Chak in 1993. The first **Food Insecurity** period occurs in the summer months of Chaitra, Baisakh and Jyaistha (mid-March to Mid-June) taken together. “The second **Food Insecurity** period” occurs during the months of Aswin and Kartick (mid-September to Mid-November) when again apart from lowest levels of consumption of food from the primary food system, food consumption from the secondary system also falls. This is also the period when employment availability is dismal. The power to access food is, therefore, also very low. During the first **Food Insecurity** period, the bounties of nature, through the common property resources, forests etc, come to the rescue of the villagers. Unlike the first **Food Insecurity** period, there is no “safety net” for the poor villagers during second Food Insecurity period, from the secondary food system.

In 1995 Food Calendar, the two “Food Insecurity periods” become one long Food Insecurity period from Baisakh through Kartick (mid-April to mid-October). The two Food Insecurity periods of five months duration is converted to one long Food Insecurity period of seven months duration.

The 1998 Food Calendar indicates that Food Insecurity continues and there are now four phases of Food Insecurity. *Phase One*, runs from Aghrayan to Magh, when people eat the most. *Phase Two* covers Phalgun and Chaitra (mid-February to mid-April), when people eat less and **Food Insecurity** sets in. *Phase Three*, runs from Baisakh to Bhadra (mid-April to mid-September) when the consumption is at a very low level. And *Phase Four* between Ashwin and Kartick (mid-September to mid-November) when a typical diet of the poor households consists primarily of only rice.

One redeeming feature of the state of **Food Insecurity** emerging from the 1998 Food Calendar is that the quantum of food available from the water bodies has increased significantly. And this remarkably enough came about because a huge tank (called Rajbandh) which usually auctioned

by the Panchayat, is under dispute now and it could not be auctioned. As a result the villagers access the produce of the tank. The quantity of food accessed from the secondary food system, therefore, is back to its 1993 level.

VI.B. Food Insecurity In Contemporary Uttar Pradesh

VI. B .1. Food Insecurity in a Village of “Landlords” and Tenants: Tikri

Tikri is a village in Varanasi, Uttar Pradesh (UP). In Tikri people leased-out and leased-in land for cultivation. The village is stratified along class lines. The villagers of Morya Basti, Village Tikri use five criteria to classify people as falling in three classes *Garib* (Low Socio Economic Status), *Kamate-Khate* (Middle Socio Economic Status) and *Amir* (High Socio Economic Status). The criteria are size of land holding; condition of house and its physical facilities; economic status; facilities provided to their children and capacity to meet the expenses for “social function”. The characteristics of the three classes of people are in Table-4.

Table-4

Characteristics of Low, Middle and High Socio Economic Status (SES) Village Tikri, Morya Basti.

CRITERIA	LOW SES	MIDDLE SES	HIGH SES
Landholding	Less than 5 Biswa	5 Biswa to 1 Acre	more than 1 Acre
CONDITION OF THE HOUSE	Clay built. Single storied. No toilet, no latrine and bathroom. Only one room for one family. No source of drinking water.	Cemented. Single storied with latrine and source of water: well. Separate guestroom ('Baithak') and Chauki (Wooden Cot).	Cemented. Well maintained, double- storied or more, house with hand-pump, well etc for drinking water, toilets, latrine, bathroom and 'Baithak'.
ECONOMIC STATUS	100 per cent dependent on daily wages to arrange for food	Do not have to strain resources for meeting daily needs.	Economically very sound. Money lenders for Middle SES and Low SES people.
EMPLOYMENT	Daily Wage Earners. Agricultural Labourers.	Cultivators, daily wage earners and milk vendors.	In service and/or in business
FACILITIES FOR CHILDREN	Can not afford to send children to school. Children start working at an early age and help parents in their work.	Children are enrolled in local school.	Children are enrolled in “good” schools.
CAPACITY TO BEAR EXPENSES TO MEET SOCIAL OBLIGATIONS	Cannot afford to bear expenses to meet social obligations associated with birth, marriage, death etc.. Survive on borrowings and charity during emergency such as illness, death etc..	Can partially bear expenses to meet social obligations out of own resources and partly out of borrowings	Spend ostentatiously during social occasions.

Clearly the issue of Food Insecurity would, by the definition given by the people, concern those

belonging to Lower SES. Food Insecurity will neither bother people belonging to Middle SES nor to Higher SES. The issue of Food Insecurity is, therefore, examined in the context of people belonging to Lower SES only. This does not, however, mean that all those who belong to Middle and Higher SES, are free from Food Insecurity. Because of disparity in intra-familial distribution of power and because of traditions and customs, in many households categorised as falling in Middle SES and Higher SES, there are women and girl children suffering from Food Insecurity of different degrees. We are not pursuing that line of inquiry.

Given our concept of Food Insecurity, food production is an important variable (though not overwhelming) in eliminating Food Insecurity. Take the case of Morya Hamlet. Wheat produced in the hamlet, meets the needs of the inhabitants for 4-5 months in a year. Paddy harvested meets the needs of the villagers for 3-4 months. Maize and Bajra produced are enough to meet food needs of the community for only a few days. And all the villagers do not grow all the crops. Thus food produced in the village meets only a part of the total quantity of food necessary for securing food for all the villagers. For the rest of their food-needs, people buy food from the open market.

Food produced in the village is culturally acceptable and given the employment opportunities outside of agriculture, available in and around Tikri, people did have the requisite purchasing power to access food. Apparently people did not suffer starvation but existence of differentiated Food Insecurity is discernible.

The facts revealed by the Food Calendar produced by the Women of Morya Hamlet as in Table-5 are instructive. Significantly the group of women starts the Food Calendar from the month of May-June (Jeth), because May-June is the month when cultivation season (Kharif) starts and it is associated in the psyche of the people as the beginning of the process of food production. If we look at column 2, it is manifest that the women and men of Morya Hamlet, Village Tikri, suffer from various degrees of Food Insecurity for a considerable part of the year. But their Food Insecurity is at its peak during the three very hot summer and humid monsoon months of Jeth (May-June), Asarh (June-July), and Sawan (July-August). That is the period when women, men and children survive on just one unwholesome meal for 3 months. As Bhado (August-September) comes, the nutritional value of food intake of the villagers increases due to inclusion of vegetables harvested from their own fields. With the advent of Bhado (August-September), harvesting of some pulses also starts. This enables people to include some pulses as well in their diet, which further increases the nutritional content and palate of their food basket. The pattern of food intake in Kuar (mid-September to mid-October) was generally a continuation of the pattern obtaining in Bhado (mid-August to mid-September). For the four months from Kartik to Magh (mid-October to mid-February) people earned handsomely, as this was the principal farming season. They used their earning in good measure to buy food. Thus daily intake of vegetables, bi-weekly or tri-weekly

Table-5
Food Calendar Prepared by the Women of Morya Hamlet, Tikri Village

Months	Food Intake	Serial Number
Asardh (June-July)	One meal of few Chapattis and salt or Chilli paste	1
Sawan (July-August)	One meal of few Chapattis and salt or Chilli paste. Towards the end of the month, two meals are possible	2
Bhado (August-Sept)	One Stomach filling meal of Chapattis, vegetables and rice. Pulses very rarely	3
Kuar (Sept.-Oct.)	The same diet as in Bhado.	4
Kartick (Oct.-Nov)	Stomach filling meal of Chapattis, vegetables and rice. Two meals.	5
Aghan (Nov.-Dec)	Stomach filling meal of Chapattis, vegetables and rice. Two meals.	6
Poosh (Dec.-Jan)	Same as in Aghan	7
Magh (Jan-February)	Same as in Poosh	8
Fagun (Feb.-March)	Same as in Magh but intake of pulses and costly items get reduced. Two meals.	9

Chait (March-April)	Same as in the month of Fagun but the intake of pulses gets further reduced	10
Baisakh (April-May)	Same as Chait.	11
Jeth (May-June)	One meal of Chapattis and salt or chili paste.	12

Village Analysts: Indubala, Kamala, Urmila, and Jali. *Facilitated by:* Meera Jayaswal. *Date:* 11.11.98.

intake of pulses and some amount of milk, poultry, meat and fish, at least once a month, makes the diet best during this period of the year. During Fagun and Chait (mid-February to mid-April) though people still manages to get two meals, the nutritional content of the food and their palate are considerably diminished. This is because the quantity of pulses, vegetables and milk steadily become scarce in their diet, until they vanish by the end of Baisakh (mid-April to mid-May). Jeth, Ashar and Sawan are the real “Food Insecurity months” for the villagers of Morya Hamlet, Village Tikri. Table-4 read with Table-5, indicate that food intake is at its worst during the months when people, had to work the hardest and the weather the harshest, the summer and monsoon months. For these are the months when the villagers get to work in their own fields, find wage employment in others’ fields and work hard at home to deal with disease and sickness that visit the people during this part of the year.

The villagers of Bari Basti (Bari Hamlet) of Village Tikri also give us their Food Calendar as at Table-5A.

These villagers divide the year in terms of farming seasons, viz., summer, rainy and winter. During summer months a typical food basket of the villagers in Bari Basti contains Pulses, Chapattis and Rice. They have vegetables included in their diet every alternative day. During the rainy season, their food basket improves and includes Pulses, Rice, and Chapatti, vegetables every alternate day, and meat, fish or poultry once in two months. Every household has two meals a day. When winter sets in, Rice, Pulses, vegetables and sometimes “Khichri” (a kind of heavy porridge) make their meals. Though the Food Calendars of Morya and Bari Bastis are not comparable because different time frames are used, nevertheless the general trends from both the Food Calendars have considerable congruence. The “Food Insecurity months” are about the same and the Food Insecurity months corresponds with the period when the women work the hardest.

Table-5A

Seasonality Analysis by Women’s group in Bari Basti, Tikri Village

Season	Livelihood	Constraints to Livelihood	Consumption Pattern
Summer (Cheth, Baisakh, Jeth)	Work as agricultural labourers during harvesting of wheat and planting of onion seedlings	Work under scorching sun leads to heat stroke (“LOO”), fever, boils and malaria.	One meal of Pulses, rice, chapatti, and vegetable every alternate day.
Rainy (Asard, Sawan, Bhado)	Some women work as agricultural labourers during paddy sowing. Women also work for 8 days in deweeding. They get employment for about 10 days in paddy transplantation. Some crops are also harvested which help women get jobs for 15-20 days	Swelling of hands and feet due to work in paddy fields, in rain. Suffer from cold. These are the worst months as only females earn, while men sit at home as they find no employment in the towns.	Pulses, rice, chapatti, and vegetables every alternate day. Meat/fish/eggs once in two months. Two meals a day.
Winter (Kuar, Kartick)	Men get more work in Towns during early Kuar to end Kartick, which are considered as the best	In Magh, men do not work due to a social custom called “Bhenv”. Expenditure increases	Bajra chapatti, rice, pulses and vegetables every

Kartick, Aghan, Poos, Magh and Phagun)	months of the year. In the beginning of winter employment is available in harvesting paddy and Bajra. Women go out to sell vegetables in the village and in the neighbouring villages.	due to use of warm clothes and detergent. Cold and cough are major health problems. Difficult to work in the fields for weeding in cold as the body starts aching.	day. Sometimes eat Kichri (a kind of porridge) made of Bajra.
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Village Analysts: Savita Devi, Rita Devi, Shanti Devi, Saraswati Devi, Urmila Devi, Shakuntala Devi, Dhanra devi, Kumari Devi, Satti Devi, Sangeeta Devi, Phula Devi, Chnmna devi, Bindo Devi, Chandrawati Devi, Sacho Devi, Rama devi, Meena devi, Arti Devi, Seema Devi, Prabha Devi, Kalawati.. **Facilitator:** Sudipta Roy. **Date:** 31.1.99.

Interestingly there is a high degree of correlation between income and food intake. Let us look at Tables-6 and 7 detailing income and expenditure of people in Morya Hamlet. Starting from Jeth (mid-May to mid-June) when their income is at the lowest. Villagers' income starts rising from Asardh (mid-June to mid-July), when cultivation starts and employment opportunities expands. It peaks in Magh, and then it starts falling again to reach a fairly low level in Baisakh (mid-April to mid-May). A typical villager's income comprises income from agriculture, sale of milk, daily wages earned by men and women separately and artificial pearl garland making by women, of which income from agriculture is the *smallest* component and daily wage is the *largest* constituent. While daily wages earned by women remains virtually constant throughout the year at Rs. 200 per month, daily wages earned by men vary from month to month. It remains at Rs. 400 per month for 6 months from Jeth (mid-May to mid-June) to Kartik (mid-October to mid-November) and then jumps up to Rs. 600 per month in Aghan. The wage rate for men remains at that figure till summer sets in, in Baisakh (mid-April to mid-May) when it falls back to Rs. 400 per month. Income villagers (read women) earn from garland making out of artificial pearl remains constant at a low ebb from Jeth (mid-May to mid-June) till Bhado (mid-August to mid-September) at Rs. 120 per month, and then picks up to reach Rs. 180 per month in Kuar and stays at that level till Baisakh (mid-April to mid-May).

Reference is now invited to Table-7. Aggregate expenditure of the people basically pertains to expenditure on three items: food, miscellaneous items and social obligations. Of these, expenditure on food is by far the largest chunk of the expenditure. It is about 66 per cent for Jeth (mid-May to mid-June) and Asarh; 80 per cent for Sawan, Bhado and Kuar (mid-July to mid-October); 96 per cent for Kartik (mid-October to mid-November); above 80 per cent from Aghan (mid-November to mid-December) to Chait (mid-March to mid-May); and above 76 per cent in Baisakh (mid-April to mid-May). Expenditure on food increases in absolute terms also from Rs. 600 per month in Jeth (mid-May to mid-June) to Rs. 1300 per month in Poosh (mid-December to mid-January) and only marginally declines in Chait and Baisakh (mid-March to mid-May). Thus the pattern of expenditure exhibits a copybook case of an under-developed economy, where expenditure on food consumption is unusually high. The rise in expenditure on food has a high degree of correlation with the incremental variations in income. Compare columns 7 and 1 of Table-6 with columns-1 and 5 of Table-7 and the picture will be clear. If we also compare last column of Table-6 with column-5 of Table-7, an excess of expenditure over income during the summer months of Baisakh and Jeth (mid-April to mid-June) and the wet month of Asardh (mid-June to mid-July) is discernible. This is the time people got into debt.

Table-6

Monthly Income of Low SES Families in Morya Hamlet, Tikri

Months	Daily Labour (Men)	Daily Labour (Women)	Garland Making	Selling Milk	Agriculture	Total
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Jeth	400	100	120	100	-	620
Asardh	400	100	120	200	-	820
Sawan	400	200	120	300	50	970
Bhado	200	200	120	300	100	1120
Kuar	400	200	180	500	250	1330
Kartick	400	200	180	500	250	1530
Aghan	600	200	180	500	250	1530
Poos	600	200	180	400	250	1630
Magh	600	200	180	400	250	1630
Fagun	600	200	1809	400	100	1480
Chait	600	200	180	300	100	1380
Baisakh	400	-	180	300	-	1280
Total	5600	2000	1920	4200	1600	15320

Village Analysts: Amarnath Morya, Ashok Morya, Chatanki Morya, and Panchan Morya. *Facilitator:* Ms. Meera Jayaswal. *Date:* 5.11.98

Table-7

Monthly Expenditure of Low SES Families in Morya Hamlet of Tikri

Months	Expenditure				Loan
	Food	Miscellaneous	Social Visit	Total	
Jeth	600	200	100	900	500
Asardh	600	200	100	900	200
Sawan	1000	100	100	1200	200-
Bhado	1000	100	100	1200	-
Kuar	1000	100	100	1200	-
Kartick	1200	100	150	1250	-
Aghan	1200	100	200	1450	-
Poos	1300	100	200	1500	-
Magh	1300	100	200	1600	-
Fagun	1300	100	200	1600	-
Chait	1200	100	100	1400	-
Baisakh	1000	150	150	1300	-
Total	12700	1500	1700	15900	900

Village Analysts: As in Table-19.

On the whole then, people were not food secure throughout the year, though they did not suffer

from chronic Food Insecurity. Under-nutrition and malnutrition, of women was clearly made out. Incidentally in case of Tikri there was none of the food from the secondary food system. Because the Guava Orchard and the Mango Orchard in the village had been cleared to raise crops etc., because apparently yield from these trees had declined so sharply that retaining them was of little value (Mukherjee, 2001).

VI.B.2. Food Insecurity in a Socially Stratified Village: Village Chandpur

Chandpur is also a village in Varanasi, UP. It is in the same Block as Tikri.

The state of food security in Chandpur was about the same as in Tikri. Take the case of Patel Basti (Hamlet) of Chandpur. The wheat produced in the hamlet meets the requirement of the villagers for 4-5 months in a year. Paddy harvested meets the needs the villagers in the hamlet for 3-4 months. Maize and Bajra produced is enough to meet the needs of the villagers for 8-10 days and 1-2 months respectively. The food produced in the village meets about half the quantity of food necessary. For the rest of the food needs people have to buy food from the open market in exchange for goods, labour or money.

Apparently people do not suffer starvation but existence of relative Food Insecurity is visible. Take the case of Naipurwa Hamlet of the village. Women reveals their state of Food Insecurity through the Food Calendar. The Food Calendar prepared Rampati Devi, Dhandai Devi and Rita Devi and others, is reproduced in Table-8. Significantly women in this hamlet, like women in Tikri have started the Food Calendar from the month of Ashar (June-July) and ended it in Jeth (May-June). And for the same reason.

It is manifest from column 3, Table-8, that the women suffer from various degrees of Food Insecurity throughout the year. During the months of Baisakh (April-May), Jeth (May-June), Asarh (June-July), Sawan (July-August) and Bhado (August-September), that is, from mid-April to mid-September, for five months women survive on just one meal of chapattis and chili paste and some inexpensive vegetables. Their Food Insecurity is at its peak during the very hot summer and wet monsoon months. Once harvesting of some pulses starts and the poor earn some wages from Kuar (mid-September to mid-October) that the villagers' diet improves. They have some nutrition and palate in the food intake by way of pulses and vegetables, which lasts for the five months from Kuar to Magh (mid-September to mid-February). During Fagun and Chait (mid-February to mid-April) pulses become rarer in the diet of the poor, until it vanishes in Baisakh (mid-April to mid-May).

A total view of the Food Insecurity in Chandpur indicate that women suffer acute Food Insecurity for five months Baisakh to Bhado (mid-April to mid-September), a relatively less acute Food Insecurity for two months in Fagun and Chaith (mid-February to mid-April) and some Food Insecurity for five months Kuar to Magh (mid-September to mid-February). Practically at no period during the year, are the women totally free

Table-8
Food Calendar Prepared by the Women of Naipurwa Hamlet, Chandpur Village

Months	Financial Condition	Food Intake	Serial Number
Asardh (June-July)	Loan for purchasing seeds, from the village headman or the money lender	One meal of few Chapattis and salt or chilly paste or some inexpensive vegetables	1
Sawan (July-	Take loan for purchasing food	One meal of few Chapattis and salt or chilly paste or some inexpensive	2

August)		vegetables	
Bhado (August-Sept)	Take Loan for purchasing food	One meal of few Chapattis and salt or chilly paste or some inexpensive vegetables	3
Kuar (Sept.-Oct.)	Income starts from sale of vegetables and from working as agricultural labourers	The same diet as in Bhado but intake of pulses and vegetables start.	4
Kartick (Oct.-Nov)	Income from vegetable sale and Birdi/Rudrax Garland making	The same diet as in Kuar.	5
Aghan (Nov.-Dec)	Income from vegetable sale and Birdi/Rudrax Garland making	Milk supplement is added to diet	6
Poosh (Dec.-Jan)	Income from vegetable sale, work in fields and Birdi/Rudrax Garland making	Same as in Aghan	7
Magh (Jan-February)	Income from vegetable sale and Birdi/Rudrax Garland making	Same as in Poosh	8
Fagun (Feb.-March)	Reduction in Income from vegetable sale. Income from Birdi/Rudrax Garland making is sustained	Same as in Magh but intake of pulses get reduced.	9
Chait (March-April)	Income from non-agricultural work. Income from wages earned in harvesting wheat	Same as in the month of Fagun but the intake of pulses gets further reduced	10
Baisakh (April-May)	Income from non-agricultural work. Income from wages earned in harvesting wheat	One meal of Chapattis and salt or chilly paste or inexpensive vegetables.	11
Jeth (May-June)	Take loan for food at 10 per cent per month	One meal of Chapattis and salt or chilly paste or inexpensive vegetables.	12

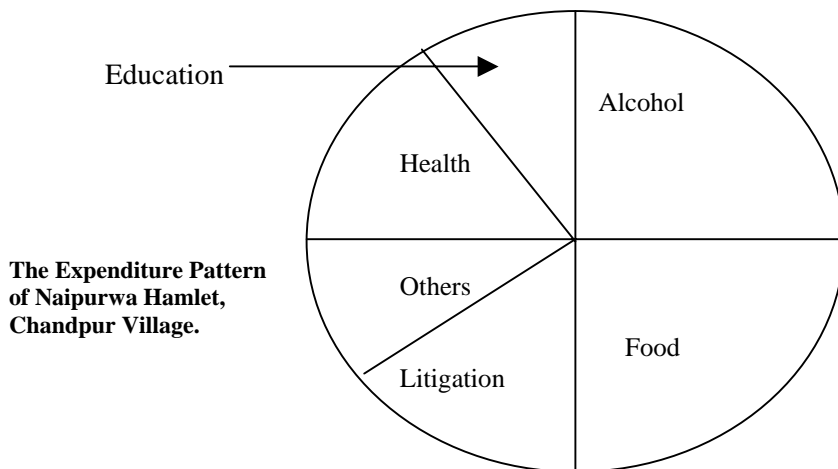
Village Analysts: Rampati Devi, Dhandai Devi, Rita Devi. *Facilitator:* Ms. Meera Jayaswal. *Date:* 12.11.98.

from Food Insecurity. And the women of Chandpur also told us, like the villagers of Tikri, that their food intake is at its worst, during the summer and monsoon months Baisakh (mid-April to mid-May) and Bhado (Mid-August to mid-September) when they work the hardest. Columns 2 and 3 of Table-8, also reveal a high degree of correlation between income and food. During the months of Jeth, Asarh, Sawan and Bhado (mid-May to mid-September) women in the village depend on loans for defraying expenditure on food. Only when their income from sale of vegetables and wage earnings improves, do they include pulses and even milk in their diet.

On the whole then, women suffer Food Insecurity all through the year, though there is variation in inter-month intensity of Food Insecurity. Under nutrition and malnutrition of women are clearly made out. Given the wage rates, the employment rates and yield from agriculture in the area, it is

unlikely that men would have food security throughout the year either, though they would probably be better-off than women.

The expenditure pattern of the village as shown by the following Chapati Diagram is interesting. The whole chapatti is equivalent to 16 Annas (the old currency denomination).



The expenditure pattern looks astonishing. Only 4 Annas (approximately 25 per cent) are spent on food, another 4 Annas (approximately 25 per cent) on consumption of liquor, 2 Annas (approximately 12 per cent) on health, 2 Annas (approximately 12 per cent) on education; 3 Annas (approximately 15 per cent) on litigation and rest on others. This pattern of expenditure has serious implications for the village in terms of its impact upon the social capital, condition of health, literacy and food security of the villagers. This is particularly so when about 25 per cent of total village income is expended on consumption of liquor.

The unusually high appropriation of household income for liquor and litigation makes serious inroads into the accessibility of the poor households to food. The unusually high proportion household income allocated to liquor and litigation, has apparently been done by cutting back expenditure on buying food, providing basic education to children and accessing primary health care. Elimination of Food Insecurity depends a great deal upon not only food production, distribution and access to food but also on nutrition of food, general access that people had to basic education and primary health care (Seen, 1995) and availability of potable water.

VI.B.3. Food Insecurity in a Village of Small and Marginal Farmers: Jangal Babban, Gorakhpur

Jangal Babban is a village of small and marginal farmers in Campierganj Block, District Gorakhpur, UP, India. The farmers grew both food crops and cash crops, in the nature of vegetables.

Table-9 depicts the food consumption pattern of 50% of the villagers, comprising about 170 households, especially those who are not poor. Apparently because the households under reference are small and marginal farmers they do not face starvation. But they face hardship during the months of Chait (mid-March to mid-April), Baisakh (mid-April to mid-May) and Jeth (mid-May to mid-June), as the consumption level of every item in their food basket declines perceptibly. Though the items in the food basket remains the same over different months in a year, the content become more 'watery', as the villagers best described their state of consumption. The best months for the villagers are Poosh (mid-December to mid-January) and

Magh (mid-January to mid-February) when the granaries are full and high value vegetables are sold in the market which give the villagers purchasing power to buy ‘other items’ of consumption. Though the basket of consumption looks impressive, as shown by the Food Calendar at Table-6, the bulk of the consumption basket for the households (HHs) of the small and marginal farmers (SMF) is made up of rice or chapattis, dal and some home grown vegetables. Milk and fish/meat were rarer in their diet.

The general picture is that 50 per cent of the villagers of Jangal Babban, where small and marginal farmers, do get enough food to eat, though inter-month variations in the levels of consumption are considerable, for at least nine months in a year. *For the remaining three months, these villagers remain Food Insecure.* It is notable that the villagers consider a family as Food Insecure if it manages no more than one meal during these months. And since rice and roti (chapatti) dominates their food basket, it does, *prima facie*, indicate “Food Insecure months”, as it were for them. The nutritional content in terms of vitamins, fiber and protein remains deficient.

This brings us to the other 50 per cent of the households who are not small and marginal farmers. The ‘Other’ 50 per cent of the villagers (belonging to the “non-agricultural households”) remains Food Insecure for six months, viz., in the months of Poosh, Magh, Falgun, Chait (mid-December to mid-March) and then again Sawan and Bhado (mid-July to mid-September).

Table-9
Food Calendar of Small & Marginal Farmers, Village Jangal Babban, Gorakhpur

<i>Months</i>	<i>Items of Food Consumed</i>						<i>Remarks</i>
	<i>Rice</i>	<i>Roti</i>	<i>Dal</i>	<i>Vegetables</i>	<i>Milk</i>	<i>Meat/ Fish</i>	
<i>Magh (mid-Jan to mid-Feb.)</i>	*****	****	*	*	**	***	
<i>Fagun (mid-Feb. to mid-March)</i>	***		*	*	**	***	
<i>Chait (mid-March to mid-April)</i>	*	*	*	*	*	*	
<i>Baisakh (mid-April to mid-May)</i>	*	*	*	*	*	*	
<i>Jeth (mid-May to mid-June)</i>	*	*	*	*	*	*	
<i>Asard (mid-June to mid-July)</i>	**	*	*	*	*	**	
<i>Sawan (mid-July to mid-August)</i>	**	**	*	*	**	**	
<i>Bhado (mid-August to mid-Sept.)</i>	**	**	*	*	**	**	
<i>Kuar (mid-Sept. to mid-Oct.)</i>	***	**	*	*	**	**	

<i>Kartick</i> (mid-Oct. to Mid-Nov)	***	**	*	*	**	**	
<i>Aghan</i> (mid-Nov to Mid-Dec.)	***	**	*	*	**	***	
<i>Poosh</i> (mid-Dec. to mid-Jan)	***	****	*	*	**	***	

Notes: The ranking is ordinal from top to bottom column-wise. The columns are non additive and non-comparable. The dots represent the number of Onions placed to indicate the Quantity of the food consumed.

Village Analysts: Vijay Kumar, Govind Yajav, Gania, Subhawati, Bhanwati, Gulabi, Kaushalya, Barfi and others.

Date: 08/8/2001. *Facilitated by:* Amitava Mukherjee.

Table – 10
Scoring and Ranking of Causes of Food Insecurity, Village Jangal Babban, Gorakhpur

Sl. No	Causes of Food Insecurity & Poverty	Scoring	Ranking	Remarks
1.	Alcoholism	0000000 00	II	People used whatever they earned by working on daily wages on Alcoholism.
2.	Laziness	000000	IV	They were not willing to put in labor. There are 10% such families.
3.	Anger	00000000 0	III	Some of the households were not willing to listen to advice and work.
4.	Large families	000	VII	
5.	Landlessness	00000	V	
6.	Resourcelessness	0000	VI	
7.	Illiteracy	000000 00000	I	Villagers considered this as the biggest bane of poverty.

Notes: Free scoring was used with seeds. *Date:* 9/08/2001. *Village Analysts :* Indrani, Shubabati, Bhanmati, Indrabati, Gulabi, Gemia, Kaushalya, Girija, Brindabati and Barli. *Facilitated by:* Amitava Mukherjee

For the 50 per cent of the 170 households who have limited access to food half the year round, the situation is difficult. A scoring and ranking was done of the causes of poverty and hence Food Insecurity for this 50 per cent of the households (the “non-agricultural households”) in Jangal Babban. The story is like what is shown in Table-10. It seems that to deal with food security for half the households in the village, the answer may lie outside the domain of food production, distribution and nutrition. Indeed, the villagers were emphatic through Table-10 that 50 per cent of the households are suffering from classical poverty caused by assetlessness, resourcelessness, illiteracy, pressure of large families and non-economic factors (such as laziness, alcoholism and intemperate attitude).

VI.C. Food Insecurity In Contemporary Haryana

VI.C.1. Food Insecurity in a Green Revolution Belt Village: Village Sagarpur.

Sagarpur is a village in Faridabad District of Haryana. Sagarpur not only lies in the heartland of green revolution, in Haryana, but also in one of the most industrialized districts of the country.

Sagarpur has six hamlets or Muhallas. In each of the six Muhallas of the village, barring the

Harijan Basti, about 90-95 % of the people depended on Agriculture. It was, not only a source of income, it is also a source of employment, food and fodder. As in many other similar villages in Faridabad, people pursue alternative livelihoods within the village and outside.

Table-11 has percentage of people in each category of occupation. Because some people are in two or more occupations concurrently, they figure in all the occupations in which they are engaged. The Table does not distribute the total population (in the relevant age group) into different occupations, which is why the percentages in each column do not add up to 100.

Table-11
Occupational Structure

(Percentage Of People in Each Category of occupation of Occupation)

Occupation/Source of Income	Patayat Muhalla	Hawelliwalle Muhalla
People with more than 1 source	21 %	25 %
HH with more than I source	29 %	30 %
People highly dependent on Agriculture.	21 %	27 %
People highly dependent on industry.	15 %	10 %
In Government Service	28 %	25 %
In business related jobs	06 %	05 %
Labourers	10 %	08 %
Selling Milk	50 %	70 %
Unemployed	20 %	25 %
Total Adult Males	60	75

Agriculture remains at the heart of the livelihood system in Sagarpur, though a fairly large section of the population has more than one source of livelihood. Within the farming system, the inhabitants rely partly on livestock system and more fully in cropping system, involved in the field and the crop.

Table-12
Problem Ranking by Women in two Hamlets of Sagarpur

RANKING BY WOMEN OF <i>BAGHAIL</i>			RANKING BY WOMEN IN <i>HAWELLIWALLE</i>		
Problems	Scoring	Rank	Problems	Scoring	Rank
Drinking habit of men	***** 10	1	Unemployment	***** 8	1
Illiteracy of women	***** 8	2	Land acquisition by HUDA	***** 8	1
Shortage of money	***** 8	2	Corruption	***** 6	2
No hospital in village	***** 6	3	Shortage of money	***** 6	2
Small Land holding	***** 5	4	Drinking habit of men	***** 6	2
Insufficient electric supply	**** 4	5	Low electric supply	***** 5	3

Table-13
Historical Transect by Men's Group, Patayat Muhalla

Decade	Livelihood	Industry	Farming System	Cropping Pattern
1940-50	99.5 % in Agriculture and rest in Azad Hind Fauz or	None	Irrigation by Rehand; organic manure; ploughing	Jowar, Gram, Sugarcane, Wheat

	caste based occupation		with bullocks; harvesting with sickle; own seeds, rains for water	(less), Bajra, barley
1950-60	97 % in Agriculture and rest in caste based occupation or Army	Escort and Bata	Same as in 1940-50	Same as in 1940-50
1960-70	92 % in Agriculture; 20 % in milk vending; 1 % in Military service; 1% in industry and rest in caste based occupation. 2 % Unemployed	Gadore Company	Tubewell and canal irrigation; country seeds; tractor for ploughing; organic manure	Same as in 1950-60, but sugarcane and paddy introduced
1970-80	Agriculture: 85 %; industry: 2%; labourers: 4 %; Government Service: 2 %; Milk selling 30 %; unemployed 4 %; traditional caste-based occupation: 1%		Tubewell and canal irrigation; HYV wheat seeds; tractor for ploughing and harvesting; chemical fertilizers, pesticides, pesticides	Main Rabi Crop: Wheat. Main Kharif Crop: Bajra. Gram stopped
1980-90	Agriculture: 75 %; Industry: 5 %; Govt. Service: 2 %; Milk: 30 %; Unemployed: 10 %; Labourer ^ %; Business: 2 % and Milk: 35 %	Pyala's LPG Bottling Plant	Same as in 1970-80	Same as in 1970-80, but sugarcane declined. Mustard introduced.
1990-99	Agriculture: 60 %; Milk: 40 %; Govt. Service: 2 %; Labourer: 10 %; Unemployed: 25 % and traditional caste based work: 2 %.	17 Brick Kilns in the Village. NTPC's plant in Jajru	Same as in 1970-80	Wheat main Rabi crop. Main Kharif crop; Jowar (for fodder) and Paddy. Some vegetables

Village Analysts: Suresh Gautam, Kamal, Nand Kishore Sharma, Shamevir, Puran Singh, Dharendra, Shivchandi, Charanjit Lal, Ashok Gautam. *Facilitator:* Sudipta Roy

Table-14
Historical Transect by Men's Group in Hawelliwalle Muhalla

Decade	Livelihood	Industry	Farming System	Cropping Pattern
1940-50	98 % in Agriculture and rest in caste based occupation or in the Army	None	Irrigation by Rehand; organic manure; ploughing with bullocks; harvesting with sickle; own seeds, rains for water	Jowar, Pulses Gram, Sugarcane, Wheat (less), Bajra, barley
1950-60	95 % in Agriculture and rest in caste based occupation or Army	Escort and Bata	Same as in 1940-50	Same as in 1940-50
1960-70	90% in Agriculture; 20 % in milk vending; 3 % in Military service; 1% in	Gadore Company	Tubewell and canal irrigation; country seeds; tractor for	Same as in 1950-60, but paddy introduced on

	industry and rest in caste based occupation. 2 % Unemployed. Teaching 1 %		ploughing; organic manure	commercial basis
1970-80	Agriculture: 80 %; industry: 2%; labourers: 6 %; Government Service: 2 %; Milk selling 30 %; unemployed 5 %; traditional caste-based occupation: 3%		Tubewell and canal irrigation; HYV wheat seeds; tractor for ploughing and harvesting; chemical fertilizers, pesticides, pesticides	Main Rabi Crop: Wheat. Main Kharif Crop: Bajra. Gram stopped
1980-90	Agriculture: 70 %; Industry: 6 %; Govt. Service: 3 %; Milk: 70 %; Unemployed: 10 %; Labourer ^ %; Business: 1 % and Milk: 35 %	Pyala's LPG Bottling Plant	Same as in 1970-80	Same as in 1970-80, but Mustard declined and Cotton stopped.
1990-99	Agriculture: 60 %; Milk: 95 %; Govt. Service: 2 %; Labourer: 10 %; Unemployed: 16 % and traditional caste based work: 2 %. Industry 40 %. Labourer 10 %.	17 Brick Kilns in the Village. NTPC's plant in Jajru	Same as in 1970-80	Wheat main Rabi crop. Main Kharif crop Jowar (for fodder) and Paddy. Some vegetables

Village Analysts: Harchandi, Mohan Singh, Balbir Singh, Ram Swaroop Singh, Rishal Singh, Nathu Ram, Dharamveer, Sant Singh. *Facilitator:* Sudipta Roy

The occupational structure of the village shown by Table-11, *ipso facto*, indicates that a village of agriculturists as also of people who pursue multiple occupations, cannot be Food Insecure. The data in terms of the Problem Prioritization in Table-12 nowhere indicate non-availability of food as a problem. Even the Historical Transects (at Tables-13 and 14) drawn up by the village in Sagarpur, do not indicate that insufficient food or Food Insecurity ever visited the community. However, food security in Sagarpur has to be seen from a disaggregated perspective: one from the perspective of different classes of villagers and two, from the perspective of women.

Let us look at the food security question from a class perspective. On the significance of agriculture *large, medium and small farmers* (constituting 15 % of the population) are categorical about *storing* their produce for household consumption and then selling the remaining surplus to the Government's procurement agency or in the *Mandi* (Market). The first harvest during the first week of April, which yield the best quality grains are stored for household consumption by the households, which cultivate them. And even the portion of this first class crop, which is sold, is also purchased by net buyers of food for domestic consumption. Only second class wheat is sold to the Government. Food grown is deemed as the basis of life. The farmers accord a high priority to food security. Those who sell wheat covers only 15 % of the villagers.

The remaining 85 % have a different story to tell.

Landless people constitute 10 % of the village population, who work as agricultural labourers and they are not fully employed all through the year. Generally they are out of employment for half the year. Hence accessing food during the period they remain unemployment or in partial employment is always a difficult achievement.

The case of the marginal farmers, who constitute the remaining 75 % of the village population, stands on a different footing. Of the marginal farmers, those who own less than 1 acre of land, suffer from food insecurity. Because for a family of 6-8 people, food grown on less than 1 acre of land, which according to the farmers' reckoning yields about 14 quintals of foodgrains is insufficient to feed the family for a full year. If total food output on 1 acre of land is 14 quintals, it means that net food availability with the family is even less (after factoring in the cost of production and saving of seed for the next season). Thus ensuring food availability for the whole family throughout the year, in household of marginal farmers, is impossible.

On the balance, therefore, 15 % of the villagers in Sagarpur have assured food to eat throughout the year from their own farms. Almost 10 % of the villagers who are landless, depending wholly on daily wages, suffer Food Insecurity for large parts of the year. The marginal farmers with 1-1.5 acres of land, who constitute 75 % of the village population, do not have enough food from their own land. They have to access food from the open market, out of income earned from off-farm livelihoods like selling milk and from income earned from employment in the nearby industrial complex of Ballabgarh and in Faridabad.

If we bring in the nutrition element into the picture, things worsen. Reference is invited to last column of Table-13. The crops grown in the village have dwindled down from jowar, gram, bajra, barley and sugarcane, to wheat and a small crop of paddy. Jowar is currently cultivated only for fodder. The current scenario shows that the variety and palate in the food of the villagers have declined. Hence, even when 10 per cent of the villagers of Sagarpur are able to produce enough food to feed the household throughout the year, it does not imply that the food they eat has the required nutritional value.

VI.C.2. Food Insecurity in a Vegetable Growing Village: Village Unchagaon

Unchagaon is a peri-urban village in Faridabad District of Haryana. Like Sagarpur, it is not only located in the heartland of green revolution, in Haryana, but is also in one of the most industrialized districts of the country and very near to the industrial township of Ballabgarh, with a big market for agricultural produce.

From the seasonality analysis as at Table-16, it seems that throughout the year the villagers had something or other to harvest, gather or collect, something to sow, something to transplant and something to sell. These activities absorb considerable portion of the energy and resources, including time, at the disposal of the farmers and their households all through the year.

Table-15
Historical Transect of Farming System & Crops (Male Group, Saini Muhalla) Uncha Gaon

Decade	Occupation	Cropping Pattern
1940	100 % Agriculture	Wheat, jowar, bajra, barley, gram, maize, Moat, Henna
1950	95 % in Agriculture. Rest in industry, Government and labourers	Ditto
1960	95 % in Agriculture, 2 % labourers, 3 % Service and 50 % milk.	Same as in 1950s but pulses reduced
1970	90 % Agriculture 55 % milk, rest as in 1960	Vegetables started to be grown on a commercial basis
1980	Same as 1970 except 60 % in milk	Onion added to the list of items grown on a commercial basis
1990	80 % Agriculture, 60 % Milk, 5 % private service, 7% petty trade/	Wheat, jowar. mustard, cauliflower, potatoes, Cabbage, brinjals, chili, gourds of all variety

	business, 3 % labourer and 2 % in Government	
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Facilitator: Sudipta Ray. **Village Analysts:** Villagers of UnchaGaon

The villagers perceive certain changes (as reflected in Table-15) in cropping pattern, agricultural practices and yield and crop quality, which have a bearing on the state of Food Insecurity in the village. Let us take 1940s as the point of departure when a large number of crops were cultivated, which were a mixture of coarse grains (Barley and Bajra) and cereals (wheat, jowar and maize). All that the farmers cultivated were for household consumption in the village. Farming was both subsistence and sustenance activity. The variety of crops grown allowed the farmers to diffuse risks. The poly-culture also ensured that consumption basket of the households contained fibre, fat, vitamins and protein. In the 1950s the position remained largely the same.

In 1960s, winds of change began to sweep Uncha Gaon. Pulses were reduced. By the time Uncha Gaon reached 1970s, vegetable was introduced, as a commercial crop. In the next decade, as HYV seeds gained ground, wheat became the main Rabi crop and bajra held on as the main Kharif crop. Cultivation of gram stopped. In the 1980s mustard and onion took roots as a cash crop in the hope of high returns.

All through the 1990s and currently the farmers in Uncha Gaon are left with wheat and jowar as principal (non-commercial) Rabi and Kharif crops respectively, with a sprinkling of bajra. Food crops are grown in 50 % of the gross cropped area of the village. Wheat is now grown both for household consumption as also for sale in the market. Cash crops are grown on the other 50 % of arable land, which are mainly vegetables and grown, in the main, for sale. Amongst the vegetables that now grow during Rabi, potato is by far the most important and is grown on 50 % of the land which is earmarked for cash crops, or 25 % of the total arable land of Uncha Gaon. The variety and diversity, therefore, of crops grown are markedly low when one compares the variety and diversity of crops obtaining in the 1940s and 1950s. To that extent, the capacity of the farmers to diffuse risk was pruned.

As we move from the 1940 into the last decade of the last century, it signals a reduction in palate and nutritional value of the food consumed in farm households of Uncha Gaon. Additionally, whereas in 1950s and 1960s much of agricultural operations were for ensuring self-sufficiency in *food*, currently the emphasis is on generating *income for self-sufficiency in income*. There is a movement from growing crops for meeting the food requirements of households and of the community, to growing crops for consumption by outsiders.

Table-16

Seasonality Analysis of Agricultural Activities & Food Consumption (Men's group Saini Muhalla).

MONTHS	FOOD CONSUMPTION	AGRICULTURAL ACTIVITIES
Baisakh (mid-April to mid-May)	chapattis with pickle or chili chutney. Vegetables from their own fields.	Harvesting of wheat and <i>selling</i> the Produce. brinjal, Melon and onion sold. Sow seeds for Lady's Finger, Bottle gourd, Torai, chili, Pumpkin, cucumber, Bitter gourd. <i>Income is 50 %.</i>
Jeth (mid-May to mid-June)	chapattis with pickle or chili chutney. Occasionally vegetables, fruits, dalia, lassi or Milk and Tea. 3 meals plus an evening meal of tea/ milk.	Irrigation and weeding in the fields. Collection of fodder, like cutting grass and harvesting jowar. Sowing of jowar and maize seeds. <i>Selling</i> cucumber, Kakri and Melon.

Ashar (mid-June to mid-July)	Same as Jeth	Irrigating fields. Cutting Fodder. <i>Selling</i> vegetables sown in Baisakh. Income 25 %. Sowing bajra.
Sawan H (mid-July to mid-August)	2 meals of chapattis, pickle or chili chutney. Some Veg	Seedling of cauliflower and brinjal raised. Cutting some jowar for fodder.
Bhado H (mid-August to mid-Sept.)	Same as Sawan	Cutting jowar. Sowing radish, Carrot, spinach Cabbage seeds. Transplanting cauliflower brinjal seedlings.
Kuar H (mid-Sept. to mid-October)	Same as Bhado	Irrigating and weeding fields. Cutting some jowar.
Katak (mid-October to mid-Nov.)	chapattis with pickle or chili chutney. Occasionally vegetables, fruits, milk tea. 3 meals plus an evening meal of tea or milk.	Harvesting jowar and bajra. <i>Selling</i> spinach, cauliflower, Fenugreek, Coriander, brinjal, radish. <i>Income is upto 20 %.</i>
Aghan (mid-Nov. to mid-Dec.)	Same as Kartick	Sowing wheat seeds. <i>Selling</i> spinach cauliflower, Fenugreek, Coriander, brinjal, radish, Cabbage. <i>Income upto 40 %.</i>
Poosh (mid-Dec. to mid-January)	bajra chapattis with Sarson da Saag, pickle or chili chutney. Occasionally vegetables. 3 meals plus an evening meal of tea or milk.	Irrigating land. <i>Selling</i> spinach cauliflower, Fenugreek, Coriander, brinjal, radish, Cabbage. <i>Income upto 45 %.</i>
Magh (mid-Jan. to mid-February)	Same as Poosh	Selling spinach cauliflower, Fenugreek, Coriander, brinjal, radish, Cabbage. <i>Income upto 40 %.</i> Irrigating fields. Sowing cucumber and Melon seeds.
Fagun (mid-Feb. to mid-March)	Same as Magh	<i>Selling</i> cauliflower, Potato, brinjal, Fenugreek, spinach, Carrot, radish. <i>Income is 45 %.</i> Irrigating and weeding fields.
Chet (mid-March to mid-April)	Same as Magh.	Fenugreek, spinach, Coriander, Carrot and Sarson da Saag sold. <i>Income is 35 %.</i> Irrigate fields.

Notes: **H** indicates Food Insecurity periods. **Village Analysts:** Balbir, Bansi, Harish, Omprakash, Bhagawat, Krisen, Mahesh, Babloo. **Facilitator:** Sudipta Ray

From the Seasonal Analysis of agricultural activities by Men's Group in Saini Muhalla, reproduced in Table-16, the state of Food Insecurity in the village is clear. Sawan, Bhado and Kuar (mid-July to mid-October) are the three Food Insecurity months for the people at large. The letter 'H' denotes the Food Insecurity months. During these three months the typical diet of a farm household consists of chapattis and pickle or chili chutney, twice a day. The diet is about the same in Baisakh (mid-April to mid-May), with addition of vegetables from their own fields, generally brinjals and onions. Though people generally do not face starvation, there is Food Insecurity and the variety and palate of the meals are very limited. The nutritional component of food intake is suspect. During the remaining 8 months people are less in distress and the consumption basket is a little more varied. It includes cereals, some fibre, protein and occasional dash of dairy products. Apparently, people do not face acute Food Insecurity for 8 months in a year but they face food insecurity. Their consumption basket indicate that they eat three meals a day but the quantity and quality of food consumed leave much to be desired.

Because farmers of Uncha Gaon have migrated from agriculture for sustenance and subsistence (in their broadest connotations) and from food self sufficiency to income self-sufficiency, Food Insecurity stalk the villagers whenever income dips. Column-3, of Table-14, indicate that in all those months where the villagers have something to sell, they eat well. In the three months of Sawan, Bhado and Kuar (mid-June to mid-October) the farmers generally have nothing significant to sell, and hence are cash-strapped. They, therefore, hack back consumption. This is also the period, the villagers explained, when diseases are usually at their full fury: Malaria, Diarrhea and Dengue, apart from the chronic ones in the form of Najla, Headache, Gastritis and White Discharge amongst women. The villagers are, therefore, forced to spend sizeable portions of their income on treatment during these months, making further inroads into their resource base and forcing them in turn to cut their consumption basket even more. The intensity of Food Insecurity for Uncha Gaon is, thus, a function of cash sales and incidence of diseases. Uncha Gaon's suffer from Food Insecurity in some form, for at least four months, because the farmers have migrated from endowment based entitlement to food in favour of exchange based entitlement.

The success of the community to avoid Food Insecurity revolves around producing vegetables, with which they acquire exchange entitlement to food. With high levels of unemployment, people of Uncha Gaon have little hope of securing exchange entitlement to food through selling their labour and earned wages. The gender disparity within the households, leading to utilisation of household income for indulging in alcoholism, make serious inroads into the ability of the households to access food. Then finally, the fear of Food Insecurity that stalks the people of Uncha Gaon due to anticipated acquisition of their agricultural land by the state is oppressing.

VI.D. Food Insecurity In Contemporary ORISSA

VI.D.1 Food Insecurity in a Cyclone Devastated District: Netakundi

Though Food Insecurity and food insecurity are major problems for vast tracts of the country but for rural Orissa it has always been a key fixture that has kept the State perpetually in the news. Natakundi was devastated by the super-cyclone that hit Orissa in October 1999. The devastation caused by the super cyclone, 'a priori' must have taken a toll of the very fragile food security that people of Netakundi had lived with for years. An attempt was made to assess the state of Food Insecurity in the village as it was before the super cyclone and at it stands after the super cyclone. The state of Food Insecurity for men and women were separately examined in Netakundi. The Food Calendars prepared by men's group and women's group are presented in Tables 17 and 18.

The Food Calendars for men shows the proverbial inter-month variations in food consumed by people throughout the year. The food basket shown in men's Food Calendar comprises rice, potherb (Sag) and vegetables. This was the case for both before the super cyclone and remains the same after the super cyclone as well. Rice constitutes the bulk of the diet for the villagers. Rice consumption reaches its peak in Kartick (mid-October to mid-November) and continues at that level till Magh (mid-January to mid-February). It starts falling in Falgun (mid-February to mid-March) though it still remains at a high level and then continues to decline till Sraban (mid-July to mid-August). The Food Insecurity period starts in Jestha (mid-May to mid-June), but the really difficult months are Sraban, Bhadra and Aswin (mid-July to mid-October). The levels of consumption of Sag and vegetables also show serious gyrations on a month to month basis. While consumption of Sag and vegetables are high from Margsira (mid-November to mid-December), it dips in summer months of Baisakh (mid-April to mid-May) and then picks up with the onset of monsoons in Asard (mid-June to mid-July). The other items of consumption such as fruits, fish and potatoes are at best marginal and occasional.

Table-17
Food Calendar by Men's Group of the village, Netakundi.

		Rice	Pulse	Sag	Vegetables	Fish	Fruits	Coconut	Potato
Baisakh	B	•••• •5	•1	••2	•1	••2	•1	•1	••2
	A	••2	0	•••3	–	–	0	0	•1
Jestha	B	•••• 4	0	••2	0	0	•1	•1	••2
	A	••2	0	•••3	••2	0	0	0	•1
Asarh	B	•••3	0	•••• •5	•••3	•1	0	•1	•1
	A	•1	0	•••• 4	•1	•1	0	0	•1
Shraban	B	••2	0	•••• •5	•••3	0	0	•1	•1
	A	•1	0	•••• •5	•••3	0	0	0	•1
Bhadra	B	•1	0	•••• •5	•••3	0	0	•1	•1
	A	0	0	0	•1	0	0	0	0
Aswin	B	•1	0	••2	•1	0	•1	•1	•1
	A	0	0	0	0	0	0	0	0
Kartik	B	•••• •10 •••• •	0	•1	•1	0	•1	•1	•1
	A	•1	0	0	0	0	0	••••4	0
Margsira	B	•••• • •••• •10	0	•••3	•1	•1	0	•1	0
	A	•••3	0	0	0	0	0	0	0

Pauso	B	•••• •10 •••• •	0	•••3	•••3	0	0	•1	0
	A	•••3	0	••2	0	0	0	0	0
Magh	B	•••• •10 •••• •	0	•••• 4	•••3	•1	0	•1	••2
	A	••2	0	•••• •5	•••3	0	0	0	0
Falgun	B	•••• •8 •••	•1	•••• 4	•••3	•1	0	•1	•••3
	A	••2	0	•••• •5	••••4	0	0	0	••2
Chaitra	B	•••• •7 ••	•1	•••• 4	••2	•1	0	•1	•••3
	A	••2	0	•••• •5	••••5	0	0	0	••2

Note: The dots represent the number of stones used by the villagers to indicate the levels of their consumption. The Fixed Scoring Method was used. *Facilitator:* Meera Jayaswal. *Village Analysts:* Men of Netakundi

The pattern of consumption remains the same after the cyclone also. But the levels of each element in the food basket has gone down after the super-cyclone, vis-à-vis their levels prior to October 1999. A striking feature of the food basket for Netakundi is that rice consumption increases when the price of rice fall and the systemic availability of rice increases. But the case of Sag and vegetable was different. People consumes Sag and vegetables which they grow and *what they grow* in their kitchen gardens and whatever they gather and collect from common property resources. Thus consumption of Sag and vegetables increases significantly during rainy seasons, when these Sag and vegetables sprout in abundance.

Table 18
Seasonal Food Calendar of women in the village, Neta kundi

Months		Rice	Sag	Vegetable	Potato	Fruit
Baisakh	B	•••3	•1	•••3	••2	•1
	A	••2	•1	••2	•1	0
Jestha	B	•••3	•1	••2	•1	•1
	A	•1 ••	•1	•1	•1	0
Asarh	B	•••3	••••5	•••3	•1	0
	A	•1	••••5	••2	•1	0
Shraban	B	••2	••••5	•••3	•1	0
	A	•1	•••3	••2	•1	0
Bhadra	B	•1	••••4	•••3	•1	0
	A	0	0	••2	0	0

Aswin	B	●1	0	●●●3	●1	0
	A	0	0	●●2	0	0
Kartik	B	●●●●●10 ●●●●●	0	●●●3	●1	0
	A	●1	0	0	0	0
Margsira	B	●●●●●10 ●●●●●	●●●●●5	●●●3	●1	0
	A	●●●●●10 ●●●●●	●●●3	0	●1	0
Pauso	B	●●●●●10 ●●●●●	●●●●●5	●●●3	●●●3	0
	A	●●●●●5	●●●●4	0	●1	0
Magh	B	●●●●●10 ●●●●●	●●●●●5	●●●3	●●●3	0
	A	●●●●4	●●●●4	●1	●1	0
Falgun	B	●●●●●10 ●●●●●	●●2	●●●3	●●●3	0
	A	●●●3	●1	●1	●1	0
Chaitra	B	●●●●4	●●●●●5	●●●3	●●●3	0
	A	●●2	●●●3	●1	●1	0

Note: The dots represent the number of stones used by the villagers to indicate the levels of their consumption. The Fixed Scoring Method was used. *Facilitator:* Meera Jayaswal. *Village Analysts:* Women of Neta Kundi

The consumption pattern for women is similar to the consumption pattern of men. The difference is that the absolute quantity of food women consume is less than what men consume. In fact the quality of food generally consumed by women is poorer, for women have no pulses in their food basket. Fish is generally reserved for men's diet. Coconut is either consumed by men only or is used in cooking as an ingredient of Oriya Cuisine.

For both men and women, the nutritional quality of food is always poor, and after October 1999, it is even poorer. There is a preponderance of starch and little of protein and fiber in the villagers' diet, except what they get from eating Sag and vegetables, in small quantities.

The two Food Calendars when interviewed with the villagers of Netakundi, gave the following trends:

- The level of food consumed generally leaves the villagers of Netakundi Food Insecure for long periods. And the situation continues to be so today.
- As for the quantity of food consumed by the villagers except for the four month following harvest from Kartick (mid-October to mid-November) they suffer Food Insecurity of different degrees all through the year, reaching its nadir in the summer and monsoon months.
- Due to the super cyclone, the quantity of food consumed has been reduced drastically even from the earlier low level.
- Rice is the staple food for the people. Rice consumption is sufficient from Kartick (mid-October to mid-November) to Chaitra (mid-March to mid-April) but from Baisakha (mid-April to mid-May) consumption of rice fall very significantly.

- After the super cyclone, the villagers of Netakundi consumed rice in extremely small quantities till Margsira. Only after paddy was harvested in the Kharif of 2000, that the quantity of rice consumed was *sufficient* in the villagers' perception.
- Women have fewer food items in their food basket than men do.

VI.D.2. Food Insecurity in Dinasingh Patna

An exercise similar to what was done in Netakundi was carried out in village Dina Singh Patna. Food items were listed in a focus group discussion with men's and women's groups and then they were requested to score the amount they consume in terms of their sufficiency and/or insufficiency. The range of score was 1-10, and was expressed by placing stones from 1-10 stones. The names of the food consumed along with scoring is presented in the Tables-19 and Table-20.

Table 19
Seasonal Food Calendar of Men's Group in the village, Dinasinghpatna

Months		Rice	Pulse	Potato	Vegetable	Papaya	Aru (root veg)	Milk	Sag	Coco- nut
Baisakh	B	●●●● 4	●●2	●●●●4	●●2	●●2	●1	●●2	0	0
	A	●●●3	0	●●2	●1	0	0	0	0	0
Jestha	B	●●●● 4	●●2	●●●3	●●●3	0	●●2	●●●3	0	●1
	A	●●●3	0	●1	●1	0	0	0	●1	0
Asarh	B	●●●● 4	●●2	●1	●●●●4	0	●●2	0	●●●● 4	●1
	A	●●●3	0	●1	●●2	0	0	0	●1	0
Shraban	B	●1	●●2	●1	●●●3	0	●●2	0	●●2	●1
	A	●●●3	0	●1	●●2	0	0	0	●1	0
Bhadra	B	●1	●●2	●1	●●2	0	●●2	0	0	●1
	A	0	0	●1	0	0	0	0	0	0
Aswin	B	●1	●●2	●1	●1	0	●●2	0	0	●1
	A	0	0	0	0	0	0	0	0	0
Kartik	B	●1	●●2	●1	●1	0	●●2	0	●1	
	A	0	0	0	0	0	0	0	0	0
Margsir a	B	●●●● ●10 ●●●● ●	●●2	●●2	●●●3	●●2	●1	0	●1	0
	A	●●2	0	0	0	0	0	0	0	0
Pauso	B	●●●● ●10 ●●●● ●	●●2	●1	●●●3	●1	●1	0	●1	0

	A	••2	0	0	•1	0	0	0	0	0
Magh	B	•••• 8 ••••	••2	•••3	••2	0	•1	0	•1	01
	A	••2	0	•1	•1	0	0	0	•1	0
Falgun	B	•••• 8 ••••	••2	•••3	•1	0	0	0	0	0
	A	••2	0	••2	•1	0	0	0	0	0
Chaitra	B	•••• 4	••2	••••4	•1	0	0	0	0	0
	A	•••3	0	••2	•1	0	0	0	•1	0

Village Analysts: Abhinayu Singh, Tajeshwar Singh, Sudhir Singh. *Facilitator:* Meera Jayaswal. *Interpreter:* Jyotirmay Das. *Date:* 26.7.2000

The general picture of food consumption by men in Dinasingh Patna looks familiar. Like in many other villages in the state, the food basket consists of rice, vegetables and Sag in varying quantities throughout the year, with rice being the staple. There is a sprinkling of potato and coconuts, fish, milk and banana in certain months and an occasional mango in small quantity during the summer months. The quantities of food in the food basket changes during the year. During the months of Margasira, Pousa, Magh and Falgun (Mid-November to mid-March), the level of food consumed is at the highest. The decline starts with Chaitra (mid-March to mid-April) and then get trapped in a low level equilibrium throughout the summer and early monsoon months of Baisakh, Jeth, and Asard (mid-April to mid-June). The quantity of food fall further during the three months of Sravan, Bhadra, Aswin and Kartick (mid-July to mid-November) to the lowest level. That is, the villagers in Dinasingh Patna suffer seven months of considerable Food Insecurity, from Baisak to Kartick (mid-April to mid-November) of which the last four months are severe. Indeed even the additional employment generated during the cultivation season never comes to the rescue of the villagers. The villagers of Dinasingh Patna explained that the cultivation and harvesting seasons for the marginal farmers and share-croppers were particularly stressful as they have to garner all their resources to carry out the agricultural operations. For the daily wage earners the picture is not much different because they get employment for short periods (all concentrated when the rains comes) for ploughing, puddling, repairing the paddy fields and carrying seedlings from the adjoining nurseries to the paddy fields. Similarly they are employed during harvesting, threshing and winnowing. And much of these employment opportunities are in lieu of work elsewhere. The position worsened even further once the super cyclone hit, because wages are now being paid as, not cash or goods, but as “labour”-in-exchange. Therefore, wages earned no longer add to the household income, which could be used for increased economic access to food. Food Insecurity in the post super cyclone scenario has been further exacerbated as the levels of food consumption have declined in *absolute terms* from the pre-super cyclone levels. A look at Column 3 of Table-19 will reveal the story.

The general picture of food consumption depicted by women’s group in Dinasingh Patna also looks familiar. Like men, the food basket is heaviest in Margasira (mid-November to mid-December) and Pauso (mid-December to mid-January), and starts declining in Magh (mid-January to mid-February) itself but remains at a tolerable level. The slide continues till Baisakh (mid-April to mid-May) and Jestha (mid-May to mid-June) when it starts rising and then fall till Margsira (mid-November to mid-December). The basket of consumption for women is pretty much like the basket of food for men. Like men the women also suffer long periods of Food

Insecurity and periods of severe Food Insecurity in the summer and monsoon months when the energy requirement is highest.

In terms of the relative quantity of food consumed by men and women, we it is not possible to establish through the Food Calendars any differentiation or discrimination, but while interviewing the Food Calendars, it did emerge that women, as an age old tradition, eat after men eat their meals. The general perception is that women eat less than men. How much of this is coloured, at least in part, by social conditioning of the women and how much of this perception is based on conscious observation of the quality and quantity of food consumed by women vis-à-vis men, is hard to decipher. But it certainly is the case that the decline food consumption sets in earlier in the year for women than in case of men and the diet of women is less varied and less nutritious than men's diet. To that extent women suffer more from Food Insecurity than men do.

Table -20
Seasonal Food Calendar of Women's Group in the village, Dinasingh Patna

Months		Rice	Pulse	Vegetables	Sag	Potato	Fish	Coconut	Banana	Milk
Baisakh	B	●●●● 6 ●●	●●2	●1	●1	●●2	0	0	●●●3	●●2
	A	●●●● 4	0	0	0	0	0	0	0 *1	0
Jestha	B	●●●● 6 ●●●	●●2	●●●3	●1	●●●3	0	0	●●2	●1
	A	●●●3	0	●●2	0	0	●1	0	0 *1	0
Asarh	B	●●●3	●●2	●●●●4	●●2	0	0	●1	●1	0
	A	●●2	●1	●●●3	●1	0	0	0 *1	0	0
Shraban	B	●●●3	0	●●2	●●2	0	●●●3	●1	●1	●1
	A	●●2	0	●●●●4	0	0	0	0	0	0
Bhadra	B	●●2	0	●●2	●●2	0	●●●3	●1	●1	0
	A	●1	0	0	0	0	0	0	0	0
Aswin	B	●●2	0	●●2	●●2	0	●●●3	●1	●●2	0
	A	0	0	0	0	0	0	0	0	0
Kartik	B	●1	0	●1	●●2	0	0	●1	●●●●●5	0
	A	●1	0	0	0	0	0	0	0	0
Margsir a	B	●●●● ●7 ●●	●1	●●●3	●●2	0	●1	●1	●●●●4	●1
	A	●●●3	0	0	●1	0	●1	0	0	0
Pauso	B	●●●● ●8 ●●●	●●2	●●●3	●●2	0	0	0	●●●3	●1
	A	●●2	0	0	●1	0	●1	0	0	0
Magh	B	●●●● ●6 ●	●●2	●●●●4	●●2	0	0	0	●●●●●5	●1

	A	●●●3	●1	0	●1	0	●●2	0	0	0
Falgun	B	●●●● ●5	●●2	●●2	●●2	0	0	0	●●●●4	0
	A	●●●3	●1	●1	●1	0	0	0	0	0
Chaitra	B	●●●● 4	●●2	●●2	●●2	0	0	0	●●●●4	0
	A	●●2	●1	●1	●1	0	0	0	0	0

Village Analysts: Hemlata Singh, Sangita Singh, Brijbala Singh. *Facilitator:* Meera Jayaswal. *Date:* 26.7.2000. The * in column 10 indicates, consumption of mangoes from commons.

From the discussion above and Tables 19 and 20, the following general trends are discernible:

- Both men and women suffer moderate to severe Food Insecurity for almost eight months in a year. In general, the diets of both men and women in Dinasingh Patna are without variety and palate.
- The levels of absolute amounts of food consumed by both men and the women have been adversely affected by the super cyclone. The amount of food intake got reduced and so has the variety after the super cyclone.
- Women, in villagers' perception, generally consume lesser amounts of food as compared to the men . And women conformed to the stereotype than women eat last.
- The Food Insecurity months for the women are greater than those of the men.
- Rice, pulses and potherb (Sag) are the most commonly consumed food (in that order of magnitude) in Dinasingh Patna. Vegetable and animal protein are rarely part of the villagers' diet.
- After the super-cyclone, men stopped consuming pulses which prior to the cyclone was a regular item in men's diet. Women food basket never contained pulses, (both before or after the super cyclone) during Sharban, Bhadra, Aswin and Kartick (mid-July to mid-October) because they lack sufficient income in the household to buy pulses for the women. That is, the diet consumed by the women is less varied and less nutritious than the diet consumed by men.

VII. Conclusions

Having described briefly the food security situation in different districts and states, it is now possible to compare them. Let us begin by identifying the similarities.

First, is the persistence of long Food Insecurity periods depicted by all the communities through the Food Calendars. Despite all the talk of our national food security, pockets of Food Insecurity in large numbers remain a sad reality. This lends credence to the fact that despite enough food being produced nationally (in the aggregate sense), there being enough (in fact far in excess of warranted level) buffer stocks held in godowns of the government (read STC), a policy of making available food to vulnerable sections of society, through the PDS and a plethora of government programmes, aimed at eliminating Food Insecurity, Food Insecurity at the community level persists.

Food Insecurity is not uniform throughout the year. On certain months it is severest, whereas in others it is not so and in some there is none of it. Food Insecurity has to be viewed from a

temporal dimension. Straightforward statements that 360 million people are Food Insecure and the balance over 540 million are not, conceal a large part of the harrowing picture. Thus data such as the one dished out by the National Family Health Survey, 1998-99 that 95 per cent of Indians get two square meals a day is not a true and fair account of the state of “India’s Food Insecurity”.

Second, though the intensity and duration of the Food Insecurity periods may be different in different states, even in the best case scenario people go Food Insecure for at least three months in a year and in those months when people need the highest energy intake. Therefore, despite there being no systemic shortage of food available from the primary food system, and a burgeoning buffer stock with the Government, Food Insecurity is a common feature. In one state, it has been there since 1993 through 1995 till 1998.

Third, even if the food intake in the *non-Food Insecure months*, as it were, is enough in quantitative terms, the quality of food and the consequent nutritional element are areas of major concern. Dominance of starch in the diet of the villagers remains unaffected in all these years. This may be a cultural phenomenon. This is similar to what Beck (1994) observed in respect of some other villages studied by him around the same time, through the questionnaire method. He noted that during the discussion with the villagers there is a common agreement that it is only rice, the staple grain that would make the stomach happy. “The stomach won’t understand unless it get rice”, as one villager put it, to him. Beck even notes that when sufficient quantity of rice was not available, many poor villagers with whom he interacted would take the water left over from boiling rice (usually fed to livestock in richer households) which would fill the stomach. Be that as it may, the absence of other elements like protein, fiber etc, implies that people make not be starving in the non-Food Insecure months, but their nutritional intake is seriously jeopardized by poor nutritional quality of their diet.

Fourth in the Food Insecurity situation in the different villages in all the states, for the poor households the major source of protein nutrition remains the food collected from the CPRs, particularly water bodies and forests and micro-environments. More particularly, the relative dependence on food from the secondary food system, particularly for protein has increased in good measure in some cases. However, it is not possible to identify whether the absolute amounts of protein intake from this source have actually increased or decreased over a period of time.

Fifth, the consumption of food is the lowest during the summer months and rainy season as also in the post harvest season, from Baisakh to Kartick (mid-April to November). Consumption of food is, therefore, the least during the period when the poor have to work the *hardest*. During Asard, Sravan and Bhadra (mid-June to mid-September) the villagers work in agricultural operations, while during Aswin, Kartick and Poush (mid-September to mid-December) when they work in harvesting operations as also gleaning from the paddy fields. The former period is also the period when the workload of the women increases on account of collecting fuel, making dung “cakes” and then storing them for future use. Poorest households meet their fuel needs for cooking by collecting fuel from the CPRs (collection of fuel is considered a traditional and unspoken right) which is mainly in the form of fallen leaves, animal dung, notably cow/bullock dung and dry branches. Crop residues and other forms of fuel are also gathered from homesteads, paddy fields, paths, area around ponds or wherever. *Gathering of fuel is the exclusive responsibility of women and girl children*. But, collection of animal dung or other forms of fuel during monsoon or rainy season, is not possible (as leaves do not fall during the rainy season) and cattle, goats/sheep are kept in the animal-sheds and stall fed. This is done to protect both these animals from rain and prevent them from trampling and grazing standing crops. Poor households, therefore, store “cow/bullock dung cakes” made by the women out of dung gathered in the dry season. This increases the workload of the women.

Sixth, in at least one case, the Food Insecurity period is increasing. The 1993 Food Calendar for Krishna Rakshit Chak, had depicted two Food Insecurity periods (from Chaitra to Jayastha was the first Food Insecurity period and Aswin to Kartick was the second Food Insecurity period) with some respite in between. From the 1995 and 1998 Food Calendars it is apparent that Krishna Rakshit Chak suffers one long Food Insecurity period from Chaitra to Kartick (both months inclusive), spanning almost eight months and increasing in intensity during the latter part of the Food Insecurity period, viz., from Bhardra to Kartick. The longer Food Insecurity period in 1998 Food Calendar, however, seems to be a little less painful vis-à-vis the long Food Insecurity period depicted by the 1995 Food Calendar, because of the availability of fishes, snails etc., (which were virtually missing in 1995) from Rajbandh, by accident and unlikely to be sustainable.

Finally, wherever CPRs exist, its role in helping food security is critical. The consumption of food from the secondary food system increases during the months when the consumption of other food, particularly rice, is to be curtailed. Thus food from the secondary food system substitutes food from the primary food system, particularly potatoes and rice, when these become too expensive for the poor villagers to afford. It also means that villagers in different villages are saved from greater Food Insecurity during the summer months by food from the secondary food system, though they go still Food Insecure.

VIII. The Policy Recommendations

The reality is much more complex than commonly believed. Indeed the concept of Food Insecurity itself is complex. We have found that different people are affected differently; different kinds of people are affected differently and most importantly men and women are affected differently. Of the six conditions necessary for eliminating Food Insecurity we have only fully met the condition food availability (at the aggregate level only) and partially the condition of providing physical access to food for only some people through the PDS. All the other conditions that must be satisfied for elimination of Food Insecurity stand violated.

A program to conquer Food Insecurity must, therefore, be comprehensive and include, in the long run, along with more food production:

- ❑ Measures to promote and sustain sustainable agriculture, with emphasis on organic farming, poly-culture and low external input for higher output as opposed to higher production. The distinction between higher output and higher productivity is of fundamental importance.
- ❑ Measures for enhancement of general economic growth and diversification of production, expansion of employment and decent rewards for work, all of which will increase economic access of people to food. The strict implementation of laws relating to minimum wages and pulling the government out of domains where it has no comparative or competitive advantage, will be particularly important measures.
- ❑ Enhancement of medical and health care, which will increase, *inter alia*, physical access family planning facilities, because accessing such facilities will help restrict the size of families. A general improvement in the status of health reduces the risk of infant and child mortality rates that go a long way to boost the psychological strength of people to take the “risk” of opting for smaller families, reducing the strain of large. Families on food available in the household.

- ❑ Arrangements of special access to food for marginalized people, including deprived mothers, aged, disabled and small children, in the nature of a functioning and well targeted PDS, with preponderance of *food-for-work* programme to build infrastructure, operated by the Gram Panchayats (village level elected bodies). This will increase economic and physical access to food for those who are otherwise unable to do so or are seriously handicapped to do so.
- ❑ Spread of basic education and literacy, both of which will increase physical and economic access to food, by not only increasing the capability of the people but also encouraging them to use birth control measures.
- ❑ Reduction in gender based inequalities, which will help women access food within the households and improve intra-familial distribution of food.

To misquote Sen, “these different requirements call for an adequately broad *policy* alive of the diversity of causal antecedents that lie behind the many sided *reality* of Food Insecurity in contemporary *India*”. Because, the reality itself has to be changed and it has to be done by the State. There is no other agency, which can do so. For the State to galvanize its resources and reach, it needs a comprehensive strategy. It needs to put in place an appropriate explicit food policy in the medium to longer run, which the country of nearly 360 million Food Insecure people sadly lacks. The former will form the basis for the latter (almost as a counterpart of the Agricultural Policy). And in the immediate run, in the stress areas like Kalahandi, Bolangir and Koraput there is an urgent need of, what Jean Dreze (2001) calls “social security arrangements of a permanent nature. The country’s massive foodgrain stock presents a unique opportunity to put such arrangements in place”.

With the coming into force of the WTO Agreements, Food Insecurity and food security of India, are no longer affected by only national forces. They are deeply influenced by international forces. The dismantling of the quantitative restrictions, imposition of bound rates of tariff for agricultural and dairy products, full implementation of the Agreement on Trade Related Intellectual Property Rights (TRIPS) and the Agreement on Agriculture, amongst others, will shape in a fundamental way how our Food Insecurity and food security pictures will look like in the years ahead. Experts like Verghese Kurien (2000) and M. S. Swaminathan (2000) believe tough times are ahead.

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