Food and nutritional security: how much and for whom?

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ABSTRACT

The study based on secondary data reveals that in spite of producing huge amount of surplus of total cereals and food grains, per capita per month consumption of total cereals is declining continuously in major states of India during period 1991 and 2001 and a sizeable section of poor people find it difficult to collect square meals everyday and even thousands of people die every year on starvation. Again, percentage of poor people consuming less than 70 percent of the total requirement is higher in both rural and urban areas in comparison to APL persons of major states of India in 1993-94 and this differential calorie intake has further aggravated in 1999-00 in both areas. So, when food grains stock is virtually spilling over on the road, millions of people are suffering from hunger and malnutrition. Only universal PDS or targeted PDS is not sufficient to take care of food and nutritional security of BPL persons unless it is coupled with sufficient employment generation programmes to increase the purchasing power of these downtrodden people which will ultimately increase access to food and help the poor to lead a healthy and active life.

Key Work: Food security, calorie intake, food supply status, food supply index, self-sufficiency ratio.

Food crisis has become a global problem crossing the boundaries of developing and developed countries. And, as usual, both developed and developing countries started mud slinging to each other without providing concerted effort to unearth real causes of problems and probable solutions of this widespread crisis. Although, there is no denying of the fact that with the increase in population coupled with increase in per capita income, the demand for food has gone up in developing countries in one hand, and on the other, it is argued that people of developed countries waste more food than actual consumption. But this demand side approach to find out origin of this problem will be of little help in mitigating all pervasive food inadequacy. An increase in growth rate of food grains productivity at national level and resource endowments leading to increase in purchasing power at individual / household level may ensure food supply at the grass root level. Food security being a dynamic concept can not remain confined to mere physical access to enough food at the individual level. Only physical access to food may help an individual to get rid of hunger or prevent death on starvation in extreme cases, but will not ensure his dietary and nutritional requirement for an active and healthy life. So, food security can be viewed as an entitlement to food at all times that will ensure his physical and economic access to sufficient, safe and nutritious food to meet dietary requirements to maintain a health and active life (World Food Summit, 1996). From the view point of household, domestic or international level, food security can be considered from macro-economic policy issues which engulf issues like export – import policy, price fluctuations, world's fast diminishing and limited resources, state of environment, availability and cost of credit, transport facilities, management and planning of off-farm employment opportunity for poor and women (Alamgir and Arora, 1991). The concept of food security –the ability of an household to get access to enough food for all its members either by producing it or by earning enough to buy it-has been given a new meaning in the food deficit region of the Hindokush Himalayan range (Nagpal, 1999) From the definition, it may appear that surplus production and adequate stock of food grains is critical to national food security. Now the basic question is as to whether a growth rate of food production exceeding rate of growth of population embodied with huge buffer stock will ensure the availability and adequacy of food intake at the individual as well as household level. Is it sufficient criteria to guarantee the supply of nutritional requirement for all the people for all times to lead an active and healthy life? Again, will suffice to remove imbalances in per capita per day consumption and calorie intake level across the rural as well as urban areas and between persons living below poverty line (BPL) and above poverty level (APL)? In the present study, we shall make an attempt to find out the answer of the questions raised above at the state level as well as at the national level. The specific objectives of the present study are as follows:-

a) To find out the existing trend of per capita per month consumption of rice, wheat and total cereals for both rural and urban areas of most of

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the major states of India by using 38th, 50th, and 60th round National Sample Survey Organisation data;

b) To examine the magnitude of surplus or deficit of production of rice, wheat and total cereals over total consumption of (by using per capita per month consumption data reported in various round of NSSO survey report) and over total requirement of total cereals and food grains (using recommendation of Nutritional Advisory Committee) in both rural and urban areas of states of India;

c) To estimate the difference in calorie intake level between BPL and APL persons living in both rural and urban areas along with the source of maximum calorie intake level; and

d) To work out Food security index and self-sufficiency ratio of food production and consumption in major states of India.

METHODOLOGY

Data used in the present study have been collected from secondary sources, namely, Agricultural Statistical Compendium, Vol- I & II, written by P.C. Bansil; Economic Intelligence Service published by Centre for Monitoring Indian Economy (CMIE) Mumbai, National Sample Survey Organisation survey data (various issues) published by Department of Statistics, Govt. of India, Nutritive Value of Indian Food published by Indian Council of Medical Research, New Delhi and National Institute of Nutrition and Management, Hyderabad. Simple tabular and percentage analysis method is used to reach at a meaningful conclusion. To estimate percentage growth rate Annual Compound Growth Rate formula has been applied. To estimate Food Security Status a composite indicator has been used without taking into account the purchasing power of different population groups. The indicators are, (i) Food production trend (ii) Food Supply Trend (measured in calories as a percentage of total requirements) and (iii) Food Supply Status (measured as a percentage annual growth of daily energy supply (DES)). Based on various combinations of these there indicators, states have been classified into three groups viz. fair, poor and very poor. The combinations of these indicators characterize a state as :

a) Fair – food production trend is either stable or increasing, food supply situation is surplus or marginally surplus and food supply trend is also either stable or increasing;

b) Poor : food production trend is decreasing, food supply is surplus or small surplus and no restriction is imposed on food supply trend and;

c) Very poor : includes a combination of relatively worse possibilities of these indicators. Generally a deficit food supply status is taken into consideration to characterizes a state very poor in food security status irrespective of the status of food production and food supply trend. Again if both food production trend and supply trend are declining, then also the state may be characterized as very poor in food security status irrespective of food supply status. Again, another concept is also being used to judge the self-sufficiency status of the individual state which is called self –sufficiency ratio and estimated as follows

$$\text{Self –sufficiency ratio} = \frac{\text{Total Production}}{\text{Domestic use excluding change in stock}}$$

It is expressed in terms of percentage and obviously values more than equal to 100 will be designated as self – sufficient or otherwise deficit in food production (Alamgir and Arora, 1991).

RESULTS AND DISCUSSION

Trend in per capita per month consumption of Rice, Wheat and Total Cereals by Rural and Urban people of major states of India

At the outset, we will examine state- wise change in absolute terms as well as in terms of percentage in per capita per month consumption of rice, wheat and total cereals for both rural and urban areas of India based on 30th, 50th and 60th round NSSO survey data (Table -1 and 2). States where staple food is rice, per capita per month consumption shows an upward trend except Kerala and Assam. In Assam and Kerala Per capita consumption of rice have declined continuously and state with wheat staple food crop, the amount of consumption shows a deceleration along with states where wheat is not staple crop. All India average figures show a continuous rise in per capita consumption of rice by magnitude of 2.26 and 2.56 percent in 50th and 60th round respectively. In case of wheat, per capita rise in consumption is measured to be 2.02 in 50th round survey data, but declined by 6.6 percent in 60th round. Per capita consumption of total cereals have come down in almost all major states during 50th round survey period which is clearly reflected in all India level data (15.33%) except and in the next period, the situation has further aggravated in all major states of India resulting a decline in all India level consumption by 17.33 percent except Andhra Pradesh ,Bihar ,Assam and West Bengal. This deceleration in consumption of total cereals is found to be lowest in Karnataka

(27.33%) and all India level data supports this dismal picture of state level information in rural areas. Urban areas of major states of India shows a mixed trend but the resultant effect on all India level shows a continuous downward trend in per capita per month consumption of rice, wheat and total cereals except 50th round NSSO survey data in case of rice which is found to move upward marginally by 0.13 percent. In case of West Bengal, consumption of rice in both rural and urban areas has grown by 6.56 and 11.68 and 9.02 and 3.34 percent in 50th and 60th round NSSO survey respectively. On the other hand, consumption of wheat has moved downward by 145.00 and 31.62 percent and total cereal consumption has increased marginally by 0.71 percent and declined by 9.17 percent in rural and urban areas of West Bengal respectively for the 50th and 60th round.

A comparative study on per capita monthly consumption of total cereals reveals that urban people consume less of cereals than their counter parts in rural areas. The reason may be the inclination of a sizeable section of urban people to fast food and to some extent lack of physical labour which leads to lower consumption of cereals or may be due to increase consumption of high valued fruits and vegetables to supplement the low caloric cereal consumption. On the other hand, the heavy consumption of cereals in rural areas in comparison to urban people can be explained by factors other than increase in income and food grain prices. These factors are, a) higher prices for non-food grains and non-food items, (b) higher energy requirement arising out of heavy manual works and c) payment of wages in kind by large farms and the poor state of health and environment resulting low efficiency of food in to energy (Hanumanth,C.H.H. 2000). So, lower uptake of cereals may also be attributed to the reverse factors mentioned above along with increase in demand for fast food with the change in income, taste and preferences. This dismal picture of declining cereals consumption in rural areas of major states of India is a contradiction to our expectation that with reduction of poverty and enhancement of purchasing power arising out of rise in per capita income will automatically lead to increase access to adequate food of rural population. Unequal distribution of income, higher proportionate rise in food prices than incremental income resulting lower purchasing power, population growth rate exceeding growth rate of food grains, structural problems impeding the proper functioning of subsidized public distribution system (PDS) etc. may be proximate or ultimate reasons which denied the access of a section of people (mostly poor people) to get adequate food.

State-wise total Surplus or deficit in total production over total estimated requirement of rice ,wheat and cereals in major states of India:

In our subsequent discussion we shall try to find out the ground reality by estimating gap between state-wise net availability of food and total consumption requirement and between total production and total food grains requirement by taking into account the recommendation of Nutrition Advisory Committee on per day per capita cereals and food grains requirements. Net availability of food grains is estimated by deducting loss of food due to insect and pest infestation, damage during transportation, amount retain for seed and feed etc. from total production which together is estimated to be 12.5% of total production. Total requirement by an individual state is worked by multiplying total population with per capita per month consumption of rice, wheat and total cereals based on NSSO survey data (Table -3). Production of total cereals in all three study period does not substantiate the reason for less and less per capita consumption of cereals. India is self –sufficient in production of total cereals after meeting total consumption requirement and produced a surplus to the tune of 964.34, 22345.56 and 34601.01 thousand tones, although the country failed to achieve sufficiency in rice production during 1983 and 1993-94 and for wheat in 1993-94 and 2001. The number of states having deficit in production of total cereals has come down gradually over the study period and in 2001, except Bihar, Gujarat, Maharastra and Orissa, all other major states produced adequate cereals which helped India to produce all time largest surplus. Again, another estimate of total production of cereals and food grains over requirement (based on per capita per day cereals and food grains requirement as recommended by Nutrition Advisory committee) will find out actual position of major Indian states for the period 1991 and 2001 (Table -4). Based on the balanced nutrition concept, India is now on strong ground in terms of surplus production of total cereals and food grains. India produced huge surpluses over requirement at the tune of 36456.08 and 26314.48 thousand tones of total cereals and food grains in 1991 respectively. In 1991, five states namely, Bihar, Gujarat, Madhya Pradesh, Maharastra and Tamil Nadu are lagging behind total requirement of cereals and Assam, Bihar Gujarat, Kerala Madhya Pradesh, Maharastra and Tamil Nadu are found to be deficit in food grain production over consumption requirement of the concerned state. In the next census period i.e. 2001, India further consolidated it position by producing a surplus of 49807.2 and 100805.43 thousand tones of total cereals and food grains respectively. Food grains production in India reached an all time high of 218 m tones during 2000-01(Jaynathi et.al. 2008). Here again Gujarat,

Maharastra and Tamil Nadu failed to meet the consumption requirement of the respective states in cereals production and the states remained deficit in 1991 in case of food grains production, failed to meet up the deficit in 2001 also. In spite of that the country as a whole produced a staggeringly high quantity of cereals and food grains to feed all its population and the other hand, India need not to depend on other country to combat low production arising out of adverse climatic situation in at least one or two years. So, a decline in per capita consumption per month in both rural and urban areas of major states as well as whole country as presented in table -1 and 2 does not hold true, i.e. continuously less and less amount of consumption of cereals as reflected in NSSO round survey data is not due to the fact that rate of growth of food production staggering behind population growth rate. The state of West Bengal produced a surplus of 2810.59 and 1147.52 and 4426.76 and 2744.58 thousand tones of total cereals and food grains production for the period 1991 and 2001 respectively. One interesting finding of the study is that the magnitude of surplus of total cereals is higher than that of food grains for both all India and West Bengal level in 1991 and in 2001, in case of West Bengal which is expected to be otherwise. Total cereals and pulses are the constituent of total food grains. So, magnitude of surplus of food grains would naturally be higher in comparison to total cereals. In a balanced diet, pulses hold an important position to maintain a healthy and active life. But due to less per capita availability of pulses, share of total cereals would have to be increased to maintain per capita consumption of food grains resulting lower surplus of food grains than that of total cereals. But India as a whole has been able to make up this deficiency in pulse production and produced surplus of food grains in comparison to that of total cereals during 2000-01. Again this surplus production of food grains is looking higher than that presented in table -3 which may be due to the fact that people, particularly those living in rural areas consume higher amount of food grains per day to meet per capita calorie requirement in comparison to the amount required in balanced diet. But the tragedy is that, at one hand, stocks of food grains are over flowing Food Corporation of India warehouses, millions of people find it difficult to get access to square meals everyday in spite of toiling hard and several millions are suffering from malnutrition and hunger related problems and thousands of them are dying regularly on starvation. The problem of food security hardly attract much attention when, it is true that at the moment, the policy makers main concern is to cope with large and mounting stock, of food grains which are now literally spilling over on to road and other open spaces (Rao, 1995).Even if, growth of food grains production is sustained it will not assure adequate access to food among a large number of poor households, not protected against the cost push inflation increasing level of food grains prices(Shah,1997) Inflation is likely to affect the wage earners and the poor who are net purchaser of food and any moderately severe shock is enough to plunge the vulnerable in actual starvation (Patnaik, 1996) .So, the root of the problem does not lies in the production failure, but in the structural aspect arising out of administrative failure to increase the physical and economical access to adequate food through increasing purchasing power of this down trodden people living under absolute poverty. At all India level, 1.30 percent household got enough food only for some months of the year and 0.9 percent of the household have no access to food in 1993. And in 2003, the percentage of households having access to food for some months of the year remains same and households, without any food for any month of the year has come down to 0.3 in rural areas (Table-5). The situation in eastern and north eastern part of India is absolutely alarming in both 1993 and 2003, although, households having no food have gone down to some extent in rural areas over the period. In urban areas, these percentages for two groups of household in all major states of India is found to be less in comparison to its counter parts in rural areas and further declined drastically in urban areas of states as well as in India. In West Bengal, both the percentage of households getting food for some month of the year and no month of the year in both rural and urban areas has declined over the period, but the real situation is disappointing and disgraceful in comparison to southern, western and some northern states and required urgent measure to bring them under various employment generation and related subsidized food distribution system to get rid of this food insecurity, Now the question arises as to who are those people / households deprived of getting enough food and nutrition necessary for healthy and active life. Obviously, the persons or households living in remote areas beyond the reach of administration responsible to take care of them and forced to live in virtual poverty. From the nutritional point of view also, persons getting less than 70 percent (out of 2700 calorie per capita per day as per NSSO standard) of the total calorie requirement is proportionately higher in case of BPL (Below poverty Line) persons in comparison to APL (Above Poverty Line) in both rural and urban areas during 1993 and in 1999-00 and these differential calorie in take level remain more or less same in rural areas and these gap has widened several times in urban areas (Table-6). Astonishingly, per capita calorie consumption gap between APL and BPL is more conspicuous in so called developed states of India and over –time, this discrepancy has further widened in

comparison to so called economically less advanced states of eastern and central parts of India. Again, percentage distribution of BPL and APL persons based on Calorie intake level beyond prescribed norms (2700 Calorie) is completely reverse in respect of earlier count i.e. distribution of BPL and APL persons up taking calories less than 70 percent. The extent of percentage difference between BPL and APL persons consuming below 70 percent level of per day calories requirement varies widely not only among states, but also huge gap between rural and urban people within the same state is very conspicuous. At all India level, 32.2 and 37.44 percent of BPL persons taking less than 1890 calories (70%) in rural and urban areas respectively as against 20.67 and 25.44 percent of APL person during 1993-94. In 1999 -00, percentage of BPL persons consuming less than 1890 calories has gone up to 39.38 and 40.68 percent in rural and urban India respectively where as in case of APL persons, this magnitude remains more or less same in rural areas and drops down drastically by to 3.93 percent in urban areas of India. So, both APL and BPL persons living in rural and urban areas of all major states as well as in India consume less than 70 percent of per day calories requirement, but the proportion of BPL persons suffers from malnutrition is higher than that of APL person in both rural and urban areas of state including India as a whole with varying magnitudes. So, any effort to improve food security at individual or household level must be directed towards millions of poor suffering from persistent hunger and malnutrition. Access to cereals and food grains not only meet up hunger but also will act as important source of calorie and protein required to maintain a minimum standard of living. Here again, BPL persons living rural and urban areas intake 77.66 and 71.15 percent total calorie requirement from cereals during 1993-94 and this dependence has declined marginally during 1999-00 for both area whereas, APL persons living in rural and urban areas get 62.25 and 53.19 percent of total calorie requirement in 1993-94 and has come down marginally to 61.85 and 53.87 percent in 1999-00 respectively on an average (Table-7). Again, BPL persons of rural and urban areas of India uptake 88.37 and 84.0 percent of protein from food grains and has gone up marginally during 1999-00 whereas, the dependence of APL persons of both areas on food grains for supply of protein is much lower (75.36 and 73.26% respectively) and has become further lower little bit during 1999-2000. The state –wise figure regarding these two sources of calorie and protein differs widely when measured in terms of percentage of total. This higher dependence on cereals and food grains may be due to the fact that most of the rural people meet up these requirement from their own production and need not to make any cash expenditure and agricultural labourers get their wage in kinds i.e. cereals, food grains etc. whereas, in case of urban people, access to these food is less costly and higher prices for other sources of calorie and protein make urban-slum dwellers to depend more on cereals and food grains to supplement their calorie and protein uptake level required for heavy physical labour.

Food Security Status : An attempt has been made to measure food security status across the major states of India by using a composite indicator without taking into account the effective demand arising out of purchasing power of various population groups (Table -8). According to these indicators , food supply status of states like Haryana, Himachal Pradesh, Punjab, Rajasthan, Uttar Pradesh and West Bengal is fair, Gujarat and Orissa are in the group of poor and rests of the major states belong to very poor group. The resultant effect of these indicators on states has rightly reflected in all India average level and so, food supply status of India is very poor.

Self –Sufficiency ratio: Self –Sufficiency ratio represent difference in production, consumption and variability among major Indian states. It is estimated by dividing production by domestic use excluding change in stocks. This ratio has come down from 1.11 to 9.6, from 1.60 to 0.51 and from 1.29 to 0.51 for rice, wheat and total cereals respectively for the period 1993-44 to 2001-02 at all India level. Three northern states like Punjab, Haryana and Himachal Pradesh are beyond the reach of other states in terms of self sufficiency ratio for rice, wheat and total cereals during all three study period along with Uttar Pradesh to some extent. West Bengal and Orissa achieved self –sufficiency in case of production of rice and total cereals in 1993 and continued to 2001. All other major states have achieved this level in 2001 in case of total cereals, although many of them were deficient in earlier period except Gujarat and Bihar. The performance of Kerala is amazingly poor in terms of production of rice during the entire study period but achieves self- sufficiency in total cereals production leaving much behind other states.

Based on 38^{th}, 50^{th} and 60^{th} round NSSO survey data per capita per month food consumption is declining gradually in one hand, and on the other, stocks of cereals / food grains are overflowing in warehouses. The irony is that a sizable section of total population of India do not have access of adequate food resulting hunger and malnutrition, even many of them die every year on starvation. So, increased food grains production may not automatically transfer to food to the poor, unless it is coupled with adequate distribution system (Radha Krishna, 1996). A number of policy measures have been taken by Government of India to increase access to food of poor people through public distribution system (PDS) to ensure

food security. Government buffer stock policy plays an important role in tackling transitory food insecurity through price stabilization, transferring from period of plenty to those scarcity which helps both producers and consumers by falling prices or rising prices of food grains (Srinivasan and Jha, 1999). But there is a wide divergence among states in terms of the population covered by PDS and specifically in terms of utilization of the PDS by the rural poor (Swaminathan, 1996). Divergence also exists between rural and urban areas and between poor and non-poor persons. The universal character of subsidized PDS not only increase financial burden on government, but also reduce the effectiveness of this mechanism, although, there are various contradictory views about PDS as an effective strategy to improve food security of the poor. Food subsidy can help to dampen the inflationary pressure, contribute to the alleviation of poverty……..food subsidy should be treated as an social investment (Krishnan, 1992). A subsidized PDS for well targeted group is the best form of food security that we have been able to find out (Vyas, 1993). On the contrary, Parikh (1994) concluded that PDS delivers a meager support to the poor. Again, food grains delivered to the poor once in a week or a month is difficult for the poor to purchase at a time because of lack of purchasing power. So, targeted PDS coupled with effective employment generation scheme would be the right route in right direction to tackle to food and nutritional insecurity of millions of poor. It is better to reach the poor directly by increasing their incomes and leaving it to buy goods and services they need at market prices (Basu, 1993). But it seems difficult to ensure food and nutritional security only by increasing income through creation of employment opportunity unless it is linked with subsidized PDS. So, recently introduced hundred days work guarantee programme along with Annapurna Yojana, Antodaya Yojana, Jawhar Rojgar Yojana seems right move in right direction to cope up with food and nutritional insecurity of a large number of people living under abysmally destitute condition. Apart from higher economic growth a mix of policies such as effective implementation of anti-poverty programmes coupled with targeted PDS, controlling inflation, improving health facilities is needed for increasing food security in the states of Maharastra and West Bengal and other parts of India (Dev. 1996). National decision making support system will be required at core centre relating to food security by taking major critical decision e.g., a)Purchase of food items at international market or establishing access through future market recourse to bilateral agencies e.g., food aid, cereal facilities, b) purchase or sale public stock and attempts to influence to investors (tariff mechanism, subsidies etc.) optimum internal stock movements and related questions of domestic availabilities. access or vulnerability of a class of consumers, short run decision relating to financing, credit or foreign exchange and decision with medium term horizon like assessment of food demand, incentives, support policies etc.(Alag,1995). So,summarily , it may be concluded that food and nutritional security can be ensured by increasing purchasing power of BPL people through implementation of targeted PDS coupled with wage based (e.g. 100 days work guarantee programme)/ self-employment based income generation scheme under strict supervision.

REFERENCES

Alag,Y.K.1995. Poverty and Food Security-Towards a Policy System for Food Security. *Econ. Pol. Weekly*, **30**: A-142-50.

Alamgir, M and Arora, P 1991. *Providing Food Security for All*. IT Publications, IFDA, London, UK.

Bansil, P.C. 1992. *Agricultural Statistical Compendium, Foodgrains*, Vol I and II, Techno-Economic Research Institute, New Delhi, India.

Basu, K. 1993. Structural Reform in India 1991-93 : Experience and Agenda. *Econ. Pol. Weekly*, **28**: 2357-2630.

CMIE (various issues). *Economic Intelligence Service*, Agriculture, Mumbai.

Dev, S.M. 1996. Food Security : PDSVs. EGS : A Tale of Two States . *Econ. Pol. Weekly*, **31**: 1752 -64.

Gopalan, C., Rama Sastri, B.V. Balasubramanian, S.C. 1986. *Nutritive Value of Indian Foods*, ICMR, New Delhi and National Institute of Nutrition and Management, Hydrabad.

Govt. of India (various issues). *National Sample Survey Organisation*. Department of Statistics, New Delhi.

Jaynathi, C. Devasenapathy, C. V. 2008. *Farming System : Principles and Practices*, Satish Serial, New Delhi.

Krishnan, T.N. 1992. Population, Poverty and Employment in India, . *Econ. Pol. Weekly*, **27**: 2479-97.

Nagpal, S. 1999. *Food Security in Hindukush Himalaya*. *Econ. Pol. Weekly*, **34**: 2717-20.

Parikh, K. S. 1992. Importance of Food and Agriculture Policies in the Seasons of Structural Reforms in India. 29th *European*

Ass. Agril. Econ., Stuttgart Hohennheim, Germany, Sept – 21-25.

Patnaik, U. 1996. Export Oriented Agriculture and Food Insecurities in Developing Countries and India. . *Econ. Pol. Weekly*, **31:**35

Radhakrishna 1996. Food Trends, Public Distribution System and Food Security. *Ind. J. Agril. Econ.* **51**: 169-83.

Rao, C.H.H. 2000. Declining Demand for Foodgrains in Rural India ; Causes and Implications. . *Econ. Pol. Weekly*, **34**: 201-206.

Rao, V.M. 1995. Beyond 'Surpluses': Food Security in Changing Context. . *Econ. Pol. Weekly*, **30**: 215-19.

Shah, A. 1997. Low-cost Option for Watershed Development in Dry Land Agriculture: Implication for Employment. *Indian J. Labour Econ*., **37**: April-June.

Srinivasan,P.V. and Jha.S 1999.Food Security Through Pricf Stabilisation: Better Stock vs. VariableLevies, . *Econ. Pol. Weekly*, **34**: 3299-04.

Swaminathan, M 1996. Structural Adjustment, Food Security and System of Public Distribution, . *Econ. Pol. Weekly*, **31**: 1665-72.

Tyagi, D.S. 1990. *Managing India's Food Economy*. Sage Publications, New Delhi.

Vyas, V.S. 1993. New Economic Policy and Vulnerable sections. . *Econ. Pol. Weekly*, **28**: 905-7.

Table 1 : State-wise per capita monthly consumption of rice, wheat and total cereals in rural areas of India - during various NSS rounds surveys

	(Kg/capita/month)								
	Rice			Wheat			Total Cereals		
	38th	50th	60th	38th	50th	60th	38th	50th	60th
Andhra Pradesh	11.39	11.7 (2.72)	11.9 (4.48)	0.12	0.22 (83.33)	0.24 (50.00)	15	12.7 (-15.33)	12.9 (-14.00)
Asaam	13.56	11.9 (-12.24)	12.1 (-10.77)	0.67	0.69 (2.99)	0.56 (-19.64)	14	12.6 (-10.00)	12.7 (-9.29)
Bihar	6.66	7.98 (19.82)	7.61 (14.26)	5.56	5.27 (-5.22)	6 (7.33)	16	13.8 (-13.75)	14 (-12.50)
Gujrat	1.93	2.1 (8.81)	2.12 (9.84)	2.81	3.64 (29.54)	3.43 (18.08)	13	10.2 (-21.54)	9.97 (-23.31)
Haryana	0.96	1 (4.17)	0.93 (-3.12)	11.3	10.05 (-11.06)	10.17 (-11.11)	15	11.4 (-24.00)	11.6 (-22.67)
Himachal Pradesh	3.94	4.18 (6.09)	4.28 (8.63)	6.68	6.53 (-2.25)	6.32 (-5.70)	16	12.9 (-19.38)	12.2 (-23.75)
Karnataka	5.32	5.38 (1.13)	5.48 (3.01)	0.53	1.03 (94.34)	0.8 (33.75)	15	11.5 (-23.33)	10.9 (-27.33)
Kerala	9.4	9.29 (-1.17)	8.61 (-8.40)	0.61	0.82 (34.43)	0.86 (29.07)	10	10.1 (1.00)	9.47 (-5.30)
Madhya Pradesh	6.41	5.5 (-14.20)	2.69 (58.03)	5.4	6.25 (15.74)	7.44 (27.42)	16	12.9 (-19.38)	12.1 (-24.38)
Maharastra	2.69	3.18 (18.22)	3.23 (20.07)	1.59	3.52 (121.38)	3.51 (54.70)	14	11.3 (-19.29)	10.9 (-22.14)
Orissa	13.8	14.2 (2.90)	13.8 (0.00)	1.08	0.59 (-45.17)	0.61 (-77.05)	16	15.1 (-5.63)	14.6 (-8.75)
Punjab	0.99	0.7 (-29.29)	0.73 (-26.26)	11.6	9.66 (-16.72)	9.51 (-21.98)	14	10.6 (-24.29)	10.4 (-25.71)
Rajasthan	0.29	0.23 (-20.69)	0.19 (-34.48)	7.6	9.82 (29.21)	7.48 (-1.60)	17	14.2 (-16.47)	12.6 (-25.88)
Tamil Nadu	8.6	9.82 (14.19)	9.63 (11.98)	0.41	0.36 (-12.20)	0.32 (-28.13)	13	10.7 (-17.69)	10.4 (-20.00)
Uttar Pradesh	3.52	4 (13.64)	4.43 (25.85)	10.2	9.16 (-10.20)	8.61 (-18.47)	15	13.9 (-7.33)	13.3 (-11.33)
West Bengal	11.73	12.5 (6.56)	13.1 (11.68)	2.45	1.07 (-56.33)	1 (-145.00)	14	13.6 (-2.86)	14.1 (0.71)
India	6.63	6.78 (2.26)	6.8 (2.56)	4.46	4.55 (2.02)	4.25 (-4.95)	15	12.7 (-15.33)	12.4 (-17.33)

Source: Agricultural Statistical Compendium-P.C.Bansil; NSSO Survey Report(various issues);CIME Report(various issues)

* Figures within parentheses indicate percentage change to total change.

Table 2 : State-wise per capita monthly consumption of rice, wheat and total cereals in urban areas of India during various NSS rounds surveys

(in Kgs /capita/month)

	Rice			Wheat			Total Cereals		
	38th	50th	60th	38th	50th	60th	38th	50th	60th
		9.97	9.15		0.76	0.87		11.3	10.3
Andhra Pradesh	10.43	(-4.41)	(-12.27)	0.49	(55.10)	(77.55)	12	(-5.83)	(-14.17)
		10.53	11.5		1.29	1.07		12.1	12.6
Asaam	11.59	(-9.15)	(-0.78)	1.18	(9.32)	(-9.32)	13	(-6.92)	(-3.08)
		7.12	6.43		5.93	6.29		12.8	12.9
Bihar	6.89	(3.34)	(-6.68)	6.11	(-2.95)	(2.95)	12.9	(-0.78)	(0.00)
		1.87	1.98		5.61	5.26		8.96	8.31
Gujrat	2.04	(-8.33)	(-2.94)	5.27	(6.45)	(-0.19)	9.6	(-6.67)	(-13.44)
		1.34	2		8.9	7.99		10.5	0
Haryana	0.87	(54.02)	(129.89)	10.3	(-13.59)	(-22.43)	12	(-12.50)	(0.00)
		3.57	0.8		6.85	7.99		11	8.89
Himachal Pradesh	3.56	(0.28)	(-77.53)	6.92	(-1.01)	(15.46)	12	(-8.33)	(-25.92)
		5.89	5.7		1.56	1.53		10.9	9.47
Karnataka	6.21	(-5.15)	(-8.21)	1.49	(4.70)	(2.68)	12	(-9.17)	(-21.08)
		8.57	8.64		1	1.18		8.45	9.83
Kerala	9.11	(-5.93)	(-5.16)	1.01	(-0.99)	(16.83)	10	(-15.50)	(-1.70)
		3.77	2.05		7.31	7.64		11.3	10
Madhya Pradesh	3.78	(-0.26)	(-45.77)	7.86	(-7.00)	(-2.80)	12	(-5.83)	(-16.67)
		2.84	3.01			4.88		9.37	9.04
Maharastra	2.82	(0.71)	(6.74)	4.21	4.43(5.23)	(15.91)	10	(-6.30)	(-9.60)
		11.51	11.6		2.04	1.93		13.4	13.6
Orissa	11.6	(-0.78)	(0.00)	2.4	(-15.00)	(-19.58)	14	(-4.29)	(-2.86)
		1.13	0.86		7.99	7.39		9.01	8.31
Punjab	1.02	(10.78)	(-15.69)	8.65	(-7.63)	(-14.57)	9.9	(-8.99)	(-16.06)
		0.67	0.88		10.36	9.22		0.58	10.8
Rajasthan	0.41	(63.41)	(114.63)	10.04	(3.19)	(-8.17)	13	(-95.54)	(-16.92)
		8.83	8.27		0.84	0.72		10.1	9.05
Tamil Nadu	8.91	(-.90)	(-7.18)	0.83	(1.20)	(-13.25)	10	(1.00)	(-9.50)
		2.81	2.61		8.39	8.02		11.1	10.8
Uttar Pradesh	2.33	(20.60)	(12.02)	9.07	(-7.50)	(-11.58)	12	(-7.50)	(-10.00)
		8.82	8.36		2.95	2.53		11.6	10.9
West Bengal	8.09	(9.02)	(3.34)	3.7	(-20.27)	(-31.62)	12	(-3.33)	(-9.17)
		5.33	4.88		4.72	4.67		10.6	10
India	5.32	(.19)	(-8.27)	4.82	(2.07)	(-3.11)	11	(-3.64)	(-9.09)

* Figures within parentheses indicate percentage change to total change.

Table 3: State-wise total surplus or deficit in total production over total estimated requirement in major states of India for the period of 1983,1993and 2001

States	Rice			Wheat			Total Cereals		
	1983	**1993**	**2001**	**1983**	**1993**	**2001**	**1983**	1993	**2001**
Andhra Pradesh	-789.63	-283.80	1273.70	-12.93	-296.95	-368.9254066	57.71	-126.60	840.39
Asaam	n.a.	n.a.	-490.80	93.83	0.00	-125.538365	0.00		0.00
Bihar	-10751.65	-2702.04	-7856.36	2010.00	-2020.68	-3347.686374	-6108.18	-5606.40	-3616.34
Gujrat	-376.82	-1458.98	-903.00	1250.41	-1256.93	-13247.43765	-551.30	-1754.64	-35882.64
Haryana	976.30	4265.94	2136.46	3728.82	4264.02	5836.868762	3387.70	6600.12	9415.05
Himachal Pradesh	1722.44	-78.43	2659.30	215.46	0.00	-3.2175114	n.a.	0.00	0.00
Karnataka	-2070.05	-571.01	-2954.82	244.48	-212.44	-436.7708892	-902.94	2217.13	649.99
Kerala	-2147.26	n.a.	-2389.14	-25.88		0	n.a.	0.00	0.00
Madhya Pradesh	-1768.61	39.41	289.98	3076.72	428.40	-175.3176414	1885.80	-619.35	1405.36
Maharastra	-2801.89	-3459.74	n.a.	675.70	-2959.77	-3813.85288	-1659.77	-437.84	-3524.10
Orissa	-591.18	-300.15	-1987.11	106.19	-273.46	-332.9156611	-235.47	519.83	-9.96
Punjab	3706.55	9753.30	7712.33	8151.98	10658.01	10991.97431	10071.70	17630.73	18911.76
Rajasthan	-21.20	-1578.70	-49.68	2336.34	-5077.88	242.3736551	-157.50	-3138.68	3035.08
Tamil Nadu	-2363.44	n.a.	-489.52	-32.21	-386.58	0	-2192.67	-166.07	0.00
Uttar Pradesh	-119.93	10367.48	2505.72	12315.39	1620.44	5383.671483	2582.10	6198.95	11892.01
West Bengal	**-1320.66**	**-592.64**	**-229.02**	**634.29**	**-804.59**	**-532.5661924**	**-1864.60**	**172.96**	**1578.37**
India	**-18339.41**	**-3157.33**	**7055.72**	**53164.80**	**-10886.55**	**-29120.68591**	**969.34**	**22345.56**	**34601.01**

Source :Agricultural statistical Compendium-P.C.Bancil; NSSO Survey Report(various issues);CIME Report(various issues)

Table 4 : State-wise total surplus or deficit in production over requirement (based on recommendation of nutrition advisory committee) of major Indian states for the period of 1991-92 and 2001-02

(000 tonnes)

	Total Cereals 1991			Total Foodgrains 1991			Total Cereals 2001			Total Foodgrains 2001		
	Require-ment	Production	Surplus or deficit	Require-ment	Production	Surplus or deficit	Require-ment	Production	Surplus or deficit	Require ment	Production	Surplus or deficit
Andhra Pradesh	9563.22	10913.70	1350.48	11479.65	11705.50	225.85	12396.23	13701.10	1304.87		14836.60	533.00
Asaam				3722.05	3379.20	-342.85	19083.15	-	-		4024.00	-17811.33
Bihar	12040.38	3053.00	-8987.38	14460.65	3720.00	-10740.65	13428.99	14256.70	827.71		14849.70	-707.97
Gujrat	5874.89	2999.80	-2875.09	5277.74	3393.50	-1884.24	8368.41	4511.10	-3857.31		4894.20	-4771.92
Haryana	3398.25	8823.00	5424.75	2351.23	9093.20	6741.97	3114.41	13151.00	10036.59		13301.10	9696.92
Himachal Pradesh			-	1094.36	1339.50	245.14	964.34	-	-		1571.60	458.10
Karnataka	6466.93	7233.30	766.37	7772.64	7927.00	154.36	7859.14	8291.00	431.86		8696.60	-387.68
Kerala			-	5147.32	1083.30	-4064.02	4847.07	-	-		729.00	-7377.36
Madhya Pradesh	9392.37	8514.70	-877.67	11499.20	10346.20	-1153.00	8795.97	11160.60	2364.63		13608.00	3418.60
Maharastra	11859.87	7394.70	-4465.17	14078.05	8342.20	-5735.85	14386.90	9406.00	-4980.90		11187.30	-5454.74
Orissa	4532.10	7139.10	2607.00	5366.85	8273.00	2906.15	2208.59	7282.30	5073.71		7556.40	4988.71
Punjab	2906.71	19544.70	16637.99	3465.09	19634.80	16169.71	1447.75	24850.90	23403.15		24886.90	23206.41
Rajasthan	6243.92	7064.40	820.48	7372.94	7981.30	608.36	8129.33	12906.90	4777.57		14001.90	4513.94
Tamil Nadu	8034.06	7903.40	-130.66	9622.37	8245.30	-1377.07	9408.16	7395.20	-2012.96		7688.90	-3168.76
Uttar Pradesh	19721.96	32327.70	12605.74	23354.14	33819.50	10465.36	24041.99	42721.40	18679.41		44048.00	16169.60
West Bengal	9872.81	12683.40	2810.59	11708.48	12856.00	1147.52	11896.64	16323.40	4426.76		16501.20	2744.58
India	119633.32	156089.40	36456.08	142065.52	168380.00	26314.48	151302.80	201110.00	49807.20		212850.00	100805.43

Source : Census Report of India (various Issues)-Govt. of India

Table 5 : State-wise percentage distribution of rural and urban households of major states of India classified according to food availability

(Percentage distribution of rural and urban households getting enough food)

States	Rural						Urban					
	1993			2003			1993			2003		
	Everyday	Some months of the year	No month of the year	Everyday	Some months of the year	No month of the year	Everyday	Some months of the year	No month of the year	Everyday	Some months of the year	No month of the year
Andhra Pradesh	96.6	1.00	1.2	98.8	1.00	0.10	98.30	0.90	0.70	Na	0.10	0.00
Asaam	90.1	2.50	3	94.40	2.50	2.20	98.10	1.20	0.60	Na	2.30	3.50
Bihar	92.8	1.60	1.5	97.00	1.60	0.70	97.00	1.10	0.90	Na	0.00	0.00
Gujrat	97.6	1.30	0.4	98.70	1.30	0.00	98.40	0.80	0.70	Na	0.00	0.00
Haryana	99.2	0.00	0.00	100.00	0.00	0.00	99.40	0.60	0.00	Na	0.50	0.00
Himachal Pradesh	Na	0.00	Na	100.00	0.00	0.00	Na	Na	Na	Na	0.00	0.00
Karnataka	96	0.40	0.8	99.50	0.50	0.00	98.60	1.00	0.30	Na	0.00	0.00
Kerala	91	1.10	0.4	97.40	2.40	0.10	93.90	4.80	1.10	Na	0.20	0.20
Madhya Pradesh	97	0.50	0.3	98.80	1.10	0.00	98.80	0.90	0.30	Na	0.90	0.00
Maharastra	95.4	2.40	0.4	99.70	0.20	0.10	98.50	1.10	0.40	Na	0.40	0.00
Orissa	84.4	5.80	0.5	92.90	5.80	1.30	95.80	3.30	0.70	Na	0.70	1.80
Punjab	99.9	0.00	0.00	99.80	0.00	0.00	99.80	0.10	0.10	Na	0.00	0.00
Rajasthan	98.5	0.00	0.00	99.90	0.10	0.00	99.20	0.20	0.00	Na	0.00	0.10
Tamil Nadu	96.9	0.40	0.9	99.60	0.40	0.00	97.80	1.00	0.60	Na	0.20	0.10
Uttar Pradesh	96.3	0.60	0.5	98.30	0.60	0.30	98.50	0.80	0.20	Na	0.10	0.00
West Bengal	**85.6**	**3.30**	**3**	**94.50**	**3.30**	**1.00**	**96.00**	**2.00**	**1.50**	**Na**	**0.30**	**0.20**
India	**94.5**	**1.30**	**0.9**	**98.00**	**1.30**	**0.30**	**98.10**	**1.10**	**0.50**	**Na**	**0.30**	**0.10**

Source:NSSO Survey Report(various issues)

Table 6: State-wise Percentage of calorie and protein intake from cereals and foodgrains by BPL persons during 50th and 59th NSSO Survey .

	% of total Calorie				% of total protein			
	1993-94		**1999-00**		**1993-94**		**1999-00**	
	Intake from cereals by **rura**l persons living	Intake from cereals by **rura**l persons living	Intake from cereals by **rura**l persons living	Intake from cereals by **rura**l persons living	Intake from food grains by **rural** persons living	Intake from food grains by **rural** persons living	Intake from food grains by **rural** persons living	Intake from food grains by **rural** persons living
	BPL	BPL	BPL	BPL	BPL	BPL	BPL	BPL
Andhra Pradesh	82.6 (71.69)	74.71 (58.56)	81 (70.31)	73.11 (55.55)	86.47 (75.91)	80.19 (67.88)	85.33 (75.03)	73.1 (67.61)
Asaam	80.26 (72.60)	80.22 (60.73)	81.22 (72.12)	80.43 (64.47)	79.76 (73.78)	84.55 (65.67)	80.92 (73.52)	84.99 (59.6)
Bihar	82.15 (74.180	79.45 (62.92)	80.94 (72.07)	76.59 (63.72)	88.39 (81.86)	87.14 (73.46)	89.28 (81.89)	86.58 (76.29)
Gujrat	68.69 (53.11)	61.51 (41.590	69.48 (52.43)	59.42 (39.94)	85.06 (73.49)	80.4 (64.56)	85.29 (74.69)	79.65 (64.53)
Haryana	72.22 (45.74)	69.9 (48.23)	65.53 (49.32)	61.74 (53.38)	83.87 (57.19)	84.89 (64.01)	82.53 (64.83)	81.68 (68.36)
Himachal Pradesh	77.33 (53.97)	75.34 (39.87)	64.96 (57.56)	0.00	88.08 (68.86)	87.14 (57.67)	62.65 (80.35)	0.00
Karnataka	78.24 (69.53)	71.46 (54.2)	72.16 (62.45)	67.64 (51.65)	86.84 (76.42)	80.53 (63.64)	84.65 (72.29)	79.99 (62.77)
Kerala	69.95 (48.43)	65.63 (47.920	68.57 (52.64)	64.06 (47.8)	68.49 (48.13)	63.45 (48.4)	67.73 (53.26)	64.74 (49.29)
Madhya Pradesh	81.84 (71.63)	71.84 (54.97)	79.28 (69.09)	69.8 (53.95)	90.87 (83.96)	86.2 (74.39)	90.91 (83.91)	85.01 (73.03)
Maharastra	74.5 (62.94)	68.25 (43.00)	71.97 (61.13)	63.65 (43.88)	86.33 (78.22)	82.45 (60.04)	86.79 (77.62)	79.9 (62.72)
Orissa	87.25 (81.31)	79.92 (59.190	86.27 (79.64)	82.21 (67.60)	86.14 (81.97)	82.61 (66.29)	88.04 (82.67)	85.81 (73.95)
Punjab	64.4 (36.94)	61.72 (42.43)	61.1 (47.47)	57.52 (45.35)	82.45 (48.85)	81.57 (60.72)	80.29 (65.99)	79.56 (65.58)
Rajasthan	77.95 (59.37)	73.02 (53.09)	79.42 (58.24)	89.53 (39.27)	88.28 (69.47)	86.21 (70.88)	89.85 (70.94)	83.45 (71.03)
Tamil Nadu	81.19 (66.37)	70.23 (52.93)	76.55 (63.98)	67.50 (48.28)	84.11 (70.93)	75.16 (61.51)	83.55 (71.19)	74.57 (58.60)
Uttar Pradesh	77.66 (62.25)	71.73 (53.19)	76.49 (61.85)	67.98 (53.87)	88.37 (75.36)	84 (73.26)	88.6 (76.27)	81.21 (72.09)
West Bengal	84.01 (72.99)	77.67 (77.670	78.99 (72.15)	74.31 (54.88)	84.51 (73.04)	81.68 (60.19)	82.55 (73.37)	78.8 (62.04)
India	79.74 (64.77)	72.8 (51.38)	77.99 (62.33)	68.94 (48.11)	86.97 (73.62)	82.8 (65.03)	87.02 (74.00)	80.94 (64.73)

Source : NSSO Survey Report(various issues) ,

*Figures within parentheses indicates percentage of calorie intake level from cereals and total foodgrains by percentage of APL persons

Table 7:State-wise percentage distribution of BPL persons based on consumption of calorie intake Level.

State	Calorie Intake Level							
	1993-94		1999-00		1993-94		1999-00	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
	‹1890	‹1890	‹1890	‹1890	≥2700	≥2700	≥2700	≥2700
Andhra Pradesh	53.67 (17.01)	44.6 (25.37)	58.7 (21.11)	43.48 (4.66)	3.4 (46.55)	49.75 (41.46)	23.5 (42.02)	7.55 (47.92)
Asaam	40.7 (22.53)	88.1 (4.58)	50.5 (33.76)	47.5 (8.14)	46.67 (47.33)	0.00 (33.2)	38.2(36.7)	1.5 (43.05)
Bihar	28.1 (22.16)	29.17 (13.16)	31.2 (18.99)	30.37 (8.54)	17.76 (69.02)	11.83 (54.54)	12.13 (58.34)	11.2 (54.03)
Gujrat	61.34 (24.46)	58.26 (24.71)	75.9 (24.27)	73.6 (2.1)	23.2 (51.66)	32.8 (54.74)	6(35.38)	58.5 (62.92)
Haryana	36.12 (13.79)	58.4 (16.43)	57.22 (8.26)	75.39 (1.2)	12.17 (67.83)	4.98 (58.85)	30.2 (88.58)	47.67 (46.78)
Himachal Pradesh	21.52 (8.45)	4.68 (5.13)	24.95 (2.51)	45.8 (4.3)	11.85 (74.56)	12.1 (68.57)	61 (95.53)	14.6 (47.78)
Karnataka	45.8 (23.81)	44.52 (32.13)	67.97 (26.67)	58.35 (3.2)	59.89 (54.01)	7.48 (57.75)	28.67 (41.58)	5.63 (48.32)
Kerala	78.15 (39.59)	65.9 (34.89)	81.9 (26.21)	68.43 (5.6)	11.67 (60.83)	4.2 (46.12)	9.2 (59.09)	1.18 (52.44)
Madhya Pradesh	30.25 (16.79)	32.96 (23.19)	43.4 (23.49)	33.6 (9.00)	12.5 (64.48)	14.14 (59.16)	6.5 (43.78)	12.2 (49.94)
Maharastra	45.9 (30.56)	39.86 (26.7)	60.83 (21.84)	45.92 (8.8)	44.78 (39.61)	5.6 (47.26)	5.1 (47.43)	7.04 (50.93)
Orissa	23.9 (14.41)	22.96 (14.47)	18.2 (15.59)	11.75 (8.43)	18.58 (71.52)	26.34 (76.40)	22.63 (58.72)	29.58 (73.52)
Punjab	43.2 (8.28)	52.33 (17.03)	57.02 (8.1)	50.43 (1.1)	4.95 (90.12)	6.2 (46.22)	2.86 (87.37)	3.2 (53.36)
Rajasthan	21.52 (5.66)	24.08 (15.08)	32.43 (5.28)	27.8 (5.75)	16.24 (81.23)	8.02 (78.28)	9.05 (89.7)	11.43 (69.93)
Tamil Nadu	69.98 (38.80)	56.62 (39.84)	84.03 (42.13)	64.1 (1.7)	21.5 (38.08)	4.7 (47.31)	1.3 (30.09)	3.98 (46.15)
Uttar Pradesh	20.18 (12.27)	29.58 (18.77)	25.33 (12.43)	39 (9.27)	14.4 (83.29)	16.08 (57.85)	15.98 (76.0)	7.87 (48.94)
West Bengal	29.52 (10.58)	36.05 (15.60)	45.78 (20.21)	48.8 (2.67)	6.48 (77.88)	7.2 (54.99)	51.75 (51.11)	2.27 (46.19)
India	32.2 (20.67)	37.44 (25.44)	39.38 (20.68)	40.68 (3.96)	14.64 (71.81)	10.5 (59.59)	29.55 (57.47)	9.75 (52.61)

*Source : NSSO Survey Report(various issues) *1890 is equal to 70% of 2700 calorie. * Figures within parentheses indicate Calorie intake level by Percentage of APL persons*

Table 8 : Food security index (food supply status;food supply trend; food production trend)

States	Food Supply Status Calories in % of Requirement		(%) Annual Growth in per capita DES Food Supply Trend		Food Prod. Index (Base:1990-91=100) Food Production Trend		Food Security Status
	2001	Status	93/94-00/01	Trend	2000-01	Trend	
A.Pradesh	95.06	Deficit	0.10	Stable	127.09	Increasing	Very Poor
Assam	92.14	Deficit	0.20	Stable	130.03	Increasing	Very Poor
Bihar	99.50	Deficit	0.17	Stable	164.13	Increasing	Very Poor
Gujrat	94.34	Deficit	-0.25	Declining	108.85	Increasing	Poor
Haryana	107.02	Marginally Surplus	0.14	Stable	141.00	Increasing	Fair
H.Pradesh	107.17	Marginally Surplus	-0.31	Declining	109.26	Increasing	Fair
Karnataka	97.66	Deficit	0.39	Declining	129.58	Increasing	Very Poor
Kerala	93.88	Deficit	-0.23	Declining	71.40	Decreasing	Very Poor
M.Pradesh	99.62	Deficit	0.56	Declining	126.30	Increasing	Very Poor
Maharastra	92.36	Deficit	-0.21	Declining	142.20	Increasing	Very Poor
Orissa	102.44	Marginally Surplus	0.34	Stable	66.08	Decreasing	Poor
Punjab	104.17	Marginally Surplus	-0.02	Declining	124.65	Increasing	Fair
Rajasthan	111.48	Surplus	0.40	Stable	141.06	Increasing	Fair
Tamil Nadu	91.16	Deficit	0.02	Stable	102.22	Stable	Very Poor
U. Pradesh	104.74	Marginally Surplus	0.11	Stable	123.78	Increasing	Fair
W. Bengal	**100.62**	**Marginally Surplus**	**0.52**	**Stable**	**111.75**	**Increasing**	**Fair**
India	**98.81**	**Deficit**	**0.15**	**Stable**	**120.80**	**Increasing**	**Very Poor**

Source: CMIE (various issues) , NSSO Report (various issues)

Table 9: Self-sufficiency ratios in food production and consumption in major states of India

	Rice			Wheat			Total cereals		
	1983	1993	2001	1983	1993	2001	1983	1993	2001
A.Pradesh	1.03	0.99	1.18	0.06	0.02	0.03	1.07	1.09	1.32
Assam	0.00	0.99	0.97	0.00	0.45	0.35	0.00	0.00	0.00
Bihar	0.48	0.45	0.72	0.53	0.64	0.66	0.59	0.37	0.99
Gujrat	0.85	0.75	0.78	0.90	0.48	0.41	0.88	0.72	0.76
Haryana	8.42	8.32	12.29	2.45	3.36	3.91	2.69	4.09	4.90
HP	10.37	10.00	10.24	0.90	1.12	1.27	0.00	0.00	8.66
Karnataka	0.47	0.35	0.21	0.82	0.34	0.35	0.91	1.23	0.00
Kerala	0.33	0.34	0.52	0.00	0.00	0.00	3.43	2.74	3.03
M.Pradesh	0.00	0.00	0.00	1.06	1.01	0.64	0.63	1.00	0.00
Maharastra	0.94	0.76	1.25	0.44	0.21	0.40	0.00	0.00	1.25
Orissa	0.86	1.21	1.19	0.29	0.14	0.07	0.89	1.18	1.12
Punjab	21.27	30.23	29.64	4.20	5.26	6.01	5.35	7.60	8.52
Rajasthan	1.19	0.62	0.97	0.89	0.74	0.91	0.97	1.52	1.49
Tamil Nadu	0.85	1.05	0.95	0.00	0.00	0.00	0.78	1.12	0.98
U.Pradesh	1.27	1.38	1.69	1.07	1.23	1.60	1.27	1.40	1.74
W.Bengal	**0.92**	**1.50**	**1.37**	**0.41**	**0.81**	**0.69**	**0.82**	**1.45**	**1.31**
India	**1.11**	**1.17**	**0.96**	**1.60**	**1.10**	**0.51**	**1.07**	**1.29**	**1.42**

Source: CMIE (various issues) , NSSO Report (various issues)