Sustainable Agriculture, Poverty and Food Security

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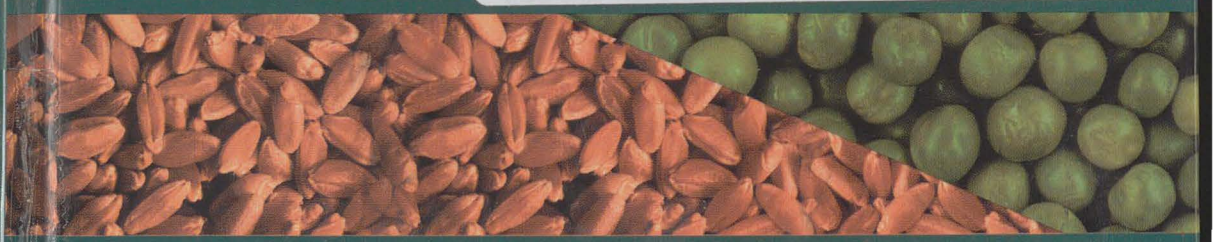

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Poverty and Food Security in Rajasthan (India) after Globalisation

Nesar Ahmad

India's economic policy underwent major changes at the beginning of this decade. A wave of policy changes was introduced with objectives of increasing efficiency, achieving a high rate of growth, promoting exports, and attracting more and more foreign investment. The rupee was devalued, industry and business regulations were liberalised, more emphasis was placed on promoting exports, exports and imports were made easier for many sectors such as the small-scale sector and the agricultural sector, and subsidies including food and agriculture subsidies were taken away gradually.

Apprehensions were expressed from the beginning that these policies would not only result in growing poverty and unemployment, but social security would also get further weakened. Growing concerns about the negative impact of these policies on the poor inspired Astha – an Udaipur-based NGO – to undertake a study of the impacts of these policies on the poor of Rajasthan. This paper is based on the findings of this study particularly related to poverty, agriculture and food security.

Changes in economic policies, introduced in 1991, at the direction of the World Bank and International Monetary Fund (IMF), were stated to have long-term impact on the Indian economy, and on people's lives. A free market, less fiscal deficit, curtailment of subsidies and promotion of exports and imports were the main features the new policy regime. The minimum support prices of agricultural produce increased, with the objective of moving the terms of trade in favour of the agriculture sector. Subsidies for agriculture inputs as well as food subsidies were taken away, and government investment in agriculture declined. We will discuss some of these policy changes and their impact on the poor below.

Agriculture Policy

Increase in Support Prices

The New Economic Policy (NEP) gives much importance to price incentives. It is argued that the agricultural prices in the country are less than the international prices

and they should be raised up to the international level. The higher prices of agricultural produce will motivate Indian farmers to invest more and a higher growth in agriculture could be achieved, which in turn would not only generate more employment in the agriculture sector but also raise the level of income of poor people dependent on agriculture, and since a large percentage of India's poor are concentrated in the rural areas and in the agriculture sector, this would ultimately solve India's chronic poverty problem.

So, the government has increased the minimum support prices of agricultural outputs in the reform period. The price index for primary articles in the Wholesale Price Index (WPI), which contains mainly agricultural outputs, has doubled during 1991-92 to 1997-98. But, the growth of agricultural output has been slower in the 1990s than it was in the 1970s and 1980s. The growth rate of food production declined to 1.66 percent per annum in the 1990s from 3.54 percent in the decade of the 1980s. The overall agricultural growth rate also declined during this period.

Decreasing Subsidies of Agriculture Inputs

Fiscal deficit was one of the main culprits according to the neo-liberal analysis of the India's economic problems. And subsidies given in different forms was among the main reasons behind the high fiscal deficit. So, subsidy cut was recommended strongly and firmly. As per the prescription of the World Bank, the government has continuously increased prices of fertilisers by cutting subsidies. The cost of DAP (Di-Ammonium Phosphate) rose to Rs. 10,000 per tonne during 1995-96 from Rs. 4,680 per tonne during 1991-92. Likewise the price of MOP (Muriate of Potash) increased to Rs. 4,600 from Rs. 1,700 during the same period. In the similar fashion prices of urea (nitrogen) were raised to Rs. 3,060 during 1991-92 from Rs. 2,350 in the preceding year. Its prices either declined or increased marginally in comparison with other fertilisers.

Decline in Government Investment

To contain the fiscal deficit, government expenditures were also to be suppressed. So expenditures on social services, rural development and agriculture were curtailed. Government investment in agriculture measured a decline in the reform period in real terms at 1980-81 prices. Measured in gross capital formation, it came down from Rs. 1,154 crore in 1991 to Rs. 1,132 crore in 1996-97, showing some increase only in 1993-94 and 1995-96 (GOI, 1999). Only 8 percent of total public investment had gone to agriculture during 1992-97. The shortfall in actual investment in this sector compared to the planned level was around 40 percent (Thamarajakshi, 1999). That means, even the planned allocation for the sector was not spent and this affected directly to the growth of irrigation.

According to the Economic Survey 1998-99, the anticipated achievement in irrigation potential was 8.35 million hectares as against the target of 15.80 million hectares, during the Seventh Five-Year Plan (1992-97). The approach paper to the Ninth Five-Year Plan (1997-2000) states that "the percentage of shortfall in irrigation

capacity expression during the VII Plan will be one of the highest during any Five Year Plan". This has been one of the reasons behind the slower growth of agricultural sector. The same document admits that "the strain on the agriculture economy is now beginning to show". Needless to say that the strain would have been more pronounced if the monsoon factor was not favourable.

Private Investment Not Enough

One of the arguments behind the less government investment in the agriculture sector was that the government's investment crowds out private investment. But another fact is that the purpose of both kinds of investment would be different. The government investment would aim to develop public irrigation facilities but private investment would be to increase mechanisation to reap more benefit. So private investment in agriculture cannot substitute the public investment. Besides, the increase in private investment in agriculture in the post-reform period has been less in comparison to that of non-agriculture investment (11.1% of total private investment went to agriculture during 1991-97, in contrast to 13.1% during 1985-91 according Central Statistical Organisation, cited in Thamarajakshi, 1999).

From Food for Consumption to Food for Export

Another important development during the reform period is the shift in the agriculture and food policy. Patnaik (1996; 1997) describes this shift as "from a 'food first' policy to an 'export first' policy". This change in the policy is a result of the neo-liberal prescription of an export led growth (as a member of the World Trade Organisation the country has to remove all restrictions on export and import of all the items by the year 2003). The export mania of the government has certainly contributed in rising prices.

Exports of food items are suggested on the ground that the country has achieved self-sufficiency in this sector. However, as we have seen earlier, a country with more than one-third of the population living in absolute poverty and 70 to 80 percent of the population getting less than prescribed nutrition, the claim of self-sufficiency in food is a cruel joke. It is widely accepted that lack of purchasing power of a big proportion of the population has enabled India to have 'surplus' food.

Import Food When Needed

It is suggested that free trade of agricultural items would provide food security and protect Indian consumers against price rise as any shortage of food items could be met by importing these items from the international market.

But as we have seen in the case of the onion price rise in 1998 that a mere decline of 15 percent in production of onion led to a price rise by as high as 600 percent. Exporters, traders and hoarders were acting freely even when the problem was at its peak. A ban on export was imposed later and no action was taken against hoarders and black-marketeers. The government imported onion at higher prices later, because the international market also operates like a local market in our villages,

where, when you sell, you sell in a buyers market and when you buy, you buy in a sellers market.

However, the actual motive of global capital, as Basu (1999) points out, behind the liberalisation of trade (which is ensured by tied loans and now, by provisions of WTO) is "to enforce the international division of labour" in which the developed countries produce and export manufactured items to developing countries and developing countries produce and export primary articles to developed countries. The only exception to this rule is the fact that foodgrain production will be controlled by the advanced capitalist countries. Cereal import of India has already increased from 402.7 thousand tonnes in 1993-94 to 1,399.4 thousand tonnes in 1997-98.

Problems Created

For Farmers and Agriculture Labourers

The decline in the rate of growth, in spite of nine good monsoon years in a row, is suggesting that something is wrong with the price incentive theory. It is quite obvious that increased prices will benefit only those farmers who have marketable surplus. In India, more than 60 percent of the farmers are small and marginal farmers and they generally do not have marketable surplus. So, a price incentive is not important for them as they grow crops mainly for their consumption needs. Even if they sell their produce, they have to sell at the time of harvest itself, in order to repay the crop loan they had taken. Small and marginal farmers often repurchase foodgrains near the end of the year. So, the price incentive becomes irrelevant for them. And, as most of small and marginal farmers are net purchasers of food, the hike in food prices erodes their incomes.

So, it is not surprising that around 1,000 small farmers have committed suicide in the country due to economic hardships in the post-reform period. On the one hand, day by day, small farming is becoming unviable and mechanisation in agriculture is taking place. This also makes the position of agricultural labourers miserable.

The income of agricultural labourers depends upon the real wages of agricultural workers. The rising inflation, particularly rising food prices, affects the real wages. The real wages of agricultural labourers have fluctuated and do not show any significant improvement in the post-reform period. "The growth rate of real wages in any case was less in the post-reform period as compared to those for 1970s and 1980s" (Dev, 2000).

Stagnancy in Irrigation Development

An increase in food prices also enhances the fiscal burden on the government as its expenditure on salary and wages increases. So, the government's capacity to invest in agriculture as well as in other development activities declines. Critics of the NEP argue that in a country like ours, the government investment is crucial for agricultural growth. A country where 70 percent of the total land is not irrigated, and farming depends primarily on the monsoon, and the agricultural techniques are still

traditional, the government investment in irrigation, power, rural infrastructure, research, etc., becomes important. The Reserve Bank of India (RBI), in its annual report (1998-99), underscores the need for government investment in agriculture. It states: "Research and development, as much as measures for increased irrigation facilities and systems, improved soil conservation, farm mechanisation and extension services would need to be given top priority in agricultural development. The pro-active role of the state in providing forward momentum to these aspects may have to be strengthened" (RBI, 1999). But, because of increased burdens of staff salaries and also because of the ideological fixation with less government expenditure, these resources are not available.

Results of the Policy

Less Food Available per Capita for Indian Population

The period of NEP has seen a decline in the rate of growth of agricultural output, including food production. The rate of growth of food production fell below the population growth rate. A decline in growth of agriculture output during the reform period, coupled with export thrust of government, has led to decline in per capita availability of cereals and pulses (see Table 1).

Table 1 *Per Capita Net Availability of Food in India*

(grams per day)

Year	*Cereals*	*Pulses*
1991	468.5	41.6
1992	434.5	34.3
1993	427.9	36.2
1994	434.0	37.2
1995	460.6	38.1
1996	447.0	33.2
1997	471.8	37.5
1998 Provisional	417.5	33.2
1999 Provisional	428.8	38.6

Source: Economic Survey 1999-2000.

The export thrust has shifted the priority from food crops to exportable and cash crops. Gross area under foodgrains has been declining since 1980s onwards. But this process has been much faster in the 1990s. The index (1951 = 100) of the Gross Area Under Cultivation of Cereals, with 1951 being 'Index 100', declined from 133 in 1981 to 132 in 1991 (a loss of one point in 10 years), and to 127 in 1996 (a loss of 5 points in just six years). The decline for pulses was faster during the 1980s. Similarly, the Index of Area Under Cultivation of Foodgrains (cereals + pulses) shows a decline from 130 in 1981 to 128 in 1991 to 125 in 1996. On the other hand, the Index of Cultivated Area Under Oilseeds increased from 164 in 1981 to 225 in 1991 to 246 in 1996 (Ministry of Agriculture, GOI, cited in UNFPA, 2000).

Obviously, a shift is taking place from food crop production to exportable and cash crop production. This is undermining the food security by declining the per capita availability of cereals and pulses in the country. As shown in Table 1 above, per capita food availability of foodgrains declined in the post-reform period.

Inflation

In the 1990s, the era of liberalisation and globalisation of the Indian economy, the country experienced an unparalleled rise in inflation (see Table 2). Ironically, the NEP had been started with a declared objective of curbing inflation! The rates of inflation have been higher in the decade of the 1990s, according to every measure, than in the previous decade in all the years, except for the WPI for all commodities in the last one or two years.

Food prices were bound to increase in the post-reform period as the policy itself was based on giving price incentives to the farmers and promoting exports (this benefit of the price incentive was limited to a small group of landlords and big and middle farmers).

Increase in Poverty

Sharp increases in food prices led to decline in real income of poor people who spend 60-70 percent of their income on food. This trend of rising food prices affected poor people's consumption and led to growing poverty in the reform period. As shown in Table 2 below, poverty increased sharply, according to the NSS annual surveys in the country.

Table 2 *Inflation According to WPI and CPI-IW*

Year	*Wholesale Price Index 1987-99 (Base 1981-82 = 100) Average of Weeks*				*Consumer Price Index for Industrial Workers (Base 1982 = 100)*	
	Food Articles Index	*Percent change over the year*	*All Commodities Index*	*Percent change over the year*	*Average of months*	*Percent change over the year*
1986-87	148	-	132.7	-	137	-
1987-88	161	8.7	143.6	8.2	149	8.7
1988-89	177	9.9	154.3	7.4	163	9.3
1989-90	179	1.1	165.7	7.3	173	6.1
1990-91	201	12.2	182.7	10.2	193	11.5
1991-92	241	19.9	207.8	13.7	219	13.4
1992-93	271	12.4	228.7	10	240	9.5
1993-94	284	4.7	247.7	8.3	258	7.5
1994-95	313	10.2	274.7	10.9	279	8.1
1995-96	336	7.3	295.8	7.6	313	12.18
1996-97	375	11.6	314.6	6.3	342	9.2
1997-98	388	3.4	329.8	4.8	366	7.0
1998-99	441	13.65	352.6	6.9	414	13.1

Source: Economic Survey, 1999-2000.

The table reveals that poverty in rural India increased by almost 10 percent from 1990-91 to 1998. Urban poverty, however, declined by about one percentage point during this period. Poverty increased in Rajasthan also during the reform period. According to NSS data it increased from 38.96 percent in 1991 to 46.17 percent in 1997 in rural Rajasthan. In the urban areas of the state, it went up by about one percentage point from 29.98 percent to 30.72 percent during the same period (NSS data, cited in Jha, 2000). The BPL censuses, conducted by the Government of Rajasthan, also explain poverty in the state. "The number of rural families below the poverty line was 19.49 lakhs in 1992 and 20.99 lakhs in 1997", which is an increase of 8 percent in five years (Society for International Development, 1999; Human Development Report Rajasthan, 1999).

Table 3 *Percentage of People Below Poverty Line*

Year	*Rural*	*Urban*	*All India*	*Number (million)*
1983	45.6	40.8	44.5	322.8
1987-88	39.1	38.2	38.9	304.9
1989-90	33.7	36	34.3	276.0
1990-91	35.0	35.3	35.1	291.0
1992	41.7	37.8	40.7	348.0
1993-94	37.3	32.4	35.1	320.5
1994-95	38.0	34.2	37.0	329.5
1995-96	38.3	30.0	36.1	328.0
1997	38.5	34.0	37.2	348.8
1998	45.2	34.6	43.0	406.3

Note: Estimates for only 1983, 1987-88 and 1993-94 are based on "large sample" data, where all others on "thin samples". Estimates for 1998 are for six months.

Source: NSS, taken from the *Hindu*, December 30, 1999.

Dutt (1999), after a rigorous statistical test, based on NSS data up to 1997, concludes: "While the urban sector has continued its trajectory of growth and poverty reduction through the 1990s, rural poverty reduction in the 1990s was checked off by lack of rural growth." Dutt also observes the evidences of growing inequality in the 1990s and states that this is due to the "inegalitarian growth process whose benefits have been limited to the relatively higher income groups in rural and urban areas".

Public Distribution System: A Safety Net for Food Security for the Poor

The Theory

One of the objectives of the Public Distribution System (PDS), besides providing food security to the poor in the country, was to check the price increase of food items. With an effective system of distribution of food at fair prices, the government would be able to intervene in the food economy, and any effort by traders to hoard and sell food items on high prices could be checked by the government by selling them through a chain of fair price shops.

Table 4 *Central Issue Prices Rice and Wheat (1990 to 2000)*

Date when prices effective	*Rice (Rs. per quintal)*			*Wheat (Rs. per quintal)*
	Common	*Fine*	*Superfine*	
June 1990	289	349	370	234
December 1991	377	437	458	280
January 1993	437	497	518	330
February 1994	537	617	648	402
June 1997			,	
BPL	350	350	—	250
APL	550	650	750#	450
February 1999*			,	
BPL	350			250
APL	700	—	905#	650
April 1999*			,	
BPL				250
APL	700	—	905#	682
April 2000			,	
(i) BPL	585	585	—	420
(ii) APL	—	—	1170#	840

Notes: * A hike in BPL prices was announced and then revoked.
From December 1995, rice is classified into two groups: common and grade A quality.

Source: Taken from Madura Swaminathan, Targeting PDS, *Frontline*, March 18-31, 2000.
APL-Above poverty line; BPL-Below poverty line.

But, after the initiation of the NEP, the PDS has been a target of the liberalisers on the ground that subsidy provided in the system is detrimental to efficient resource allocation. To reduce budgetary expenditure and fiscal deficit, the subsidy given in the system should be curtailed and even abolished, and in order to do so, a 'targeted PDS' should replace the 'universal PDS', so that non-poor getting benefit of the system could be excluded.

This targeting was, actually, the first step towards the abolition of the system of public distribution itself, and it cannot conceal its anti-poor and anti-people implications. The fact that prices have been increased, and the per family quota has been decreased, is in itself an indication of the actual intention behind the targeting.

The anti-poor implications of targeted PDS can be clearly seen in the quota fixed, i.e., 10 kg per family per month, which is meagre, and the poor family has to buy the remaining needs of 40-50 kg of cereals every month at a general price. The general prices have been increasing after 1997 in the name of curtailing fiscal deficit; now cereals are sold at economic costs to the non-poor families, which are higher than the open market prices.

What Happened?

Central Issue Price Increased

The central issue prices of PDS items were hiked rapidly and continuously, the total allocation was kept stagnant even considering the population growth, and the share of consumer subsidy in total food subsidy decreased, while the share of carrying and storage rose.

Dual Pricing System Introduced

And as if all these were not enough, the system was made 'targeted' to the poor only in June 1997. In this system, it has to be ensured that every family living below the poverty line gets 10 kg of cereal every month at a price that is half of the 'general' PDS price.[1] The rest of the family's need is supposed to be bought from the PDS shop at the higher prices for above poverty line families, or from the open market. But as it is mentioned above, the CIP (Central Issue Price) of PDS items has already been increased before starting the 'targeted' PDS (TPDS).

Off-take of Foodgrains Declined Sharply

Less allocation and poor delivery systems, in effect, decreased the total off-take of essential items from the PDS. As shown in Table 5 below, total off-take has been lower than 1991-92 throughout the 1990s except for 1996-97.

Table 5 *Foodgrains Allocation and Off-take Under the PDS/TPDS*

(in million tonnes)

Year	*Wheat*		*Rice*	
	Allocation	*Off-take*	*Allocation*	*Off-take*
1991-92	10.36	8.83	11.36	10.17
1992-93	9.25	7.85	11.48	6.69
1993-94	9.56	6.09	12.41	9.10
1994-95	10.91	5.11	13.32	8.01
1995-96	11.32	5.81	14.61	9.75
1996-97	10.71	9.35	15.10	12.04
1997-98	10.11	7.08	12.83	9.90
1998-99*	8.36	5.14	10.76	7.07

Notes: *: Provisional allocation upto January 1999, off-take upto November 1998.
Source: Economic Survey, 1998-99.

Total off-take was 8.83 million tonnes in 1991-92, which declined to 5.11 million tonnes in 1994-95, and increased slightly in 1995-96. However, it showed a sharp increase in 1996-97 and again declined sharply in the coming years.

Total off-take as well as per capita off-take declined also in the state of Rajasthan. According to the Report of the Comptroller and Auditor for General (CAG) of India, distribution/lifting of cereals declined from 8.18 lakh metric tonnes in 1992-93

to 4.33 lakh metric tonnes in 1998-99. As can be seen from the data presented in Table 6 the trend of declining off-take from PDS got aggravated after the introduction of TPDS (years 1997-98 and 1998-99). Interestingly, in these two years, the system had been made targeted with the objective to reach to poor families only. But declining off-take in the targeting years seems to have targeted the poor out of the system! The same trend can also be observed in the case of rice off-take.

Table 6 *Distribution/Lifting of Cereals in Rajasthan, during 1992-99*

(in lakh metric tonnes)

	1992-93	*1993-94*	*1994-95*	*1995-96*	*1996-97*	*1997-98*	*1998-99*
Distribution/lifting of cereals (in lakh metric tonnes)	8.18	6.37	5.17	4.84	11.50	4.55	4.33
Per capita off-take per annum (in kgs)	17.67	13.41	10.64	9.72	22.55	8.70	8.09
Percentage of per capita off-take to requirement of 147 kgs	12	9	7	7	15	6	6

Source: Report of the Comptroller and Auditor General of India.

Apart from this, the experiences of other countries which made their food distribution system targeted, show that in a targeted system, there has been an increase in exclusion of the poor from the system, and only a minimal exclusion of the non-poor. The administration cost of targeting rose in those countries, and targeting led to a reduction in the real value of the subsidy (see Swaminathan 1996; 2000).

Increased Stocks of Foodgrains

Increased procurement prices have increased the stocks of foodgrains in the Food Corporation of India's (FCI's) godowns and the buffer stock has been much higher than the prescribed norm from 1994 onwards. As a result, now, the FCI's economic cost is rising in the form of carrying and storage charges and a larger share of food subsidy is being spent on storage and carrying. The consumer subsidy, as a percentage of the total food subsidy, declined to 61 percent in 1994-95 from 87 percent in 1991-92, while the total food subsidy as a percentage of GDP increased just by 0.04 percent during the period.

What it practically means is that the government is 'hoarding' millions of tonnes of foodgrains even at the increasing cost of carrying and storage. Millions of tonnes of foodgrains have rotted because of inadequate and poor storage facilities, but the excess stocks are not being sold at fair prices to the malnourished and hungry poor population. Programmes like 'Food for Work' could have been launched in a year when there was a drought in six states of the country. But, the government obsession with curtailing food subsidy is stopping it from taking any step like this.

What would the government do with the mounting buffer stock? Foodgrains have been exported and sold to private traders. Shares of foodgrains exported and sold to private traders, as percentage of total procurement, have also risen during the 1990s.

What Happned to Other Food Items?

Apart from staple foods, poor people consume pulses, vegetables, edible oils and sugar. Pulses are the main source of protein available to poor families. As shown in Table 1 per day per head availability of pulses declined in the post-reform period from 41.6 gm in 1991 to 38.4 gm in 1997 (Economic Survey, 1997-98: 8-24).

Even this 38.4 gm is the maximum available in the post-reform period. The minimum support price for *moong*, *urad* and *arhar* increased from Rs. 480 in 1990-91 to Rs. 900 per quintal. (Economic Survey, 1997-98: 75). So, the price of pulses rose considerably.

The government's decision to place edible oil in the open general license and allow its import is consistent with the view advocated by liberalisers that India should stop cultivating oilseeds because it does not have 'comparative advantage'. Naturally, in the coming days, the Indian consumer will be compelled to purchase edible oil at higher prices.

Instead of punishing those responsible for the edible oil induced 'dropsy' incident which caused more than 100 deaths, the Indian government gave permission to import more edible oil. While the prices of vegetables and fruits increased in the domestic market, the government is busy in promoting the export of these items.

To conclude, all these developments led to growing food insecurity for India's poor. Poverty increased, the per capita availability of food declined, food prices increased and to cap it all the PDS was virtually dismantled in the decade of the 1990s.

We now turn to see the situation of poverty and food security at the micro level in Rajasthan, according to the study conducted by Astha.

The study was undertaken to understand the impact of these policies on the poor in the state of Rajasthan. A total of 600 families were selected as the sample from five occupational sectors from villages and neighbourhoods of 10 districts in Rajasthan: urban unorganised labour from Jaipur and Kota, mine labour from Alwar and Rajsamand, small-scale industry workers from Pali and Barmer, forest produce collectors from Udaipur and Sawai Madhopur (now Karaouli) and small marginal farmers from Chittor and Jhalawar. Partner NGOs working in each of these districts participated in the data collection. However, Sawai Madhopur data could not be used in the first year of the study and have been kept out of the comparative analysis. The families selected were representative of the poor in Rajasthan, and so generalisations can be made.

In the report, the data from the families from the selected villages, town or city neighbourhoods in each district are analysed. As a kind of 'short hand', the data from the villages in, say, Chittor, are referred to as the 'Chittor' families. We are not implying that we have surveyed the whole district, but refer to 'Chittor' as meaning the villages in the sample from Chittor district.

Questionnaires were used to collect data and data were collected from the same families in year one, two and three. The first phase of data was collected in December 1996 and second and third phases were completed in December 1997 and December 1998 respectively.

What We Found?

Below Poverty Line Families Increased

The income analysis of 540, 492 and 442 families in the first, second and third year respectively in nine districts shows that the percentage of families below poverty line increased from 60 to 72 in the three-year duration. The income of families was a little better in the second year. The poverty ratio in the second year was 58 percent. We took Rs. 15,000 per family per annum as poverty line in the first year (1996) and revised it according to the Consumer Price Index for Industrial Workers (CPI-IW) in Rajasthan in the second and third years. After revising CPI-IW for Rajasthan, the poverty line came to Rs. 16,017 in the second year and Rs. 18,086 in the third year.

For the third year, we also calculated the percentage of families having income less than Rs. 20,000 per annum. We did this exercise because the Government of Rajasthan in its 1997 BPL census considered Rs. 20,000 per annum as the poverty line. Accordingly, 80 percent of the total sample families were below poverty line in the third year (see Table 7). Poverty increased in Jaipur, Pali, Barmer and Alwar in the third year compared to the first year and remained stagnant in Udaipur and Jhalawar and declined in Chittor, Rajsamand and Kota. The areas where poverty remained stagnant or declined were those where poverty was higher in the beginning of the study also.

Table 7 *Average (Mean) Income and Incidence of Poverty in Sample Families*

Phases	*I*	*II*	*III*	*II (At 1996 prices)*	*III (At 1996 prices)*	*I (PL-Rs. 5,000)*	*II (PL-Rs. 16,017)*	*III (PL-Rs. 18085)*	*III* (PL-Rs. 20000)*
Areas									
Jaipur	28907	30165	30906	27985	25635	23.33	18	35.8	40
Kota	13770	21221	19675	19687	6319	70.00	34	55.0	65
Chittor	6551	8326	9512	7724	7889	93.33	86.79	84.6	90
Jhalawar	5745	11236	8525	10424	7071	96.66	84.48	95	97
Pali	16474	16252	20330	15077	16862	36.66	57.89	53.57	62.5
Barmer	17095	15777	9720	14637	8062	41.66	60	90.90	94
Udaipur	6262	10872	9925	10086	8232	96.66	80.70	96	98
Alwar	22234	24747	20585	22958	17074	8.33	22.80	45.6	50
Rajsamand	12845	15249	15979	14147	13253	76.66	72.72	62.22	73
Total	12783	17068	17382	15834	14418	60%	58%	72%	80%

Notes: 1. Rs. 15,000 per family annual income was taken as the Poverty Line in the first of the study and was revised according to the CPI-IW for Rajasthan in the later years of the study.

2. Average per family income in the second and third years are revised according to CPI-IW for Rajasthan. CPI-IW was reported to be 321 in 1996, 346 in 1997 and 387 in 1998 (base year 1982 = 100) in Rajasthan Economic Review, 1998-99 (Hindi Edition), p. 17.

* Poverty line of BPL census, Government of Rajasthan fixed at Rs. 20,000 per family per annum in 1997. We calculated our sample of 1998 according this monetary BPL cut-off.

The slight decrease in poverty in the second year was, unfortunately, not a sign of overall improving economic conditions of the families. Instead, this was because of large-scale fluctuation in income from agriculture, which is quite normal in Rajasthan. The second year was a better monsoon year and the income of families increased due to better agriculture. The six areas where poverty had declined in the second year, included Chittor and Jhalawar where families were mainly dependent on agriculture. In other areas also, except for Jaipur and Kota, a substantial part of family income came from agriculture.

Agriculture in the True 'Safety Net'

When we compare the average incomes of the families in the last two years, we can understand the role of agriculture in families' income. In the second year, in comparison to the first year, due to better agriculture income, families' average incomes had improved in many areas. But, in the third year, incomes from agriculture declined and average incomes of the families in five out of nine areas declined in money terms. In real terms, it declined in all areas except for Chittor. Except for Kota and Barmer, the other areas where average money income was less in the third year (compared to the second year), were the areas either dependent on agriculture (e.g., Jhalawar) or the areas where agriculture income as a share of family income was significant (e.g., Udaipur). However, Alwar saw a decline in average income in the third year, in spite of an increase in income from agriculture, both in percentage and money terms.

It will also be important to see the income from agriculture in different areas and its share in total income. Table 8 shows the income from agriculture in money terms and its share in total income in the districts where families have some income from agriculture. Average income from agriculture declined because per hectare return declined. As the data show, investment costs increased in all areas during the period of study. Besides, sale prices of cash crops grown by families also declined.

Table 8 *Total Income Generated in Agriculture and its Share in Total Income*

Areas	*Principle occupation of the families*	*1st Round*		*2nd Round*		*3rd Round*	
		Income from agriculture (Rs.)	*Percent of total income*	*Income from agriculture (Rs.)*	*Percent of total income*	*Income from agriculture (Rs.)*	*Percent of total income*
Chittor	Agriculture	3000	0.76	192900	43.71	81576	21.85
Jhalawar	Agriculture	269700	78.24	454415	69.73	248276	48.52
Udaipur	Minor forest produce	200238	53.30	236082	38.10	131141	37.13
Rajsamand	Mining	149050	19.34	93855	11.19	83931	11.67
Alwar	Mining	246250	18.45	390530	27.69	461804	39.35
Pali	SSI	30310	2.95	15100	1.63	48273	4.24
Barmer	SSI	0	0	48395	6.13	0	0

Note: SSI = Small-Scale Industry.

Thus, the agriculture income was an important component of family income in all but the urban sample families.

Income for Mine Labour, Small-Scale Industry Labour, Unorganised Urban Labour and Forest Produce Collectors Varied

Income declined in Alwar as income from mining declined drastically in the area. However, Rajsamand families' income increased as income from mining increased in the region. For the small-scale labourers' families of Pali and Barmer, poverty increased as small iron implements producing units in Pali and dyeing units Barmer closed on a large scale. Balotra (Barmer) families were worst hit. They migrated out of the area in the face of joblessness with closing down of cotton dyeing units. Those who still remained in the study were living in abject poverty and unemployment. Poverty increased among the families of the urban unorganised sector families of Jaipur and decreased in the case of families of Kota. Families selected for minor forest produce collection from Udaipur were mainly farmers. Poverty remained stagnant among these families, but more than 90 percent of these families were poor even in the beginning of the study.

Food Consumption was Affected

Decline in families' real income and increase in prices forced people to give up or reduce their food consumption. We asked questions about whether their consumption was affected because of inflation. Responses received in answer to the question "whether you have reduced or given-up consumption of any food items because of inflation?" are summarised in Table 9.

Table 9 *Consumption of Families Affected by Inflation*

Food Items	*Reduced (No. of Families)*			*Given-up (No. of Families)*			*Total Affected Families*			*Average of the % of the families*
	Phase I	*Phase II*	*Phase III*	*Phase I*	*Phase II*	*Phase III*	*Phase I*	*Phase II*	*Phase III*	
	N=540	*N=498*	*N=403*	*N=540*	*N=498*	*N=403*	*N=540*	*N=498*	*N=403*	
Ghee	129	117	118	26	129	138	155 (29%)	246 (50%)	256 (64%)	47.6%
Edible oil	103	82	104	05	05	08	108 (20%)	87 (13%)	112 (28%)	22%
Milk and milk product	65	44	44	18	10	45	83 (15%)	54 (11%)	89 (22%)	16%
Vegetables	63	27	27	04	02	0	67 (12%)	29 (6%)	27 (7%)	8.3%
Pulses	25	44	2	02	01	02	27 (5%)	45 (9%)	04 (1%)	5%
Meat/fish	23	37	24	22	08	60	45 (9%)	45 (9%)	84 (21%)	13%

It can be seen from the data, that the percentage of the families which gave up or reduced the consumption of ghee, milk and milk products, edible oil, meat and fish because of inflation increased over the three-year period.

A decline in the percentage of families whose consumption of pulses was affected as well as of those whose consumption of green vegetables was affected is puzzling at first. However, it can be explained when we see the fact that for most of our sample families, agriculture is a constant source of income. It seems that food consumption of these families is somewhat protected from inflation, especially if it is a good agriculture year. (For the families from Chittor, Jhalawar, as well as from Udaipur, Alwar and Rajsamand. For the families from Pali and Barmer agriculture is not a major source of income but when there is good rainfall, they grow some crops, like bajra, green beans, moong pulse mostly for consumption.)

In the above table, we have also done an exercise to get the average percentage of families in the total study sample, who have reduced and/or given up consumption of some food items in the study period. The percentages should not be taken as accurate percentages of affected families[2], but rather the trends should be noted.

The fact that any families at all have reduced or given up 'pulses' is a severe sign of eroding food security, since 'dal-roti' is the staple diet in Rajasthan. Vegetables and roti are also a luxury for some of the families in the study sample. The nutritional implications on both of these reductions are frightening! The fact that ghee was the item given up by the most families is not surprising, although the animal population in Rajasthan is high, and regular consumption of ghee was a regular feature of even poor families. But it was a little disappointing to see an approximation of the cut back on edible oil, which means many families are often eating chilli chutney, raw onions or just plain roti ! The reporting about milk, meat and eggs shows moderate cut but then again, many of the poor may not have eaten these items in the first place, so they could not reply in the affirmative to the question: "Did you give up eating meat, fish, or milk and milk products in the last year?"

The percentage of families who usually (3-4 times in a week) consume pulses increased in Kota, Chittor and Pali. Poverty declined among the sample families of Kota and their average income increased. The same is true for the Chittor families as well. In Pali, however, poverty had increased over the period of the study. A decline in the percentage of families consuming pulses was observed in Alwar, Barmer, Jhalawar and Jaipur. Poverty increased in all these areas except Jhalawar where it remained stagnant. Increased percentage of families consuming pulses in Barmer during the second year can be attributed to good rainfall that year which enabled some of the families to grow some crops, including moong pulse.

As can be observed from the information contained in Table 10 the percentage of families usually consuming vegetables increased in Kota, Chittor and Barmer. In Kota and Chittor, data on income reveal that poverty declined over the period. In Barmer, however, in the first year, no family reported to be consuming vegetables 'usually', which does not seem to be reliable. If we compare the percentage of families consuming vegetables in the second year to that of the third year in Barmer, it declined in the third year. The percentage of families consuming vegetables declined in Alwar and remained stagnant in Jhalawar and Udaipur. Alwar faced an increase in

poverty and poverty remained stagnant in Jhalawar and Udaipur. Families from Udaipur have the 'advantage' of consuming vegetables grown in the forest and of being farmers themselves. Their consumption might go up during the better agriculture years. So, there is a link between food consumption of the families and level of income and access to their own agriculture produce.

Table 10 *Families 'Usually' Consuming Vegetables and Pulses*

Districts	*Pulses*			*Vegetables*		
	I-Phase	*II-Phase*	*III-Phase*	*I-Phase*	*II-Phase*	*III-Phase*
Jaipur	55 (92%)	31 (56%)	44 (83%)	57 (95%)	36 (65%)	49 (96%)
Kota	32 (53%)	04 (08%)	41 (85%)	50 (83%)	20 (40%)	46 (95%)
Chittor	54 (90%)	50 (94%)	37 (94%)	50 (83%)	51 (96%)	37 (94%)
Jhalawar	56 (93%)	55 (94%)	50 (83%)	59 (98%)	53 (91%)	57 (95%)
Pali	55 (92%)	48 (84%)	54 (96%)	57 (95%)	45 (79%)	51 (91%)
Barmer	21 (35%)	29 (58%)	09 (27%)	(00%)	32 (64%)	14 (42%)
Udaipur	13 (22%)	26 (45%)	NA	57 (95%)	55 (96%)	48 (94%)
Rajsamand	59 (98%)	30 (54%)	15 (33%)	59 (98%)	51 (92%)	35 (53%)
Alwar	60 (100%)	45 (78%)	51 (89%)	60 (100%)	53 (92%)	51 (89%)
Total	406 (75%)	318 (64%)	335 (83%)	439 (81%)	396 (80%)	353 (88%)

PDS Shops Inability to Effectively Provide Food Security to the Poor in Rajasthan

Now, we turn to see how the system of public distribution of food is serving poor families. We mainly focus on the data on purchasing wheat by the sample families during the study period. A total of 10 percent of the total families were without a ration card in the first year of the study. This percentage declined to 8.5 percent in the second year and to 7.25 percent in the third year, probably because of dropout of the families in last two years of the study (as we do not know the ratio of the families without a ration card in the dropped out families).

At the time of the survey, we asked questions about whether the family concerned had bought anything from a PDS shop during the last three months. The percentage of families who had bought at least one thing during this period was 80 in the first year. This improved in the later years of the study. The percentage of such families to total families interviewed in the second and third years was 84 and 87 respectively. This implies that 13 percent to 20 percent of the sample families were out of the PDS during the study.

Purchase of Wheat Declined

In the areas surveyed, three items viz., wheat, sugar, and kerosene, were being sold by the PDS shops. The increase in percentage of families, who bought anything from PDS in the previous three months of the time of survey, was mainly contributed by the families who bought kerosene oil from the fair price shops. The members of families who could buy wheat from the fair price shops in the three months prior to the survey, declined sharply in the last two years of the study (see Table 11). It came

down from 31 percent in the first year to 12 percent and 13 percent in the second and third year respectively. It must be noted that PDS was made 'targeted' for wheat and rice since June 1997 and the TPDS was prevailing during the last two years of the study.

Table 11 *Families Who Bought Wheat from PDS at least Once in Last Three Months*

Areas	*Number of Families*		
	Phase-I	*Phase-II*	*Phase-III*
Jaipur	7	0	0
Kota	23	0	0
Chittor	0	1	0
Jhalawar	6	0	0
Pali	38	4	16
Barmer	44	32	22
Udaipur	16	7	11
Alwar	28	0	0
Rajsamand	10	16	5
Total	172	60	54

The TPDS, which was supposed to reach more poor families, is actually excluding more poor families from the system. As shown in the table above, no family from four out of the nine districts got wheat in the last two years. In Chittor district, just one family could get wheat only in the second year of the study. The number of families getting wheat from the fair price shops was less in the third year (in both real and percentage terms) in comparison to the first year in every district. However, the number increased in the third year, in comparison to the second year in Pali, Barmer and Udaipur districts.

It is not the case that many families did not purchase food from outside and so, purchasing from PDS shops was lower. In fact, according the data collected, a large percentage of farmer families from Chittor and Jhalawar bought foodgrains from the outside market during the study. Data available for the last two years of the study suggest that families from Udaipur, Alwar and Rajsamand also bought foodgrains from the market in these two years.

Wheat is always required in the urban areas where families are dependent totally on the market for food. But no family from our sample of two cities could got wheat in the last two years of the study. The sample families of Kota and Jaipur are not getting wheat in spite of the generally accepted 'urban bias' in the functioning of the PDS.

The per family monthly purchase of wheat declined from 26 kg in the first year to 22.5 kg in the second year to 13.125 kg in the third year in Pali, and from 18.66 kg in first year to 10 kg in the second year to 6.66 kg in the third year in Rajsamand. However, the per family monthly purchase of wheat from PDS shops increased in the third year in Barmer. It was 31.3 kg, 27.5 kg and 33 kg per family per month in

the first, second and third year respectively. Per family monthly purchase remained stagnant in Udaipur at about 8 kg in the first and the third years, showing a slight decline in the second year.

Views about the PDS as Expressed by the Sample Families

The problems with the functioning of the PDS, identified by sample families, remained the same during the study period. However, the number of families having some complaint with the system declined over the period (as the use of the system went down). The highest number of families complained about the irregular and time-consuming process of getting items from PDS shops. "Ration shops are far" and "irregularities in supply" were among the problems identified with PDS.

About 70 percent of the families wanted to buy more items from the PDS than what was being supplied during the study. More families wanted to buy wheat, rice, edible oil and cloth (is rapidly increasing inflation of food items a reason!). Ironically, 16 to 20 percent of the sample families opted not to buy the PDS items even if and when the items were available. These families reported bad quality and lack of money as two major reasons for not buying.

Women

We did not intend to study the impact of these policies on women. However, as the data were collected, taking the 'family' as a unit, women were also part of the study as the members of the families studied. In a separate questionnaire designed for women we asked that how many time did the women of the family take food in a day. And, most of the respondents said two times a day, as common in the state of the Rajasthan. However, knowing that the status of women in the family and the society is not equal to the men, it is obvious that the deteriorating conditions of the poor will have even worse impact on the women. Increasing poverty and weakening food security will affect the women's lives even more adversely.

Conclusion

To conclude, poverty increased and food security of poor families got weaker in the decade of 1990s, the era of liberalisation, privatisation and globalisation of the Indian economy. This is evident from the findings of our study as well as from the secondary data available. Poverty increased, poor people's food consumption went down and their access to food supplied at fair prices declined. What is more worrying is that it happened along with a mounting buffer stock with FCI.

Something has to change!

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NOTES

1. The government has doubled the quota as well as the prices of wheat and rice given to the poor families wider TPDS in budget 2000-01.
2. Some families may have reported twice about one item, the numbers of families vary in each year, a few families may have restarted to eat regularly a food category, etc.

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