

HOW AND WHY THE ACCESS TO PUBLIC DISTRIBUTION SYSTEM DOES NOT ENHANCE THE FOOD SECURITY AMONG THE PEOPLE OF NORTH-EAST INDIA

—An Inter-State Analysis*

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Introduction

This paper analyse the status of public distribution system and its role to deal with the problem of food security among the states in the North-Eastern (NE) Region of India. Food security implies that entire population in a community has access to enough food at all times for an active and healthy life (WB, 1986). India has achieved food security at the national level. This means that there is adequate supply of food for the entire population. But food security at the individual or household level is yet to be achieved as a considerably large proportion of households do not have access to enough food. This is because that majority of poor people do not have sufficient purchasing power to buy enough food that is

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considered biologically sufficient, hence suffer from food insecurity. In India, about 35 per cent of population lives below the poverty line (GOI, 1997).

There is wide variation in the poverty incidence across the states in the country. Since poverty is related to the inability to have enough food, there will be wide variation in food security at the individual level. Thus, study of regional variation in the individual food security is closely associated with variation in poverty levels. The state and region level poverty incidence is usually calculated for fifteen or sixteen bigger states (GOI, 1995; Jain and Tendulkar, 1995). Thus, there is very little knowledge about the poverty incidence among the states in the north-eastern region.

Our motivation in writing this paper is that most of the existing literature on poverty (and food security) in India consider only the major states that account for more than 96 per cent of the population in India. Most of the states in the NE region, excepting Assam, are very small in size—both population and geographical area. These states do not figure in this vast literature separately. For purposes of policy, the most of the socio-economic characteristics of Assam (one of the bigger states which is included in most of the studies as one of the bigger states) including poverty ratios, have been assigned to the remaining states in the NE region (GOI, 1993).

Since poverty emerges as single most important cause of individual level food insecurity, in this paper, poverty incidence is separately calculated for all the states in the NE region and its implication for food security is examined by studying access to food through the public distribution system.

Besides Assam, there are six more states, namely, Arunachal Pradesh (ARP), Assam (ASS), Manipur (MAN), Meghalaya (MEG), Mizoram (MIZ), Nagaland (NAG) and Tripura (TRI) which form the NE region of the country. In what follows in this paper, one more state, Sikkim (SIK), is also included. The reason for including Sikkim in the region is that this state is considered to be very similar to other NE states in agro-climatic and demographic characteristics.

These states spread over 2,60,000 square kilometres and have small population, about 40 million. These states have small cultivable area. The agricultural yields are low (compared to other parts of the country). Farming is traditional. All the states are special category states and depend upon centre for most of their developmental expenditure. Most of the development indices are

considered to be well below the national average (GOI, 1997). There is general lack of reliable statistical database that can be used for evaluating development in the region. In this paper, the consumer expenditure data from two most recent quinquennial rounds of household survey, 1987-88 and 1993-94 collected by the National Sample Survey Organisation (NSSO), is used to study the incidence of poverty and food security among these states.

Rest of the paper is laid out as follows. In section 2, we discuss poverty incidence in eight constituent states in the NE region. Estimates of access to food is reported in section 3. In section 4, role of government in ensuring food security through PDS and IRDP is examined. Section 5 concludes the paper.

Poverty Incidence among the States in the NE Region

As pointed out in the last section, there is a huge literature on poverty in India that looks into state level poverty ratios for fifteen or sixteen so called bigger states. Recall that seven states out of eight, which now constitute NE region, are small states and do not figure in the most studies. The official poverty calculations use poverty ratios of Assam for these states.

Now, if GOI (1993) recommendations are accepted, more than 50 per cent (i.e. over 20 million) of the population in this region should be below the poverty line. Its implication would be that over

Table 19.1 : State-wise Poverty Measures in 1987-88 and 1993-94

STATE	43rd Round (1987-88)				50th Round (1993-94)			
	HCR	PGI	FGT	APCTEP	HCR	PGI	FGT	APCTEP
Arunachal Pradesh	29.76	0.0653	0.0233	105.26	47.70	0.1145	0.0406	192.34
Assam	45.50	0.0947	0.0280	108.62	52.26	0.1127	0.0336	200.77
Manipur	18.33	0.0243	0.0050	117.67	31.33	0.0384	0.0081	222.00
Meghalaya	35.27	0.0935	0.0350	99.12	30.12	0.0484	0.0115	212.42
Mizoram	3.85	0.0067	0.0025	111.39	7.01	0.0099	0.0023	217.17
Nagaland*	0.00	0.0000	0.0000	0.00	3.86	0.0041	0.0006	226.45
Sikkim	42.99	0.0795	0.0222	110.08	37.31	0.0734	0.0205	203.26
Tripura	27.01	0.0592	0.0197	105.61	28.75	0.0652	0.0221	195.90
NE Region**	26.37	0.0571	0.0193	105.85	34.33	0.0706	0.0227	201.12
NE Region	39.98	0.0838	0.0254	108.11	45.87	0.0978	0.0296	200.89
ALL INDIA	47.09	0.1241	0.0461	100.28	40.26	0.0978	0.0341	177.54

Notes:

- i HCR is in per cent, PGI and FGT are ratios and average per capita total expenditure of the poor (APCTEP) is in Rupees/month.
- ii * indicates that state is not strictly comparable. The survey was not conducted in the rural areas of NAG in 1987-88.
- iii ** denotes that results are reported excluding ASS and NAG.

Source: Poverty indices for combined NE region are calculated by the author as weighted average of all the states in the NE region. The all India poverty incidence, and also for states in the region, source is Dubey and Gangopadhyay (1998).

50 per cent of population is malnourished in the region and has severe food security problem. Dubey and Kharpuri (2000) have examined the incidence of poverty in these states separately. They argue that since socio-economic characteristics of the states in this region are different, poverty ratios of Assam appear to over estimate incidence of poverty in these states.

The state-wise (i.e. combining rural and urban sectors together) poverty measures, the HCR, PGI, FGT and APCTEP, are reported in Table 19.1. The HCR in the NE region was 39.98, which is lower than the all India HCR (47.09 per cent) in 1987-88. There is lot of variations among the state level poverty indices with in the NE region.

For the region as a whole, all the poverty indices have increased in 1993-94 over that in 1987-88. In 1993-94 the HCR at 45.87 per cent was much higher than the all India HCR (40.26 per cent). Out of eight constituent states, ARP and ASS had higher proportion of poor than all India average. As pointed out earlier, the poverty ratios are different for different states with large variation. In fact in 1987-88 and also in 1993-94, ASS had the highest poverty incidence among the NE region states. At the other end of the spectrum is MIZ with HCR at 3.85. MAN for which the Expert Group (1993) stated that poverty ratios are not in line with the rest of the NE region states, has the second lowest (18.33 per cent) HCR in

Table 19.2 : Socio-economic Indicators of the States in NE Region

STATE	Literacy Rate			FWFP	HH per Sq. km.	Prop. of workers		U. Level	Average Growth
	Total	Male	Female			Primary	Tertiary		
Arunachal Pradesh	41.59	51.45	29.69	37.49	02	67.44	23.90	12.80	5.63
Assam	52.89	61.87	43.03	NA	49	73.99	20.45	11.10	2.72
Manipur	59.89	71.63	47.60	38.96	13	70.00	20.34	27.52	1.48
Meghalaya	49.10	53.12	44.85	34.93	15	74.81	21.46	18.60	5.49
Mizoram	82.27	85.61	78.60	43.25	06	65.99	28.94	46.10	3.77
Nagaland*	61.65	67.62	54.75	37.96	13	75.26	21.26	17.21	7.02
Sikkim	56.94	65.74	46.69	30.41	11	68.40	20.48	9.10	-1.70
Tripura	60.44	70.58	49.65	13.16	50	64.08	29.51	15.30	2.90
ALL INDIA	52.21	64.13	39.29	22.27	50	67.53	20.50	25.71	5.50

Note: Literacy rate is in per cent, FWFP is female work force participation rate in per cent, HH per Sq. Km is household density per square kilometre, Prop. of workers is proportion of workers in primary and tertiary sectors in per cent, U. Level is urbanisation level, in per cent and Average Growth is average growth of GDP during 1987-88 and 1993-94, in per cent. For All India, average growth rate is for GDP.

Source: Census of India, 1991 and Economic Survey 1996-97.

1987-88. Out of seven comparable states, only two states, MEG and SIK had a decline in the poverty indices.

We have stated earlier that the socio-economic development among these states is different. Some of these characteristics are reported in Table 19.2. The table very clearly brings out the disparities among the states in the NE region. For example, household density per square kilometer varies from 2 in Arunachal Pradesh to 50 in Tripura. The urbanisation level is lowest in Sikkim (9.10 per cent) and highest in Mizoram (46.10 per cent). Hence, the differential poverty incidence is compatible with their disparate socio-economic development.

The poverty incidence in the rural sector of these states is reported in Table 19.3. In the rural sector, the picture is almost similar to that at the aggregate level of the state. The rural NE region with 43.52 per cent poor in 1987-88 was better than other areas of India (49.38 per cent). There is a lot of spatial variation too within the NE region states. MIZ with only 5.5 per cent HCR is the best performing state where as the HCR in SIK was 49.30 per cent, thus, had the highest proportion of poor. Assam had the second highest HCR in the region (48.42 per cent). All other states were placed between these two extremes. It is to be noted that all the states had poverty ratios less than the average (all India) HCR.

During 1993-94 we have completely different picture. First, the HCR in the NE region increased by about 7 per cent points where as the all India HCR in the rural sector went down by almost same amount (Dubey and Gangopadhyay, 1998). In 1987-88, all the states

Table 19.3 : Rural State-wise Poverty Measures for 1987-88 and 1993-94

STATE	43rd Round (1987-88)				50th Round (1993-94)			
	APCTEP	HCR	PGI	FGT	APCTEP*	HCR	PGI	FGT
Arunachal Pradesh	105.12	30.14	0.0663	0.0238	102.38	48.75	0.1171	0.0415
Assam	108.58	48.42	0.1014	0.0300	107.48	57.05	0.1241	0.0371
Manipur	116.31	21.11	0.0289	0.0062	117.30	33.08	0.0428	0.0091
Meghalaya	98.72	40.39	0.1080	0.0406	113.10	34.36	0.0552	0.0132
Mizoram	114.34	5.50	0.0083	0.0022	115.41	10.10	0.0145	0.0034
Nagaland*	NA	NA	NA	NA	119.55	4.24	0.0048	0.0007
Sikkim	109.45	49.30	0.0926	0.0260	108.12	40.24	0.0795	0.0222
Tripura	105.86	28.91	0.0633	0.0212	104.62	32.04	0.0731	0.0249
NE Region**	105.29	29.74	0.0655	0.0223	117.46	37.67	0.0790	0.0256
NE Region	107.99	43.52	0.0920	0.0280	117.76	50.42	0.1087	0.0331
ALL INDIA	95.46	49.38	0.1298	0.0480	98.39	42.70	0.1030	0.0356

Note: (i) Notes (i) to (iii) as in Table 19.3. (ii) APCTEP* is reported at constant (1987-88) prices. (iii) NA denotes not available.

Source: As in Table 19.1.

in the region had rural poverty indices lower than the average all India. In 1993-94, two states (ARP and ASS) had it higher than the average (all India). The lowest HCR is in NAG and MIZ is pushed to the second spot. Like the state as whole, in rural sector also, MEG and SIK are the only two states in which rural poverty indices declined. Remaining comparable states had an increase in their rural poverty levels. When we leave out ASS and NAG, the revised NE region indices are below the national average but there is perceptible deterioration in 1993-94 over 1987-88.

We now turn to urban sector. Urban sector in NE region has performed much better than the rural sector (Table 19.4). There is nominal decline in the HCR from 10.72 per cent in 1987-88 to 10.64 per cent in 1993-94. It is far below the average (all India) HCRs (39.20

Table 19.4 : Urban State-wise Poverty Measures for 1987-88 and 1993-94

STATE	43rd Round (1987-88)				50th Round (1993-94)			
	APCTEP	HCR	PGI	FGT	APCTEP*	HCR	PGI	FGT
Arunachal Pradesh	110.55	20.10	0.0418	0.0105	109.85	12.12	0.0258	0.0089
Assam	110.36	12.60	0.0183	0.0048	112.81	10.03	0.0127	0.0030
Manipur	123.73	11.52	0.0131	0.0022	125.73	26.67	0.0264	0.0052
Meghalaya	123.75	4.02	0.0046	0.0009	117.23	3.48	0.0056	0.0012
Mizoram	60.43	0.62	0.0035	0.0031	135.32	0.33	0.0001	0.0000
Nagaland	0.0000	0.00	0.0000	0.0000	129.51	2.82	0.0020	0.0002
Sikkim	119.59	14.68	0.0210	0.0053	127.48	3.39	0.0029	0.0005
Tripura	100.99	12.22	0.0266	0.0081	104.11	7.31	0.0142	0.0043
NE Region**	115.03	8.49	0.0135	0.0036	126.01	11.56	0.0142	0.0034
NE Region	112.06	10.72	0.0161	0.0042	118.23	10.64	0.0133	0.0032
ALL INDIA	121.22	39.201	0.1044	0.0393	125.11	32.87	0.0820	0.0298

Note: As in Table 19.3.

Source: As in Table 19.1.

per cent in 1987-88 and 32.87 per cent in 1993-94, respectively). In both the rounds, all the states have lower HCRs than all India.

Access to Food in the NE Region

The poverty incidence among different states reported in the last section suggests that the states in the NE region also have problem of food security of varying degree. Majority of the poor people live in the rural sector. Therefore, the problem of food security is expected to be more acute in the rural areas of the NE region.

Mainly indigenous tribal people inhabit the rural areas of these states. In these circumstances, it would be instructive to look at the perception of the household about food sufficiency in different states. Table 19.6 shows that, in general the proportion households having insufficient food in some months in the region as a whole is marginally higher than the national average in the rural sector. The

Table 19.5 : State-wise Poverty Lines for the States in the NE Region

States	1987-88		1993-94	
	Rural PL	Urban PL	Rural PL	Urban PL
Assam	137.35	129.11	256.73	221.94
Manipur	134.75	NA	253.08	NA
Meghalaya	NA	139.57	NA	252.65
Tripura	135.55	NA	254.58	NA
All India	125.68	161.31	214.31	278.68

Source: Dubey and Gangopadhyay (1998).

Table 19.6 : Perception of Households Regarding Food Sufficiency (1993-94)

States	Rural		Urban	
	Insufficient in Some Months	No Sufficient Food throughout the year	Insufficient in Some Months	No Sufficient Food throughout the year
Arunachal Pradesh	16.32	0.00	0.00	0.00
Assam	6.19	0.03	1.18	0.65
Manipur	1.29	7.89	0.95	9.67
Meghalaya	0.54	0.04	0.07	0.00
Mizoram	0.00	0.00	1.08	0.03
Nagaland	0.00	0.00	0.00	0.00
Sikkim	0.00	0.00	0.00	0.00
Tripura	3.09	2.85	0.75	1.11
NE Region	5.34	0.65	0.95	1.52
All India	5.15	0.75	1.13	0.55

Source: Special tabulation by the author using 1987-88 and 1993-94 NSS consumer expenditure data.

wide variation suggests that some of the inaccessible areas have greater incidence of food insecurity.

Another specific feature of poverty incidence, and hence food security, is the increase in the rural poverty in six out of eight states in the region between 1987-88 and 1993-94. The two states that have recorded decline in poverty are Meghalaya and Sikkim. Those who know about this reason will agree that these two states have been relatively peaceful during this period.

Role of PDS in Ensuring Food Security in the NE Region

The increasing poverty and higher incidence of food insecurity as perceived by the households in the region poses a challenge for ensuring food security in the region. There are two aspects to ensuring food security: first, to ensure adequate supply of food, and second, helping households to have enough income to buy adequate food.

In the absence of well-knit market mechanism in the region, the adequate supply of food is to be ensured through PDS. Table 19.7 shows the proportion of households having access to PDS in the rural sector in each state for the two years. Column 3 in 1987-88 shows that except for MAN and MEG most of the households did have access to PDS, which has increased significantly in 1993-94. Table 19.8 has the same information for the urban areas.

States	1987-88			1993-94		
	Poor HHDs	Access to PDS (Total)	Access to PDS (Poor)	Poor HHDs	Access to PDS (Total)	Access to PDS (Poor)
Arunachal Pradesh	25.23	84.05	92.74	44.74	90.42	92.16
Assam	42.86	74.32	76.94	52.86	86.35	86.00
Manipur	18.50	11.03	10.75	30.49	35.73	36.69
Meghalaya	38.05	47.18	35.41	29.05	81.85	81.21
Mizoram	4.78	84.25	73.70	8.92	91.59	97.49
Nagaland	NA	NA	NA	3.29	42.67	8.74
Sikkim	40.67	67.13	73.74	31.56	60.33	61.61
Tripura	25.63	91.22	95.63	28.65	88.44	89.57
NE Region	38.23	72.29	74.91	46.15	83.31	84.54
All India	44.86	62.85	59.42	38.46	77.23	76.57

Source: As in Table 19.6.

States	1987-88			1993-94		
	Poor HHDs	Access to PDS (Total)	Access to PDS (Poor)	Poor HHDs	Access to PDS (Total)	Access to PDS (Poor)
Arunachal Pradesh	13.56	68.95	61.55	8.82	88.02	90.82
Assam	8.67	50.61	59.80	7.61	57.91	63.66
Manipur	8.95	15.89	7.05	21.74	44.52	58.25
Meghalaya	3.12	47.07	47.79	2.37	71.19	62.01
Mizoram	0.47	94.09	100.00	0.29	96.78	100.00
Nagaland	0.00	10.02	0.00	1.86	34.21	0.00
Sikkim	9.45	64.34	89.88	2.53	53.32	53.41
Tripura	10.13	82.92	98.11	6.02	75.56	96.01
NE Region	7.57	50.48	58.27	8.05	60.86	64.89
All India	31.62	63.86	67.57	26.89	68.97	72.40

Source: As in Table 19.6.

From accessibility of the PDS to most of the households, both poor and non-poor, it is surprising to note that a very high proportion of the households are still poor. This observation points towards the lack of enough income among the households that could explain higher incidence of poverty and food insecurity.

The household reporting purchases of specific food items from the PDS/ ration shop reveal that the highest proportion of households buys sugar in both the rural and urban areas. Next come rice, wheat and *atta*. Less than two per cent households buy the other cereals and vegetable oils. This shows that households buy only those products where there is a significant difference in market and controlled prices through PDS or the staple and major food items of their basket of commodities.

(i) PDS and Poverty

Poverty measures are based on consumer expenditure data, which reports, the actual expenditure of households on various commodities. This data is not adjusted to the household's expenditure for their subsidised purchases from the PDS. To correct this, we adjust the household expenditure through the quantity of food items purchased from the PDS. This facilitates us to make a comparison of the number of households that cross the poverty line due to this improved method of calculating household expenditure.

Table 19.9 presents a comparison of poverty incidence in 1993-94 with a rural-urban break-up, for north-eastern states along with all India level. Columns 1 and 4 give the poverty incidence where

Table 19.9: Comparison of Poverty Incidence in 1993-94

States	Rural			Urban		
	HCR Unad-justed (1)	HCR Adjusted (2)	Non-Poor due to (3)=1-2	HCR Unad-justed (4)	HCR Adjusted (5)	Non-Poor due to (6)=4-5
Arunachal Pradesh	27.06	25.32	1.74	21.30	21.04	0.27
Assam	45.21	41.43	3.78	7.93	5.33	2.59
Manipur	8.68	7.96	0.72	42.52	41.37	1.15
Meghalaya	13.50	11.88	1.62	6.69	6.11	0.58
Mizoram	3.23	3.02	0.21	1.05	1.05	0.00
Nagaland	0.38	0.38	0.00	8.44	7.54	0.90
Sikkim	20.19	18.05	2.14	13.53	13.53	0.00
Tripura	17.05	16.03	1.02	16.79	16.22	0.57
All INDIA	36.31	33.90	2.41	32.14	30.58	1.56

Source: As in Table 19.6.

no adjustment is done for PDS in the rural and urban areas respectively. Using the same poverty line, but making an adjustment for access to PDS, the head count ratio (HCR) are re-calculated these are presented in Column-2 in percentage. Columns 3 and 6 present the *percentage of all households that are not poor because of their access to the PDS*.

The effect of PDS purchases is that the poverty incidence declined only marginally from 35.2 per cent to 33.0 per cent at all India level. The reduction in the rural areas is more (2.41 percentage points) than urban areas (1.56 percentage points). However, in terms of absolute numbers, 18.66 million people have crossed the poverty line due to access to PDS, majority of them are in the rural sector, 15.53 million.

As expected, there is a large variation among the NE state level. The maximum reduction in poverty due to PDS, is recorded in Assam (rural), which is 3.78 percentage points higher than all India average (2.41), followed by Sikkim. Among urban regions, Assam has highest reduction in poverty followed by Arunachal Pradesh, higher than national average in both the cases.

(ii) Role of IRDP in Ensuring Food Security in the NE Region

To examine this aspect, one must look at the income earning opportunities in the region. Recall that the NE region is most underdeveloped in the country. Most of population is engaged in the subsistence farming (GOI, 1997). There have been attempts to generate income through various employment schemes under IRDP

Table 19.10: IRDP Help to the Households in the Rural Sector

States	1987-88			1993-94		
	Poor HHDs	IRDP Help (Total)	IRDP Help (Poor)	Poor HHDs	IRDP Help (Total)	IRDP Help (Poor)
Arunachal Pradesh	25.23	17.15	19.94	44.74	18.43	22.78
Assam	42.86	3.17	3.61	52.86	2.69	3.24
Manipur	18.50	9.61	10.91	30.49	6.10	5.76
Meghalaya	38.05	7.40	2.29	29.05	2.01	2.15
Mizoram	4.78	13.77	4.41	8.92	9.66	36.13
Nagaland	NA	NA	NA	3.29	3.41	0.00
Sikkim	40.67	35.73	36.98	31.56	4.21	4.43
Tripura	25.63	12.14	11.15	28.65	18.27	15.42
NE Region	38.23	5.91	5.21	46.15	4.95	4.66
All India	44.86	6.83	7.05	38.46	7.51	8.51

Source: As in Table 19.6.

etc. Table 19.10 has distribution of households receiving IRDP help in the rural areas of states in the region.

The proportion of households covered under the IRDP scheme in the region appears to be lower than the national average in 1987-88 (Table 19.10). This has deteriorated further in 1993-94. This probably explains the increase in poverty in 1993-94 over 1987-88. This observation is further strengthened if we look at the access to IRDP in the urban areas. In 1987-88, it was much above than national average and further increased in 1993-94.

Conclusion and Policy Implications

In this paper the problem of food security is examined in the NE region. Since individual and household level food security is closely associated with incidence of poverty, we calculated incidence of poverty among eight states in the NE region. This appears to be the first exercise of this kind where NSS consumer expenditure survey data is used for counting the poor in the NE region, which includes Sikkim also.

States	1987-88			1993-94		
	Poor HHDs	IRDP Help (Total)	IRDP Help (Poor)	Poor HHDs	IRDP Help (Total)	IRDP Help (Poor)
Arunachal Pradesh	13.56	17.15	38.80	8.82	0.69	0.00
Assam	8.67	3.17	2.41	7.61	1.74	1.38
Manipur	8.95	9.61	10.08	21.74	2.34	3.26
Meghalaya	3.12	7.40	0.00	2.37	1.01	24.44
Mizoram	0.47	13.77	0.00	0.29	4.18	77.45
Nagaland	0.00	0.00	0.00	1.86	0.55	0.00
Sikkim	9.45	35.73	9.10	2.53	0.07	0.00
Tripura	10.13	12.14	1.89	6.02	12.66	11.46
NE Region	7.57	5.91	4.45	8.05	2.88	3.18
All India	31.62	2.26	2.18	26.89	1.29	1.75

Source: As in Table 19.6.

The main finding of this paper is that in 1993-94, the NE region became poorer than the average as compared to 1987-88. The change over the two rounds happens to be exactly opposite of what has happened at the all India level. It can be said that this is not due to a particular poverty norm used in our calculations. Out of the eight constituent states, MEG and SIK, are the only two states where poverty ratios have declined over the two years. The urban sector has much lower incidence of poverty than the rural areas of the region.

This finding has important implication for food security in the region, and among the states within the region. It appears that the PDS is widely accessible to the households in the region; it is lack of purchasing power that comes in the way of ensuring food security in the region. This is quite consistent with the economic structure of the most of the states in the NE region where most important sector is services and job opportunities are available only in the government services, which are concentrated in the urban areas. Therefore, for improving food security situation in the region, the income generating opportunities are to be created and made accessible to the poor household in the rural areas. The political instability and ethnic violence in many states in the region hampers these efforts.

The impact of PDS on the incidence of poverty does not appear to be significant. The method of adjustment that we have used to adjust the average expenditure may not be robust to capture the true impact. However, our findings do concur with findings of other researchers as far as the role and efficiency of PDS is concerned. Our findings suggest that the PDS plays a relatively more important role in food security of the households rather than poverty reduction.

Finally, it is also important to note that the PDS is not strong enough and the only instrument to ensure the food security of the poor, because it serves the purpose only to those who have purchasing power and are ration card holders. An appropriate combination of policies like effective implementation of poverty alleviation programs, stabilisation of prices, providing universal health facilities are needed along with higher economic growth for enhancing the food security of the poor households.

NOTES

1. From a net importer of food grains, India has not only achieved self-sufficiency for food but has now become net exporter.
2. Hereafter, any reference to the NE Region would include Sikkim also, unless otherwise specified. On December 2002, the NEC Reorganisation Bill was passed by parliament. This Act provided for the inclusion of Sikkim as a member of the NEC.
3. For example, see Jain and Tendulkar (1995).
4. See GOI (1993, 1997). While reporting the 1987-88 poverty incidence among the states, the Expert Group (GOI, 1993) has recommended that since the sample size in the National Sample Survey (NSS) data for NE Region states is small, these

states should be assigned same poverty level as that in Assam. See GOI (1993), page 34, para 4.7 (7) (i).

5. The details about poverty measurements, data and poverty lines used in the calculation are given in Dubey and Kharपुरi (2000).
6. Despite several criticisms of the food energy based poverty norms used in this paper, it does indicate the varying degree of food insecurity among the states in the NE region. See Dubey and Sarma (2000) for details.
7. The access to PDS is based on the purchase of any item from the ration/fair price shop by the household.
8. Dubey and Gangopadhyay (1998) have shown that poverty ratios have declined by 6 to 7 percentage points at the all India level. What is important in these calculations is that this reduction is independent of the poverty norm used.

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