

REACHING THE RURAL POOR  
EXPERIENCE OF PUBLIC DISTRIBUTION  
SYSTEM IN INDIA

BY

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# REACHING THE RURAL POOR : EXPERIENCE OF PDS IN INDIA

SHANTI BAPNA<sup>1</sup>

## I

### A: Persistence of Rural Poverty

Reaching the rural poor has become one of the most challenging tasks before the planners and management experts, in developing countries. This is evident from the persistence of widespread poverty and undernutrition in rural areas in India. Despite satisfactory economic growth in the last four decades, achievement of food self-sufficiency, and special programmes of poverty alleviation in recent past, the estimates of proportion of the rural poor in India remained around 50 per cent of the population until early eighties, though government estimates were much lower<sup>2</sup>. However, there is no disagreement that number of the rural poor is very large and it has been increasing over the years. The estimates of the poor by the World Bank ranges between 200-270 million people. Several indicators of

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malnutrition confirm this: India has one-sixth of world's population but about one-third of the undernourished live in India; high child blindness (about one-third blind children of the world below the age of 10 years live in India), and high child mortality rate.

Urban bias in economic policies as reflected in disproportionately low investment in agriculture was one of the major causes of the problem of the undernutrition in rural areas (Lipton, 1982). However, various development processes conditioned by macro-economic policies such as monetary, fiscal, and trade and investment policies resulted in high growth in agricultural production but at the same time affected unorganised poor and have-nots more adversely (Grant Scobie, 1989). For example, cheap credit policy for agriculture, input subsidies etc. increased production but at the same time affected poor adversely because increased profitability of farming pushed out marginal and tenant farmers to join and compete with the ever increasing number of agricultural labour (Bapna, 1972; and Dasgupta, 1977). Also structural adjustments generated by development policies and various reform measures, though well intended, affected poor adversely (Vyas, 1987).

Failure of the development processes in reducing poverty led government to organise special programmes to help the poor.\* The special programmes involved direct transfer of income or incentives for adoption of technology or transfer of assets to

the poor or creation of employment for the poor. The story of these programmes so far as end results are concerned cannot be different in a class-dominated and caste-structured society where bureaucracy, who has class bias, aligns with rich farmers for achieving plan targets. The strategy and working of the programmes were such that it developed leakages in favour of better-off people. This resulted into very little trickle down to the poor (Samuel Paul and Ashok Subramanian, 1983). Further, in comparison to the magnitude of the poverty problem in rural India and growing population these programmes were meagre to have visible effects. This should be also seen in the light of the fact that total subsidy burden of the Government of India is claiming a big share of the total budget. In 1984-85 amount spent on subsidy was Rs.42.08 billions accounting for 10.2 per cent of the total budget of the Government. This amount has increased to Rs.77.90 billion in 1988-89 (Table 1). If the subsidy incurred by the state governments is also added, the incidence of subsidy amount is almost doubled. The total subsidy increased from 2.3 per cent of the gross national product (GDP) in 1980-81 to 3.6 per cent in 1988-89. Besides, a large amount (about Rs. 28 billion budgeted for 1988-89) is spent on the rural development and employment programmes. These programmes are supposed to generate permanent assets and at the same time provide employment. However, it is known that these programmes did not create significant durable assets and therefore the expenditure can be considered direct income transfer or indirect subsidy (Basu, 1986). These programmes involved a very high share of total expenditure on administration. Besides, there are hidden subsidies such as lower freights, soft loans and huge

investment in procurement of food grain without financial return to the government. Expenditure on social welfare such as old age pension, health and nutrition programmes etc. have additional claim on general exchequer.

TABLE-1: GROWTH OF EXPENDITURE ON SUBSIDIES IN INDIA

(Rupees in Crores = 10 millions)

YEAR	GOVERNMENT OF INDIA		Total Including Others	States Govern- ments	Total Subsidy	Total sub- sidy % of GDP	Subsidy by Govt. of India % of Govt. Budget	Food sub- sidy as % Total sub- sidy
	Food	Fertilizer						
1951-52	NA	NA	26.1	NA	NA	NA	5.2	NA
1955-56	NA	NA	23.5	NA	NA	NA	2.4	NA
1960-61			30.7		NA	NA	1.7	NA
1970-71	10.0	NIL	94.2		NA	NA	1.7	19.10
1975-76	250.1	NIL	469.7		NA	NA	3.9	53.25
1980-81	650.0	505.0	2028.0	1132.0	3160.0	2.3	8.5	32.05
1981-82	700.0	375.5	1941.0	1684.0	3545.0	2.2	7.7	36.06
1982-83	710.0	605.0	2262.0	1986.0	4248.0	2.4	7.6	31.30
1983-84	835.0	1042.0	2902.0	2703.0	5605.0	2.7	8.0	30.89
1984-85	1100.0	1927.0	4200.0	3622.0	7830.0	3.4	10.2	26.14
1985-86	1650.0	2050.0	4929.0	3671.0	8600.0	3.3	9.6	33.47
1986-87	1750.0	1950.0	5576.0	4354.0	9930.0	3.4	8.5	31.30
1987-88*	2200.0	2210.0	6279.0	5477.0	11756.0	3.6	9.66	35.03
1988-89*	2300.0	3000.0	7790.0	6210.0	14000.0	3.6	10.3	29.52
1989-90*			8454.0	7546.0	16000.0	3.0	10.3	NA

\*Estimates are provisional

## B. Food Subsidies and PDS- A Review

The failure of programmes of income generation and transfer of income led to programmes which directly affect the nutrition level of the poor and under-nourished. There is growing evidence that these programmes increased nutrition intake by the poor (Pinstrup-Andersen, 1988) by not only transferring income to the poor but also making food accessible so that probability of increase in food intake is enhanced. This is so because converting food into money by the target group is difficult and has transaction cost (Alderman, 1989). However, it is still not clear that general programmes such as PDS in India are cost-effective and if these programmes are efficient in comparison to other programmes.

Though PDS in India is the oldest and relatively a massive programme claiming about one-third of subsidy expenditure by government of India, it did not receive as much attention of the researchers as was received by new programmes (rural development and employment programmes) having much smaller commitment of resources. Therefore, the available evidence in India about the functioning of PDS is too meagre to allow generalisation. A study by V.B.Singh (1973) in Lucknow city found that the poor could not get the same level of benefits as the middle income people with assured income and residence. A study in Ahmedabad city indicated that the offtake by the poor was much higher than the offtake by the middle and high income households (P.S. George, 1978). However, a recent study in Vijayawada town

indicated that the participation in the programme across the income classes did not vary much except the highest income group (accounting only three percent of the participants) lifted less from the PDS (Nageshwar Rao, 1986). In rural areas two studies conducted in Kerala in the mid-seventies provide conflicting evidence. P S George (1978) reported that the poor in rural areas met higher proportion of their total rice consumption from fair price shops (FPS). But (Kumar) found that middle income people took relatively more advantages in absolute terms. One recent study (Chaudhury, 1988) in Rajasthan found that per household withdrawal from the PDS was more by the high income households as compared to middle and poor income households.

None of the above studies find information about the households who did not even get ration-cards. Even if poor households participated relatively more but if the proportion of the left-out was higher, the benefits reaching poor becomes small. In fact complete analysis of the indicators of the extent of participation such as : a) per household over-take, b) the nature of the card-holders who did not take part in the programme, c) share of FPS in total cereal consumption was not done. Further, these studies generally have small samples and refer to a very short period of survey. Also the behaviour of consumers and FPS was not explained without which policy guidance cannot be obtained. Finally the studies do not go beyond direct effects. There are several indirect and long term effects which are equally relevant to evaluate programmes.

The question whether transfer of income and food to the poor be



the PDS programme was cost-effective? is not examined carefully except to some extent by F.S. George (1978) and an exercise done by Scandizzo and Swamy (1980). Their results indicate that the cost-benefit ratios are in favour of the poor. However, detailed studies of cost-effectiveness is important because in a resource scarce economy the alternative demands compete for scarce resources. It also becomes difficult to defend subsidy for consumption unless food subsidy is considered as investment in human capital. In a country like India where more than 800 million people live, the importance of human being as productive resource is not properly appreciated. Third, unless the subsidies reach poor adequately, defence of present level of subsidies of the order of two billion dollars on food becomes difficult. This is particularly relevant if alternative programmes can do the same job more effectively.

PDS in India is not a new programme. Its origin could be traced back to the beginning of the Second World War. Growth in PDS in India can be directly linked to recurrence of nationwide droughts. With every drought condition prices of foodgrains increased and government responded with opening of more number of fair price shops (FPS) covering larger geographical areas (Bapna, 1990). Till mid-seventies major source of supply of foodgrains was import of wheat under PL-480. By 1977-78 imports became insignificant and foodgrains were mainly procured internally through the Food Corporation of India. However, PDS got renewed interest in mid-Seventies when various studies indicated increased inequalities and poverty in rural areas after the introduction of green revolution. Even the special programmes for

the poor failed to show significant results. In the Sixth Plan of the Government of India, PDS was given a permanent status in the poverty alleviation and minimum needs programmes. A network of about 350 thousand FPS scattered in rural and urban areas distribute about 15-20 million tonnes of foodgrains, besides sugar, edible oil and other essential commodities( Table 2).

Table-2 : Growth of PDS in India

Year	No. of FPS (Total '000)	Foodgrain Distri- buted (Mn. Tonnes)	Price Index of Cereals
1961-62	48	3.98	50.1
1971-72	121	7.82	101.9
1975-76	240	11.25	172.6
1981-82	283	13.01	216.9
1983-84	278	14.77	238.0
1984-85	302	16.21	259.1
1985-86	315	15.45	261.7
1986-87	320	16.70	276.4

However, the PDS remained a general programme of subsidy transfer, except some unsuccessful attempts in a few states for restricting the subsidy to the poor. This was mainly because the design of the programme was not formulated in a way that it achieves the often repeated objective of helping the weaker, poorest or vulnerable section of the society. The general programmes of subsidy has been continued despite attention drawn for targetting and improving the approach to management (Arvind Gupta,1979). Behind this lack of sensitivity on the part of policy makers an inertia in policy making and management of PDS seems to be operating. Because when a subsidy programme is introduced its withdrawal generally becomes difficult and politically unpalatable.

Further, short and long term effects, direct and indirect effects and costs and benefits should be evaluated before a programme can claim scarce resources. However, the processes of overall evaluation is very complex as the ultimate effects of the subsidies program can be measured only by a general equilibrium model for which required data are difficult to get (Pinstrup Andersen,1988). The study presented in this paper does not cover all the limitations mentioned above but attempts to take into account the interface between the consumer and PDS and examines the whole system of PDS using an approach of management by objectives so that an effective strategy to redesign a cost effective PDS in comparison to other development projects can be formulated. The relevance of the study is further increased because the Government of India views PDS as a stable feature of

the Indian economy supplementing poverty alleviation programmes (Planning Commission, 1984).

### C. Design of Study

#### i) Objectives of the Study :

The specific objectives of the study reported here are:

- 1) To examine consumer behaviour vis-a-vis operation of fair price shops and benefits derived from PDS by different types of consumers in rural areas.
- 2) To examine planning and implementation of PDS policy at different levels of administration, and
- 3). To examine feasibility of FPS of different types.

#### ii) Hypotheses :

Following hypotheses are verified in the study:

- 1) Poor households do not get full advantage of PDS supplies whereas the non-poor households take maximum possible benefits. These differences are because:
  - a) The poor does not have adequate purchasing power and does not get commodities which he wants, and
  - b) His knowledge about availabilities is inadequate.
  - c) He is also constrained in getting ration card.
- 2). Exclusive fair price shops are not viable because of low turnover, low margins and high overhead cost.
- 3) Planning and implementation policy of PDS is more a

bureaucratic exercise at state and district levels.

### iii) Methodology

Implementation of PDS in India is done by state governments, though a major initiative has come from the Government of India. Different states have different consumption pattern and foodgrain situations and therefore different approaches to food security were attempted. In view of these differences, three states, viz. Andhra Pradesh, Maharashtra and Rajasthan were selected providing three different typologies of working of PDS in the country. Andhra Pradesh is surplus in foodgrain and is a major rice consuming state. It has made differentiation in distribution of rice between poor and non-poor households since April 1983. The poor is entitled to rice at Rs. 2 per kg. while cost of purchasing exceeds Rs. 3.00 and market price varies between 3.50 and Rs.4.00. In contrast, Maharashtra and Rajasthan are major coarse cereal consuming states. However, Rajasthan is generally self-sufficient in foodgrain except in drought years, while Maharashtra is a deficit state. In Maharashtra, next to coarse cereals, rice is important but in Rajasthan wheat, which is a major supply item in PDS, is a staple food. Further, in Maharashtra, state government procures coarse cereals for distribution to the consumers while in Rajasthan state government distributes what is supplied by the Government of India.

In view of time constraint only four villages in three states were selected in consultation with state officials. Selection of villages from states was done purposively so that a

representative picture of working of PDS emerges. In Andhra Pradesh and Rajasthan one village each was selected while in Maharashtra two villages were selected. One of the two villages did not have FPS in the village and access to PDS was difficult. The second village had a fair price shop in the village and had a special subsidy on foodgrains under the Integrated Tribal Development Programme (ITDP).

Selection of 40 households from each village was made by random sampling method after stratifying households according to land owned and occupation. Households were classified into labour, marginal farms, small farms, large farms and 'other' categories. The 'other' households included village artisans, traders, salaried and fixed income households. Ten households each from the first three categories and five each from the remaining two categories were selected. Some of these selected households were subsequently reclassified because of changes in land reported.

From the households, information on consumption and participation in PDS for six months at some intervals was asked to capture behaviour of consumers in different seasons which represent variations in supplies, availabilities and prices during the year. For the later three months of survey, fortnightly visits were made so that recall errors are reduced. The information collected from consumers relates to their work, age, education, demographic features, weight, height, changes in weight, assets position, indebtedness, membership of FPS, off-take from FPS, total consumption, problems in off-take for FPS etc. The off-take behaviour of consumers with respect to PDS is examined by using

simple cross-tabulation and also by using a regression model of purchase behaviour. This is elaborated in section III. The fair price shops related with each of these villages were interviewed and information about its working in terms of turnover, finance, feasibility etc. were collected. Information on policy management at top level and implementation was collected by discussions with officials and publications related with PDS.

Section II provides relevant profile of the sample while section III provides results on household behaviour. Section IV discusses working of PDS and Policy formulation and Section V provides conclusions and policy implications emerging from this study.

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## II

## Important Features of the Sample

## A. Villages

Three out of four vilages—Mac-ram (Andhra Pradesh), K.gaon (Maharashtra) and Dhulia (Rajasthan) were connected by all weather roads while one village (P.Gaon) was 1.50 kms away from the main road (Table-3). In terms of pupulation Mac-ram and P.Gaon were small villages (892 and 845 people) while other villages were of medium size (1743 and 1575 people respectively). All the villages were multi-caste villages but the traditional cultivating caste (middle caste) in P.Gaon was in majority (70.45% of total population). However, households of scheduled castes and scheduled tribes were large in number (About one-half or more) in other villages. Households dependent mainly on agricultural labour was 51.18 per cent in Mac-ram but only 14.85 percent in Dhulia where most households had some cultivated land, albeit unirrigated. Maharastra villages had about one-third households engaged in agricultueal labour. In Dhulia, 81.9 per cent of househods had cultivation as main occupation. Besides, labour and cultivation, other occupations were importnt only in P.Gaon. Per capita cultivated land in Mac-ram, and Dhulia was 0.17 and 0.11 hectares respectively while in K.Gaon it was 0.13. The land distribution in these villages was highly skewed. In P.Gaon per capita land was relatively quite high (0.37/hectares) but the land distribution was not much skewed. However, the quality of land in this village was relatively poor.



TABLE 3 : IMPORTANT FEATURES OF SELECTED VILLAGES

Features	Unit	MacRam	K. GAON	P. GAON	DHULIA
1 POPULATION	No.	892.00	1743.00	845.00	1575.00
2 HOUSEHOLDS	"	170.00	200.00	149.00	305.00
3 DISTANCE FROM : ROAD	Km.	NIL	NIL	1.5	NIL
BLOCK	"	5.0	12.0	97.0	25.0
MARKET	"	5.0	1.0	8.0	10.0
P.S	"	NIL	NIL	7.0	NIL
4 OCCUPATION : LABOUR	% of HH	51.18	33.83	29.53	14.85
CULTIVATION	"	40.59	50.75	34.23	81.19
ARTISANS	"	2.35	2.63	6.04	.
SERVICE	"	2.94	10.15	24.83	2.97
UNEMPLOYED	"	2.94	.38	.	.
OTHERS	"	2.94	2.63	2.01	.66
5 PER CAPITA CULTIVATED AREA	Hect.	.17	.13	.37	.11
6 WORKERS PER HOUSEHOLD	No.	2.60	3.18	2.57	3.15
7 ANNUAL INCOME PER	Rupees	5015.29	6578.83	6064.03	3370.96

contd...

TABLE 3 : IMPORTANT FEATURES OF SELECTED VILLAGES

Features	Unit	SAMPLE VILLAGES			
		MacRam	K. GAON	P. GAON	DHULIA
8 RATIPON CARDS	Number	157.00	216.00	145.00	303.00
NON-CARD HOLDERS	"	13.00	50.00	4.00	.
9 YELLOW CARDS	"	7.00	.	.	.
10 PER HH. OWNED LAND	Hectare	.92	.98	2.26	1.33
CULTIVATED LAND	"	.88	.88	2.10	.56
11 CASTE OF HOUSEHOLDS:					
UPPER	Number	2.00	3.00	7.00	.
MIDDLE	"	21.00	87.00	105.00	92.00
LOWER	"	42.00	12.00	11.00	45.00
S.C.	"	49.00	30.00	27.00	14.00
S.T.	"	54.00	132.00	3.00	144.00
OTHERS	"	4.00	3.00	1.00	.
12 EDUCATION OF HEAD OF HOUSEHOLD: ILLITERATE	Number	140.00	161.00	42.00	190.00
1 st - 5 th CLASS	"	15.00	55.00	55.00	113.00
6 th - 9 th CLASS	"	4.00	37.00	37.00	.
10 th - 12 th CLASS	"	11.00	13.00	11.00	.
HIGHER	"			4.00	.
13 FAMILY SIZE	"	5.25	6.55	5.67	5.20
14 LAND OWNED:					
1ST DECILE	%				
10TH DECILE	%				

Participation in PDS : The first step for participating in PDS is obtaining a ration card. In one village (Dhulia), all households had ration-cards. In P.Gaon only 4 out of 149 households did not have ration cards. In Macram 13 out of 170 households did not have ration card. In K.Gaon a very large number of households (50 out of 266 households) did not have ration cards. Further analysis exhibited that most of the households not having cards were either landless or had very small piece of land and belonged to backward castes. This was also true in Macram and P.Gaon (See Table 4 and Table 5).

The need for owning a card in Mac-ram and Dhulia villages was felt by several households only in recent years after special subsidy or employment schemes were introduced. For example, in Mac-ram out of 170 households, only one household had a card until 1979. But 127 got ration cards during 1981 and 24 registered in 1984 when special subsidy on rice was introduced (Table-4). In Dhulia, 127 out of 303 households had cards before eighties. However 176 households obtained cards in the eighties specially in drought years such as in 1982 and 1985. Some of these new cards may be division of joint families (deliberate or natural division). In Maharashtra villages, owning a ration card was considered a well accepted goal in the sixties itself and therefore only a few households got ration cards in eighties.

TABLE-4 : YEAR OF MEMBERSHIP OF RATIONING SYSTEM (CENSUS)

VILLAGE/YEAR	CULTIVATED LAND (HA)					TOTAL
	< 10.25	10.25 TO 11.00	11.00 TO 12.00	12.00 TO 14.00	14.00 AND ABOVE	
VILLAGE :						
MACRAM						
SINCE WHEN						
NOT A MEMBER	10	2	1			13
1970 TO 1979	1					1
1981.0	44	39	27	15	2	127
1982.0			1			1
1984.0		5	13	4		22
1985.0	1	1	2			4
1987.0	1		1			2
VILLAGE TOTAL						
MACRAM	57	47	45	19	2	170
K. GAON						
SINCE WHEN						
NOT A MEMBER	32	16	2			50
BEFORE 1970	76	58	40	10	10	194
1970 TO 1979	11	3	2			16
1980.0	1					1
1982.0		3	1			4
1984.0	1					1
VILLAGE TOTAL						
K. GAON	121	80	45	10	10	266
P. GAON						
SINCE WHEN						
NOT A MEMBER	4					4
BEFORE 1970	33	15	25	46	24	143
1970 TO 1979	1					1
1985.0	1					1
VILLAGE TOTAL						
P. GAON	39	15	25	46	24	149
DHULIA						
SINCE WHEN						
1970 TO 1979	3	65	45	12	2	127
1980.0	1	41	17	3	3	65
1981.0	1	5	2			8
1982.0		29	4			33
1983.0		10				10
1984.0		3				3
1985.0	1	39	4			44
1987.0	4	9				13
VILLAGE TOTAL						
DHULIA	10	201	72	15	5	303

TABLE-5 : CASTE PATTERN IN THE SELECTED VILLAGES (CENSUS)

VILLAGE/LAND	CASTE (MAIN GROUPS)					TOTAL	
	UPPER CASTE	MIDDLE CASTE	LOWER CASTE	SCHD. CASTE	SCHD. TRIBE		OTHER CASTE
<b>VILLAGE :</b>							
<b>MACRAM</b>							
CULTIVATED LAND							
(HA)							
< 0.25		2	20	25	6	4	57
0.25 TO 1.00		1	9	22	15		47
1.00 TO 2.00		9	11	2	23		45
2.00 TO 4.00		7	2		10		19
4.00 AND ABOVE		2					2
VILLAGE TOTAL MACRAM		21	42	49	54	4	170
<b>K. GAON</b>							
CULTIVATED LAND							
(HA)							
< 0.25	2	23	4	14	76	2	121
0.25 TO 1.00		30	4	15	31		80
1.00 TO 2.00		22	4	1	17	1	45
2.00 TO 4.00		6			4		10
4.00 AND ABOVE		6			4		10
VILLAGE TOTAL K. GAON	2	87	12	30	132	3	266
<b>P. GAON</b>							
CULTIVATED LAND							
(HA)							
< 0.25	1	18	6	11	3		39
0.25 TO 1.00		8		7			15
1.00 TO 2.00	1	18	4	2			25
2.00 TO 4.00		39	1	6			46
4.00 AND ABOVE	1	22		1			24
VILLAGE TOTAL P. GAON	3	105	11	27	3		149
<b>DHULIA</b>							
CULTIVATED LAND							
(HA)							
< 0.25	2		6	1		1	10
0.25 TO 1.00	1	25	27	9	139		201
1.00 TO 2.00	4	48	11	4	5		72
2.00 TO 4.00		14	1				15
4.00 AND ABOVE		5					5
VILLAGE TOTAL DHULIA	7	92	45	14	144	1	303

### B. Sample Households

Some important characteristics of different categories of sample households is shown in Table-6. It is observed that family size was 4.95 persons in Mac-ram and 4.68 in Dhulia. However, in other two sample villages the average size of family was much higher - 7.13 in K.Gaon and 5.88 in P.Gaon. Generally family size increased consistently with the sample category except in 'other' household in Rajasthan which had smaller family size than labour households.

The number of children per household was about one-fourth of family size in three villages but was only one-sixth in P.Gaon.

Rate of literacy was very low in Mac-ram (33.89 per cent), K. Gaon (35.41 per cent) and Dhulia (21.76 per cent). However, in P.Gaon 60.82 per cent household members were literates. The literacy rate showed positive association with sample groups and 'other' group generally had higher literacy ratio than average.

Per household owned land in labour group was only 0.13 and 0.04 in Mac-ram, and in K.Gaon, respectively but in P.Gaon and Dhulia these households had 0.50 and 0.52 hectares per household respectively. However, the land in these two villages was generally poor or was used for grazing purposes.

Per household income was positively associated with sample groups. However, 'other' category of households had highest income in K.Gaon and Dhulia but in other two villages their income was only slightly lower than the large farmer.

TABLE-6 : IMPORTANT SOCIO-ECONOMIC FEATURES OF DIFFERENT CATEGORIES OF HOUSEHOLDS

	SAMPLE SIZE NO.	PER HH LAND (Hectare)	FAMILY SIZE (No.)	WORKERS (PER CENT)	PER HOUSEHOLD INCOME (RUPEES)
SAMPLE VILLAGES					
MACRAM					
SAMPLE STATUS					
LABOUR	11	.13	3.82	53.64	2787.27
MARGINAL FARMERS	8	.55	4.75	46.25	3612.50
SMALL FARMERS	11	1.35	5.09	47.27	4354.55
LARGE FARMERS	5	3.60	5.60	34.00	5720.00
OTHERS	5	.48	6.80	41.79	5440.00
SAMPLE VILLAGES MACRAM TOTAL/AVERAGE	40	1.02	4.95	46.47	4081.50
K. GAON					
SAMPLE STATUS					
LABOUR	10	.84	4.90	52.75	5455.00
MARGINAL FARMERS	10	.56	6.50	51.19	8959.00
SMALL FARMERS	9	1.42	8.11	50.34	11282.22
LARGE FARMERS	6	6.93	7.83	45.44	12191.67
OTHERS	5	.54	10.20	39.19	13560.00
SAMPLE VILLAGES K. GAON TOTAL/AVERAGE	40	1.58	7.13	49.03	9665.75
P. GAON					
SAMPLE STATUS					
LABOUR	6	.50	4.67	47.14	5950.00
MARGINAL FARMERS	9	1.98	5.56	54.69	6531.67
SMALL FARMERS	12	3.02	5.33	47.78	5507.50
LARGE FARMERS	8	6.90	6.13	62.54	9265.00
OTHERS	5	2.36	8.80	53.76	9080.00
SAMPLE VILLAGES P. GAON TOTAL/AVERAGE	40	3.10	5.88	52.94	7002.38
DHULIA					
SAMPLE STATUS					
LABOUR	10	.52	3.80	34.33	3305.00
MARGINAL FARMERS	10	.86	4.90	28.27	2400.00
SMALL FARMERS	8	1.48	4.75	42.65	3437.50
LARGE FARMERS	5	3.75	5.80	31.71	5740.00
OTHERS	7	.36	4.71	22.38	6071.43
SAMPLE VILLAGES DHULIA TOTAL/AVERAGE	40	1.17	4.68	32.06	3893.75

(CONTD.....)

TABLE-6 IMPORTANT SOCIO-ECONOMIC FEATURES OF DIFFERENT CATEGORIES OF HOUSEHOLDS

	CHILDREN < 10 YEARS (PERCENT)	LITERATES (PERCENT)	RATION CARD	
			(Number of HH) HAVING CARD	NO CARD
SAMPLE VILLAGES				
MACRAM				
SAMPLE STATUS				
LABOUR	27.42	15.91	11	
MARGINAL FARMERS	29.58	25.42	8	
SMALL FARMERS	32.42	40.00	11	
LARGE FARMERS	25.00	68.50	5	
OTHERS	30.00	38.93	5	
SAMPLE VILLAGES				
MACRAM TOTAL/AVERAGE	29.25	33.89	40	
K. GAON				
SAMPLE STATUS				
LABOUR	22.25	25.00	8	2
MARGINAL FARMERS	20.87	39.69	7	3
SMALL FARMERS	21.58	30.97	9	
LARGE FARMERS	32.02	52.30	6	
OTHERS	33.32	35.38	4	1
SAMPLE VILLAGES				
K. GAON TOTAL/AVERAGE	24.72	35.41	34	6
P. GAON				
SAMPLE STATUS				
LABOUR	20.71	40.63	6	
MARGINAL FARMERS	15.80	56.85	8	1
SMALL FARMERS	19.21	64.94	12	
LARGE FARMERS	10.98	69.85	8	
OTHERS	15.97	67.85	5	
SAMPLE VILLAGES				
P. GAON TOTAL/AVERAGE	16.62	60.82	39	1
DHULIA				
SAMPLE STATUS				
LABOUR	25.67	6.67	10	
MARGINAL FARMERS	26.01	10.19	10	
SMALL FARMERS	23.15	33.45	8	
LARGE FARMERS	15.86	29.86	5	
OTHERS	27.86	40.71	7	
SAMPLE VILLAGES				
DHULIA	24.41	21.76	40	



Out of a sample of 40 households, six households (five belonging to labour and marginal category) did not have ration cards in K.Gaon and one household did not have card in P.Gaon.

The above description of characteristics of villages and households have indicated that because of increased awareness in recent years, there are not many households without card except in one village. Most of these non-card-holders were landless or had small piece of land, belonged to labour category, and were from scheduled caste/tribes. Most of them were illiterates. In fact, even large farmers could manage to get cards for getting subsidised rice in Andhra Pradesh where households with income of more than Rs.6000/- or owning more than 5 acres of land were not entitled.

The sample households had lower average family size than the village average in two villages (Mac-ram and Dhulia) where having more number of cards enable them to get higher entitlements. However, in villages of Maharashtra, where entitlements were generally on per capita basis, tendency to split the cards was not seen.

## III

## PDS and Purchase Behaviour of Households

## A. Participation in PDS :

In this section extent of participation in PDS and factors affecting off-take by households are analysed. The indicators of participation by different categories of households are:

- i) Owning cards,
- ii) Extent of participation by card-holders :
  - a) extent of use of card,
  - b) taking full entitlements or not, and
  - c) Per card off-take
- iii) Per cent of total consumption of cereals met by PDS.
- iv) Per cent of dependence on market for each commodity

i) Ownership of cards : It was observed earlier that all households in village Dhulia owned cards (Table-3). In P.Gaon only 4 out of 149 households did not own cards. However, in Mac-ram 13 out of 170 households did not have cards and in K.Gaon as many as 50 out of 266 households did not have cards. In Dhulia, the requirement for participation in government sponsored employment schemes was that the household should have a ration card as an identification of bonafide resident of the village. Since employment programmes restricted one adult per household, and because of repeated drought years, there was strong motivation to own card and to split families in order to

have more number of cards. It was observed that in Dhulia a large number of households became members of FPS in eighties. In Mac-ram where a special scheme for supply of rice at only Rs.2 per Kg. as against a price of Rs.3.50 - 4.00 in market was begun in 1984, a large number of households were new entrants to the programme. During 1980 the programme was introduced in the rural areas. At that time most households got registered as members of ration shops. Since, a limit of 5 Kg. per member upto 5 members per household was fixed by the state government, in 1984 when new political party came into power the tendency to split the households and acquire more number of cards was observed. Despite large benefits from subsidised rice at FPS thirteen households mostly belonging to backward castes and illiterates, could not obtain cards. It is obvious that the reason for existence of non-card holders were difficulties in getting cards rather than the lack of motivation on the part of households. However, when a restriction of family size is applied households try to split the families among adult members. It is interesting to note that both in Andhra Pradesh and Rajasthan village, the average family size was very close to the limit of five.

In contrast to above two villages, in K.Gaon and P.Gaon no efforts by the households to acquire more cards by splitting family was seen because the restriction of family size in getting supplies from PDS was not imposed. In fact, in K.Gaon wheat and rice under ITDP was given at highly subsidized rate (Rs.1.55 for wheat and Rs.1.80 for rice compared to Rs. 2.25 and Rs.2.80 respectively in non-ITDP areas. Despite this, 18.80 per cent of

households did not have cards. Again it was observed that non-members were landless or had small land, mostly belonged to backward castes, and were mostly illiterates.

On the basis of seven households in the sample who did not have ration cards, in K.Gaon (six) and P.Gaon (one) the indications about the difficult formalities in obtaining cards are available. Out of seven households not having card five mentioned that they made several visits to the office of supply officer but it was difficult to have quick access to the officer and then formalities expected from them were many. Only one household out of seven non-card holders did not try to get card but he had an assured income. The seventh household did not try to get card and belonged to middle cast and had high income.

Thus, the exclusion of poor, illiterate, and have-nots from the programmes can be seen. The formalities involved in becoming member of FPS, or getting duplicate or new card and the indifferent attitude of the bureaucracy and village politics go against the poor in obtaining card.

#### ii) Proportion of Card-Holders Using Cards:

The extent of participation by card holders can be seen by examining use of the cards. In Mac-ran almost all card-holders participated in PDS in all survey months and therefore across sample groups there was hardly any difference. Only three households did not take part in one month each. In Dhulia participation rate in PDS was 70 per cent (Table-7). However, it

varied between 15 to 95 per cent in different months.\* Often labour households had lower participation, but there was not much variation in other categories.

In K.Gaon the participation rate by card holders was 61.25 per cent. Marginal farmers and 'other' category of households participated a little less than average participation rate. However, all other three categories participated more than average rate. In P. Gaon participation rate was only 55.41 per cent. Labour and marginal and small farmers participated less than large farmers and 'other' households.

Another angle to examine participation is the regularity in use of cards. The field study was done six times between December, 1987 and December, 1988. Except in Macram where all households participated regularly, in other villages the participation was irregular for most households. In K.Gaon and Dhulia 21 and 22 households out of a sample of 40 participated regularly while in P.Gaon only 9 households participated regularly.

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\* See Table 11.

Table 7 : Regularity in use of Cards : Number of Times used cards during six months of survey.

Village	Never Used	Used 1-2 Times	3-4 Times	5-6 Times	Total Households	% of Households Purchased from FPS
<u>Mac-ran :</u>						
Labour	-	-	-	11	11	98.5
Marginal Farmer	-	-	-	8	8	100.0
Small Farmer	-	-	-	11	11	98.5
Large Farmer	-	-	-	5	5	96.7
'Others'	-	-	-	5	5	100.0
Total	-	-	-	40	40	98.9
<u>K. Gaon :</u>						
Labour	2	1	1	6	10	66.7
Marginal Farmer	2	2	-	6	10	55.0
Small Farmer	-	1	3	5	9	68.5
Large Farmer	-	1	2	3	6	66.7
'Others'	1	1	2	1	5	43.3
Total	5	6	8	21	40	61.3
<u>P. Gaon :</u>						
Labour	1	1	3	1	6	52.8
Marginal Farmer	1	3	3	2	9	51.9
Small Farmer	2	3	5	2	12	45.8
Large Farmer	-	-	7	1	8	62.5
'Others'	-	-	2	3	5	76.7
Total	4	7	20	9	40	55.4
<u>Dhulia</u>						
Labour	-	2	4	4	10	64.3
Marginal Farmer	-	-	6	4	10	73.4
Small Farmer	-	-	4	4	8	72.2
Large Farmer	-	-	2	3	5	70.0
'Others'	-	-	4	3	7	75.0
Total	-	2	20	18	40	70.0

### iii) Per Household Purchases:

Per household off-take of rice from FPS was 18.23 Kg. per month in Mac-ram. Labour and marginal households purchased lower quantities of foodgrains from FPS than purchased by other sample categories (Table-8). However as per cent of entitlement there was not much variation across sample groups. In Dhulia village average purchases from FPS were 22.28 Kg of wheat and the labour, marginal farmers and 'other' households purchased less than small and large farmers. As percent of entitlement, there was not much variation except that small farmers took much higher share of their entitlement.

In case of K.Gaon average monthly purchase from FPS were 8.56 Kg. Small farmers and labour households took a little more than average (10.46 and 9.01 kg respectively). However, 'other' households purchased about half of the average quantity per household. As per cent of entitlement, the participation was only 18.60 per cent and utilisation by labour, marginal and small farms was higher. In P.Gaon per card holder purchases were only 4.92 kg. and large farms and 'other' categories lifted more than labour, and marginal and small farmers. Relatively, small farms lifted much lower share of their entitlement.

### iii) Share of FPS in cereal consumption:

In Mac-ram 25.23 per cent of total cereal consumption was met by FPS. The share of FPS for labour, marginal and small farmers

TABLE-B : PARTICIPATION IN PDS BY SAMPLE HOUSEHOLDS

NAC-RAN										
Sample group	HH	% purchased from FPS	Per HH. purchase (Kgs.)	Per capita Purchase (Kg.)	% of entitlement	% of total cereals Consumption	% of Wheat From FPS	Rice From FPS	% quantity purchased from market	
									Wheat	Rice
LABOUR	11	98.5	15.29	4.88	95.88	28.44	-	57.78	-	52.11
MARGINAL FARMER	8	100.0	17.58	3.63	98.4	26.14	-	53.81	-	53.41
SMALL FARMER	11	98.5	19.59	3.85	95.85	26.98	-	53.16	-	83.67
LARGER FARMER	5	96.7	20.48	3.64	92.18	24.87	-	45.86	-	56.33
'OTHERS'	5	100.0	20.67	3.58	97.36	22.89	-	42.44	105.26	57.49
AVERAGE	48	98.9	18.23	3.68	93.18	25.23	-	51.11	105.48	63.27

(Contd.....)



Table-8 contd....

## DHULIA

Entitle- ment	Sample group	HH	% purchased from FPS	Per HH. purchase	Per capita Purchase	% of enti- tlement	% of total cereals	% of Wheat	Rice	% quantity purchased from market	
										Wheat	Rice
	LABOUR	10	64.3	16.72	4.40	52.57	34.53	60.74	100.0	30.73	-
	MARGINAL FARMER	10	73.4	22.45	4.58	55.87	37.65	64.83	105.26	21.26	-
	SMALL FARMER	8	72.2	28.25	5.95	71.90	43.57	76.48	100.64	15.64	-
	LARGE FARMER	5	70.8	25.43	4.38	53.80	32.83	55.05	120.00	38.90	-
	'OTHERS'	7	75.0	20.90	4.43	55.11	35.98	53.45	3.60	46.23	96.77
	AVERAGE	40	70.00	22.20	4.70	57.70	36.91	62.50	26.01	29.68	76.01

(Contd.....)

Table-8 contd....

## K. GAON

Entitle- ment	Sample group	NH	% purchased from FPS	Per NH. purchase	Per capita Purchase	% of enti- tlement	% of total cereals	% of Wheat	Rice	% quantity purchased from market	
										Wheat	Rice
	LABOUR	10	66.66	9.01	1.84	28.28	13.16	32.90	22.54	71.99	67.25
	MARGINAL FARMER	10	55.0	8.68	1.33	20.32	9.84	35.70	8.96	61.28	42.63
	SMALL FARMER	9	68.52	10.46	1.29	19.78	10.43	34.80	10.54	53.44	9.80
	LARGE FARMER	6	66.66	8.08	1.03	15.74	7.51	20.21	5.57	34.33	16.97
	'OTHERS'	5	43.34	4.60	0.45	7.38	4.32	29.19	4.30	52.03	35.31
	AVERAGE	40	61.25	8.56	1.20	18.60	9.05	30.70	9.85	54.91	30.94

(Contd.....)

Table-B contd.....

P. 6A0N

Entitle- ment	Sample group	HH	% purchased from FPS	Per HH. purchase	Per capita Purchase	% of enti- tlement	% of total cereals	% of Wheat	Rice	% quantity purchased from market	
										Wheat	Rice
	LABOUR	6	52.77	3.97	0.85	15.10	5.76	49.00	54.78	63.12	61.92
	MARGINAL FARMER	9	51.85	4.41	0.79	13.46	5.90	28.57	62.48	73.34	85.56
	SMALL FARMER	12	45.83	3.58	0.67	11.45	5.60	34.47	57.55	76.25	54.32
	LARGE FARMER	8	62.50	5.66	0.42	15.29	6.70	45.18	74.10	125.37	35.08
	'OTHERS'	5	76.66	9.03	1.03	17.79	7.92	72.24	70.15	38.77	15.67
	AVERAGE	40	55.41	4.92	0.84	14.29	6.38	42.29	63.65	80.31	52.07

was marginally higher than average. Since rice is the major cereal in this village, the contribution of FPS to rice consumption was 51.11 per cent. The first three groups had slightly higher share from FPS than the average. In Dhulia, the share of FPS was 36.91 per cent and except small farmers who purchased from FPS higher proportion of total cereal consumption, there was not much variation across sample groups. Wheat was important crop in consumption and 62.50 per cent of wheat consumed was from FPS. Small farmers met relatively higher proportion of wheat consumed from FPS while large farmers and 'other' households took relatively lower proportion.

In case of K.Gaon and P.Gaon, the share of FPS in total cereal consumption was only 9.05 per cent and 6.38 per cent respectively. Across sample groups in K.Gaon the share of FPS for labour, marginal and small farm households was slightly higher. However, the reverse was true in P.Gaon. Wheat is not an important food in these villages. However, because of special low prices and for certain purposes wheat was consumed. Of the total consumption of wheat 30.70 per cent was met from FPS. Except large farmers who took much less share from FPS in their wheat consumption, all other groups did not differ much from average share of FPS. However, in case of rice labour households took large proportion of their rice consumption from FPS.

In case of P.Gaon, the share of FPS in wheat consumption was 42.29 per cent. 'Other' households took maximum advantage while marginal farmers and small farmers took lower proportion of their

needs. In case of rice as much as 63.65 per cent was contributed by FPS. Large and 'other' households took larger shares.

In conclusion, because of substantial subsidy participation rate was high though in Mac-ram, the labour and marginal households bought less than other groups of households. Added to this is the fact that the proportion of card holders in these groups was lower in the village. In Dhulia, where all households had cards, participation and per household purchases by labour category was much lower. In K.Gaon though participation by labour, and marginal farmers was slightly higher than other groups, only 9 per cent of total cereal consumption was contributed by FPS. A very large proportion of households of labour and marginal farmers did not get cards. In P.Gaon also the share of FPS was negligible (6.38 Percent) but labour and marginal farmers purchased much lower quantity. Thus, across the states, exclusion of labour and marginal farm households from the programme and lower off-take in absolute terms by these groups was observed. The reasons for lower off-take as stated by the respondents are summarised below.

#### **B. Reasons for not lifting**

The responses recorded from sample households are given in Table-9. It is seen that in Mac-ram where off-take was almost full consumers exhibited satisfaction about the working of FDS. In Dhulia where the extent of participation was 70 per cent, uncertainty in supply, and lack of purchasing power are very important reasons. There was not much dissatisfaction about the

quality of wheat supplied. In K.Gaon where participation rate was high, off-take as per cent of entitlement was very low. Uncertainty of supply, poor quality and lack of purchasing power were important factors for non-lifting of lower participation. In P.Gaon where there was no FPS in village the distance and uncertainty of supply largely caused by lack of information about supply and long queues were important. Also dissatisfaction about quality of rice and wheat was important factors. Lack of purchasing power was also very important factor.

TABLE-9 : REASONS FOR PURCHASING LESS THAN ENTITLEMENT

REASONS	MAC-RAM	K.GAON	P.GAON	DHULIA
<b>1. ACCESS</b>				
Distance	-	-	12	-
Uncertain supply	-	11	11	27
<b>2. COMMODITY</b>				
Poor quality	-	19	17	5
Not needed	-	15	7	8
<b>3. PRICE</b>				
Not much Price difference	-	2	2	1
<b>4. OTHERS</b>				
Adequate Stock	1	8	12	5
No Money	1	35	60	29

Note: The above figures are based on multiple responses for not lifting or partial lifting by card-holders.

In other wards, the distance caused lack of information and uncertainty about supply. Thus matching of money availability (income) and supply of ration from FPS is not done. Most of these responses were highly associated with Labour and marginal farmers belonging to backward castes (Table-10).

Purchase behaviour of household across months could be seen in Table-11. It indicates that price of substitute commodities stocks and receipts (production) played important role in determining the quantity purchased by households.

TABLE-10 : CASTE AND RESPONSES FOR LESS PARTICIPATION IN PDS CARD-HOLDERS

SAMPLE GROUPS	MAC-PAM		K.GAON		P.GAON		DHULIA	
	Part Lifting	Not Lifting	Part Lifting	Not Lifting	Part Lifting	Not Lifting	Part Lifting	Not Lifting
Labour	23	1	36	20	19	17	29	22
Marginal farmer	25	1	32	27	17	26	34	16
Small farmer	36	1	36	15	32	39	22	13
Large farmer	15	1	23	12	28	18	17	9
Others	13	3	13	17	23	7	32	12
Total	113	7	140	93	129	107	124	72
% backward castes	72	43	57	62	29	31	72	72

TABLE-11 ; PURCHASES FROM FPS AS PER CENT OF ENTITLEMENT

VILLAGE		DEC. 1987	JAN. 1988	MAR. 1988	MAY-JUL 1988	AUG-OCT. 1988	DEC. 1988
MAC-RAM	Entitlement	22.13	22.13	22.13	19.47	9.51	22.13
	% lifting	95.48	96.61	89.15	86.02	90.75	98.28
	Substitute	1.87	1.85	1.62	1.97	2.01	2.01
	Commodity Price						
	Labour	90.9	100.0	100.0	100.0	100.0	100.0
	M. Farmers	100.0	100.0	100.0	100.0	100.0	100.0
K.GAON	Entitlement	78.90	79.80	59.18	13.15	23.01	23.01
	% qty lifting	12.39	15.31	19.18	45.73	16.86	36.11
	% HH who lifted	52.50	65.00	70.00	57.50	40.00	82.50
	Substitute	2.19	2.27	2.46	2.63	2.26	2.52
	Commodity Price						
	Labour	70.0	70.0	70.0	60.0	60.0	60.0
M. Farmers	50.0	70.0	60.0	50.0	30.0	60.0	
P.GAON	Entitlement	67.35	67.35	24.20	11.23	19.64	16.84
	% lifting	8.95	9.62	14.18	32.05	21.64	34.20
	% of HH who lifted	50.00	60.00	52.50	47.50	47.50	75.00
	Substitute	1.99	1.96	2.40	2.31	2.15	2.52
	Commodity Price						
	Labour	33.0	50.0	33.0	50.0	67.0	17.0
M. Farmer	33.0	54.6	67.0	44.5	44.5	33.0	
DHULIA	Entitlement	49.75	27.88	27.88	46.75	51.25	27.88
	% lifting	58.05	132.71	74.53	41.45	44.68	17.03
	% of HH who lifted	57.50	75.00	95.00	92.50	85.00	15.00
	Substitute	2.54	2.68	2.69	2.92	3.00	2.00
	Commodity Price						
	Labour	50.0	70.0	90.0	80.0	80.0	10.0
M. Farmer	70.0	80.0	100.0	100.0	70.0	20.0	

Note: Substitute commodity was jower (Sorghum) in Mac-ram, bajra (Pearl Millet) in K.Gaon and P.Gaon, and maize in Dhulia.



It could be observed that price of substitute commodity in Mac-ram was highest in December 1988 (Rs.2.01 per kg.) and was lowest in March 1988 (Rs.1.62 per kg.). The off-take behaviour in terms of per cent of entitlement also matched more or less with price variables i.e. in December 1988, 98.28 per cent of entitlement was lifted but in March only 89.15 per cent was lifted. In K. Gaon, prices were highest in June 1988 but lowest in December 1987. The corresponding lifting of cereals was 45.37 per cent, 12.39 per cent respectively. In P. Gaon, the highest and lowest months were December 1988 and December 1987 respectively. The corresponding off-take was 34.20 per cent and 8.95 per cent. In Dhulia, the corresponding months were August, 1988 and December 1988. The lowest off-take of 17.03 per cent was in December 1988 but the highest off-take was in January 1988 when entitlement itself was slashed down. There may be some special reason for excess supply during that month.

### C. Regression Model

#### Consumer Behaviour :

Consumer behaviour with respect to purchasing of foodgrains from FPS can be explained by using usual consumption function and treating foodgrain from FPS as separate commodity. Consumer does not treat foodgrains provided at FPS as perfect substitutes of foodgrains from other sources ; because these involve extra extra costs, waiting and inconvenience and have usually poor quality. In the foregoing paragraph purchase behaviour from FPS was examined by using two way

In the foregoing paragraph purchase behaviour from FPS was examined by using two way tables. In order to bring out factors affecting consumer behaviour a model is fitted.

$$C = (C_f + C_m + C_o)$$

$$C = f(P_m + P_f + P_o + I + T)$$

$$C_f = C - (C_m + C_o)$$

$$C_f = f(P_m + P_f + P_o + I + T) - C_m + C_o$$

Where C is consumption of foodgrains, subscripts f, m and o refers to FPS, market and other sources of foodgrains respectively. The variable I and T are income and other factors.

Thus the function assumes that depending upon price differences a consumer would decide upon how much to purchase from FPS. This means if there is no restriction, he would buy all the quantities from FPS or if there is transaction cost, he would buy less. However, if there are restrictions in supply from FPS, the consumer will buy all the quantity offered or up to the level his income permits.

Since income is usually under reported, assets such as land can further explain the variation in off-take. This is represented here by sample groups. There are differences in consumption pattern across castes, variable caste has been added in equations. Family's demand for foodgrain is also determined by family size and composition of family, these variables are also added.

Further, it is hypothesized that after harvest of crop the demand for PDS foodgrain is reduced and as stocks starts depleting, the interest in buying from PDS is increased. Therefore 'Month' variable was added.

The consumer might like to buy a particular quantity. However, if he does not have money to buy, he cannot buy. The above factors are from the demand side. If the supply is not available when the consumer wants to buy or if supply is reduced he cannot buy as per his usual quota or intended quantity. To capture this phenomenon, supply variables were introduced. These are a) date of off-take of foodgrain by the FPS owner from supply points, quantity lifted by the owner, and quantity distributed by the PDS authorities.

After experimenting several variable specifications following functions were estimated:

$$C_f = ( a + b_1I + b_2WP_f + b_3RP_f + b_4WF_m + b_5RP_m + b_6OP_m + b_7CST + b_8SC7 + b_9FS + b_{10}child + b_{11}R + b_{12}M + b_{13}P + b_{14}YP + e \dots \dots \dots (i)$$

$$C_f = ( a + \dots \dots \dots + b_{15}Q + b_{16}QL + b_{17}DL + e \dots \dots \dots (ii)$$

Where C = consumption of cereals, subscript F refers to purchase from FPS

FS - Family size

CHILD- Per cent children less than five years of age.

I - Annual income of the household in Rs.

- CST - Caste of households
- P - Participant in FPS (Card Holder)
- YP - Year of becoming member of FPS
- Pm - Price of the commodity in market
- SG - Sample Group
- M - Months ; October = 1, December = 2, January = 3, March = 4, May-August = 5
- R - Other receipts including stock in the beginning of the month.
- Q - Quantity distributed by teshil to all FPS.
- QL - Quantity lifted by sample FPS
- DL - Date of lifting quota by sample FPS

The data of off-take for all the six months of survey is pooled and a month variable (M) was used. The results of finally selected equations for the four villages are given in Table-12.

The variation explained by the Equation 1 on purchase of foodgrains from FPS was low - only 0.41 for Macram, 0.30 for K.Gaon, 0.17 for P.Gaon and 0.36 for Rajasthan. When supply constraining variables - quantity distributed (Q), quantity lifted (QL) and date of lifting (DL) were added, the equation 2, R<sup>2</sup> increased substantially for three villages. R<sup>2</sup> increased from 0.41 to 0.78, for Mac-ram from 0.30 to 0.35 for K.Gaon, and from 0.36 to 0.42 for Dhulia. However, for P.Gaon it increased marginally from 0.17 to 0.18. The results described below are based on Equation 2.

Mac-ram : The equation for Mac-ram shows that change in price of

rice and sorghum in market had no effect on purchases from FPS as shown by a small and highly insignificant co-efficient of price variables (R<sub>Pm</sub> and S<sub>Pm</sub>). Tabular analysis earlier exhibited some association between lifting of rice from FPS (CF) and market prices of Sorghum in Mac-ram.

TABLE 12 : SELECTED REGRESSION MODELS FOR PURCHASE OF CEREALS FROM FAIR PRICE SHOPS IN SAMPLE VILLAGES

Village	Eq. No.	Regression coefficient of variables									
		'a'	I	RPf	MPf	RPa	MPa	SPa	SG	CST	FS
Mac-rae	1)	25.24	-0.0008	-	-	-4.94	-	-2.21	-0.32	-0.34	2.32
		(7.62)	0.29	-	-	3.64	-	1.01	(0.07)	1.04	(5.58)
	2)	-14.55	0.0004	-	-	-0.08	-	-0.13	-0.17	-0.26	2.18
		1.87	0.24	-	-	0.09	-	0.08	0.69	1.22	7.86
K. Gaon	1)	36.98	0.0003	0.31	-14.64	-0.96	0.48	-2.58	-2.26	-1.60	0.23
		3.69	-	0.08	2.01	0.70	1.79	0.91	4.83	3.67	1.04
	2)	31.81	0.0002	2.14	-7.34	-1.20	0.52	-1.36	-1.83	-1.55	1.43
		2.13	1.24	1.55	1.03	0.00	2.00	0.49	3.89	3.62	1.47
P. Gaon	1)	14.00	0.0001	-6.00	-1.60	0.33	0.89	0.70	0.32	-0.17	0.88
		1.42	1.03	1.62	0.30	0.46	0.78	0.33	0.68	0.29	3.75
	2)	48.60	0.0000	-9.35	-4.48	0.37	-0.20	1.35	0.36	-0.13	0.89
		-	0.93	1.68	0.62	0.52	0.14	0.62	0.75	0.22	3.74
Dhulia	1)	198.92	0.0003	9.93	-110.60	23.75	-1.39	13.62	-1.42	-1.09	3.60
		2.32	-	1.07	3.11	6.01	4.67	3.22	1.24	1.00	4.69
	2)	137.06	-0.0001	10.36	-98.40	15.21	-1.36	-6.31	-1.10	-0.50	3.04
		1.51	0.24	1.17	2.32	2.54	0.10	0.61	1.00	0.48	4.16

Table 12 contd.....

Village	Eqn. No.	Regression coefficient of variables							
		CHLD	H	R	YP	Q	QL	BL	R2 (R/2)
Mac-raa	1)	-0.003	0.81	0.02	0.02	-	-	-	0.38
		0.11	3.07	(1.68)	(0.20)	-	-	-	(0.35)
	2)	0.0004	-0.37	0.03	0.06	0.08	0.51	0.04	0.78
		0.19	0.61	1.69	0.82	0.60	1.60	0.27	0.78
K. Gaon	1)	0.10	0.69	-0.01	0.14	-	-	-	0.28
		2.05	1.44	1.49	5.98	-	-	-	0.24
	2)	0.10	1.56	0.002	0.14	-0.08	0.18	-0.33	0.35
		2.08	2.14	0.14	6.19	1.98	2.64	1.02	0.30
P. Gaon	1)	0.05	-0.41	-0.001	0.08	-	-	-	0.17
		1.30	1.08	1.15	1.67	-	-	-	0.12
	2)	0.06	1.00	0.0002	0.07	-0.20	0.43	0.07	0.18
		1.34	0.94	0.09	1.60	1.55	1.53	1.52	0.12
Dhulia	1)	-0.16	0.19	0.04	-0.50	-	-	-	0.36
		-	5.20	2.10	1.89	-	-	-	0.32
	2)	-0.20	18.02	-0.005	-1.51	-0.0069	0.51	-0.85	0.42
		2.92	4.94	0.58	1.96	2.80	4.74	3.60	0.38

Note : Figures in brackets are 't' values and in last column adjusted R2.  
 . A one tailed 't' test required 't' value is 1.28 at 5% significance.

Family size (FS) and quota lifted by FPS (QL) had positive and significant signs. All other variables except caste were highly insignificant. Caste had a negative sign ( $-0.26$ ) showing a bit of discrimination against backward castes and have-nots.

Since rice is a staple food in Mac-ram and its price difference between FPS and market was quite significant, and supply was assured upto village level by government of the State, the awareness among consumers was quite high. Therefore, there was full participation by all households.

K. Gaon : In K. Gaon, despite low  $R^2$  most of the variables had significant and expected signs. Among the price variables, wheat price at FPS had negative sign while market price had positive signs indicating increase in off-take from FPS if market price of wheat increases. Rice price and substitute commodity prices did not have valid signs, but the coefficients were insignificant. Family size and per cent of children had significant positive signs. The supply constraining variables, quantity lifted by FPS (QL) had positive and significant sign ( $0.18$ ) but the date of lifting (DL) was not significant. It had negative sign which implies that there seems to be some negative effect on off-take if supply by FPS is delayed. Thus, price consideration, family size, caste and supply constraining variables were very important factors influencing off-take by the households.

P. Gaon : In this village, though  $R^2$  was very low, price of rice at FPS and in market and price of coarse cereals (OPM) had



expected signs. However, except rice price at FPS, other price co-efficients were not significant. Caste and size groups also were highly insignificant. However, family size and supply constraining variables were highly significant. Quantity lifted by FPS had positive significant effect on off-take by consumer indicating that it was supply which largely constrained the off-take.

Dhulia : In Dhulia wheat price at FPS has expected sign and was significant but wheat and maize price in market did not have proper sign and significance. Family size was very important variable. Seasonality (M) showed positive and significant coefficient. Date of lifting (DL) and quota lifted by FPS (Q) had expected signs and were highly significant. In other words, quantity supplied was easily absorbed by the consumer but the delay in supply had adverse effect on off-take.

To conclude the results of off-take behaviour of consumers, the supply constraining variables, seasonality and socio-economic status as shown by income, caste and sample groups were very important. Price at FPS was very important variable but market price did not indicate expected signs or significance levels which only indicated that the price difference has been in favour of PDS foodgrain and therefore small variations between market and FPS prices did not matter much.

## IV

## Distribution Policy

## A. Strategy Formulation

It was found that the sample households of poor category (labour and marginal farmers) participated less in the programme, used cards fewer number of times, and purchased lower quantities of foodgrains from FPS compared to other categories of households and compared to their entitlements. Some of the reasons could be lack of awareness on the part of the poor or lack of purchasing power. Better use of FPS services depends upon a well-thought out strategy which reduces the cost in accessing the system by the poor and makes program adapt to the needs of the poor rather than forcing a program, howsoever well-intended it may be. Identification of the poor is very important. However, in order to make supplies available to poor, if non-poor has also to be included, the cost of supply to the poor is increased. In this section an examination of the strategy developed in reaching the poor has been attempted with a view to find its strengths and weaknesses.

Hypotheses are that :

- i) There is a facade of strategy formulation and therefore it is wishful, unrelated to the strengths and ambitious.
- ii) Programme implementation is bureaucratic and routinised unmindful of changes in needs of the poor :

- a) Demand for estimation of cereals for PDS is not well worked out.
  - b) It is considered that in a good or normal rainfall crop year enough food is available and hence PDS supplies are not needed.
  - c) During post-harvest season enough food is available and hence the poor does not need cereals from PDS.
- iii) During poor crop years, more food is supplied, but without making arrangement for its proper distribution and without making certain that it reaches poor. Tactics may be delays in supplies and supply of poor quality product.

Objective -- The purpose of PDS in India has never been clear. Often conflicting objectives such as a) helping the poor, b) stabilising prices, c) rationing and d) competing with private channels can be found in the policy documents. Therefore, developing a strategy becomes difficult if one does not know what is aimed at. This leads to several mistaken steps. To illustrate, the poor generally consumes coarse cereals. But procurement and distribution are largely restricted to wheat and rice. For Government of India foodgrain is foodgrain - it is not rice, wheat or coarse cereal. This distinction is made by the consumer himself. Thus government policy is insensitive to the needs of the poor. The NSS consumer surveys indicate that in Rajasthan and Maharashtra average consumer consumes two-third coarse cereals in the total consumption of cereals (Bapna, 1975). In several situations coarse cereal prices exceeded price of wheat indicating preferences of the consumer and lower crop substitution among consumers. This has also been amply shown by

the sample consumers, particularly in ITDP area where off-take by the consumers was lower, despite lower wheat price at ration shops (1.55 paise per kg) was charged compared to high market prices of wheat or substitute commodity (Rs.2.19-2.63/kg.).

Secondly, when a commodity which is staple food for the relatively better off people is supplied, efforts to create leakages in the system are increased. This cannot happen without connivance with FFS and others involved in the channel. Third, pricing strategy is not formulated to help the poor. If wheat and rice is not the staple food of the poor and, if coarse cereals are not available, to motivate the poor to switch over to wheat or rice, the price of wheat or rice should be much lower than open market prices of the substitute commodity. This was clearly evident, from the low participation rate by the poor in PDS in Maharashtra villages. This was also observed in Dhulia and Mac-ram though to a less extent.

As mentioned earlier, implementation of food policy is the task of state governments. The Central Government provides broad norms. The objective mentioned is 'help to the vulnerable sections of the population'. However, this has not been emphasized in implementation of strategy. Therefore, strategy formulation is also very broad. The guidelines suggested by the Central Government are :

- i) There should be an FFS for 2000 population,
- ii) Per capita allocation norms are laid down,

iii) prices are fixed which are less than open market prices.

This involves element of explicit subsidy, and

iv) No specific targetting is suggested except ITDP - a geographical targetting.

A general subsidy programme can be tested in times of crisis when relatively rich creates situations for larger leakages often in consonance with bureaucracy, FPS and village leaders.

#### B. Implementation

Bureaucratic nature of decision making process in the allocation of foodgrain can be seen by studying the information of food allocation by Government of India. The price rise in 1985-86 was about 5 per cent but allocation was increased from 15.7 to 19.0 million tonnes (Table-13). On the other hand price increase in 1988 over 1987 was about 11 per cent but allocation was reduced to 18.0 million tonnes.

At the state level the bureaucratic procedure can be seen more clearly. For example in Rajasthan prices of foodgrains increased substantially in 1985 and 1986 over 1984. However, the demand made to Central Government for foodgrains PDS was fixed at 0.74 million tonnes for all the three years. This shows the lack of seriousness on the part of decision-makers. It appears that in allocation of cereals due consideration to price situation was given by the Central Government. In lifting of foodgrains the situation never approached demand and quantity allocated. In fact, in 1984 there was hardly any off-take by government of

Rajasthan implying that when crops are relatively good, the poor does not need help. This could be termed as fallacy of composition on the part of decision makers.

TABLE 13 : DEMAND, ALLOCATION AND OFF-TAKE OF FOOD GRAINS  
(Million Tonnes)

Year	Production of Food-grains	Demand	Allotted	Off-take	Index number of price of Foodgrains (Base : 1960-61 = 100)
<u>Govt. of India*</u>					
1984	161.1	21.7	14.0	8.5	573
1985	154.3	20.2	15.7	8.8	569
1986	161.9	22.4	19.0	11.3	600
1987	154.0	25.7	20.2	13.5	630
1988	147.9	28.2	18.0	15.7	724
<u>Andhra Pradesh*</u>					
1984	18.31	2.04	1.26	1.09	461
1985	18.93	2.46	1.34	1.09	480
1986	21.49	2.54	1.49	1.43	488
1987	22.06	2.66	1.42	1.20	N.A.
1988	19.05	2.65	0.99	0.94	584
<u>Maharashtra*</u>					
1984	9.92	1.73	1.02	0.58	561
1985	10.49	1.60	1.11	0.63	569
1986	9.74	1.64	1.40	1.18	589
1987	-	1.88	1.80	1.64	623
1988	-	2.42	1.79	1.75	695
<u>Rajasthan*</u>					
1984	7.08	0.74	0.35	0.11	508
1985	6.86	0.74	0.40	0.23	568
1986	3.90	0.74	0.71	0.45	655
1987	4.19	0.81	0.83	0.65	N.A.
1988	-	1.42	1.09	0.95	770

\* Population in these States were 54.3, 63 and 34 millions as per 1981 census.

Table-14 : Allocation and off-take in different months

	All India		Andhra Pradesh		Maharashtra		Rajasthan	
	Allo- cated	Lifted	Allo- cated	Lifted	Alloc- ated	Lifted	Allo- cated	Lifted
1987, July	16.90	11.34	1.46	1.63	1.60	1.58	0.62	0.26
Aug.	16.53	12.69	1.43	1.46	1.50	1.38	0.42	0.64
Sept.	18.20	14.05	1.46	1.41	1.50	1.58	1.02	0.83
Oct.	17.76	15.83	1.46	1.47	1.60	1.58	0.64	0.85
Nov.	18.55	13.44	1.76	1.57	1.60	1.32	0.84	1.04
Dec.	18.75	14.02	1.66	1.39	1.70	1.42	1.09	0.83
1988, Jan.	18.45	14.93	1.22	1.22	1.70	1.60	1.04	1.13
Feb.	17.21	16.11	0.90	0.90	1.60	1.45	1.04	1.31
March	16.04	15.17	0.80	0.67	1.40	1.41	1.04	1.03
April	14.32	11.83	0.75	0.67	1.40	1.47	0.84	0.86
May	14.26	11.74	0.65	0.67	1.40	1.44	0.84	0.72
June	13.80	11.64	0.70	0.67	1.40	1.37	1.04	0.76
July	13.72	12.38	0.80	0.80	1.45	1.45	0.84	0.88
Aug.	14.12	12.42	0.80	0.80	1.45	1.42	0.84	0.70
Sept.	14.32	12.33	0.85	0.80	1.50	1.30	0.84	0.62
Oct.	14.44	11.97	0.90	0.92	1.50	1.56	0.84	0.47
Nov.	14.58	12.15	0.90	0.69	1.55	1.34	0.84	0.39
Dec.	14.48	13.94	0.80	0.70	1.55	1.70	0.84	0.61



Table-15 : Allocation in Tahsil, Igatpuri

Month	Masik		Igatpuri		Khanbala		Sample WH	
	Lifted	Distri- buted	Lifted	Distri- buted	Lifted	Distri- buted	Poor	Large
	('000 Quintals)		('000 Quintals)		(Quintals)		(Kilograms)	
July, 87	38	44	4.19	3.40	58	58	-	-
Aug. 87	38	28	1.85	4.16	58	68	-	-
Sep. 87	38	39	2.76	3.32	45	36	-	-
Oct. 87	45	34	3.16	2.39	28	48	-	-
Nov. 87	32	41	2.43	3.86	68	58	-	-
Dec. 87	38	36	1.27	1.47	38	35	11.6	7.5
Jan. 88	48	36	1.88	2.84	48	21	13.3	8.3
Feb. 88	33	43	2.16	1.58	28	48	-	-
March 88	25	37	2.88	2.51	38	38	12.8	8.3
April 88	25	27	1.51	1.86	15	15	-	-
May, 88	34	29	3.57	2.39	38	38	-	-
June, 88	31	28	3.92	2.31	15	11	5.8	8.8
July, 88	33	26	1.73	2.88	15	14	-	-
Aug. 88	32	24	1.35	1.48	15	16	-	-
Sep. 88	28	33	1.27	2.23	32	32	-	-
Oct. 88	25	38	1.46	2.38	38	31	6.2	8.2
Nov. 88	17	39	1.28	1.71	28	21	-	-
Dec. 88	18	36	1.13	2.84	25	24	5.91	2.8

Table-16 : Allocation in Tehsil, Yeola

Months	Yeola		P. Gaon			Consumer		
	Lifted	Distrib- uted	Allo- cated	Lifted	Distrib- uted	Labour	Lower Farmer	Average
	( 000 Quintals)			(Quintals)			(Kilograms)	
July, 1987	3.66	3.24	252	27	27	-	-	-
August, 1987	1.94	3.04	252	32	32	-	-	-
Sept., 1987	3.36	2.22	252	19	19	-	-	-
Oct., 1987	1.96	1.78	252	15	15	-	-	-
Nov., 1987	1.72	1.49	252	11	11	-	-	-
Dec., 1987	1.71	1.82	252	10	10	3.5	4.8	6.0
Jan., 1988	1.83	2.34	252	16	16	6.3	6.3	6.5
Feb., 1988	2.38	2.33	252	12	12	-	-	-
March 1988	1.47	1.74	180	20	20	5.3	3.1	3.4
April 1988	1.10	1.73	72	6	6	-	-	-
May, 1988	2.10	1.49	72	12	9	-	-	-
June, 1988	1.79	1.74	36	11	13	2.0	3.0	3.6
July, 1988	1.23	1.49	36	9	9	-	-	-
Aug., 1988	1.67	1.43	36	23	21	-	-	-
Sept. 1988	3.26	1.50	33	18	19	-	-	-
Oct., 1988	2.49	1.74	87	35	35	1.7	10.4	4.3
Nov., 1988	0.56	1.69	105	22	22	-	-	-
Dec., 1988	-	1.99	105	25	25	5.0	6.4	5.8

Off-take by State of Andhra Pradesh does indicate some sensitivity on the part of the Central Government but it has been less responsive to demand by the State Government. This may be partly because Andhra Pradesh is a surplus state having 54.3 million people and Maharashtra was deficit state and had 63.0 million people. For example in a drought year like 1988, allocation was reduced from 1.42 million tonnes to 0.99 million tonnes. This might lead one to conclude that political considerations rather than exigency of the situation may also operate. In Andhra Pradesh different political party was in power which may explain this decline in allocation.

In Maharashtra demand by government of Maharashtra, allocation by the Central Government and off-take by Maharashtra Government kept pace with price situation (Table 14).

#### Allocation By States

Within the states allocation in the districts is generally irrespective of price considerations. Examination of data on allocation of foodgrains to districts would show the procedure adopted (Table 15 and Table 16). Distribution at district level changed in April, 1988 in Maharashtra, it was reduced from more than 20 thousand quintals to 15 thousand quintals for Nasik District and subsequently allocation and distribution at tehsil level was reduced. This came down from 2.51 thousand quintals to 1.86 thousand quintals in Igatpuri and 2.33 thousand to 1.78

thousand quintals in Yeola. These were reflected in allocation to villages; from 124 quintals to 33 quintals to K.Gaon and from 252 quintals to 72 quintals to P.Gaon in April, 1988. The harvesting of and increase in stocks of jowar were the reasons for these changes. The price situation did not warrant this change. There was further reduction in the allocation in June, the month when price of cereals are very high. Allocation was again increased in the village in September-October when new crops are about to come. June and October being critical months, price situation is usually very adverse and employment opportunities are lower in the former month while there is employment opportunities due to harvesting of crops in the latter month. The farmers and labourers are generally very busy and increased supplies may not be obtained by the consumers. These facts indicate that there is hardly any criterion for changes in allocation - prices and new crop arrivals were not considered at village level.

### C. FPS Strategy

The FPS is the closest link of PDS. In the management of PDS, cooperatives were encouraged as part of policy. However, only 30 per cent was accounted by cooperatives and the remaining were generally private stores. In order to monitor their activities generally inspectors are appointed. In the selection of the shops, though as a policy statement cooperatives and backward caste people are to be preferred but in implementation, the people who get license to operate FPS are already having other

sources of income and belong to middle or upper castes, who would have a class bias.

Thus, the objective of PDS is not clear, commodity, price and channel selection are biased, and the cost of making goods available to the poor is very large. As mentioned earlier if the one-third of the supply goes to the poor, the per unit cost of distribution becomes three times for reaching the poor. For example in Andhra Pradesh where targetting was attempted, the cost to the state exchequer was as high as one-third about Rs.360 crores of the total budget. This was partly because 80-95 per cent of the people could manage to get in the subsidy programme.

Therefore, the cost-benefit needs to be compared among various alternatives of reaching the poor. However, the operation of FPS is guided by maximisation of profits at the private stores while in cooperative stores it is considered as a responsibility, though the same commission are given to both agencies.

The FPS has direct interface with the consumer. The objective of FPS owner would be to maximise his gains. As he knows best about the poor, he operates in such a way that the quota of the poor is lapsed which he can use to his advantage. This is evident from the case studies done in the four selected villages in this study.<sup>o</sup> It was found that generally, FPS owners do not lift cereals until the end of first fortnight of the month. This forces the poor who buys on daily or weekly basis to seek another source of supplies. For the FPS owner it is

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<sup>o</sup>The regression estimates made earlier also bring out this fact clearly.

advantageous because his working capital is not locked for the whole month. Also, it helps in having unclaimed stocks which could be off-loaded to open market. Further, supply of all items is not done on the same day. This forces a consumer to make several visits to the shop and increases his cost and inconvenience. Table-17 provides information about selected FPS's behaviour.

It was observed that in Mac-ram and K.Gaon, more than three-fourth of the off-take was between 10 and 25th of each month. Further, the off-take of different commodities was staggered by Mac-ram Shop so that capital requirement is not large. In case of K.Gaon all commodities are purchased simultaneously but purchases are made 2-4 times during that period so that at a time capital required is less. In P. Gaon off-take starts in the first week and hence very small quantity is lifted between 10 and 25 of the month. However, off-take of all commodities is done together and therefore capital required is reduced. In Dhulia off-take starts quite in time but the release of commodities in small quantities by the tehsil officials and this requires more number of visits by FPS to stock points for all and adds to transportation and handling cost.

It may also be observed that profits earned from the turnover is small to attract full time participation by the shop-keepers. In urban areas, the turnover and number of per FPS card holders are more which makes FPS feasible. However, in rural areas sometimes, it is difficult to get people to operate stores.

Table 17 : Proportion of Times off-take by FPS was between date of 10-25 During July, 1987 and December, 1988 and Total turnover and Profits in a Year

	Mac-ram@	K. Gaon‡	P. Gaon*	Dhulia**
Wheat	-	72.2	27.6	31.25
Rice	70.6	83.3	23.5	NA
Sugar	73.3	83.3	50.0	53.80
Oil	70.0	88.89	29.4	NA
Kerosene	86.7	NA	NA	NA
Total sales per month	13265	15540	24503	20578
Total profits per month	425	390	639	1467

\* Goods were purchased 2-6 times during the period in lots. However, generally all goods were supplied at the same time.

\*\* Supplies were staged by district officials. The FPS also use to bring accordingly and supplied to consumers accordingly.

@ Goods were purchased in staggered manner. Generally all goods not available simultaneously.

‡ Generally all goods were supplied simultaneously.

## V.

## CONCLUSIONS

Discussion of consumers behaviour with respect to purchase of foodgrains from FPS has shown that a) consumption habits determine motivation to buy from FPS, (b) price difference is very important; (c) middle and rich households do buy more specially when prices are high, (d) supply management of Central, State and district administration and even at FPS level is bureaucratic and is insensitive to needs of the poor groups; e) the cost of distribution (total subsidy) is very high and the PDS does not reach adequately to the poor who needs help most. Using the above analysis few suggestions and policy implications are indicated below :

- 1) The first step in reaching the poor is identification of the poor. Income criteria is generally used. But officials who measure income can make mistakes or may have biases. However, as this study has shown, there is a large section of the population who do not have any resource or has marginal resources and skills. These can be easily identified without going into income or means test. Such a section of the population can be made target group for PDS. Landless and marginal farmers constitute clear target groups. Households who try to become marginal farmers can be easily identified if per capita land owned is used as a criteria. Besides land, occupation can be considered as second criteria for screening target groups.



- 2) Commodity selection - coarse cereals, the major food item of the poor should form a part of PDS supply. This would also reduce leakages. If this is not possible either through production or import of coarse cereals, the price of wheat and rice should be made less than normal price of coarse cereals in order to motivate the poor to switch over to these commodities. But monitoring has to be very strict to reduce leakages.
- 3) It is not necessary to have a vast network of FPS. It is difficult to monitor a large number of FPS is uneconomical to operate and has less access to the people. Normal channels can be chosen to do distribution job.
- 4) The subsidy burden should be gradually reduced so that resources for other programmes could be saved. Further, keeping such a subsidy programmes make people addict to it and their own initiative is reduced. One way is to choose a small number of ultra-poor and help them for three-four years. Afterwards, if need be, another set could be chosen.
- 5) The expenditure incurred on PDS is very high compared to other programmes. For example, in 1988-89, the budgeted expenses were Rs.23 billion for food subsidy, Rs.30 billion for fertilizer subsidy, Rs.4.0 billion for rural and area development programmes, and Rs.12.10 billion for employment projects. The relative magnitude of subsidy

for PDS is very high. In Andhra Pradesh food subsidy alone was about one-third of total budget of the State Government. However, there is no efforts to measure relative cost-benefits. The number of studies on measuring impact of rural development and employment programmes are many but studies on PDS are very few. With so much of resource commitment, efforts to properly evaluate direct and indirect effects should be made.

## FOOTNOTES

2. There is disagreement about the proportion of the the people below the poverty line and undernourished in rural areas in India. Ahluwalia's (1986) estimates of proportion of the poor varied between 38.1 and 56.8 per cent between 1956-57 and 1977-78. Recent estimates are placed around 50 per cent (Evenson, 1986). However, the estimates by the Planning Commission, Government of India are around 37 percent. P V Sukhatme (1981) argues that instead of using average energy requirement, if minimum energy requirement is considered, the estimates of the poor would come down to about 25 per cent of the population. He estimated that the number of the undernourished people in India were around 250 millions in 1980. Even if conservative definitions are used India is one of the lowest few countries in per capita intake of nutrition. In absolute number she has the largest number of the undernourished people (World Bank, 1986).
  
3. These programmes were: Small farmers Development Agency, Marginal Farmers and Agricultural Labourers Agency, Rural Employment Programme, Drought Prone Area Programme, Food for Work, Employment Guarantee Scheme and other social welfare schemes.

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