Performance Evaluation of Targeted Public Distribution System (TPDS)

Programme Evaluation Organisation
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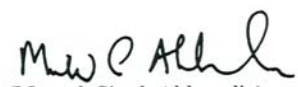
Foreword

The Targeted Public Distribution System (TPDS) is an important instrument of policy aimed at reducing poverty through the mechanism of delivering minimum requirements of food grains at highly subsidised prices to the population below the poverty line. To assess its efficiency and effectiveness in achieving this objective, the Planning Commission and the Ministry of Consumer Affairs, Food and Public Distribution initiated an independent evaluation of performance by the Programme Evaluation Organisation (PEO). The evaluation used relevant process data collected from the various nodes of the delivery system and also relied upon a sample survey of fair price shops and households spread over 18 States and has come up with some far-reaching findings and observations.

The study finds that about 58 per cent of the subsidized food grains issued from the Central Pool do not reach the BPL families because of identification errors, non-transparent operation and unethical practices in the implementation of TPDS. The cost of handling of food grains by public agencies is also very high. According to the study, for one rupee worth of income transfer to the poor, the GoI spends Rs.3.65, indicating that one rupee of budgetary consumer subsidy is worth only 27 paise to the poor. The results obtained deserve careful consideration. The study has also suggested some measures for improvement, which would help in finding better ways of ensuring food security for the poor.

Government accords great importance to the objective of measuring outcomes so as to ensure that policies serve up purposes for which they were adopted. The PEa provides a key input into this process by undertaking systematic studies of the effectiveness of programmes, primarily as an input to future policy. Evidence of sub-optimality suggests the need to draw lessons from observed weaknesses and redesign programmes accordingly. The Planning Commission proposes to strengthen this aspect of its activity in the years ahead



(Montek Singh Ahluwalia)

Preface

The Targeted Public Distribution System (TPDS) was launched in 1997 to benefit the poor and to keep the budgetary food subsidies under control to the desired extent following failure of the earlier PDS system. Conceptually, the transition from universal PDS to TPDS was a move in right direction, as it was designed to include all the poor households and raise the unit subsidy and ration quota considerably for them. The objective of keeping the budgetary **consumer subsidy** in check was **proposed** to be met through sale of food grains to APL households at **Economic Cost** and confining the budgetary food subsidy to about sixty five million identified BPL families. Though the supply of the requisite quantity of food grains for distribution at BPL prices was to come from the **Central Pool**, the success of TPDS in terms of meeting its stated objectives depended largely on the ability of State Governments in identifying the genuine poor families, restricting the number of poor families to the number estimated by Planning Commission and in putting in place an effective and efficient delivery system.

At the instance of the Planning Commission and the Ministry of Consumer Affairs, Food & Public Distribution, Programme Evaluation Organisation took up the evaluation of TPDS to reflect on the following issues:-

- Efficacy of the delivery mechanism in improving access to PDS for the poor;
- Off-take by the poor and its determinants;
- Viability of Fair Price Shops (FPSs) & its implications;
- Types and magnitudes of targeting errors and their implications on welfare and budgetary consumer subsidy;
- Extent of leakages and diversions of subsidized food grains;
- Delivery cost across the States; and
- Overall performance of TPDS.

To generate the required data base, the study covered 60 districts, 88 blocks, 16 towns, 176 village panchayats, 240 Fair Price Shops and 3600 households spread over 18 States. While sample survey was conducted by the 15 field units of PEO, the study design was prepared at the Programme

Evaluation Organisation (PEO) Headquarters. The main findings of the study are:

- The implementation of TPDS is plagued by targeting errors, prevalence of ghost cards and unidentified households;

- Though the off-take per household has shown some improvement under TPDS, yet only about 57% of the BPL households are covered by it;

- The FPSs are generally not viable because of low annual turnover and they remain in business through leakages and diversions of subsidised grains;

- Leakages and diversions of subsidized grains are large and only about 42% of subsidized grains issued from the Central Pool reaches the target group;

- Over 36% of the budgetary subsidies on food is siphoned off the supply chain and another 21% reaches the APL households; and

- The cost of income transfer to the poor through PDS is much higher than that through other modes.

The performance of TPDS can be considerably improved if some measures are taken to streamline the BPL identification survey and if the delivery system is made effective, efficient and transparent. The report has come up with useful suggestions in this regard which if implemented are expected to reduce leakages and diversions and improve the performance of TPDS. The summary version of the findings and suggestions was circulated in the Planning Commission for comments. The comments received from Hon'ble Deputy Chairman, Planning Commission and Dr. Kirit Parikh, Member, Planning Commission improved the presentation of the findings.

The study received constant support and encouragement from Hon'ble Deputy Chairman, Planning Commission and Secretary, Planning Commission. The present shape of the report as well as the analytical framework of Chapter 6, was developed under my supervision and guidance. The study design was prepared by Dr. P.D. Joshi, Ex-Director, PEO, while data processing, tabulation plan and the initial analysis plan were done under the guidance of Shri Servesh Kumar, Director, PEO. The analysis of FPSs viability, determinants of off-take behaviour and the final shape of the first five Chapters were contributed by Shri

Antony Cyriac, Senior Research Officer, Smt. P.T. Subha, Research Officer and their colleagues in the Bangalore unit of PEO, the statistical assistance for its empirical counterpart was provided by Shri V.K. Sharma, Statistical Officer (Sr.Grade) and Shri Bhuwan Chander, Economic Investigator, Shri Ramesh Datta, P.A. and Shri Dharmender Singh Sajwan, Tabulation Clerk in Adviser's Office. The detailed list of officers involved in the study is given at the end of the report. The help and cooperation received from NIC (YBU) is gratefully acknowledged.

(S.P. Pal)
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Summary

Evaluation Issues, Findings & Suggestions

The Targeted Public Distribution System (TPDS) was introduced in 1997. It envisages identifying the poor households and giving them a fixed entitlement of food grains, rice and/ or wheat, at the rate of 20 kg. per household per month (from April, 2000) at specially subsidized prices (at half the Economic Cost).

Evaluation Issues

The evaluation study was designed to reflect on the following issues:-

- quality of implementation of BPL identification survey;
- circulation of BPL & APL ration cards vis-à-vis the estimated number of poor families;
- nature of the problem of ghost BPL cards;
- types and magnitude of targeting errors and their implications on welfare and budgetary consumer subsidy;
- efficacy of the delivery mechanism in improving access to PDS for the poor;
- off-take by the poor and its determinants;
- viability of Fair Price Shops (FPSs) & its implications;
- extent of leakages and diversions of subsidized food grains;
- delivery cost across the States;
- overall performance of TPDS; and
- corrective measures/ reforms to improve the performance of TPDS.

Study Design

The study covered 60 districts, 88 blocks, 16 towns, 176 village panchayats, 240 Fair Price Shops and 3600 households spread over 18 States to generate the relevant data base (both primary and secondary) for testing the hypotheses implicit in the above issues. A stratified random sampling procedure was adopted for selection of units at various stages. The sample survey was conducted by the 15 field units of PEO through structured questionnaires. Since there were data gaps for the States of Arunachal Pradesh and Meghalaya, the larger part of the analysis has been carried out with respect to 16 large States. Though the sample design for the study provided for a sample size of 1200 control households (without any ration cards) for understanding the reasons for not holding cards, we could not carry out any detailed analysis of this data.

Delivery Mechanism –*Variation Across States*

- The administrative structures built by different States for delivery of PDS food grains are similar. Most large States have three/ four tiers above the retail outlets, viz; Civil Supplies Department, District Supply Office (also Divisional Supply Office in Uttar Pradesh), Block Supply Office (also Sub Centres in Punjab and Haryana). The NE States have a two-tier system (Chapter 3).

- The retail outlets (FPSs) in most States are operated by private individuals, while in some others, these are partly or fully in cooperative sector (Chapter 3).

- While food grains are door-delivered in Andhra Pradesh, Arunachal Pradesh, Haryana, Himachal Pradesh, Madhya Pradesh and Tamil Nadu, the FPSs in other States, do not enjoy this facility (Chapter 3).

- Irregular delivery schedule of FPS quota is a persistent problem in most States. This has contributed to low off-take by consumers and hence to large diversion of subsidized grains to the open market (Chapters 3& 5).

- Kerala allowed off-take of monthly ration quota in multiple installments, while other States did not. More than three-fourths of the sample BPL cardholders expressed their desire to have the facility of weekly off-take extended to them (Chapter 5).

- In most of the States, the FPS owners were required to lift their monthly quota on cash down payment, while those in Tamil Nadu were extended credit facilities through the district cooperative banks (Chapter 4).

- Monitoring of activities of FPSs through inspection by district/ taluka level officials was irregular and ineffective. The involvement of the PRIs was effective only in a few States, like, Kerala, Rajasthan, Madhya Pradesh, Andhra Pradesh, Orissa and West Bengal. The PRIs were generally unaware of the Citizen's Charter (Chapter 3).

- A large majority of the cardholders from Andhra Pradesh, Haryana, Karnataka, Madhya Pradesh, Punjab and Tamil Nadu had ration cards with photographs, while a few had photo ration cards in Himachal Pradesh & West Bengal. Others are non-starters.

Viability of FPSs & Its Determinants

- The number of ration cards attached to a FPS, their BPL-APL break-up, off-take of grains (and other commodities), margin on commodities, cost incurred on transport and handling, rents, etc. are the determinants of viability of FPSs. By viability, we mean an annual return of 12% or more on the working capital. Ensuring FPSs viability is critical to sustenance of PDS retail trade and minimizing leakages/ diversions of PDS grains.

- Only about 22.7% of the FPSs were found to be earning a return of 12% on capital. The majority of the FPSs in this sense are viable in Andhra Pradesh (67%), Maharashtra (50%), Meghalaya (100%) and Tamil Nadu (88%) with reference to their present levels of operation.

- Since financial viability of FPSs is critical to the success of TPDS, a simulation exercise was carried out w.r. to alternate values of the relevant parameters that affect the operation of FPSs. Based on the results of this exercise, a package of measures has been suggested (Section on Suggestions) in the study to make the FPSs financially viable. These measures are expected to minimize leakages, bring in transparency and contribute to realization of the objective of ensuring food security for the poor.

Consumer Off- take & Its Determinants

- The off-take by APL cardholders was negligible except in Himachal Pradesh, Tamil Nadu and West Bengal. In Tamil Nadu, all cardholders (APL or BPL) were entitled to subsidized grains, while in other two States, market prices ruled above the Economic Cost in some districts, inducing some APL cardholders to buy PDS grains.

- The average monthly off-take per BPL card was high in Himachal Pradesh (20 kg.), Tamil Nadu (19 kg.), and West Bengal (19 kg.), while it was low in Punjab (5 kg.), Bihar (5 kg), Haryana (9 kg), Meghalaya (9 kg.), Uttar Pradesh (10 kg.) and Gujarat (10 kg.). There was very little off-take in rural areas of Bihar, Haryana, Punjab, Rajasthan and Uttar Pradesh.

- The off-take by the poor under TPDS was found to be substantially higher than that observed under the universal PDS (Chapter 5; also Parikh, 1994; Swaminathan, 2000; Kripa Shankar, 2004), implying that the **poor are quite price sensitive**, and that the transition from universal **PDS** to **TPDS was a move in right direction**.

- The off-take by BPL cardholders varied significantly across States. A multivariate analysis suggests that the factors (supply and demand side) contributing to this variation are: variation in BPL quota, facility of off-take in installments, regularity in the availability of grains in FPSs, availability of preferred cereals, seasonality in demand for PDS grains (wage in kind & low prices in harvest seasons) and asset holding (particularly land and consumer durables).

Targeting Errors, Leakages & Diversions *–Inter-State Variations*

- The study used a simple analytical framework to understand the problem of different types of error in implementation of TPDS. A **household–ration card** mapping (Table 6.2) for each State was carried out to understand the mis-match between different types of households and ration cards.

- The implementation of TPDS is plagued by large **Errors** of **Exclusion** (of BPL families) and **Inclusion** (of APL), and by the prevalence of **ghost BPL cards**. Some States have issued more cards than the number of households, while some others have the problem of unidentified households (Table 6.1).

- The intensity of the problem of targeting errors, however, varies across States as seen in the table 1.

Table 1: Targeting Errors

(% of households)

States	Exclusion Error (*)	Inclusion Error	Shadow Ownership Error
1	2	3	4
Andhra Pradesh	3.20	36.39	0.0
Assam	47.29	17.16	12.30
Bihar	29.81	12.20	13.55
Gujarat	45.84	9.78	11.87
Haryana	27.90	14.16	0.42
Himachal Pradesh	8.86	20.39	7.01
Karnataka	23.38	42.43	20.58
Kerala	16.28	21.04	4.05
Madhya Pradesh	19.61	12.49	5.27
Maharashtra	32.69	11.11	4.34
Orissa	26.56	16.78	8.37
Punjab	7.75	12.33	0.0
Rajasthan	16.73	5.22	0.0
Tamil Nadu	-	49.65	10.20
Uttar Pradesh	26.75	13.25	10.50
West Bengal	31.74	10.23	4.69

* Inclusive of Shadow ownership Error. For other type of errors see Chapter 6.

- High exclusion errors imply low coverage of the target group (BPL households). Of the estimated 45.41 million BPL households (March 2000), TPDS has extended coverage to only 57% BPL families.

- The problems of targeting errors and ghost cards have serious implications for the **performance, impact** and **delivery cost** of TPDS. These, along with certain weaknesses in the delivery mechanism (Chapter 3), have led to **large scale leakages** (36.38%) and **diversion** (21.45%) of subsidized grains to unintended beneficiaries.

- Wide inter-State variations in **different types of leakages** have been observed. In the self-explanatory tables below, the States are grouped w.r. to the intensity of the problem of leakage of subsidized grains.

Grouping of States According to Intensity of the Problem of Leakage of Subsidised Grains Issued from Central Pool

Table 2: Total Leakage

Abnormal Leakage (More than 75%)	Very High Leakage (50%-75%)	High Leakage (25%-50%)	Low Leakage (Less than 25%)
1	2	3	4
Bihar & Punjab	Haryana, Madhya Pradesh & Uttar Pradesh	Assam, Gujarat, Himachal Pradesh, Karnataka, Maharashtra & Rajasthan	Andhra Pradesh, Kerala, Orissa, Tamil Nadu & West Bengal

Table 2-A: Leakage at FPS Level

Very High Leakage (+50%)	High Leakage (25%-50%)	Moderate Leakage (10% to 25%)	Very Low Leakage (Less than 10%)
1	2	3	4
Bihar, Haryana & Punjab	Rajasthan & Uttar Pradesh	Andhra Pradesh, Gujarat, Karnataka, Kerala & Maharashtra	Assam, Himachal Pradesh, Madhya Pradesh, Orissa, Tamil Nadu & West Bengal

Table 2-B: Leakage Through Ghost Cards

Very High Leakage (+30%)	High Leakage (10%-30%)	Moderate Leakage (less than 10%)
1	2	3
Assam, Himachal Pradesh & Madhya Pradesh	Bihar, Gujarat, Karnataka, Maharashtra, Orissa, Uttar Pradesh & West Bengal	Andhra Pradesh, Haryana, Kerala, Punjab, Rajasthan & Tamil Nadu

- In addition to leakages, TPDS suffers from diversions of subsidized grains to unintended beneficiaries (APL households) because of **Error** of **Inclusion**. While small inclusion errors and diversions could be ignored (as these could be due to genuine measurement errors), in the States of Andhra Pradesh (36%), Himachal Pradesh (20%), Karnataka (42%), Kerala (21%) and Tamil Nadu (50%), the **proportion of subsidized grains received by APL households is unacceptably large.** Notes prepared by the field units of PEO suggest that a section of the APL households holding BPL cards actually do

not lift their ration quota. Thus, a part of the entitlement of these APL households holding BPL cards is **actually leaked out** of the PDS supply chain. It is, however, difficult to capture this form of leakage empirically.

Performance of TPDS –*Delivery Costs & Subsidies*

- Leakages and diversions of a large part of subsidized grains imply **lower share of the genuine BPL households**. During 2003-04, the 16 large States were issued 14.07 million tonnes of BPL quota from the Central Pool. Of this, **around 5.93 million tonnes was delivered to the BPL families** and **8.14 million tonnes intended for them never reached them**. The Balance Sheet of Central Pool BPL grains for 2003-04 can be seen in the left panel of Table 3.

- Leakages and diversions raised the **delivery cost** in the sense that for every kilogram of food grains delivered to the poor, the GOI had to issue 2.4 kg. of subsidized grains from the Central Pool. In other words, the amount of **implicit subsidy** per kilogram of food grains delivered to the poor is more than the difference between the Economic Cost and Central Issue Price. The break up the Central Subsidy to the poor in terms of **intended** and **unintended** subsidies for 2003-04 is shown on the right panel of Table- 3.

Table 3

Balance Sheet of Central Pool BPL Food grain (Kg./BPL family/ annum)				Central Unit subsidy for BPL–Statewise (Rs./Kg.)		
State	Off - take by States Govt. 2003-04	Off-take by identified BPL Families	Food grains not reaching the poor households	Total Central Subsidy for Off-take by identified BPL	Intended Subsidy	Unintended Subsidy/ Additional Delivery Cost
1	2	3	4	1	2	3
Andhra Pradesh	466.16	197.65	268.51	13.75	5.83	7.92
Assam	490.76	227.32	263.44	12.59	5.83	6.76
Bihar	138.13	12.24	125.89	50.98	4.52	46.46
Gujarat	320.24	169.47	150.77	8.77	4.64	4.13
Haryana	416.16	138.79	277.37	12.44	4.15	8.29
Himachal Pradesh	492.22	266.14	226.08	9.19	4.97	4.32
Karnataka	480.80	139.91	340.89	18.78	5.46	13.31
Kerala	407.58	248.58	159.00	9.56	5.83	3.73
Madhya Pradesh	365.57	124.04	241.53	14.53	4.93	9.60
Maharashtra	347.29	227.27	120.02	7.32	4.79	2.53
Orissa	276.37	175.88	100.49	9.16	5.83	3.33
Punjab	364.24	38.25	326.00	40.15	4.22	35.93
Rajasthan	366.53	238.43	128.10	6.39	4.16	2.23
Tamil Nadu	525.95	181.14	344.81	16.93	5.83	11.10
Uttar Pradesh	285.16	92.73	192.43	14.13	4.60	9.54
West Bengal	336.78	246.19	90.59	6.63	4.84	1.79
16 States (Avg.)	**380.00**	**160.25**	**219.75**	**12.24**	**5.16**	**7.08**

- During 2003-04, out of an estimated budgetary consumer subsidy of **Rs. 7258 crore (16 States), Rs. 4197 crore did not reach the BPL households. Around Rs. 2640 crore of the Central subsidy never reached any consumer (BPL or APL), but was shared by agencies involved in the supply chain of TPDS.**

- Though the budgetary subsidy amounting to Rs. 3061 crore is being spent on the quantity of food grains going to BPL families, it **does not necessarily imply** that the real gain (in terms of income transfer) to poor beneficiaries is worth Rs. 3061 crore. As explained in Chapter 5 the extent of gain to the poor depends on the **difference between the local market price** (at which the poor buy grains) and **the PDS issue price** as well as on the **actual off-take** by them.

- It was noted in the study that the annual income gain to a BPL cardholder varied between a high of Rs. 1414 in Kerala and to a low of Rs. 82 in Bihar. The state-wise variations in actual income gain per BPL cardholder are shown in Table 6.13. The Table also gives the ratio of actual income gain (YG) to estimated budgetary transfer (BT), which is an indicator of the relative efficiency of the market vis-à-vis the PDS.

- Table 6.13 indicates that except in Kerala, the Economic Cost (EC) is higher than the corresponding local market prices. This implies that in general, **market is a more efficient mode of transferring income to the poor than the public agencies.** This calls for looking for ways and means of reducing the Cost of transferring grains through PDS. Because of the very high cost in public transfer, **the budgetary subsidy of Rs. 3061 core in 2003-04 is worth only Rs. 1990 crore to the BPL families**. Taking into account all the inefficiencies in the PDS, it is found that **the GOI spends Rs. 3.65 through budgetary food subsidies to transfer Re 1 to the poor.**

Improving Performance -*Suggestions & Recommendations*

Notwithstanding greater participation of consumers and higher off-take of food grains by the poor households under TPDS, the findings of the study reveal that transition from universal PDS to TPDS has **neither led to a reduction of budgetary food subsidies, nor has it been able to benefit the large majority of the food insecure households in the desired manner**. However, the performance of TPDS can be improved if some corrective measures are taken to reduce delivery cost, bring in transparency in the delivery mechanism and make the operation of retail outlets financially viable.

The two pivotal issues that relate to the implementation of TPDS are; **a)** evolving a method for the identification of the poor that minimizes errors and economises resources; and **b)** instituting a delivery system that is effective, efficient and transparent. The forgoing analysis suggests that corrective measures are required in both these areas for realization of the objectives of TPDS. The following suggestions, addressing these areas may be treated as an integrated package as most of them are closely interrelated.

On Streamlining BPL Identification

- The proportion of people with food insecurity need not be identified with Planning Commission's poverty ratio. The findings of the study suggest that a large section of the population (particularly daily wage earners) who have been kept out of the target group because of their income levels, are potentially food insecure households. Similarly, many poor marginal/small farmers who produce a part of (or full) their cereal consumption needs and have been issued BPL cards, do not need the full quota of subsidized grains through TPDS. The study findings also suggest that the off-take behaviour of BPL beneficiaries exhibits intra as well as inter –regional variations and hence, it is not right to assume that the poor, irrespective of their tastes and preferences, will absorb the food grains being supplied through TPDS. These findings and their implications justify the need to delink BPL identification survey from the official methodology of poverty estimates. In addition to these anomalies, the present BPL identification methodology is fraught with the problem of large Exclusion and Inclusion Errors due to imperfect information and interference by vested interest groups.

- It would, therefore, be appropriate to redesign the scheme (TPDS) on the basis of a fresh country-wide survey that would:

    - help identify food insecure households;

    - bring out such characteristics of households to be covered (under TPDS), which are **easily observable and verifiable** and which leave less room for arbitrariness and discretion; and

    - help understand the nature of food insecurity for different types of poor w.r. to their tastes, preferences and needs.

- In this context, the wealth ranking method used in the implementation of DPIP in Andhra Pradesh, Madhya Pradesh and Rajasthan may be examined for adoption in BPL identification, as this method has been found to yield satisfactory results (PEO, 2005).

- A fresh BPL survey may be got done by reputed survey organizations (NSSO, NCAER, ICSSR institutes, etc).

- Active and effective **involvement of the PRIs** should be built in the process of identification of the poor (Participatory Rural Appraisal (PRA), for example).

- The baseline data generated through the proposed survey may be computerized for monitoring & regular updating.

On Making Delivery Mechanism Effective

- The full monthly quota of food grains for distribution must reach the retail outlets (FPSs) **within the first seven days of the month**. For this, **doorstep delivery** of grains to FPS in the presence of PRI members or any other responsible organization is required. For ensuring transparency in delivery, it should **be authenticated by the PRI** or other designated agencies. The FPS-wise information on delivery against quota/requirement and ration cards should be computerized at the block /village level for onward transmission and monitoring.

- Based on the results of the multivariate analysis of the off-take behaviour of BPL cardholders, it is suggested that:

  - consumers may be allowed to draw ration **quota in weekly instalments;**

  - the composition of PDS grains in different States should give due **weightage to local preferences** in terms of cereals and their varieties wherever feasible; and

  - the Government of India may insist that the **entitlement** to food grains for a BPL household in any State should **not be lower than that stipulated by GOI**.

- Considering the high cost of holding buffer stock and low off-take at Economic Cost, it is felt that both BPL and APL cardholders may be issued additional quantity of grains at **less than economic cost**. This will involve no additional budgetary subsidies, but will have a significant impact on the off-take of grains, viability of FPS and operational logistics of FCI.

- To minimize leakages at FPS level and ensure their **transparent operation**, these retail outlets must be made financially viable. Through simulation exercises w.r. to alternate values of the relevant parameters, the following **package of measures is proposed for their viability:**

- Licensing of FPS needs to be rationalized. A FPS becomes financially viable only w.r. to certain minimum annual turnover. A viable FPS needs to handle about 122 tonnes of grains annually along with other PDS commodities. Each State must draw up a region/district–wise policy for making FPS viable;

- The PRIs must be empowered to inspect the accounts/transaction records of FPSs and satisfy themselves about transparent functioning of FPSs. Their findings and observations need to be regularly discussed in the *Gram Sabha;*

- FPS level margin be uniformly fixed at 2% of Economic Cost;

- Reduce the issue price for APL households by **at least** the unit cost of holding buffer stock, so as to induce them to lift food grains from PDS;

- Allow BPL cardholders to lift additional grains from PDS at APL issue prices (5kg. /month/ card);

- Ensure door step delivery of food grains within the first 7 days of the month in the presence of the PRI representatives; and

- House FPSs in community/public building (which can be built through convergence of other programmes).

- For financial viability of FPS, the possibility of channelising food grains to the existing beneficiaries of Food For Work Programs (e.g. SGRY) may also be examined. Some States are issuing food coupons to the beneficiaries of SGRY for exchange at FPS (e.g. Rajasthan). This system needs improvement as the beneficiaries have to wait for a long period to get their quota.

These measures will make most of the **FPSs financially viable** (earning 12% or more return on capital) with a reasonable level of **annual income for the owners**. For States like, Assam, Himachal Pradesh and other hilly/ inaccessible areas, a separate package will be required. Where private FPSs are not viable, the SHGs may be encouraged to take over the operation of FPSs.

- In addition to minimizing leakages and diversions of subsidized grains through reform measures suggested above, there is need for bringing down the **Economic Cost** of grains through rationalization of the cost structure of handling food grains (procurement, storage, transport, etc.) through public agencies. This merits serious attention as the evidence tends to suggest (Chapter 5) that in most of the States, market prices were less than the economic cost–implying that market may be a more efficient mode of income transfer to the poor. Re-examination of the cost structure of FCI more rigorously than already done by BICP (1991) and ASCI is required for rationalization of the cost structure and/or identifying more efficient alternative delivery mechanisms for delivery of food subsidy to the poor.

- Do all the reform measures suggested above imply an increase in delivery cost or enhanced budgetary subsidies? The additional cost (for FPS viability) will constitute only a small proportion of the saving that may accrue by plugging leakages & diversions.

- A **rudimentary analysis** suggests that the proposed measures, if implemented as a package will entail an additional cost of about Rs. 400 crore/annum for door step delivery (including loading/ unloading). If FPSs are housed in community/ public buildings, as suggested, rental costs will not be borne by them. **Transport and rental costs constitute about 44% of the operational costs** of FPSs. However, this additional expenditure and other measures suggested will yield a **saving of Rs. 4197 crore annually**, which is currently being siphoned off the supply chain through non-transparent operation of TPDS. A substantial amount of budgetary subsidies can also be saved through rationalisation of the cost structure of handling food grains by public agencies. Thus, the cost of reforming the PDS for efficient and effective delivery will constitute a small proportion of the potential saving from these measures.

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Highlights

- Taking into account all the inefficiencies of PDS, it is found that GOI spends Rs. 3.65 to transfer Re 1 to the poor.
- About 57% of subsidized grains does not reach the target group, of which a little over 36% is siphoned off the supply chain.
- Implementation of TPDS is plagued by large errors of exclusion and inclusion.
- A fresh BPL identification survey through independent agencies engaged in social science research is required to eliminate targeting errors.
- PDS is a less efficient mode of income transfer to the poor. The Economic costs of grains are higher than the market prices in most of the States.
- FPS Viability: Only 23% of sample FPSs are viable. The rest survive on leakages and diversions of subsidized grains.
- Delivery Mechanism: Irregular delivery of quota to FPSs. In some States quota is door delivered. Kerala allowed consumer off-take of monthly quota in installments.
- To make the delivery system effective and efficient, it is necessary to ensure timely door step delivery of FPS quota, rationalise the cost structure of handling food grains through public agencies, make FPSs financially viable, involve PRIs effectively and bring in transparency through e-governance. The welfare gain and saving will far outweigh the additional cost implicit in the reform measures suggested.

Chapter 1

Introduction

A Brief History of PDS in India

The Public Distribution System (PDS) in India is more than half-a-century old as rationing was first introduced in 1939 in Bombay by the British Government as a measure to ensure equitable distribution of food grains to the urban consumers in the face of rising prices. Thus, rationing in times of crisis like famine was the historical precursor to the national policy of stabilization and management of food grains. Among the number of Price Control Conferences held during 1940-42, the sixth, held in September, 1942 laid down the basic principles of a Public Distribution System for India. The Food Department, set up in December, 1942, formulated an All India Basic Plan that dealt with issues such as procurement, contracts for purchasing agents, public distribution, inspection and storage. The basic objective of the then emerging policy was stabilization of food prices. With inflation spiraling and the food situation deteriorating persistently in many parts of the country, the Food Grains Policy Committee (1943) recommended for the introduction of rationing in urban centres with a population of more than 100,000. The consequent food distribution was exclusively focused on the urban centres. That with partition, India bequeathed 82% of the population of the subcontinent, 75% of the cereal production and 69% of the irrigated area aggravated the food situation. However, under the influence of Mahatma Gandhi, a policy of decontrol was announced in December, 1947. Policies kept changing with the reintroduction of controls in September, 1948, shift to decontrol during 1952-54 and recourse to controls in 1957.

The Food Grains Enquiry Committee (Ashok Mehta Committee Report, 1957) argued for controls of a flexible indirect nature, opening of more Fair Price Shops (FPSs) and continuing the zonal policy of bringing together surplus and deficit areas within zones, controlling prices within each zone. The import of food grains during 1958-66, mostly under P.L. 480, induced the U.S. to take such measures as withholding grains in the last minute and imposing conditional ties on its policy on currency valuation, foreign trade and production, pricing and distribution of fertilizers. In 1966, imports had reached to about 14% of the food grains availability in the country which, with consequent glut in the market, might partly have resulted in the crisis in domestic production during 1964-66.

The Green Revolution and food self-sufficiency brought about a new dimension in the food grains management. The focus was on fair procurement price for farmers to insulate them from market anomalies, buffer stocking, control of market prices and public distribution of essential commodities. Food Corporation of India was established in 1965, to function as an autonomous organization, working on commercial lines, to undertake purchase, storage, movement, transport, distribution and sale of food grains and other food stuff. The Study Team on FPSs headed by Shri V.M. Dandekar (1966) observed that the foreign supplies had proved inadequate in meeting the increasing demand for food grains through FPSs. The Team recommended that the pricing in FPSs should be market oriented and that they should maximize their share in the market. The Food Grains Policy Committee (1966) advocated formulation of a National Food Budget on the basis of zonal restrictions, introduction of statutory rationing in bigger urban areas, intensification of procurement, building up buffer stocks and a more important role for Food Corporation of India in inter-state trade.

The Sixth Five Year Plan (1980-85) had, *inter alia*, envisaged that the Public Distribution System would "have to be so developed that it remains hereafter a stable and permanent feature of our strategy to control prices, reduce fluctuations in them and achieve an equitable distribution of essential consumer goods". Essential Supplies Programme, introduced in 1982 as the 17th point of the New 20 Point Programme, intended to expand the PDS through more FPSs, including mobile FPSs, to make available text books and exercise books to students on a priority basis and to promote strong consumer protection movement. The number of FPSs increased from 2.30 lakhs in January, 1980 to 3.02 lakhs in January, 1984. While the Government of India had itself shouldered the responsibility of supplying essential commodities, viz; wheat, rice, sugar, kerosene, edible oils and soft coke, the State Governments had the option to add other items considered essential by them. Effective working of the Programme was predicated on ensuring multi-faceted co-ordination, as the essential commodities were handled by different governmental agencies; food grains by the FCI, sugar by the FCI/State Civil Supplies Corporations/co-operatives, import and distribution of edible oils by the State Trading Corporation, soft coke by Department of Coal and Coal India Limited and kerosene by Indian Oil Corporation/Bharat Petroleum/Hindustan Petroleum. The Evaluation study conducted by the PEO on Essential Supplies Programme (1985) revealed that major weaknesses and deficiencies of PDS did not exist in either the lack of sufficient coverage or want of necessary administration machinery but in certain operational inadequacies such as irregular supply (to the FPSs and in turn to consumers) and poor quality leading to non-drawl, non-lifting of sanctioned quotas by the FPSs in the rural areas, general pessimism

expressed by the FPS dealers about the profitability of running FPSs, underweighment, etc**.**

In 1984, Government of India created the Ministry of Food and Civil Supplies with two departments namely Department of Food and Department of Civil Supplies; the latter being in charge of PDS. During the Seventh Five Year Plan, an Advisory Committee on PDS headed by the Union Minister for Food & Civil Supplies was constituted by the Government of India to review its working from time to time. Consumer Advisory Committees were to be constituted at district, block/tehsil levels.

The Essential Supplies Programme gave way to Revamped PDS (RPDS) in 1992 with focus on disadvantageous areas. Under RPDS, 1752 blocks, falling under Desert Development Programme (143), Drought Prone Areas Programme (602), Integrated Tribal Development Projects (1073) and Designated Hill areas (69), were identified as economically and socially backward. (135 of them overlapped). Essential commodities- wheat, rice, levy sugar, imported edible oil, kerosene and soft coke were supplied in the RPDS blocks at subsidized prices. Food grains at the rate of 20 Kg per month per family (@5 Kg per capita) was envisaged to be distributed through FPSs. The scheme also envisaged creation of PDS infrastructure, on 50% subsidy and 50% loan basis, in the form of godowns for storing food grains and Mobile Vans for door-step delivery of PDS items to the FPSs and for final distribution of these items in inaccessible areas. Vigilance Committees were to be formulated at different levels to ensure proper distribution. PEO Evaluation of the working of the RPDS (1995) indicated that though the scheme was generally beneficial to the vulnerable section of the population cutting across the regions and states, there were still gaps and constraints in the implementation, availability of very limited door delivery services to FPSs, inadequate facilities for storage at FCI telling upon the quality of grains, FPS level gaps in opening time, working hours, regularity of distribution and communication to consumers, Vigilance Committees not being able to serve their purpose meaningfully and non-consideration of socio-economic and cultural situations regarding preferences of commodities.

1.2 Targeted Public Distribution System (TPDS)

The Targeted Public Distribution System (TPDS) was introduced w.e.f. June 1, 1997. TPDS envisaged that the Below Poverty Line (BPL) population would be identified in every State and every BPL family would be entitled to a certain quantity of food grains at specially subsidized prices. While BPL population were offered food grains at half the economic cost, the APL, who were not to have a fixed entitlement to food grains, were supplied grains at their

economic cost. Thus, TPDS intends to target the subsidized provision of food grains to 'poor in all areas' unlike RPDS, which laid stress on 'all in poor areas'.

The guidelines for the implementation of TPDS were issued by the Ministry of Consumer Affairs, Food & Public Distribution in 1997. The salient features of TPDS as depicted in its Guidelines are the following:

1) TPDS proposed to issue 10 Kg of food grains per BPL family (revised to 20 Kg w.e.f. April, 2000) at specially subsidized rates. The average lifting of food grains by the state in the last 10 years would be the allocation to the state in the first year. Out of this, the quantity in excess of BPL entitlement, known as transitory allocation, would benefit the APL population, but at a price that is not subsidized.

2) States should design credible financial and administrative arrangements to ensure the physical movement of food grains to the FPSs and subsequent issue to the poor. The provision of subsidy would be conditional on this.

3) TPDS proposed to extend the issue of specially subsidized food grains to the beneficiaries of EAS and JRY at the rate of 1 Kg per person per day. The proposal was to give food coupons to the EAS & JRY beneficiaries, which they can exchange for food grains at their FPSs. States should take proper care to see that these food grains are actually issued to them.

4) The BPL population in any State could be seen as the provisional estimates reached by the Planning Commission for the year 1993-94 by the Expert Group methodology. This should form the macro estimate of BPL population at the State level.

5) For the micro selection of BPL population, the quinquennial surveys made by the Ministry of Rural Areas & Employment could form the basis. Gram Panchayats and Gram Sabhas should be involved in the initial identification of beneficiaries. Doubtful cases should be verified. Urban slum dwellers would generally qualify for selection. Applications from non-slum urban areas should be verified. Thrust was to include landless agricultural labourers, marginal farmers, rural artisans and craftsmen, urban slum dwellers and daily wage earners in the informal sector. These criteria were only indicative. However, the aggregate number of BPL beneficiaries should be within the Expert Group estimate of BPL population.

6) The issue of ration card would give entitlement to its holder to obtain certain essential commodities, at a certain scale, at certain prices, at specified outlets and in as many instalments during the month.

7) It was commended to all States to adopt the Tamil Nadu proposition of pasting the photo of the head of the family on the card.

8) New cards could be issued to eliminate the bogus cards, which were in circulation. If the cards had been issued in the recent past, instead of fresh issue, the existing ones for the identified BPL families could be appropriately stamped and be affixed with the photographs of the heads of the families.

9) Government of India's commitment on subsidized food grains is limited to: **a)** the quantity necessary for 20 Kg per BPL family, **b)** the quantity required for EAS and JRY, and, **c)** the quantity required for transitory allocation. Requirement by states above these quantities would be subject to availability and at commercially viable prices. The states should therefore re-examine their scales of issue and modify them suitably. States offering greater quantity or lower price should bear the additional burden of food grains and fund.

10) States should keep the end retail price at the FPS level to their BPL population at not more than 50 paise per Kg above the corresponding CIP. States were free to fix the margin on APL price within the limit of the actual expenses incurred.

11) While the Central Government was responsible for ensuring availability, acceptability and affordability, the states should ensure accessibility of food grains to the poor through a network of FPSs.

12) A proper system of monitoring the FPSs should be introduced and reports should be obtained every month, and if felt necessary, at shorter intervals. Too frequent inspections may harass the FPS dealers. Inspection schedules should be prepared for district and taluka level officers. A checklist may be used during inspections to make them pointed. Remedial actions should immediately be taken. Cardholders present at the shop during inspections should be consulted.

13) The collector should make weekly review of the bottlenecks faced and the actual off-take, especially the BPL off-take, from the shops. At the state level, the secretary-in-charge should make such a review once a month.

14) It was proposed to monitor the actual issue of food grains through FPSs and take that as the consumption of PDS grains of the states (instead of lifting from FCI). States should, without fail, send the monthly reports to the GOI. Reports at other levels should also be ensured in the format communicated to the states.

15) Transparency measures: The details that needed to be displayed at the FPS are; **i)** total number of cards attached to the shop–BPL & APL, **ii)** monthly allocation made to the shop, **iii)** last month's issue from the shop, **iv)** issue prices, **v)** scale of issue, and **vi)** authority to report grievances. Panchayats and Nagar Palikas should oversee the FPSs. The Panchayat President and members of municipalities or other local bodies should be informed about the allocation and actual off-take of FPSs. Collectors may use local press to make the public aware of these details.

16) Vigilance committees (VCs) should be formed at Taluk, District and state levels. A social audit of the working of PDS in association with the intended beneficiaries would be necessary. At FPS level, the Committee may consist of cardholders (some of whom should be women), the elected president of the Panchayat, consumer activists, etc. Taluka Committees should be formed with Taluka Supply Officer as convenor. District Committee should be formed with district supply officer as convener. Review of working of PDS should be subject to their review in the Panchayats and Nagar Palikas at regular intervals.

17) States, with assistance from Department of Consumer Affairs & Public Distribution, may devise suitable orientation programmes for all staff engaged in the implementation of PDS. Consumer organizations, elected representatives, social workers and representatives of welfare associations in the colonies may be invited to air the views of beneficiaries.

18) Emphasis on creating infrastructure in difficult areas would continue. Provision of godowns and vans in these areas would be emphasized. States were requested to take advantage of the 'Godowns and Vans Scheme' in these areas.

19) All possible steps must be taken to ensure that the essential commodities meant for distribution do reach the poor and not get diverted to the open market.

1.3 Evaluability of TPDS

The TPDS, with its paradigm shift in subsidized provision of food grains, has been in operation since the last 7-8 years, itself warrants a diagnostic evaluation of its different aspects; its impact on the target group, factors affecting impact, effectiveness of targeting, leakage in delivery and its causes, etc. Besides, while examining international experience on targeting, Radhakrishna et al, state that 'programmes which are imperfectly targeted have proven to be better in reaching the poor and keeping costs down than no targeting at all'. This is a readily testable hypothesis in the present Indian context, especially against the backdrop of the indications surfacing from the Table (the table considers both producers' and consumers' subsidy) below.

Growth of Food Subsidies in India

Year	Food Subsidy (In crores)	Annual Growth Rate	As Percentage of GDP
1	2	3	4
1990-91	2450	-	0.43
1991-92	2850	16.33	0.44
1992-93	2800	-1.75	0.37
1993-94	5537	97.75	0.64
1994-95	5100	-7.89	0.50
1995-96	5377	5.43	0.45
1996-97	6066	12.81	0.44
1997-98	7900	30.23	0.52
1998-99	9100	15.19	0.52
1999-2000	9434	3.67	0.49
2000-01	12060	27.84	0.58
2001-02	17499	45.10	0.77
2002-03	24176	38.16	0.98

Another strong hypothesis formed on the basis of available international experience is that the efficacy of targeting depends on the method of targeting adopted (income/expenditure based targeting, self selection, etc). In India, the identification of the poor for TPDS having been left to State governments which followed different methods to identify the poor, the aforesaid becomes a crucial question. It was against this background that PEO undertook the Evaluation Study on TPDS at the instance of Planning Commission and the Ministry of Consumer Affairs, Food & Public Distribution.

Chapter 2

Evaluation Study –Objectives & Methodology

The Evaluation Study on Targeted Public Distribution System has been conducted by Programme Evaluation Organisation (PEO) at the instance of Planning Commission and the Ministry of Consumer Affairs, Food & Public Distribution.

2.2 Objectives of the Study

The broad objectives identified for the study are listed below:-

- to assess the efficacy of the delivery system including the mechanism built up for monitoring, transparency and accountability;
- to examine the issues relating to targeting and effect of pitfalls in targeting, if any;
- to assess the impact of the scheme on the objective of securing food security to the poor and the factors, if any, constraining the desired impact; and
- to suggest corrective measures to improve the performance of the TPDS.

The specific issues that came up for consideration under the above-stated objectives included examination and assessment of:

- quality of implementation of BPL identification survey;
- circulation of BPL & APL ration cards vis-à-vis the estimated number of poor families;
- nature of ghost BPL cards;
- type and magnitudes of targeting errors and their implications on welfare, budgetary consumer subsidy;

- efficacy of the delivery mechanism in improving access of the poor to PDS;
- off-take by the poor and its determinants;
- viability of FPS & its implications;
- extent of leakages and diversion of subsidized food grains;
- delivery cost across the States; and
- overall performance of TPDS.

2.3 Sampling Design

While exhaustive primary and secondary information were collected to test the various hypotheses implicit in the objectives listed above, the following multi-stage sampling design involving the selection of States, districts, tehsils/urban areas, fair price shops (FPSs) and beneficiaries of the scheme was formulated to achieve the end result. The sampling design that has been envisaged is given as below:-

2.3.1 Selection of States

Eighteen States viz; Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal were purposively selected for the Study with a view to accommodating the geographical diversities and capturing maximum Below Poverty Line (BPL) population in the country in the sample frame within the constraints of available resources and time. The selected States constitute about 98% of both the urban and rural BPL population of the country and thereby giving a fair representation to varied geographical regions of the country.

2.3.2 Selection of Districts

The number of districts to be selected from each selected State was determined by the relative position of the State in its BPL percentage population. The selection procedure followed is given below:

Selection Procedure of Districts

Sl No	Category of State	Number of sample states falling in the category (names bracketed)	Number of districts to be selected from each State	Total number of districts selected
1	2	3	4	5
1.	With BPL population above the national average of 26.10%	Five (5) (Uttar Pradesh, Bihar, Madhya Pradesh, Orissa & West Bengal)	5	25
2.	With BPL population between 20% & 26.10%	Three (3) (Tamil Nadu, Maharashtra & Assam)	4	12
3.	With BPL population between 15% & 20%	Five (5) (Andhra Pradesh, Kerala, Karnataka, Rajasthan & Gujarat)	3	15
4.	With BPL population below 10%	Three (3) (Punjab, Haryana & Himachal Pradesh)	2	6
5.	North Eastern States	Two (2) (Arunachal Pradesh & Meghalaya)	1	2
	Grand Total			**60**

Once the number of selected districts was determined according to the procedure outlined above, their actual selection was done by giving representation to backward (inaccessible)/hilly areas, urban towns (excluding Metros) and villages present in the selected States.

2.3.3 Selection of Tehsil / Taluka / Block /Sub-Division

From each selected district, two tehsils (or taluks or blocks or sub-divisions) were selected randomly after arranging them on the basis of average BPL population, number of ration cards or off-take of food grains in last three months per tehsil. One tehsil was selected from the category of above average and the other from below average category.

2.3.4 Selection of Mobile Fair Price Shop

One mobile Fair Price Shop serving different villages in each selected tehsil and two mobile Fair Price Shops in each selected town were selected for the study, subject to their availability.

2.3.5 Selection of Fair Price Shops (FPSs) for the Villages

From each selected tehsil, the list of fair price shops was collected and two fair price shops serving two different villages were randomly selected in such a manner that at least one shop was from the private sector and the other from co-operative/Government sector in States where both the sectors are in operation. In other States, the selection was done randomly.

2.3.6 Selection of Households

From each selected Fair Price Shop of the village, 10 BPL households and 5 APL households were selected by following circular systematic sampling procedure. In the hilly areas of Arunachal Pradesh and Himachal Pradesh, the shortfall was covered from the nearest villages. However, in the case of Tamil Nadu where identification of BPL/APL households had not been made by the state Govt., households were selected from three or more groups defined on the basis of occupation criteria keeping in view affluent and non-affluent households.

2.3.7 Selection of Fair Price Shops in Selected Towns

For each selected town, information on the number of area rationing offices was collected and two rationing areas were selected randomly on the basis of average number of ration cards per rationing area ensuring that one area was of the above average category and the other from the below average category. From each selected rationing area, two fair price shops were selected randomly in such a manner that at least one shop was from the private sector and the other from the co-operative sector (if not in the Government sector) ensuring the average number of ration cards per shop of the above average category and the below average category. In a situation where these was only one rationing area in the selected town, four FPSs were selected therein.

2.3.8 Selection of Households in the Selected Towns

Within the selected district, the name of the town to be surveyed was the district headquarters. As it was operationally difficult to select the households of different category in the selected towns, the following approach was used. The regional and sub regional offices of NSSO have aerial frames known as urban frame survey (UFS) blocks which are well identified and cover a population of 800 to 1200 i.e. 150 to 200 households for different towns. From each selected town, two investigator units (under NSSO surveys) were selected randomly. From each selected investigator unit, one UFS block falling under the category of residential area and one in the category of slum area were selected. In the case of non-existence of slum area, UFS block categorized under other residential area was selected. A total of 10 BPL households and 5 APL households were selected by circular systematic sampling procedure based on a list of households with information on different colours of ration cards of the households in the entire selected UFS block. Five Non-Beneficiary (NB) Households i.e. households not having ration cards were also selected by adopting circular systematic sampling procedure.

The figure indicating gives the sample size at different stages that resulted from the above sampling procedure is given as below:

Sampling Unit		Sample Size
State		18
District	Rural	44
	Urban	16
Tehsil/Taluka/Block		88
Towns		16
Village Panchayat		176
FPSs	Regular	240
	Mobile	120
Households	BPL	2400
	APL	1200
	Non Beneficiary	1200

2.4 Instruments of Observation

Structured questionnaires were prepared at various levels to generate primary and secondary information required for meeting the objectives of the Evaluation Study, which include the following:

2.4.1 State Schedule

This schedule was primarily structured to collect information on selected States in regard to TPDS network and its functioning and throw light on the issues relating to coverage, identification, organisational set-up, pricing, scale of issue, diversion, off-take & distribution of food grains under TPDS including EAS/JRY and monitoring and policy adopted, if any, by the states.

2.4.2 District Schedule

This schedule was designed to gather information on the middle level management of the TPDS network and also on the district-specific characteristics that affected PDS.

2.4.3 Tehsil /Taluka/Block/Sub Division Schedule

The schedule was structured to collect information on food grains requirement, allotment and distribution, availability of storage and transport, issue of & amendments to Ration Cards, inspections, complaint redressal and awareness generation.

2.4.4 Village Panchayat/Town Schedule

The questionnaires structured at this level was meant, *inter alia*, to understand the role of PRIs in ensuring accountability and transparency in PDS.

2.4.5 Fair Price Shop (Fixed/Mobile) Schedule

This instrument was designed to gather information on the viability of FPSs, off-take by and from FPSs and other characteristics of their operation.

2.4.6 *Household Schedule (BPL/APL/Non-Beneficiary)*

These schedules were designed to generate primary information required for the assessment of the impact of TPDS on the target group. Credible information was collected through these schedules on their food demand patterns, factors affecting their PDS off-take, their problems as PDS beneficiaries and their socio-economic profile thereby throwing light on the correctness of targeting.

2.4.7 Field Notes at Different Levels

The guide points structured for preparing qualitative notes on observations of the field situation by the Regional Evaluation Offices (REOs) and Project Evaluation Offices (PEOs) of Programme Evaluation Organisation (PEO) at State and district levels were proved to be a powerful information in explaining the trends shown by the quantitative data elicited through structured questionnaires. The notes contained description of the administrative, monitoring and accountability mechanisms, their efficacy, method of targeting followed by States and problems faced by them therein, problems in delivery of PDS items and other determinants of the performance of TPDS.

2.5 Reference Period

The reference period for the study was from 1997 to 2001- the four year period of the operation of TPDS. The household level information referred to the period from May to December 2001.

2.6 Field Work for Data Collection

After pre-testing of schedules, the orientation programme for field staff was held at PEO Headquarters, Planning Commission, New Delhi in April, 2001. The field work carried out by the Regional Evaluation Offices and Project

Evaluation Offices located in different States was started in May-June, 2001 and completed by December, 2001.

2.7 Data Processing & Analysis

The filled in schedules were received at the Headquarters of Programme Evaluation Organisation at New Delhi and the scrutiny and coding were done before handing them over to the Yojana Bhavan Unit (YBU) of NIC for data entry and processing. Consistency of the collected data was ensured before generating analytical tables. The necessary design of data entry, consistency checks and tabulation of the collected data were supplied to YBU of NIC.

Chapter 3

Delivery Mechanism for TPDS

Introduction

An analysis of the arrangements made by the selected States for the delivery of PDS items not only gives an interesting analytical cross section, but also lays the background for the introduction of the systemic failures discussed in the chapters to follow. The chapter outlines the broad similarities in the institutional structures built for PDS across States. It also presents a state-specific description of the differentiating hallmarks of the aforesaid institutional structures on a comparative framework with observations from the filed. The monitoring and transparency arrangements built up by the selected States, along with the impressions held by the BPL and APL respondents about those arrangements, have also been covered in the chapter.

3.2 Broad Similarities in Delivery Mechanisms

(i) The food grain entitlement to each State is worked out and allotted by the Ministry of Consumer Affairs and Public distribution to the State Department of Food & Civil Supplies (variedly called in different States). However, in none of the States, the allotted food grains are lifted at the State level; it is sub-allotted to the districts by the State Department.

(ii) The major States have built up a three-tier/four tier administrative set-ups for managing PDS –the State Department at the apex level, the District Collector and District Supply Officer and his staff at the district level and the Tehsildar/Taluka Supply Officer and Food Inspectors at the Tehsil/block level. Smaller States (for example, the selected North-Eastern States) have built up official administrative systems of PDS only up to the district level.

(iii) The actual lifting of food grains from FCI godowns is done by the designated wholesale dealers of food grains, who operate at the district or sub-district level, upon receipt of the allotment of grains from the district level. The food grains lifted by them are transported to their/other godowns at the sub-district level (stage I transport) and from there to the designated retail points (Stage II transport). The nature of operation of wholesale dealers and the mode of transport vary across States.

3.3 Delivery Mechanism Across States

This section generally skips repetitive points on administrative channels at the State and district levels and concentrates on State-specific unique practices that have policy implications and importance.

3.3.1 Andhra Pradesh

The State Department of Civil Supplies & Consumer Affairs has District Supply Officers at the district level, Revenue Divisional Officers at the Divisional level and Mandal Revenue Officers at the Mandal Level looking after the PDS. There is a Vigilance Cell headed by an IG of Police and a Price Control Cell, which gives inputs for pricing policies. The Legal Metrology Department works under the administrative control of F&CS Department.

Food grains lifted by the Andhra Pradesh State Civil Supplies Corporation Ltd (APSCSC Ltd) are first transported to the Mandal Level Stockist points (MLS, 431 in number, each catering to 1 to 4 Mandals and most of which are run by APSCSC) employing the Corporation's own vehicles purchased under the Government of India's Scheme. Sugar and edible oil are procured by the APSCSC from sugar factories and State Trading Corporation respectively and stored at their MLS points. Then the PDS items are transported from MLS points to the FPSs using hired vehicles, sometimes even by bullock carts. The transport cost at both the stages is borne by the Corporation; only the unloading charges at the FPS level are passed on to the FPSs. However, sometimes they are overcharged. The FPS dealers whose quota is above 25 quintals are permitted to lift their quota in two equal instalments. But in some districts, this is not allowed. Late lifting is penalized and non-lifting for two months continuously invites disciplinary action. Kerosene is procured by the APSCSC, but lifted from the companies by the designated private wholesale dealers who deliver the same to FPSs.

The field team observed that majority of the FPS dealers are fund-constrained; in some districts, authorities have arranged for loans to them through financial institutions, the repayment of which has been observed to be very poor.

Encouraged by the savings in essential commodities that resulted from piloting of **coupon system** for rice and kerosene in Vizianagaram district, the system was extended throughout the State w.e.f. 01-10-2000 (Description at para 3.5). Again, to improve viability, **FPSs have been allowed to sell packed consumable items w.e.f 2002.** Reportedly, majority of the FPSs started selling household items like soap, tea powder, toothpaste, branded edible oil, pulses,

tamarind, red chillies, etc. It is reported that the FPSs are now kept open throughout the month to sell the additionally allowed items. This to a great extent plugged the irregular opening of FPSs (only 2-3 days in a month) and denial of quota to cardholders.

3.3.2 Assam, Arunachal Pradesh and Meghalaya

The mechanisms built up for the delivery of items under PDS in the States of Assam, Arunachal Pradesh and Meghalaya are closely similar, especially in the following respects.

The district level mechanism for management, monitoring and supervision of PDS is headed by Deputy Commissioner, who is assisted by District Supply Officer, inspectors and sub-inspectors in all the three States. In none of them, there is any sub-district level official mechanism to manage and supervise PDS.

None of the three States has a State Civil Supplies Corporation to manage movement of food items from the FCI godowns to the FPSs. This task is performed directly by the appointed wholesale dealers. In Arunachal Pradesh, where FCI does not have its godown, the wholesalers, who belong to LAMPS (Large-sized Multi-purpose Co-operative Society), lift PDS grains from the designated FCI godowns of Assam and provide doorstep delivery to FPSs through vans or head load. The unconnected areas of the State get their ration by air dropping. **The PEO field team observed** that the fund-starved LAMPS are badly in need of support for working capital and timely release of transport subsidy bills by the Central Government for continuing their PDS-related activities uninterruptedly. It is also suggested that the FCI should think of establishing a godown within the State. Meghalaya has a FCI godown and the approved wholesale dealers in the State are in the private sector. The wholesale dealers store the lifted grains in their small godowns and FPSs lift grains therefrom. During the period of report, wholesalers of the State were faced with non-availability of food grains in the designated FCI godowns. In Assam, town areas are managed by private wholesale dealers, while in rural areas co-operative wholesale dealers operate. There is no door delivery being made to FPSs/agents.

3.3.3 Bihar

The District level administrative set-up that is in place for PDS is headed by the District Magistrate, who is assisted by the District Supply Officer (DSO), while at the sub-divisional level, the Sub-Divisional Officer (SDO) and Additional District Supply Officer (ADSO), directly responsible to the DSO,

run the system. Supply inspectors are the grassroot level functionaries. It is the Bihar State Food Corporation (SFC) that draws the allotted grains from FCI godowns. Lifting of the stock is done by contracted private transport agencies on the Corporation's behalf and the grains are stored in SFC godowns located at various places in the district. The FPS dealers, by their own arrangement, lift their quota from SFC godowns.

PEO field team revealed that the FPSs are inherently non-viable in villages with population less than 1000 or 500 and are poorly connected. There are many such villages in the State. The system is virtually non-functional in such villages as dealers open the shops irregularly, divert PDS items and often maintain timings not suited to the hapless poor.

3.3.4 Gujarat

In Gujarat, the Civil Supplies Department has a three-tier PDS administrative set-up, with the State head office, the district level set-up involving the Collector and District Supply Officer and the Taluka level mechanism with Taluka Mamlatdars- the authority for allotment of food grains to FPSs, and the grassroot level functionaries including Deputy Mamlatdars and Supply Inspectors. The State Civil Supplies Corporation lifts and transports the food grains to their Taluka level godowns, while it is the onus of FPS dealers to transport their quota to their shops at their cost.

3.3.5 Haryana and Punjab

In Punjab, the Department of Food & Civil Supplies maintains a four-tier administrative set-up for PDS-state, district, block and sub-centre levels. State Civil Supplies Corporation (PSCSC), with a three-tier structure (head office, district and distribution centre) acts as the wholesale agent for lifting food grains from FCI godowns. PSCSC transports the lifted grains to its distribution centres from where FPSs lift them on prepayment basis. There is no door delivery of food grains to FPSs, nor are their transport expenses refunded. However, kerosene is delivered by wholesale dealers at the FPSs. As the transport charges, which vary across regions, are passed on to the consumers, the retail price of kerosene is different across FPSs.

In Haryana, the Haryana State Federation of Consumers Co-operative Stores Ltd (CONFED), the wholesale agency of the Department of Food & Supply, lifts the grains from FCI godowns and stocks them at their district level wholesale points. The FPSs, faced with drastically reduced off take and no door delivery, must arrange for prepayment of price and lift the grains from wholesale points.

3.3.6 Himachal Pradesh

The State Department of Food and Civil Supplies, with its State level Secretariat, District level District Food and Supply Controller (DFSC), District Inspectors and Taluka level inspectors looks after the PDS in the State. The State Civil Supplies Corporation, functioning as the wholesale agent of the Department, lifts the allotted grains from FCI godowns and sugar from sugar mills and transports these items to its wholesale godowns situated at 96 places in the State. Beyond the wholesale depot, these items are transported by the FPSs themselves, the cost of which is reimbursed by the State Government. Kerosene is delivered to the FPSs by wholesale agents, but the cost of transportation from wholesale depot to the FPSs is transferred to FPSs and is borne by the consumer. In the rural areas FPSs are mostly run by Co-operative Societies. Normally food grains from FPSs reach only by the third/fourth week of every month to the beneficiaries.

PEO field team revealed that some key posts like District Controller, District Inspectors and other Inspectors are lying remaining vacant in some districts, especially in backward, tribal and remote areas of the State (like Lahoul & Spiti). When the survey was undertaken, 17% of the sanctioned posts of the Department were vacant at various levels.

3.3.7 Karnataka

The State has a three-tier administrative arrangement for PDS-State level, District level and Tehsil level. The designated wholesale nominees lift food grains from the FCI godowns and store them at their block level godowns. Food grains are made available to the FPSs on prepayment. In the rural areas, grains are delivered to the doorsteps of FPSs along with the allotted quantity of sugar. There is no door delivery of food grains or sugar to the urban FPSs; nor is their transport cost reimbursed to them. (**This may be contrasted with the exemplary Tamil Nadu system where the societies opting for self-lifting of PDS items are being offered a higher margin than that of societies, which avail of the facility of door delivery.**)

The PEO field team revealed that there is a bureaucratic rigmarole stretching from the FCI to the Talukas that delays the movement of food grains from the FCI godowns to the cardholders. The FCI makes the allotment to the state on a bi-monthly basis. This means that the allotment meant for January 2002 (as well as for December 2001) must have been made by 6th November 2001, almost two months back. But in the present set-up, the long red-tape causes the distribution of PDS items, instructed to be made available to the poor on all days of the month, to be confined to only (or less than) the last 10 days of

every month; sometimes only to 3-4 days. The Food Commissioner's allotment to the district is normally made on 5th or 6th of the month in which the distribution is to be made. The wholesale dealer starts lifting from the 8th or 10th of every month and FPSs start lifting between 10th and 12th. The lifting by the FPSs or the door delivery of food grains stretches up to 25th of every month. The time taken by the FPSs to place the DDs for required amounts is one reason for this delay. Shops are open only when the stock is available. Because of this and the non-viability of the shops, the FPSs do not allow multiple instalments to the cardholders for lifting their quota. They also want to save stationery on bookkeeping.

The Department, while acknowledging the practice of occasional opening of FPSs in the rural areas, contends that it is warranted because, once the stock arrives at the FPS, full lifting is made within a few days and hence PDS can be a part-time business to the retail dealer. However, PEO field team observed that the BPL cardholders find it extremely difficult to mobilise the amount required for lifting food grains and sugar at one go and that it is the take-it-or-leave-it policy obstinately followed by the FPSs that force the poor to lift items at once. They sometimes lift part of it, sometimes full and sometimes leave it.

3.3.8 Kerala

The State Department of Civil Supplies has a three-tier structure for managing PDS- State, District (District Supply Offices) and Taluka (Taluka Supply Offices) levels. The lifting of the allotted grains from FCI godowns is made by the 345 licensed wholesale dealers in the State (293 in the private sector, 42 in the co-operative sector and only 10 of Kerala Civil Supplies Corporation Ltd (KCSCL)). The wholesale dealers of KCSCL complained that they failed to get that quality of grains which private dealers used to get from the FCI, because labourers in FCI used to differentiate between KCSCL dealers and private dealers as the latter used to tip the labourers. The grains are transported by wholesale dealers in own/hired vehicles to wholesale depots from where the FPSs lift food grains and transport them on their own. **The field team observed that** in view of unmanageably rising transport and labour charges coupled with fast-reducing off-take, many FPS dealers contacted opted for surrendering their license, if door delivery was not arranged for them.

3.3.9 Maharashtra

The State Department has a four-tier structure for administering the PDS- State, Divisional, District and Tehsil levels. Contrary to other major States, there is no State Civil Supplies Corporation in Maharashtra and hence the lifting and transport of the allotted food grains from the FCI points to the Government

godowns at the block levels rests with approved private transport contractors. The food grains are either door-delivered or transported by FPS dealers themselves. When the FPS dealer transports items himself, he can claim the transport rebate.

3.3.10 Orissa

The State Department of Food and Consumer Welfare allots the district quota of PDS items to the District Collector, who in turn sub-allots them to blocks. On receipt of block-wise allotment from the District Collector, it is the Block Development officer who allots the quota to the FPSs under his jurisdiction **(in contrast to Taluka Supply Officer doing this in other major States)**. The storage agents in different blocks, appointed by the District Collector, lift PDS grains from FCI godowns on prepayment and carry them to the block level storage points. The State Civil Supplies Corporation does not play any role in lifting PDS grains from FCI godowns. The FPSs, mostly fund-starved irrespective of whether they operate in the co-operative or private sector, lift their quota from storage point on prepayment. **The PEO field team observed** that in the sample districts, Gram Panchayats (GPs) are running FPSs and they too find it difficult to lift the full quota for want of funds. The GP-managed PDS points were generally observed to be functioning better than the private FPSs; however as the former were normally being tagged with 4 to 5 villages, it was difficult for distant villagers to procure PDS items.

3.3.11 Rajasthan

The State Department has a three- tier structure for PDS- the State level machinery headed by the Secretary, the district level mechanism with the Collector and District Supply Officers and the Tehsil level with Tehsildar and grassroot level enforcement officers. The district level allotment, fixed at the State level is sub-allotted to Tehsils and the approved wholesale dealers lift the grains from the FCI godowns and deliver the same to the doorsteps of FPSs.

3.3.12 Uttar Pradesh

The State Department of Food & Civil Supplies (F& CS) has a four-tier structure for PDS- State level, Divisional level (Assistant Commissioner), District level (District Magistrate and District Supply Officer) and Tahsil level (SDM & Supply Officer). The PDS is implemented by the Marketing Wing of F&CS in all districts except 24 districts where, the State Food and Essential Commodities Corporation, alternatively State Food Corporation (SFC) is in charge of PDS. The responsibility of lifting grains from FCI godowns rests with

the PDS implementing agency in each district. FPSs are required to lift their next month quota between 23rd and 30th of the current month on prepayment.

3.3.13 Tamil Nadu

There are three agencies including the Department of Civil Supplies involved in the implementation of PDS in Tamil Nadu; the other two being the Tamil Nadu Civil Supplies Corporation (TNCSC) and the Registrar of Co-operatives. Under the system of untargeted PDS being implemented by Government of Tamil Nadu, which does not distinguish between APL and BPL in the provision of subsidized food grains, TNCSC, which has 30 regions, each catering to a revenue district, plays an active role by procuring, storing and processing the paddy required in addition to the Central allotment of food grains and by lifting grains and other PDS items from FCI and distributing them to lead societies for sale through PDS outlets.

The PDS distribution channel in Tamil Nadu is unique in a couple of respects. **First,** private parties are not allowed to run FPSs in the State. About 96% of them operate in the co-operative sector and most of the rest are TNCSC-run. (Gram Panchayats have also been authorized to run FPSs). The co-operative societies, under the control of Registrar of Co-operatives, lift the PDS items directly from TNCSC and issue them to the FPSs through link societies, primarily agricultural co-operative banks and primary co-operative stores, which run FPSs. Some of these societies function as lead societies. The link societies purchase PDS items from the lead societies and distribute to cardholders through their FPSs. There are certain societies, which lift their quota of PDS items themselves from TNCSC godown for which margin has been fixed differently.

The second unique feature in Tamil Nadu is the extension of cash credit facility through District Central Co-operative Banks to the lead societies, which gets percolated to the FPSs. At the time of reporting, the cash credit limit is fixed as Rs.140/- per card to Lead Societies. After distributing the items to the FPSs, the lead societies prepare credit bills in the name of link societies, which run the FPSs and submit them to the financing Bank. The Bank debits the accounts of the link societies. The everyday sale proceeds of FPSs are remitted by the link societies in their cash credit account with the District Central Co-operative Bank.

For avoiding diversion of PDS grains, the Government of Tamil Nadu has introduced **option card system.** Under this system, the cardholders who do not require rice would get additional quantities of sugar or kerosene. The sugar option cardholders would be entitled to 3 Kgs of sugar in addition to their

regular quota for foregoing their rice quota and kerosene option cardholders would get 5 litres of additional kerosene in lieu of rice.

3.3.14 West Bengal

It is the State Government that procures the rice required for distribution to BPL cardholders since November, 1997, in which month the FCI abjured its responsibility for procuring the BPL variety of rice, whereas the task of making APL rice, wheat–APL & BPL–and sugar available for PDS is still vested with the FCI. (Trivially, the quality of rice distributed to APL and BPL is different). With the Levy Rate often falling below the market rate, the procurement of BPL rice by the State Government comes to a standstill, creating shortage, at times in the PDS stock of BPL rice. The BPL rice is procured by the Government from the 5 surplus districts, 80% of which is supplied by Burdwan district, and moved to the deficit districts mainly by the Essential Commodities Supply Corporation (ECSC).

The Directorate of Transport is in charge of the transit of commodities to the FPSs. The cost of carrying the PDS items to the FPSs incurred by the dealers is reimbursed to them by the State Government through a system of rebates, the schedules for which are fixed by the Directorate of Transport. **PEO field team revealed** that if some FPSs had lifted PDS items from the godown itself rather than from the designated distributor points, the distance involved and hence their rebate claims could have been substantially lower, reflecting badly on the transport planning for PDS network. Many FPSs complained that their cost of transport far exceeded the rebate admissible.

For distributing kerosene oil procured from oil companies, the Directorate of District Distribution, Procurement and Supply tags certain FPSs to the designated agents or appoints certain ‘big dealers’ in between them, if the agents are located far from the FPSs. Certain other commodities such as detergent powder, iodized salt and exercise books are made available, although on a highly irregular basis, by the State Food Department through ECSC.

PEO field team revealed that under the Centrally Sponsored Scheme, money was released for the purchase of 25 vans; 22 were purchased out of which 3 were unserviceable, the condition of 5 was not known and the remaining ones, though usable, were never used for PDS in any manner almost without exception. Again under CSS, with the funds made available, 12 godowns were to be constructed; 6 were constructed out of which 3 were never functional, the status of 2 was not known and remaining 1 was functioning at the time of the fieldwork.

Table 3.1: Composition of FPSs in the selected States

State	% of FPSs in the following categories in 1999-00			% of FPSs with door delivery in 1996	% of FPSs with door delivery in 2000
	Co-operative Sector	Private Sector	Government Sector		
1	2	3	4	5	6
Andhra Pradesh	4.4	95.6	0.0	100	100
Arunachal Pradesh	23.5	76.5	0.0	100	100
Assam	2.8	97.2	0.0	0	0
Bihar	3.0	47.0	50.0	0	0
Haryana	7.4	85.3	7.3	0	100
Himachal Pradesh	73.2	26.8	0.0	100	100
Karnataka	45.9	52.7	1.4	72.9	73.5
Kerala	7.2	92.8	0.0	0	0
Madhya Pradesh	100.0	0.0	0.0	100	100
Maharashtra	21.3	78.7	0.0	16.1	23.7
Meghalaya	1.1	98.9	0.0	0	0
Orissa	5.8	86.0	8.2	0	0
Punjab	13.9	85.9	0.1	0	0
Rajasthan	28.7	71.3	0.0	75.6	75.9
Tamil Nadu	95.8	0.0	4.2	100	100
Uttar Pradesh	4.8	95.2	0.0	0	0
West Bengal	4.7	95.0	0.4	0	0
All States	**18.9**	**68.3**	**12.7**	**25.9**	**29.3**

Note: The relevant information on Gujarat is not available.

Nationally, private sector dominates handling of retail outlets for PDS items. Major aberrations to this can be seen in Himachal Pradesh, Madhya Pradesh and Tamil Nadu where co-operatives dominate the scene and Bihar where private and public sector retail outlets co-exist in almost equal strength. Delivery of PDS items to the doors of the FPSs is made fully in only 6 selected States while door delivery is completely absent in 8 States. Significant achievement in the incremental coverage under door delivery is shown in Haryana; but in none of the other States which have not yet been covered.

3.4 Monitoring and Transparency Measures

Monitoring and transparency measures are considered together because they are closely interlinked. TPDS Guidelines envisaged that the ground level monitoring of PDS could be effected through; **a)** inspections of FPSs by district and taluka level officials; **b)** involvement of PRIs in the identification of poor and in the functioning of FPSs; and **c)** other transparency measures to be taken by authorities. Three principal instruments built in to ensure transparency in the distribution of food grains and other items, mostly sugar and kerosene oil under TPDS include; **a)** norms prescribed for the display of important FPS-specific

details visibly in the FPSs; **b)** directions for involving Panchayati Raj Institutions in the delivery and monitoring of PDS items; and **c)** instruction to adopt measures for giving wide publicity to the Citizen's Charter which lays down the rights and privileges of the consumer.

Guidelines state that the monitoring system should build in inspection schedules for District and Taluka level officials, provision of check lists for pointed inspections and room for immediate remedial actions. Guidelines also suggest that too many inspections may harass the FPSs. The following table attempts a pure statistical analysis of inspections of the selected FPSs conducted by PDS authorities during 1999-2000; nonetheless the fact remains that frequency of inspections per se cannot at all reflect on the efficacy of the system of monitoring.

Table 3.2: Inspections of sample FPSs during 1999-2000

State	No. of selected FPSs	Average number of inspections by taluka officials	Average number of inspections by district officials	% of FPSs saying that inspectors came with check list	% FPSs reporting problems with inspections
1	2	3	4	5	6
Andhra Pradesh	12	6 (12-1)	0.1 (1-0)	100.0	0.0
Arunachal Pradesh	4	0.0	4.5 (6-4)	0.0	0.0
Assam	16	0.0	7.9 (12-3)	0.0	0.0
Bihar	20	9.6 (25-2)	0.5 (4-0)	90.0	10
Gujarat	10	1.7 (6-0)	1.1 (5-0)	80.0	16.6
Haryana	8	10 (12-2)	1.3 (2-0)	87.5	0.0
Himachal Pradesh	8	5 (12-1)	1.4 (6-0)	100.0	0.0
Karnataka	12	3.9 (12-0)	1.2 (12-0)	83.3	8.3
Kerala	12	6.5 (9-4)	0.2 (1-0)	100.0	0.0
Madhya Pradesh	20	4.8 (18-0)	1.8 (8-0)	20.0	0.0
Maharashtra	16	1.3 (4-0)	0.1 (1-0)	75.0	0.0
Meghalaya	4	0.0	4 (4)	0.0	0.0
Orissa	20	16.9(100-0)	6.1(27-0)	0.0	0.0
Punjab	8	8 (12-2)	3.6 (12-0)	87.5	0.0
Rajasthan	12	4.3 (13-0)	2.2 (15-0)	100.0	0.0
Tamil Nadu	16	11.9(26-0)	1.3 (3-0)	93.8	0.0
Uttar Pradesh	20	5.9 (20-0)	0.4 (3-0)	5.0	5
West Bengal	20	11.4(28-0)	1.3 (6-0)	90.0	0.0
All States	**238**			**60.5**	**2.5**

(The figures bracketed are the upper and lower range (respectively) of the number of inspections conducted during 1999-00 in the selected FPSs)

Selected North Eastern States did not have any administrative mechanism for PDS at the Taluka level and hence monitoring of FPSs was directly done by district level officials. In all the other States, Taluka level agencies conducted a greater number of inspections of FPSs than the district level authorities. There are considerable inter-State and intra-State variations in the number of inspections conducted by authorities in the selected FPSs during 1999-00. Data also suggested that within a Taluka, there were considerable variations in this. While some annual frequencies of inspection reported, as seen from the upper range given in the brackets, would have been highly inconvenient to the

inspected FPSs (Orissa, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal), around 8% of the selected FPSs were not inspected by either district level or Taluka level authorities during 1999-00. 15% of the selected (non-North-Eastern) FPSs were not inspected by Taluka level officials while 52% were not inspected by district level officials during the year. **All this tends to suggest that inspections were not employed as a systematic tool to monitor the functioning of FPSs.** Interestingly only 2.5% of the selected FPSs declared having had any problem with the inspections by authorities. In the selected North-Eastern States, Orissa, Madhya Pradesh and Uttar Pradesh, the officials did not comply with the directive to conduct inspections with a checklist of items to be monitored.

Table 3.3: Publicity to Citizen's Charter

State	% of selected Tehsils declaring to have taken measures to publicize Citizen's Charter	% of selected GPs/VCs declaring to be aware of Citizen's Charter	% of selected APL cardholders aware of Citizen's Charter	% of selected BPL cardholders aware of Citizen's Charter
1	2	3	4	5
Andhra Pradesh	75.0	25.0	0.0	0.0
Arunachal Pradesh	0.0	0.0	0.0	0.0
Assam	0.0	0.0	0.0	0.0
Bihar	0.0	0.0	1.0	0.0
Gujarat	100.0	0.0	0.0	0.0
Haryana	100.0	0.0	2.6	2.5
Himachal Pradesh	100.0	0.0	2.5	8.8
Karnataka	0.0	0.0	0.0	0.0
Kerala	50.0	0.0	1.7	1.7
Madhya Pradesh	87.5	43.8	11.0	1.5
Maharashtra	100.0	8.3	20.0	3.8
Meghalaya	0.0	0.0	0.0	0.0
Orissa	66.7	75.0	0.0	0.0
Punjab	50.0	0.0	10.0	0.0
Rajasthan	75.0	50.0	15.0	0.8
Tamil Nadu	83.3	0.0	1.3	0.0
Uttar Pradesh	37.5	6.3	0.0	0.0
West Bengal	25.0	37.5	0.0	0.6
All States	**50.6**	**19.1**	**3.8**	**0.9**

While almost half of the selected Tehsils–a vast majority from many States- declared to have employed measures to publicize the consumers' rights embedded in the Citizen's Charter, the percolation of information in this regard is progressively low among the selected Panchayats, APL cardholders and BPL cardholders, emphasizing the trade-off between the impressions maintained by authorities and grassroot level realities. Interestingly, a visible proportion of APL cardholders of Madhya Pradesh, Maharashtra and Rajasthan and BPL cardholders of Himachal Pradesh declared to have known about the existence of Citizen's Charter.

Table 3.4: Involvement of Gram Panchayats-I

State	No. of selected GPs/ VCs	% of selected Gram Panchayats/Village Committees declaring that:				
		They were involved in identifying BPL	Ineligible people figure in BPL list	FPS keeps carbon copy of registers with GP	State Govt. formed guidelines for indenting copies of FPS registers	GP was kept informed of off-take from FPS
1	2	3	4	5	6	7
Andhra Pradesh	8	100	12.5	0.00	50.0	0.0
Arunachal Pradesh	4	0	0.0	0.00	0.0	0.0
Assam	12	0	0.0	0.00	0.0	0.0
Bihar	16	0	0.0	0.00	12.5	0.0
Gujarat	6	33.33	0.0	0.00	0.0	33.3
Haryana	4	100	50.0	0.00	25.0	0.0
Himachal Pradesh	4	100	25.0	0.00	25.0	25.0
Karnataka	8	100	25.0	0.00	0.0	0.0
Kerala	8	0	42.9	0.00	0.0	0.0
Madhya Pradesh	16	12.5	6.3	0.00	50.0	12.5
Maharashtra	12	25	58.3	0.00	0.0	8.3
Meghalaya	4	75	0.0	0.00	0.0	0.0
Orissa	16	31.25	62.5	12.50	62.5	12.5
Punjab	4	50	100.0	0.00	0.0	25.0
Rajasthan	8	100	28.6	0.00	0.0	87.5
Tamil Nadu	12	16.67	16.7	0.00	0.0	0.0
Uttar Pradesh	16	81.25	37.5	0.00	6.3	43.8
West Bengal	16	93.75	50.0	0.00	0.0	31.3
All States	**174**	**45.4**	**28.5**	**1.15**	**15.5**	**16.1**

In the traditionally organized North Eastern States, BPL identification was done with the active involvement of the village headman (and his village council in Meghalaya). PEO field notes confirm that in none of the non-North Eastern States, survey was conducted exclusively to identify the BPL for TPDS till the period of report. Hence in non-North Eastern States, the involvement of GPs in BPL identification referred to their involvement in other surveys/methods (mostly the quinquienial surveys conducted by the Rural Development Department) which form the basis for the current set of BPL cards in circulation. In Andhra Pradesh, Haryana, Himachal Pradesh, Rajasthan, Uttar Pradesh and West Bengal, the selected GPs declared that they were involved in the identification of the BPL, while in Gujarat, Madhya Pradesh, Maharashtra, Orissa and Tamil Nadu GPs were not/negligibly involved in the process. Interestingly, in many States, where GPs declared that they were involved in the identification of the BPL, they themselves suggested that ineligible people figure in the BPL list.

As a measure for ensuring transparency, TPDS Guidelines insist that a carbon copy of all FPS registers be sent to the concerned Gram Panchayat. However, except in Orissa none of the selected FPSs complied with the

direction to keep copies of their registers with GPs. (In Orissa, in some selected FPSs, the distribution of food grains was through GPs). Guidelines also state that the State Governments should frame guidelines for indenting the copies of such registers from GPs by interested parties. The over-all picture of GPs being aware of the existence of such Guidelines is dismal too (except perhaps Andhra Pradesh, Madhya Pradesh and Orissa). In the absence of such systematic communication to the Gram Panchayat about the transactions in the FPSs, alternative steps for keeping the GP informed were not generally adopted by the selected FPSs except in Rajasthan and to a limited extent in Uttar Pradesh, Gujarat, West Bengal, Himachal Pradesh and Punjab.

Table 3.5: Involvement of Gram Panchayats-II

State	% of GPs/VCs that declared that:			
	They did regular review of working of FPS	Consumers complain to GP about FPS	Received at least one complaint in 2000	They did sample quality checks of FPSs to check whether displays matched stocks
1	2	3	4	5
Andhra Pradesh	50.0	25.0	0.0	0.0
Arunachal Pradesh	-	-	-	-
Assam	8.3	25.0	25.0	8.3
Bihar	-	-	-	-
Gujarat	-	-	-	-
Haryana	0.0	25.0	25.0	0.0
Himachal Pradesh	0.0	25.0	25.0	0.0
Karnataka	0.0	50.0	50.0	25.0
Kerala	-	-	-	-
Madhya Pradesh	75.0	62.5	25.0	0.0
Maharashtra	0.0	33.3	33.3	16.7
Meghalaya	-	-	-	-
Orissa	93.8	50.0	25.0	12.5
Punjab	25.0	25.0	25.0	0.0
Rajasthan	87.5	50.0	50.0	37.5
Tamil Nadu	0.0	33.3	25.0	0.0
Uttar Pradesh	0.0	6.3	0.0	0.0
West Bengal	37.5	81.3	68.8	43.8
All States	**26.4**	**32.2**	**23.0**	**9.8**

Guidelines stipulate that the review of the working of PDS by the authorities should be subject to their review in Panchayats and Nagar Palikas at regular intervals. GPs of only six States claim to have made any regular review of FPSs within their area. Table 3.5 shows that, barring Arunachal Pradesh, Assam and Gujarat, in all States, some selected BPL cardholders had persistent complaints about TPDS. TPDS envisaged that the consumers should be able to lodge their complaints regarding PDS with the Gram Panchayat (GP), who can refer them to the prescribed authority. The claims of the selected GPs regarding the receipt of complaints suggest that only a third of them, nationally, have been perceived by the cardholders as an agency to lodge their complaints. In seven selected States (including those of the North East), GPs/corresponding village authorities do not at all have any role in this respect.

Table 3.6: Involvement of Gram Panchayats-III

State	% of selected FPSs admitting that:		% of selected GPs declaring that:		
	They were invited to Gram Sabha to discuss their working	GP/authority checked genuineness of ration cards	They invited FPS owners to Gram Sabha to discuss their working	Report of FPS committee is a compulsory item in GS meeting	GP/authority checked genuineness of ration cards
1	2	3	4	5	6
Andhra Pradesh	87.5	50.0	87.5	37.5	50.0
Arunachal Pradesh	25.0	100.0	25.0	0.0	100.0
Assam	8.3	33.3	0.0	0.0	91.7
Bihar	25.0	18.8	0.0	0.0	0.0
Gujarat	33.3	33.3	33.3	0.0	0.0
Haryana	12.5	62.5	0.0	0.0	100.0
Himachal Pradesh	0.0	100.0	0.0	0.0	100.0
Karnataka	0.0	12.5	0.0	0.0	0.0
Kerala	0.0	0.0	12.5	0.0	0.0
Madhya Pradesh	87.5	87.5	100.0	75.0	100.0
Maharashtra	33.3	8.3	16.7	0.0	25.0
Meghalaya	25.0	100.0	25.0	0.0	100.0
Orissa	25.0	68.8	43.8	43.8	100.0
Punjab	25.0	75.0	0.0	0.0	100.0
Rajasthan	100.0	100.0	100.0	100.0	100.0
Tamil Nadu	0.0	0.0	0.0	0.0	0.0
Uttar Pradesh	0.0	68.8	0.0	0.0	81.3
West Bengal	91.7	91.7	43.8	18.8	75.0
All States	**33.5**	**51.4**	**29.9**	**19.0**	**59.2**

One of the ways with which TPDS envisages to ensure co-ordination between FPSs and PRIs is by making the report of the GP Committee on the working of the FPS a compulsory item in the agenda of the Grama Sabha to which FPS owners should be invited and their presence be insisted on. While combining the GP and FPS level responses, it turns out that in 50% of the sample States (Assam, Bihar, Haryana, Himachal, Karnataka, Kerala, Punjab, Tamil Nadu and Uttar Pradesh), the FPSs are not/selectively invited to the Gram Sabhas to review their functioning. As the Report of FPS committee was not made compulsory item in the Gram Sabha agenda in many States where the FPS owners were invited to the Gram Sabhas, such invitation would have become meaningless. Gram Sabhas of Rajasthan and Madhya Pradesh (to a great extent) seemed to have taken keen interest in the working of FPSs falling within them; the other better-off States included Andhra Pradesh, Orissa and West Bengal.

More than 50% of the GPs/GSs complied with the guidelines to occasionally check the genuineness of ration cards and the number of units contained in them, as declared by the GPs and endorsed by the FPSs (barring inconsistent responses prominently from Assam, Gujarat and West Bengal, reflecting tall claims by the GP and the ignorance of the FPS about the point). The traditional village authorities of Arunachal Pradesh, Meghalaya and the GPs of Himachal Pradesh and Rajasthan seemed to have done well while those

of Kerala and Karnataka (despite high-hailed decentralization of powers and functions) and Tamil Nadu did nothing in this respect.

Table 3.7 : Compliance of selected FPSs with "Display norms"

State	Number of selected FPSs	% of selected FPSs conforming to the "Display norms" regarding:					
		Beneficiary list	Stock position	Issue price	Quantity distributed	Authority for lodging complaints	Date of arrival of stock
1	2	3	4	5	6	7	8
Andhra Pradesh	12	50	75	67	8	33	25
Arunachal Pradesh	4	0	100	0	0	0	0
Assam	16	12.5	100	100	13	0	13
Bihar	20	15	15	5	50	5	5
Gujarat	10	30	70	60	30	30	60
Haryana	8	0	62.5	75	25	25	50
Himachal Pradesh	8	38	50	50	25	0	13
Karnataka	12	8	67	67	33	0	17
Kerala	12	8	92	8	8	17	0
Madhya Pradesh	20	25	90	70	40	15	10
Maharashtra	16	31	63	69	50	13	6
Meghalaya	4	0	75	100	0	0	0
Orissa	20	0	65	40	30	5	5
Punjab	8	25	63	50	0	0	13
Rajasthan	12	25	92	50	33	25	25
Tamil Nadu	16	0	94	94	0	100	94
Uttar Pradesh	20	0	55	65	5	15	5
West Bengal	20	60	90	100	60	75	65
All States	**238**	**19**	**72**	**61**	**27**	**23**	**24**

The degree of conformity with the display norms prescribed for ensuring transparency in the running of PDS by the sample FPSs is generally not satisfactory and vastly varied across the selected States; none of them stood out in compliance. The better-off among them are West Bengal and Tamil Nadu. In the current context when the distinction drawn between APL and BPL and the legally suspect movement of PDS items are subject to close scrutiny even in the countryside, the non-display of beneficiary list, APL list and BPL list separately, and date of arrival of stock at the FPSs is a serious encroachment on the right to information of PDS consumers.

Nationally, only 13.6% of the BPL cardholders ever bothered to crosscheck the weighment of essential commodities received by them from FPSs. Among the States where a considerable portion of the BPL respondents crosschecked the weighment made by the FPSs, the under-weighment was declared substantially from Himachal Pradesh, Uttar Pradesh and Kerala. About 90% of the BPL cardholders who observed FPS under-weighment had persistent complaints about their FPSs and TPDS implying that cheating in weighment is perhaps a serious issue considered by them. However, among the BPL respondents with persistent complaints, those who had observed under-

weighment was only about 16%, implying that there are other serious complaints than under-weighment to those who reported complaints.

Table 3.8: Household level impressions-I

State	% of BPL (APL) respondents who crosschecked FPS weighment	Of col. 2, % who found deviation in weighment	% of BPL (APL) respondents with persistent complaints about PDS/FPS	Of col. 4, % aware of responsible agencies to redress complaints	Of col. 5, % who ever complained in writing
1	2	3	4	5	6
Andhra Pradesh	31.7 (10.0)	2.6 (16.7)	3.3 (0)	100 (NR)	0.0 (NR)
Arunachal Pradesh	0 (0)	NR (NR)	0(0)	NR (NR)	NR (NR)
Assam	0 (0)	NR (NR)	0 (0)	NR (NR)	NR (NR)
Bihar	3 (0)	16.7 (NR)	60 (57.0)	90 (63.2)	0.9 (0)
Gujarat	13 (2)	7.7 (0)	1 (2.0)	0 (0)	NR (NR)
Haryana	0 (2.6)	NR (100)	10 (2.6)	25 (0)	0.0 (NR)
Himachal Pradesh	35 (0)	82.1 (NR)	38.8 (2.5)	96.8 (0)	100.0 (NR)
Karnataka	25 (53.3)	6.7 (9.4)	35 (11.7)	14.3 (42.9)	0.0 (0)
Kerala	10.1 (6.7)	41.7 (25.0)	6.7 (1.7)	37.5 (100)	0.0 (0)
Madhya Pradesh	2.53 (3.0)	60 (0)	6.6 (7.0)	30.8 (57.1)	25.0 (50.0)
Maharashtra	3.09 (2.5)	20 (50)	3.7 (8.8)	16.7 (42.9)	0.0 (33.3)
Meghalaya	2.5 (0.)	100 (NR)	2.5 (0)	100 (NR)	100.0 (NR)
Orissa	26.6 (16.0)	9.4 (6.3)	4.5 (3.0)	22.2 (33.3)	0.0 (0)
Punjab	0 (2.5)	NR (100)	4.9 (10.0)	75 (75.0)	33.3 (0)
Rajasthan	1.67 (5.0)	100 (0)	17.5 (1.7)	4.8 (0)	0.0 (NR)
Tamil Nadu	31.9 (31.3)	2.0 (0)	22.5 (25.0)	16.7 (25.0)	0.0 (20.0)
Uttar Pradesh	20.6 (19.2)	29.7 (36.8)	13.3 (12.1)	12.5 (25.0)	0.0 (0)
West Bengal	20.1 (21.0)	16.7 (14.3)	19 (12.0)	55.9 (58.3)	31.6 (0)
All States	**13.6 (11.3)**	**19.9 (14.2)**	**15.5 (11.3)**	**53.3 (49.3)**	**20.7 (6.1)**

(Figures in bracket are the corresponding APL figures)

Only half (53%) of those who had complaints among the BPL respondents were aware about the agencies responsible to redress their complaints. This information base among BPL is very low in Gujarat, Karnataka, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh. Among those who had persistent complaints about their FPSs and who also knew whom to give the complaint, only one-fifth ever complained in writing. This was promptly done in Himachal Pradesh and Meghalaya. The awareness level of APL respondents about the authority to lodge their complaints is generally lower than their BPL counterparts. Also, BPL respondents generally seem to be more inclined than the APL respondents to lodge their complaints to responsible authorities in writing.

Table 3.9: Household level impressions-II

State	% of BPL (APL) respondents with photo cards	% of BPL (APL) respondents aware of Citizen's Committee for monitoring	Of col. 3, % who were members of such committee	% of BPL respondents responding to the query whether PRIs are concerned about BPL people as:	
				Yes	Can't say
1	2	3	4	5	6
Andhra Pradesh	100 (96.7)	1.7 (0)	0 (NR)	43.3	34.2
Arunachal Pradesh	2.5 (0)	0 (0)	NR (NR)	0.0	0.0
Assam	0.6 (0)	8.1 (11.3)	0 (0)	6.8	0.6
Bihar	0.0 (0)	0 (0)	NR (NR)	11.0	53.5
Gujarat	0.0 (0)	0 (4.0)	NR (0)	22.0	76.0
Haryana	98.8 (100)	1.3 (5.1)	0 (0)	7.5	36.3
Himachal Pradesh	38.8 (0)	30 (0)	95.8 (NR)	48.8	46.3
Karnataka	100 (98.3)	0 (0)	NR (NR)	7.5	79.2
Kerala	1.7 (1.7)	0 (0)	NR (NR)	0.8	87.4
Madhya Pradesh	90.9 (29.0)	1.5 (3.0)	33.3 (66.7)	10.6	78.3
Maharashtra	0.6 (0)	0.6 (0)	0 (NR)	5.6	66.7
Meghalaya	0.0 (0)	98 (0)	5.13 (NR)	72.5	0.0
Orissa	0.5 (1.0)	0 (0)	NR (NR)	34.7	59.3
Punjab	91.4 (80.0)	4.9 (2.5)	25.0 (0)	8.6	72.8
Rajasthan	0.8 (0)	8.3 (8.3)	10.0 (20.0)	40.8	32.5
Tamil Nadu	99.4 (96.3)	0 (0)	NR (NR)	0.6	93.1
Uttar Pradesh	70.6 (75.8)	0.6 (0)	NR (NR)	59.4	17.2
West Bengal	25.1 (0)	16 (36.0)	6.9 (0)	82.7	3.4
All States	**40.3 (31.2)**	**5.4 (4.9)**	**23.6 (5.2)**	**25.7**	**49.4**

(Figures in bracket are the corresponding APL figures)

As a transparency measure, TPDS guidelines required that all States should to adopt the then Tamil Nadu practice of affixing the photo of the head of the family on the ration card. The table above shows that, while the selected North-Eastern States and Bihar, Gujarat, Kerala, Maharashtra, Orissa and Rajasthan did not make any visible effort in this direction, Himachal Pradesh and West Bengal were less than half way through. The other States, except Uttar Pradesh, seemed to have almost completed the process of issuing photo cards. Nationally, less than half of the BPL respondents only possessed photo cards. However, the progress achieved in the issue of photo cards is greater in the case of BPL than APL.

Nationally, only 5% of the BPL respondents were aware of the existence of Citizen's Committee for monitoring (an important tool of monitoring the FPSs as envisaged by the guidelines of TPDS) in their FPSs while only 1% of them were members of such committees. This could be misleading as, when we take out the figure for Himachal Pradesh, the percentage membership of BPL cardholders becomes almost nil. There seems to be some cardholders' monitoring of FPSs in Meghalaya too; yet its mass participation is evidently

limited. The awareness level in this respect is higher for the BPL respondents than their APL counterparts in Himachal Pradesh and Meghalaya while the converse appears to be true in West Bengal.

The response on the question whether PRIs are concerned about BPL people (addressed to the BPL respondents) summarily demonstrates their impression about the involvement of PRIs in the working of TPDS and their FPSs. The pattern of responses across States more or less go in tandem with what has already emerged in the tables above.

3.5 Coupon System in Andhra Pradesh

In addition to household ration card, all the BPL cardholders are issued with two different colours of coupons separately for rice and kerosene. These coupons are issued in the form of small booklets for a period of one year initially. The printing cost of these booklets is collected from the cardholders @ Rs.5/- each. The rice coupons are supplied with two different quantities i.e. 4 kgs and 8 kgs. For example, if a household is eligible for a quantity of 20 kgs. of rice per month, he will be issued 5 coupons consisting of 4 kgs of rice on each coupon or two 8 kg coupons and one 4 kg coupon. For kerosene, the coupons of 3 ltrs, 10 ltrs & 23 ltrs and are being supplied to the cardholders residing in rural areas, municipalities and cities respectively as per their entitlement. Lifting of these items from FPSs is made contingent on the production of the coupons and the ration card. If a cardholder does not draw his current month's quota, he shall not be allowed to draw his quota for the ensuing month.

The Government gives 45 days of time to households to collect their coupons by producing their household supply cards. In the Gram Sabha (rural and urban) meetings frequently conducted under 'Janmabhoomi', the genuineness of the fresh applicants were verified in the presence of the responsible officials, PRI representatives and villagers. After satisfying themselves, the officials recommended for issue of fresh ration cards to the eligible applicants. The then Government had decided that the ration card should invariably be issued in the name of the female member of the household. The names of the existing cardholders were read out in the Gram Sabha and ineligible cards were subsequently cancelled. Also, the quota for the cardholding households was adjusted to the changes in the household size.

Reportedly, with the aforesaid exercise, the Government of Andhra Pradesh weeded out 8.55 lakh ration cards saving considerable quantities of rice and kerosene. Additionally, with the introduction of coupon system, the FPS dealers are also allowed to lift their stocks in two instalments and cardholders,

in turn, are allowed to draw their ration in instalments. Reportedly, the coupon system reduced the magnitude of diversion but could not eliminate it due to the complex synergy developed between the different stakeholders in the village. The Coupon system, it appears, suffers from the following drawbacks:-

1. Government mainly depended either on 2001 census or Velugu Survey and MPHS data which had their limitations in accuracy.

2. Coupon is liable to be printed locally due to lack of security in printing.

3. There is a possibility for re-use of old coupons.

4. Mismatch between the number of coupons collected at the FPSs and the sales made therefrom and the difficulties in systematically verifying such mismatch.

5. Household level difficulties expressed by the poor in preserving coupons.

6. Some cardholders are selling coupons to local merchants for higher price.

7. Some of the eligible households still do not have white (BPL) cards while some have more than one BPL card reflecting on the fallacies of the verification drive.

8. The process of netting the unsold stocks while making subsequent releases could not be strictly done due to some lapses in the administrative set-up like the total dependency of the District Supply Officers (DSO) on the revenue system with no independent monitoring arrangement for him, overloading of the Civil Supplies Deputy Tehsildar (CSDT) with 4-5 mandals resulting in lapses in verifying the mismatch often observed between the quantity of rice sold by the FPS dealer and the coupons collected and the lack of co-ordination between the DSOs and Mandal Revenue Officers.

Reasons for coupons not being claimed by all cardholders need to be explored to draw firm conclusions on the coupon system. Reportedly, the proposal for piloting a new system of a “smart card” replacing present household card and coupons is awaiting the approval of the State Govt.

Chapter 4

Financial Viability of FPSs

Introduction

Viability of Fair Price Shops (FPSs), retailers in the PDS network, is one of the important pre-conditions for achieving the objectives of the targeted PDS. This chapter attempts to list down the determinants of the viability of FPSs and to assess the current viability status of the selected FPSs against an amount/rate of profit normatively worked out. Section II examines a couple of important studies on the topic to strengthen the conceptual framework for the chapter. Section III describes the observed behaviour of the determinants of viability, including the components of expenditure and income, of the selected 240 FPSs across 18 sample States. Section IV merges the expenditure and income of the selected FPSs to arrive at their net income and evaluates the same against a priori fixed normative income/rate of return. Section V synthesizes the foregoing sections and experiments with relevant policy simulations to bring out feasible policy suggestions.

The financial viability of the retail dealers (FPSs) is intertwined with the viability of the higher level dealers of PDS items, i.e, the wholesale dealers, State level corporations (if involved) and the FCI; nonetheless the present study confines itself to an exhaustive examination of the financial viability of the FPSs but for sparing comments on the viability of wholesale dealers.

4.2 Survey of Literature

Kabra and Ittyerah (1992) placed the results of a sample study on the operational aspects and viability of FPSs across 19 States of the country. Considering their fixed costs (FC), recurring costs (RC) and total revenue (TR) Kabra and Ittyerah define four situations:

TR- RC< 0, where FPS is clearly non-viable;
TR- RC> 0, where FPS is viable in the short-run (or is in “contribution stage”);
TR- (FC+RC)=0, where FPS is in break even; and
TR- (FC+RC)> 0 where FPS is surplus generating.

PEO (1985, “Evaluation Report on Essential Supplies Programme”) did a qualitative analysis of the FPS profitability and reported that 75.88% of the FPS owners across the sample States felt that running FPS was not profitable. The

reasons attributed were, low FPS commissions (93.33%), high cost of overheads (38.46%), underweighment at the supply point (25.13%) and poor quality of PDS items (13.85%). PEO (1995, "Evaluation Report on RPDS") mentioned the problems faced by the retailers, but did not attempt any estimate of their viability.

4.3 Determinants of Viability

The factors affecting the viability of the selected FPSs cannot be strictly classified, as most of them are closely interrelated. This is amply demonstrated in this section.

Table 4.1: Profile of Selected FPSs

State	Sample Size (Effective)	% of selected FPSs falling in:			In private ownership, % whose ownership is vested with person belonging to:		
		Private Sector	Co-operative Sector	Government Owned	Scheduled Caste	Scheduled Tribe	Others
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Andhra Pradesh	12	66.7	33.3	0.0	12.5	0.0	87.5
Arunachal Pradesh	4	75.0	25.0	0.0	0.0	100.0	0.0
Assam	16	68.8	31.3	0.0	0.0	18.2	81.8
Bihar	20	95.0	5.0	0.0	26.3	0.0	73.7
Gujarat	10	50.0	50.0	0.0	0.0	60.0	40.0
Haryana	5	40.0	20.0	40.0	0.0	0.0	100.0
Himachal Pradesh	5	20.0	40.0	40.0	0.0	0.0	100.0
Karnataka	12	41.7	50.0	8.3	20.0	0.0	80.0
Kerala	12	58.3	41.7	0.0	0.0	0.0	100.0
Madhya Pradesh	20	0.0	100.0	0.0	NR	NR	NR
Maharashtra	13	38.5	61.5	0.0	20.0	0.0	80.0
Meghalaya	4	100.0	0.0	0.0	0.0	100.0	0.0
Orissa	20	60.0	40.0	0.0	0.0	8.3	91.7
Punjab	7	57.1	42.9	0.0	0.0	0.0	100.0
Rajasthan	12	41.7	58.3	0.0	0.0	20.0	80.0
Tamil Nadu	16	0.0	100.0	0.0	NR	NR	NR
Uttar Pradesh	20	65.0	20.0	15.0	7.7	0.0	92.3
West Bengal	19	57.9	42.1	0.0	27.3	27.3	45.5
All States	**227**	**50.7**	**45.8**	**3.5**	**10.4**	**14.8**	**74.8**

(NR: Not Relevant)

The sample composition of FPSs between those operated under private sector, government sector and co-operative sector, seen from the table, will not necessarily reflect on their population composition as the sample design specified that a minimum number of government/co-operative-run FPSs should be accommodated in the sample. Yet, the pattern of ownership of FPSs can have an important bearing on their viability as it affects the cost structure of FPSs. This is seen in the sections to follow.

Table 4.2: Distribution of selected FPSs according to number of Ration cards attached

State	Average number of cards possessed by selected FPSs:			% distribution of selected FPSs according to the number of BPL cards attached						
	BPL	APL	Total	0-100	101-200	201-300	301-400	401-500	501-600	601 & above
1	2	3		5	6	7	8	9	10	11
Andhra Pradesh	316	86	402	0.0	0.0	50.0	37.5	12.5	0.0	0.0
Arunachal Pradesh	41	51	92	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Assam	59	158	217	87.5	12.5	0.0	0.0	0.0	0.0	0.0
Bihar	176	304	480	20.0	50.0	25.0	0.0	5.0	0.0	0.0
Gujarat	154	506	660	70.0	20.0	0.0	0.0	0.0	0.0	10.0
Haryana	94	480	574	62.5	25.0	12.5	0.0	0.0	0.0	0.0
Himachal Pradesh	85	270	355	62.5	37.5	0.0	0.0	0.0	0.0	0.0
Karnataka	299	241	540	16.7	8.3	33.3	25.0	0.0	8.3	8.3
Kerala	172	371	543	33.3	25.0	25.0	16.7	0.0	0.0	0.0
Madhya Pradesh	428	764	1192	25.0	0.0	0.0	10.0	35.0	15.0	15.0
Maharashtra	192	590	782	40.0	40.0	0.0	0.0	6.7	6.7	6.7
Meghalaya	71	83	154	75.0	25.0	0.0	0.0	0.0	0.0	0.0
Orissa	333	311	644	10.0	20.0	20.0	20.0	10.0	15.0	5.0
Punjab	71	446	517	75.0	25.0	0.0	0.0	0.0	0.0	0.0
Rajasthan	179	428	607	33.3	16.7	16.7	33.3	0.0	0.0	0.0
Tamil Nadu	398	317	715	0.0	12.5	12.5	31.3	25.0	6.3	12.5
Uttar Pradesh	138	552	690	35.0	50.0	15.0	0.0	0.0	0.0	0.0
West Bengal	214	502	716	35.0	15.0	25.0	15.0	5.0	5.0	0
All States	**218**	**408**	**626**	**36.7**	**23.5**	**13.1**	**10.8**	**7.5**	**4.2**	**4.2**

The strength of the ration cards attached to each FPS shall be revisited later in order to relate it to the normative income required by a typical FPS; now it suffices to see the dispersion of card strength per FPS, aggregated for the sample.

The average number of BPL cards attached to each FPS varies from a high of 428 in Madhya Pradesh to low of 41 in Arunachal Pradesh. States with the number of cards exceeding the national (sample) average included the southern States (except Kerala), Madhya Pradesh and Orissa. Those with less than half the average included all North-Eastern States, Punjab, Haryana and Himachal Pradesh.

The APL cards need to be given due weightage in Tamil Nadu and West Bengal, which had considerable APL lifting of food grains in the month of canvassing (June/July 2001). Thus, in terms of the number of active APL cards per FPS, West Bengal and Tamil Nadu top the list.

Table 4.3: Distribution of selected FPSs according to off-take of food grains

State	Average Monthly off-take of food grains from sample FPSs (in Quintals)					
	BPL-1999-00	BPL-June 2001	APL - 1999-00	APL-June 2001	Total -1999-2000	Total-June 2001
1	2	3	4	5	6	7
Andhra Pradesh	51.0	46.3	0.0	0.0	51.0	46.3
Arunachal Pradesh	4.2	4.2	25.0	0.0	29.2	4.2
Assam	5.5	10.0	3.1	0.3	8.6	10.3
Bihar	16.9	11.5	0.0	0.0	16.9	11.5
Gujarat	22.3	21.6	6.8	0.0	29.1	21.6
Haryana	4.9	8.0	0.0	0.0	4.9	8.0
Himachal Pradesh	10.8	10.9	24.4	2.4	35.2	13.3
Karnataka	26.4	46.5	5.0	0.0	31.4	46.5
Kerala	12.9	28.1	71.7	5.7	84.6	33.8
Madhya Pradesh	22.2	62.9 (34.3)	1.1	1.0	23.3	63.9 (35.4)
Maharashtra	39.4	39.9	18.1	0.0	57.5	39.9
Meghalaya	7.1	14.8	36.0	0.0	43.1	14.8
Orissa	19.6	23.2	9.6	0.0	29.2	23.2
Punjab	3.2	6.1	0.0	0.0	3.2	6.1
Rajasthan	26.9	33.5	1.9	0.0	28.8	33.5
Tamil Nadu	25.5	18.7	68.6	57.6	94.1	76.3
Uttar Pradesh	14.6	7.6	0.0	0.0	14.6	7.6
West Bengal	30.3	35.9	104.6 (17.1)	104.7 (18.4)	134.9 (50.8)	140.6 (52.5)

The table compares the average monthly off-take from the sample FPSs during 1999-00 with that of June/July 2001 to understand the changes in the volume of monthly quantities traded by a typical FPS. This analysis must be guarded against the possibility that the seasonality in grain demand might have been ironed out in the average monthly figure for 1999-00, while seasonality might distort the figures for June/July 2001. The following can be observed from the table.

i) In the three North Eastern States, the APL quantity tended to zero during June/July 2001, while the same was quite significant during 1999-00 in Arunachal and Meghalaya. In Meghalaya, the increase in the BPL quantity partially offsets the decline in APL quantity, while in Assam the increase in BPL quantity more than offsets the decline in APL quantity. The net reduction in quantity traded is greatly pronounced in Arunachal and Meghalaya.

ii) None of the other States, except Andhra Pradesh, Bihar, Tamil Nadu and Uttar Pradesh witnessed a decline in the volume of BPL quantity traded by a typical FPS. While 12 States witnessed an increase in the monthly BPL quantity traded, the most conspicuous increase was in Karnataka, Kerala and Madhya Pradesh. While in 5 States of Andhra Pradesh, Bihar,

Haryana, Punjab and Uttar Pradesh, the average APL quantity per FPS was nil in 1999-00 itself, 7 other States (Arunachal, Gujarat, Karnataka, Maharashtra, Meghalaya, Orissa and Rajasthan) joined this multitude during June/July 2001.

iii) Over all, while 11 States witnessed decrease in the volume of quantity (BPL+APL) traded per selected FPSs, the remaining States experienced an increase. The figures bracketed for Madhya Pradesh and West Bengal are the respective average quantities adjusted for the presence of outliers (1 in MP and 2 in WB). In 1999-00, 6 States-Andhra Pradesh, Kerala, Maharashtra, Meghalaya, Tamil Nadu and West Bengal had average quantities per FPS above the national sample average. In June/July 2001, three States-Karnataka, Madhya Pradesh and Rajasthan additionally joined the group with above average volume of trading in the selected FPS, while Meghalaya slipped out of the group with a huge quantity loss. In brief, the effect of relating BPL and APL grain prices to the economic cost of procuring and handling those grains was felt very differently by the FPSs of different States.

Table 4.4: PDS Margins on Food Grains

State	% of selected FPSs with door delivery	Margins of FPSs with door delivery (paise per Kg)		Margins of FPSs without door delivery (paise per Kg)	
		Rice	Wheat	Rice	Wheat
1	**2**	**3**	**4**	**5**	**6**
Andhra Pradesh	100.0	13	-	-	-
Arunachal Pradesh	100.0	25	-	-	-
Assam	0.0	-	-	95-25	-
Bihar	0.0	-	-	12	13
Gujarat	0.0	-	-	30-25	27-25
Haryana	100.0	-	18	-	-
Himachal Pradesh	0.0	-	-	12	12
Karnataka	66.7	26	19	26	19
Kerala	0.0	-	-	24-22	-
Madhya Pradesh	85.0	8	8	27	27
Maharashtra	12.5	35	30	35	30
Meghalaya	0.0	-	-	140-90	-
Orissa	0.0	-	-	20-10	-
Punjab	0.0	-	-	0	1-0
Rajasthan	100.0	7	7	-	-
Tamil Nadu	93.8	45	-	-	-
Uttar Pradesh	0.0	-	-	6	6
West Bengal	0.0	-	-	25-10	23-10

The table divides FPSs into two categories- those with the facility of door delivery of food grains and those without, with an intent to project the fact that the margin fixed for the latter should, apart from containing their profit margin,

defray their cost of transporting food grains from wholesale to retail points. The table points to considerable differences in the margin allowed to FPSs of different States within either category, which may crucially affect the viability pattern of FPSs across States. Punjab does not virtually allow any margin to the FPSs, other than the income earned from the sale of gunny bags.

Table 4.5: Recurring Cost of FPSs-I

State	% share of cost components in the average monthly recurring cost of the sample FPSs:							Average cost (in Rs)
	Transport	Loading & unloading	Employees	Rent	Storage Loss	Maintenance	Other Costs	
1	2	3	4	5	6	7	8	9
Andhra Pradesh	0.0	10.3	53.0	26.1	0.1	10.3	0.2	1023
Arunachal Pradesh	0.0	0.0	39.7	35.8	8.5	8.7	7.4	678
Assam	18.1	5.6	26.0	32.5	6.6	5.9	5.3	1473
Bihar	36.7	9.5	19.4	11.1	8.7	4.1	10.6	1430
Gujarat	16.3	2.6	40.0	21.8	1.5	1.4	16.3	2737
Haryana	2.7	0.2	78.0	14.2	1.4	1.3	2.2	3026
Himachal Pradesh	4.1	0.0	83.4	10.4	0.8	0.0	1.3	7251
Karnataka	11.8	8.3	37.3	13.4	1.3	6.1	21.8	2085
Kerala	22.3	11.1	39.4	21.5	0.8	1.5	3.4	2842
Madhya Pradesh	1.3	0.4	73.9	16.2	4.1	3.0	1.0	2140
Maharashtra	26.6	13.7	36.4	15.2	2.8	0.4	4.8	1667
Meghalaya	23.3	6.9	22.2	31.1	6.0	4.9	5.6	1125
Orissa	48.4	13.2	18.8	12.9	5.9	0.1	0.7	1837
Punjab	6.5	0.9	67.0	18.8	1.7	3.2	1.8	2387
Rajasthan	0.8	0.0	73.4	18.7	2.1	4.0	1.1	1828
Tamil Nadu	1.8	0.0	87.8	6.9	0.0	3.3	0.2	3960
Uttar Pradesh	35.2	4.9	27.0	26.0	3.8	0.1	3.0	1697
West Bengal	41.3	10.3	25.6	15.2	3.6	1.8	2.2	2254

The calculations above have been done for typical FPSs, averaging their cost items, irrespective of whether all the FPSs reported all the cost items and the scales of operation. The share of wage cost in the total recurring cost of FPSs, with a range between 18.8% in Orissa and 87.8% in Tamil Nadu, emerges to be one of the most important cost components. Its share surpasses 50% of the recurring cost in 7 out of 18 States while in 12 States this is the biggest cost component. The cost incurred by the FPSs on transportation of PDS items from wholesale point to the retail point is very significant in States like Bihar, Orissa, Uttar Pradesh and West Bengal, which do not offer the facility of door delivery to retailers. This scenario calls for a detailed examination of different components of the recurring cost incurred by an FPS.

Table 4.6: Recurring Cost of FPSs-II

State	% of FPSs declaring expenditure on:						
	Rent	Imputed rent	Temporary employees	Permanent employees	Loading & unloading charges	Transportation	Interest payment
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Andhra Pradesh	33.3	50.0	50.0	25.0	100.0	0.0	8.3
Arunachal Pradesh	0.0	100.0	0.0	100.0	0.0	0.0	0.0
Assam	18.8	81.3	18.8	93.8	100.0	100.0	0.0
Bihar	30.0	70.0	60.0	0.0	100.0	100.0	5.0
Gujarat	50.0	50.0	10.0	70.0	80.0	100.0	0.0
Haryana	37.5	62.5	0.0	25.0	50.0	100.0	0.0
Himachal Pradesh	66.7	33.3	50.0	83.3	0.0	0.0	0.0
Karnataka	41.7	58.3	66.7	25.0	91.7	75.0	50.0
Kerala	66.7	33.3	0.0	100.0	100.0	100.0	0.0
Madhya Pradesh	60.0	40.0	55.0	50.0	15.0	15.0	40.0
Maharashtra	64.3	35.7	7.1	42.9	92.9	92.9	7.1
Meghalaya	0.0	100.0	0.0	100.0	100.0	100.0	0.0
Orissa	25.0	75.0	30.0	35.0	90.0	90.0	20.0
Punjab	25.0	75.0	0.0	37.5	50.0	75.0	0.0
Rajasthan	41.7	58.3	16.7	41.7	0.0	16.7	25.0
Tamil Nadu	75.0	25.0	25.0	93.8	0.0	31.3	0.0
Uttar Pradesh	15.0	85.0	25.0	15.0	80.0	100.0	5.0
West Bengal	45.0	55.0	35.0	65.0	100.0	100.0	15.0
All States	**40.6**	**58.5**	**29.5**	**50.0**	**68.8**	**70.9**	**12.0**

Imputed rent has been attributed to those FPSs which did not pay any rent on buildings; those without being attached with either rent or imputed rent functioned in public buildings free of rent. A greater number of selected FPSs across States preferred to employ their manpower on a permanent basis rather than on a piecemeal basis; yet strong State-specific pattern in this can be observed from the table. While almost 28% of the selected FPSs employed neither permanent nor temporary employees, 8% of them employed both. It may be seen that in Andhra Pradesh, Haryana and Karnataka (rural), FPSs enjoy the facility of door delivery of PDS items, but majority of them declare having incurred loading and unloading charges. Here, interest payment is also treated as an item of cost, which definitionally is not, in order to make out its relative significance across selected FPSs in different States. However, it is not treated as a cost item in the ensuing viability analysis.

Table 4.7: Recurring Cost of FPSs-III

State	% share of different expenditure components in the total cost of those selected FPSs declaring expenditure on:					
	Rent	Imputed rent	Temporary employees	Permanent employees	Loading & unloading charges	Transportation
1	**2**	**3**	**4**	**5**	**6**	**7**
Andhra Pradesh	29.4	24.8	31.5	59.3	10.3	-
Arunachal Pradesh	-	35.8	-	39.7	-	-
Assam	28.6	33.2	9.4	24.2	5.6	18.1
Bihar	17.2	9.0	26.3	-	9.5	36.7
Gujarat	11.0	30.3	22.4	47.6	3.8	16.3
Haryana	13.1	21.7	-	91.5	3.2	4.5
Himachal Pradesh	8.5	16.7	13.0	83.7	-	-
Karnataka	10.8	15.9	15.0	60.4	8.4	16.0
Kerala	19.5	25.4	-	39.4	11.1	22.3
Madhya Pradesh	14.3	15.3	69.8	69.3	4.1	13.2
Maharashtra	11.3	27.0	15.9	42.0	14.9	28.8
Meghalaya	-	31.1	-	22.2	6.9	23.3
Orissa	7.9	14.0	16.1	28.6	13.7	50.3
Punjab	37.1	16.2	-	72.6	4.7	3.4
Rajasthan	39.2	16.4	35.9	74.0	-	2.2
Tamil Nadu	7.2	5.5	51.5	80.9	-	4.9
Uttar Pradesh	28.3	24.5	25.1	62.1	6.2	35.2
West Bengal	7.7	15.9	20.9	31.7	9.6	38.4

The calculations done for an average FPS have the limitation of being insensitive to the variations seen across individual FPS; the table above supplements the conclusions to a considerable extent. The table above points to the overwhelming share of wage cost in the cost structure of those FPSs, especially in the States of Andhra Pradesh, Haryana, Himachal Pradesh, Karnataka, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh.

Table 4.8: Gross income of FPSs

State	Average gross income (Rs.)	% share of different income components in the total gross income of selected FPSs:						
		Y (Sugar)	**Y** (Kerosene)	**Y** (Rice-APL)	**Y** (Rice-BPL)	**Y** (Wheat-APL)	**Y** (Wheat-BPL)	**Y** (Sale of gunny)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Andhra Pradesh	1431	9.2	17.2	0.0	42.0	0.0	0.0	31.6
Arunachal Pradesh	234	12.7	22.1	0.0	44.4	0.0	0.0	20.8
Assam	962	9.5	13.6	1.2	62.2	0.0	0.0	13.4
Bihar	621	13.3	41.7	0.0	7.9	0.0	15.4	21.6
Gujarat	1843	14.4	38.0	0.0	8.6	0.0	22.9	16.1
Haryana	720	17.8	44.2	0.0	0.0	0.0	20.0	18.1
Himachal Pradesh	787	18.0	23.1	6.3	6.9	0.0	16.5	29.2
Karnataka	1681	2.1	9.4	0.0	51.1	0.0	11.9	25.5
Kerala	1921	7.5	34.5	4.5	33.3	2.4	0.0	17.9
Madhya Pradesh	1787	12.9	22.8	0.4	7.0	0.1	21.5	35.3
Maharashtra	2760	7.3	8.7	0.0	40.0	0.0	27.1	17.0
Meghalaya	1969	2.7	4.1	0.0	85.8	0.0	0.0	7.4
Orissa	1265	4.3	56.4	0.0	21.1	0.0	0.0	18.2
Punjab	479	20.1	58.7	0.0	0.0	0.0	0.6	20.6
Rajasthan	1003	13.2	27.9	0.0	0.0	0.0	23.4	35.5
Tamil Nadu	5891	2.8	42.1	0.0	42.4	0.5	0.2	12.0
Uttar Pradesh	529	13.1	60.1	0.0	1.0	0.0	7.5	18.2
West Bengal	4919	4.1	22.2	21.8	7.1	12.7	7.1	25.0
All States	**1927**	**6.8**	**29.1**	**5.5**	**26.1**	**3.1**	**8.8**	**20.7**

Y=Total margin (income) generated.

Average gross income of the selected FPSs of a given State is calculated as the average of the total margins generated from the sale of sugar, kerosene, rice and wheat (APL and BPL) and the receipts out of the sale of gunny bags in which the PDS items are packed and sent in to the FPSs.

The table also brings out the importance of kerosene in the income composition of the selected FPSs. It almost equals the combined share of BPL rice and BPL wheat. This speaks of the importance of keeping kerosene within the PDS retailer trading to improve their viability. The share of sugar in the FPS income composition is not generally substantially important. In States like Bihar, Haryana, Himachal Pradesh, Punjab, Rajasthan, Orissa and Uttar Pradesh, an overwhelmingly high share of the FPS income has been constituted by share of non-food components, pointing towards the infeasibility of the sustenance of the PDS retail network of these States with trading in only food grains, unless drastic changes are effected in the PDS prices of food grains, their FPS level margins and the scales of their distribution.

The forgoing tables must be read along with the following to understand the differences across States in the size of recurring costs and gross incomes of FPSs relative to their volume of trade.

Table 4.9: Viability of a Typical FPS

State	Average value of transactions (AVT) (Rs.)	Average recurring cost (ARC) (Rs.)	Average gross income (AGY) (Rs.)	ARC as % of AVT	AGY as % of AVT
1	2	3	4	5	6
Andhra Pradesh	55012	1023	1431	1.86	2.60
Arunachal Pradesh	7966	678	234	8.51	2.94
Assam	22092	1473	962	6.67	4.35
Bihar	27641	1430	621	5.17	2.25
Gujarat	64829	2737	1843	4.22	2.84
Haryana	33251	3026	720	9.10	2.17
Himachal Pradesh	36169	7251	787	20.05	2.18
Karnataka	40237	2085	1681	5.18	4.18
Kerala	53033	2842	1921	5.36	3.62
Madhya Pradesh	62658 (74764)	2204 (2140)	1384 (1787)	3.52 (2.86)	2.21 (2.39)
Maharashtra	51922	1667	2760	3.21	5.32
Meghalaya	19713	1125	1969	5.71	9.99
Orissa	39183	1837	1265	4.69	3.23
Punjab	31205	2387	479	7.65	1.54
Rajasthan	45643	1828	1003	4.00	2.20
Tamil Nadu	96589	3960	5891	4.10	6.10
Uttar Pradesh	27474	1697	529	6.18	1.93
West Bengal	80260 (172059)	2254 (2527)	2360 (4919)	2.81 (1.47)	2.94 (2.86)
All States	**47496**	**2161**	**1927**	**4.55**	**4.06**

The figures given for West Bengal and Madhya Pradesh were adjusted for the outliers (in the value of transactions) in the sample. The State-wise average of the normalized values of recurring cost of the FPSs suggest that comparatively high volume of trade by a typical FPS in certain States like Tamil Nadu, West Bengal, Kerala and Gujarat allows it to operate at a reasonably high average cost which looks perfectly reasonable against their high trade volume. However, in States like Arunachal Pradesh, Assam, Bihar and Meghalaya, a typical FPS has a lower average cost, which gets magnified against low volume of transactions. In another group of States like Himachal Pradesh, Haryana and Punjab, a typical FPS has the cost higher than and the volume of transactions lower than the corresponding sample average making their recurring cost look unmanageably high.

The difference between column 6 and column 5 of the table above suggests that a typical FPS makes a positive net income only in the States of Andhra Pradesh, Maharashtra, Meghalaya, Tamil Nadu and West Bengal. The difference between the gross income and the recurring cost is most glaring in Himachal Pradesh followed by Arunachal Pradesh, Haryana, Bihar, Punjab and Uttar Pradesh.

4.4 Evaluation of FPS Profit

Considering the differences in the age structure of FPSs and the difficulties in correctly estimating the initial investment made by the FPSs, profit here is defined as profit on current transactions, i.e. the difference between their operational cost (OC), including the money invested in lifting the PDS items, and their gross turnover (GT). Four possibilities are defined here;

a) GT< OC (operational loss),
b) GT=OC (no-loss-no-profit),
c) GT>OC (operational profit) and
d) GT sufficiently greater than OC.

GT can be said to be sufficiently greater than OC when the margin (GT-OC) is greater than or equal to the poverty line income for the retailer (monthly poverty line per capita for the State as defined by Planning Commission average family size of the State) or 12% annualized return on working capital, whichever is higher. The point behind making poverty line income as the minimum ceiling on profits is that as running the FPS is envisaged as a full time activity to its owner, he should at least be able to mobilize an income that is just sufficient to support his family.

Table 4.10: Net income of the selected FPSs

State	Effective sample of FPSs	% with positive net income over recurring cost	% with 12% annual return on working capital	% satisfying sufficiency criterion(*)	Viability gap(**) (in thousands)
1	**2**	**3**	**4**	**5**	**6**
Andhra Pradesh	12	83.3	66.7	16.7	1.32
Arunachal Pradesh	4	0.0	0.0	0.0	2.31
Assam	16	12.5	6.3	0.0	2.46
Bihar	20	15.0	0.0	0.0	2.86
Gujarat	10	30.0	10.0	10.0	3.41
Haryana	5	40.0	0.0	0.0	4.37
Himachal Pradesh	5	0.0	0.0	0.0	8.21
Karnataka	12	41.7	16.7	8.3	2.58
Kerala	12	16.7	0.0	0.0	2.84
Madhya Pradesh	20	25.0	5.0	5.0	2.74
Maharashtra	14	71.4	50.0	14.3	1.59
Meghalaya	4	100.0	100.0	0.0	1.17
Orissa	20	25.0	5.0	0.0	2.27
Punjab	7	28.6	0.0	0.0	3.97
Rajasthan	12	58.3	33.3	0.0	3.17
Tamil Nadu	16	93.8	87.5	43.8	1
Uttar Pradesh	20	5.0	0.0	0.0	3.46
West Bengal	20	65.0	45.0	25.0	1.82
All States	**229**	**38.9**	**22.7**	**8.3**	**2.67**

(*) = 12% annualized return on working capital or an income that satisfies the poverty line applicable to the FPS owner, whichever is greater.

(**) Viability gap in State 'i' is defined as; $G=1/q*\sum_{j=1}^{q}((zij-Yij)/1000)$

Where; q= number of FPSs in the i^{th} State falling below the sufficiency criterion

Zij=Sufficiency criterion applicable to the j^{th} FPS in the i^{th} State

Yij=Net income of the j^{th} FPS in the i^{th} State

The calculations made here relate to the month previous to the month of canvassing (June/August 2001). The table shows that nationally only 38.9% of the selected FPSs made a positive net income over their monthly recurring cost, while 22.7% could mop up a return of annualized 12% of their working capital and only less than a third of the latter could mobilize an income sufficient to justify the ownership and running of a FPS. That only in about 4% of the sample FPSs, an annualized 12% of the working capital was greater than the poverty line income of the family of the FPS owner speaks of the abysmally low levels of volume of transactions made in these FPSs. (Hence in the remaining 96% of the selected FPS, poverty line income of the family of the FPS owner was the sufficiency criterion, not 12% return on their working capital).

It is noted that none of the FPSs of Arunachal Pradesh and Himachal Pradesh but only a negligibly low proportion of FPSs in Assam, Bihar, Kerala and Uttar Pradesh could mobilize a positive net income (current profit), which reiterates the infeasibility of any effective enforcement of the guidelines of TPDS with the FPSs in those States, because ensuring viability is a pre-condition for effective surveillance. From different angles, the States where the

FPSs fare better in their profits are Andhra Pradesh, Maharashtra, Tamil Nadu, West Bengal and Meghalaya; among them Tamil Nadu where almost 44% of the selected FPSs satisfied the sufficiency criterion stood out.

Viability gap represents the amount (in thousands) by which an average unviable FPS falls short of the viability/sufficiency criterion, signifying the intensity of the efforts required to resolve the problem of FPS non-viability in different States. For example, in Andhra Pradesh, 2 out of the 12 selected FPSs (16.7%) satisfied the sufficiency criterion while, each of the remaining 10 FPSs, on an average, must additionally generate Rs. 1320/- of net income to become viable. While enormous efforts are required in Himachal Pradesh, Haryana and Punjab to make their unviable FPSs viable, lesser adjustments will achieve the same in Meghalaya, Tamil Nadu, Maharashtra and Andhra Pradesh.

4.5 Simulations on (Net) Profits

The simulations on the net incomes earned by the selected FPSs are immensely significant against the background of the prevalence of widespread non-viability among them. These simulations follow an iterative trajectory by varying one or more factors affecting the viability of the selected FPSs at a time and examining its impact on their viability status.

Table 4.11: Simulations with respect to cost items-I

State	With full subsidy on transport cost & loading &unloading cost			With full subsidy on rent of FPS building			With full subsidy on transport cost & loading &unloading cost and rent of FPS building		
	% of FPSs with NY>0	% with 12% annual return	% of FPSs satisfying sufficiency criterion	% of FPSs with NY>0	% with 12% annual return	% of FPSs satisfying sufficiency criterion	% of FPSs with NY>0	% with 12% annual return	% of FPSs satisfying sufficiency criterion
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Andhra Pradesh	83.3	75.0	16.7	83.3	75.0	16.7	83.3	75.0	16.7
Arunachal Pradesh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Assam	25.0	18.8	0.0	31.3	18.8	0.0	68.8	43.8	0.0
Bihar	40.0	35.0	0.0	20.0	5.0	0.0	45.0	40.0	0.0
Gujarat	30.0	30.0	10.0	40.0	20.0	10.0	60.0	40.0	10.0
Haryana	60.0	0.0	0.0	60.0	40.0	0.0	60.0	60.0	0.0
Himachal Pradesh	0.0	0.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Karnataka	58.3	25.0	8.3	50.0	16.7	8.3	75.0	50.0	8.3
Kerala	58.3	33.3	0.0	25.0	16.7	0.0	83.3	58.3	0.0
Madhya Pradesh	25.0	5.0	5.0	35.0	10.0	5.0	35.0	20.0	5.0
Maharashtra	78.6	78.6	42.9	85.7	71.4	14.3	85.7	78.6	50.0
Meghalaya	100.0	100.0	25.0	100.0	100.0	25.0	100.0	100.0	25.0
Orissa	85.0	55.0	5.0	40.0	20.0	0.0	100.0	85.0	5.0
Punjab	28.6	28.6	0.0	28.6	28.6	0.0	57.1	28.6	0.0
Rajasthan	58.3	33.3	0.0	58.3	50.0	0.0	58.3	50.0	0.0
Tamil Nadu	93.8	87.5	50.0	93.8	93.8	68.8	93.8	93.8	68.8
Uttar Pradesh	45.0	5.0	0.0	15.0	5.0	0.0	70.0	50.0	0.0
West Bengal	80.0	80.0	55.0	70.0	50.0	30.0	85.0	80.0	55.0
All States	**55.9**	**40.6**	**14.0**	**47.2**	**33.2**	**10.9**	**69.4**	**56.8**	**15.7**

NY=Net income.

Table suggests low sensitivity of FPSs satisfying the viability criterion with respect to fully subsidizing the transport cost, loading and unloading charges and the rent of the building, which together constituted a significant portion of the recurring cost of a typical FPS (Table 5.5). Full transport subsidy (including loading and unloading charges) emerges more effective than full rental subsidy in improving the viability of FPSs. Significantly, 34.1% of FPSs (over the base level) additionally achieve 12% return on account of combining transport and rental subsidy.

Table 4.12: Simulation with respect to cost items-II

State	With full subsidy of wage cost			With full subsidy of the recurring cost	
	% of FPSs with NY>0	% with 12% annual return	% of FPSs satisfying sufficiency criterion	% with 12% annual return	% of FPSs satisfying sufficiency criterion
1	2	3	4	5	6
Andhra Pradesh	100.0	91.7	16.7	100.0	41.7
Arunachal Pradesh	0.0	0.0	0.0	100.0	0.0
Assam	37.5	12.5	0.0	100.0	12.5
Bihar	15.0	0.0	0.0	100.0	0.0
Gujarat	30.0	30.0	10.0	100.0	20.0
Haryana	60.0	0.0	0.0	100.0	0.0
Himachal Pradesh	40.0	0.0	0.0	100.0	0.0
Karnataka	50.0	50.0	16.7	91.7	41.7
Kerala	58.3	41.7	8.3	100.0	41.7
Madhya Pradesh	95.0	60.0	15.0	100.0	25.0
Maharashtra	85.7	71.4	28.6	100.0	50.0
Meghalaya	100.0	100.0	25.0	100.0	50.0
Orissa	55.0	10.0	0.0	100.0	20.0
Punjab	28.6	0.0	0.0	85.7	0.0
Rajasthan	91.7	66.7	0.0	100.0	0.0
Tamil Nadu	100.0	100.0	100.0	100.0	100.0
Uttar Pradesh	5.0	0.0	0.0	100.0	0.0
West Bengal	80.0	60.0	35.0	100.0	70.0
All States	**58.5**	**39.7**	**16.2**	**99.1**	**29.3**

Except for Tamil Nadu, the results of the simulations with respect to full subsidy of the wage cost are not worth considering with respect to the sufficiency criterion. Even with full cost subsidization (which is an improbable policy scenario), none of the selected FPSs of Arunachal Pradesh, Bihar, Harynana, Himachal Pradesh, Punjab, Rajasthan and Uttar Pradesh satisfied the sufficiency criterion. The response in States like Assam, Gujarat, Madhya Pradesh and Orissa is not impressive at all. This signifies that the selected FPSs of these States operate at such low level of PDS transactions that even a full cost subsidy will not guarantee their sufficiently viable existence. Hence the potential impact of exclusive cost adjustments is very limited and therefore other adjustments like raising the FPS margin on PDS items and quantity of food grains traded are to be experimented with.

Table 4.13: Combined Simulations-I

State	With Margin on BPL grains raised by 50%			With BPL off-take of grains and transport cost raised by 50%			With BPL grain margin, BPL off-take of grains and transport cost raised by 50%		
	% of FPSs with NY>0	% with 12% annual return	% of FPSs satisfying sufficiency criterion	% of FPSs with NY>0	% with 12% annual return	% of FPSs satisfying sufficiency criterion	% of FPSs with NY>0	% with 12% annual return	% of FPSs satisfying sufficiency criterion
1	2	3	4	5	6	7	8	9	10
Andhra Pradesh	83.3	75.0	25.0	83.3	75.0	25.0	91.7	83.3	33.3
Arunachal Pradesh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Assam	18.8	12.5	0.0	12.5	12.5	0.0	56.3	50.0	6.3
Bihar	15.0	5.0	0.0	10.0	5.0	0.0	10.0	5.0	0.0
Gujarat	30.0	30.0	10.0	30.0	10.0	10.0	30.0	30.0	10.0
Haryana	60.0	20.0	0.0	40.0	20.0	0.0	40.0	20.0	0.0
Himachal Pradesh	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0
Karnataka	41.7	41.7	16.7	41.7	33.3	16.7	50.0	41.7	33.3
Kerala	33.3	8.3	0.0	16.7	0.0	0.0	41.7	16.7	0.0
Madhya Pradesh	25.0	10.0	10.0	30.0	15.0	10.0	40.0	15.0	10.0
Maharashtra	78.6	71.4	35.7	64.3	64.3	28.6	85.7	78.6	50.0
Meghalaya	100.0	100.0	25.0	100.0	100.0	25.0	100.0	100.0	75.0
Orissa	35.0	10.0	0.0	15.0	0.0	0.0	25.0	10.0	0.0
Punjab	28.6	0.0	0.0	28.6	0.0	0.0	28.6	0.0	0.0
Rajasthan	58.3	41.7	0.0	58.3	41.7	0.0	58.3	41.7	16.7
Tamil Nadu	93.8	93.8	87.5	93.8	93.8	75.0	93.8	93.8	87.5
Uttar Pradesh	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West Bengal	80.0	65.0	40.0	65.0	55.0	30.0	75.0	65.0	45.0
All States	**43.2**	**31.9**	**15.7**	**37.1**	**28.4**	**13.5**	**46.7**	**36.2**	**20.5**

1. The first simulation in the table above raises the FPS margin on PDS grains meant for BPL by 50%. The proportion of FPSs satisfying the sufficiency criterion almost doubled with this change (from 8.3% to 15.7%), but mainly due to changes in a few States-Tamil Nadu, Meghalaya, Maharashtra and West Bengal. The selected FPSs of the other States remained more or less insensitive with respect to this change.

2. The second simulation tried raising the BPL lifting of food grains by 50%. The increased quantity may have been absorbed by the APL, probably with a reduction in the APL price of PDS grains. In the event of cost items not getting subsidized, it would be realistic to assume that the transportation cost increases in equal proportion and the other cost items remain the same, given the sub-optimal level of current FPS operations. The sensitivity of FPS net incomes with respect to this change is very limited in the States in the periphery.

3. The third simulation combines the first and the second, but with insignificant incremental impact except in Andhra Pradesh, Karnataka, Maharashtra, Meghalaya and West Bengal.

4.6 Policy Conclusions

The forgoing simulation exercises have attempted conceivable adjustments in the policy variables that may improve the viability of FPSs. What becomes clear is that isolated adjustments are thoroughly inadequate. Keeping the fact in view that FPSs would require a combined policy package to resolve the problem of their non-viability, the following table suggests a feasible policy prescription which considerably improves the viability of a typical FPS.

Table 4.14: FPSs Viability

State	With FPS grain margin equal to 3% of economic cost, BPL off-take increased by 50% and with full transport and rental subsidy	
	% of FPSs with NY>0	% with 12% annual return
1	2	3
Andhra Pradesh	100.0	100.0
Arunachal Pradesh	0.0	0.0
Assam	68.8	50.0
Bihar	50.0	50.0
Gujarat	70.0	60.0
Haryana	60.0	60.0
Himachal Pradesh	20.0	20.0
Karnataka	83.3	75.0
Kerala	91.7	75.0
Madhya Pradesh	55.0	40.0
Maharashtra	92.9	78.6
Meghalaya	100.0	100.0
Orissa	100.0	90.0
Punjab	57.1	57.1
Rajasthan	75.0	58.3
Tamil Nadu	93.8	93.8
Uttar Pradesh	75.0	60.0
West Bengal	95.0	85.0
All States	**76.4**	**67.2**

The table above prescribes four changes in the existing system that improve the viability status of the selected FPSs substantially. Full transport subsidy is assumed on the basis of the suggestion that door delivery of food grains should be made universal, while full subsidy on the rental charges on the FPS building is based on the suggestion that the wage employment/asset creation programmes of the Government of India may be harnessed to erect public buildings to house FPSs. The suggested 50% increase in the BPL off-take is based on the assumption that if the BPL were offered a higher quantity at graduated prices, its fiscal burden would be minimal considering the high unit buffer stocking cost incurred by the FCI. Along with the aforesaid three changes, pegging the margin for FPS in trading PDS grains at 3% of their economic cost ensures not only that a typical FPS becomes viable, but also, brings about uniformity in the structure of FPS level margins. More than 67.2%

of the selected FPSs earn 12% annual return on their working capital with this policy package. The following table shows that the rest, 32.8% of the sample FPSs, have peculiar set of problems and hence require separate treatment for making them viable.

Table 4.15: Viable and Unviable Categories of FPSs

Category	Category: ownership-wise	Av. BPL cards	Av. Wage bill	Av. Monthly qty (qtls)
Viable FPSs (67.2%) (I)		**249**		**55.84**
Of them;	Co-operatives (41.6%)	324	1421	64.14
	Private (55.2%)	198	249	51.13
Unviable FPSs (32.8%) (II)		**168**		**9.93**
Of them;	Govt. (8%)	232	5464	14.83
	Co-operatives (52%)	201	2316	15.18
	Private (38.7%)	109	428	2.02

It may be seen that number of cards and the quantity traded were significantly higher for the category I FPSs, while their wage bill is considerably lower on an average and across different ownership categories. Here lies the significance of ensuring a threshold level of transactions to make FPSs viable. Hence, first of all, mushrooming of FPSs need to be controlled and an adequate number of ration cards per FPS needs to be worked out State-wise and region-wise depending on their viability calculations and the demand structure for PDS grains. The problems of the hilly and inaccessible areas, where the fixation of the number of cards may be infeasible, need to be addressed separately with counterbalancing increase in the FPS level margins of food grains.

An annual return of 12% on PDS transactions can be justified on conditions of commercial viability/bankability, yet it may be seen that of the 67.2% selected FPSs which will earn 12% return with the suggested policy package, the 1st, 2nd and 3rd lowest fractiles will only receive a monthly net income of Rs.257/-, Rs.488/- and Rs.865/- respectively. This will, trivially, not suffice, if PDS is to become a full-time activity for the FPS dealer. Again, 48.7% of them (of the aforesaid 67.2%) still fall below sufficiency criterion; their average viability gap (as defined in previous sections) was 1.11 (=Rs.1110/- per month). Hence, **ensuring the commercial viability of the retailers in PDS and their regular opening necessitates giving freedom to them to trade in non-PDS items**. Recent changes in the regularity of the opening of FPSs and the offer of instalments to the consumers reported from Andhra Pradesh after the FPSs have been allowed to trade in non-PDS items is strongly indicative.

There cannot be any policy stimulus to those FPSs, mostly operating in co-operative and government sectors, which incur unjustifiably high wage cost at paltry levels transactions. They will naturally fade away in a regime that plugs loopholes.

Chapter 5

Off-take of Food Grains from PDS and Its Determinants

Introduction

This chapter is divided into seven sections arranged in line with the specific issues dealt with in each. Section I reviews a selected set of relevant empirical studies that, together with the PEO field notes, help explaining the behaviour of the data presented in the sections to follow. Section II dwells on the inter-state differences in the availability of rice and wheat vis-à-vis their demand and thus lays the ground for analyzing the inter-state differences in the lifting of PDS grains reflected in the sample household level data. Section III briefly deals with the lifting of PDS grains by sample APL cardholders, while section IV delineates the pattern of PDS grains purchases by the sample BPL cardholders. Section V works out the income gain accruing to each BPL household on account of food subsidy. Section VI lists down the proximate factors that could decide the lifting of PDS grains by the BPL cardholders, while section VII attempts to fix this causality in quantitative terms with observed elasticities. Section VIII encapsulates the main findings of the chapter.

5.2 Review of Literature on Off-take of PDS Grains

A brief review of the literature on lifting of PDS grains and its determinants has helped data analysis on various counts. Two earlier PEO Studies- Evaluation Report on Essential Supplies Programme (1985) and Evaluation Report on Revamped Public Distribution System (1995)–provide some ground for comparison. Kirit Parikh (1994) provides quantitative estimates on different parameters, which facilitate comparison and study of time trend. Recent State-specific articles on the working of PDS like Jos Mooij (2001), Bhaskar Datta & Bharat Ramaswami (2001), Madhura Swaminathan & Neeta Misra (2001), Kripa Sankar (2004), Ravi Srivastava (2001) and Pradeep Bhargava (2001) help supplementing and reinforcing the PEO field notes in explaining the primary data. These studies are quoted contextually in this chapter.

5.3 Production and Availability of Rice & Wheat-State Level Scenario

The following table sums up the cereal surplus/deficit scenario prevalent in the sample States.

Table 5.1: Demand, Availability and Consumption of Cereals

State	NSSO estimates of monthly consumption per capita		Net availability of food grains (Million tonnes)		Procurement by public agencies		Current demand for food grains for human consumption (Million tonnes)		Food grain surplus on current demand for human consumption (Million tonnes)	
	Rice	Wheat	Rice	Wheat	Rice	Wheat	Rice	Wheat	Rice	Wheat
1	2	3	4	5	6	7	8	9	10	11
Andhra Pradesh	11.71	0.22	47.09	0.00	63.36	0.00	107.09	2.01	-60.00	-2.01
Assam	11.94	0.69	39.30	0.95	0.00	0.00	38.19	2.21	1.11	-1.26
Bihar	7.98	5.27	71.36	46.45	0.20	0.00	105.28	69.53	-33.93	-23.08
Gujarat	2.10	3.64	9.95	8.35	0.00	0.00	12.77	22.13	-2.82	-13.78
Haryana	1.00	10.05	13.96	54.67	12.34	41.83	2.54	25.50	11.42	29.17
Himachal	4.18	6.53	0.00	5.85	0.00	0.00	3.05	4.76	-3.05	1.09
Karnataka	5.38	1.03	35.55	2.30	1.71	0.00	34.12	6.53	1.42	-4.23
Kerala	8.93	0.95	7.60	0.00	0.00	0.00	34.12	3.63	-26.52	-3.63
Madhya Pradesh	5.50	6.25	42.22	58.44	10.69	4.47	53.58	60.89	-11.37	-2.45
Maharashtra	3.18	3.52	22.13	11.95	0.43	0.00	36.97	40.92	-14.84	-28.97
Orissa	14.16	0.59	39.97	0.00	9.04	0.00	62.54	2.61	-22.57	-2.61
Punjab	0.70	9.66	20.46	71.03	68.90	86.28	2.05	28.24	18.41	42.79
Rajasthan	0.23	9.82	-0.29	55.52	0.29	5.88	1.56	66.59	-1.85	-11.07
TamilNadu	9.82	0.36	60.68	0.00	13.07	0.00	73.54	2.70	-12.86	-2.70
Uttar Pradesh	0.34	8.98	110.67	244.12	13.19	14.04	7.13	188.24	103.54	55.87
West Bengal	12.51	1.07	127.03	9.55	3.93	0.00	120.36	10.29	6.66	-0.74

While net availability of rice and wheat is worked out as their production minus procurement, both averaged for 1999-00 and 2000-01, current demand for food grains for human consumption is calculated as the NSSO estimate of per capita rice and wheat consumption for the State multiplied by the State population and food grain surplus on current demand for human consumption is worked out as net availability minus current demand. A normative surplus could have been worked out on the basis of the average annual per capita requirement of 146.45 Kg of food grains stipulated by the Government of India (GOI, 1998) considering the nutritional requirement for adults and children separately; however, the surplus on current demand seems to matter more for the present purpose. Also, the current calculations do not net out the requirement for seed, feed and wastage from the production of rice and wheat.

The table suggests that had it not been for huge procurement, Andhra Pradesh would have been a rice surplus State; so is more or less the case with Madhya Pradesh and Tamil Nadu. Unqualified cereal surpluses are found only in Haryana, Punjab and Uttar Pradesh where the cereal surpluses (rice and wheat) are 144.8%, 202.1% and 81.6% respectively on current demand. Apart from these three, only West Bengal has a cereal surplus (rice and wheat together). The States with chronic deficit include Andhra Pradesh (56.8%), Bihar (32.6%), Gujarat (47.6%), Kerala (79.9%), Maharashtra (56.3%) and Orissa (38.7%).

5.4 Lifting of PDS Grains by APL Cardholders

The table substantiates that the PDS benefits accruing to the APL cardholders in terms of lifting of food grains is negligible, except in Tamil Nadu, which did not distinguish between APL and BPL cardholders either in terms of price or entitlement. The lifting of food grains by the APL respondents from West Bengal was confined mostly to Darjeeling district (out of 5 selected districts). The PEO field notes revealed that while the common variety of rice, procured by the State government itself, was supplied to the BPL cardholders, the APL cardholders were supplied with Grade-A variety (either fine or superfine variety). This must have encouraged APL lifting of rice. In the other States APL lifting was limited to Latur district in Maharashtra (out of 4 selected districts) and mostly to Lahoul & Spiti in Himachal Pradesh (out of 2 selected districts). In all the other States, lifting by APL respondents was nil. Nationally, only 12.64% of the APL respondents lifted some quantity from PDS.

Table 5.2: Lifting of PDS Grains by APL Cardholders

State	% of APL cardholders reporting purchase of PDS grains:			Average monthly purchase of APL cardholders (in Kg)	
	Total	Those with BPL per capita expenditure	Those with APL capita expenditure	Those with BPL per capita expenditure	Those with APL capita expenditure
1	2	3	4	5	6
Andhra Pradesh	0.0	0.0	0.0		
Assam	25.0	20.0	33.3	0.28	0.87
Bihar	0.0	0.0	0.0		
Gujarat	2.0	4.0	0.0	0.08	
Haryana	0.0	0.0	0.0		
Himachal Pradesh	25.0	0.0	25.6		9.87
Karnataka	3.3	0.0	3.6		0.34
Kerala	13.3	27.3	10.2	1.64	0.51
Madhya Pradesh	0.0	0.0	0.0		
Maharashtra	10.0	12.5	8.3	1.66	1.47
Orissa	0.0	0.0	0.0		
Punjab	0.0	0.0	0.0		
Rajasthan	3.3	7.7	2.1	0.39	0.04
Tamil Nadu	83.8	75.0	86.7	15.00	15.69
Uttar Pradesh	0.0	0.0	0.0		
West Bengal	27.3	30.2	25.0	8.59	5.20
All States	**12.6**	**13.6**	**12.2**	**2.20**	**2.19**

The table differentiates the APL cardholders into those with per-capita monthly expenditure less than the poverty line and the rest, with an intent to capture (a fraction of) the error of exclusion of poor in the issue of BPL cards. About 43% of the APL cardholders exhibited BPL expenditure, and out of them, around 86% did not make any purchase of PDS grains at the prohibitively high APL prices, while the remaining 14% had perforce to obtain their PDS

grains at double the price which they would have been entitled to, had they possessed BPL cards.

5.5 Lifting of PDS Grains by BPL Cardholders

Since the introduction of TPDS, the Central food subsidy benefited only the BPL cardholders who were supplied combinations of rice and wheat at half the economic cost incurred by the FCI on those grains. Hence this section analyses the BPL lifting of PDS grains in its different dimensions.

Table 5.3: Lifting of PDS Grains by BPL Cardholders

State	% of sample BPL cardholders making PDS lifting of grains:			Average monthly lifting of PDS grains by sample BPL cardholders (in Kg)		
	In all sample districts	District reporting maximum % lifting	District reporting minimum % lifting	In all sample districts	District reporting highest average lifting	District reporting lowest average lifting
1	2	3	4	5	6	7
Andhra Pradesh	100.0	100.0	100.0	15.88	16.45	14.90
Arunachal Pradesh	100			20.0		
Assam	100.0	100.0	100.0	17.5	25	10.00
Bihar	25.0	100.0	Nil	5	20	Nil
Gujarat	100.0	100.0	100.0	10.1	10.55	9.51
Haryana	50.0	95.0	5.0	8.88	17.25	0.50
Himachal Pradesh	95.0	100.0	90.0	19.88	21.13	18.63
Karnataka	80.0	100.0	50.0	15.23	19.73	8.18
Kerala	89.1	100.0	67.5	16.10	19.41	9.60
Madhya Pradesh	84.5	100.0	57.5	16.51	19.13	11.38
Maharashtra	86.3	100.0	50.0	16.47	19.48	8.80
Meghalaya	100.0			8.6		
Orissa	90.0	100.0	65.0	14.17	16.00	9.50
Punjab	25.0	50.0	Nil	4.7	9.40	Nil
Rajasthan	65.0	97.5	Nil	13.61	20.70	Nil
Tamil Nadu	96.3	100.0	87.5	18.59	20.48	14.80
Uttar Pradesh	54.1	82.5	Nil	9.97	14.95	Nil
West Bengal	100.0	100.0	100.0	18.84	23.06	11.38
All States	**78.1**			**14.68**		

The table summarily demonstrates the inter-state differences in the pattern of monthly lifting of PDS grains reported by sample BPL households. First of all, the % of BPL cardholders lifting PDS grains is generally higher in the current survey results than the results shown in Parikh (94) using NSSO (1990), indicating that the rural utilization of PDS is higher in TPDS than universal PDS. What is particularly captured in the table is the vast inter-state and intra-state variations in the degree to which targeted PDS catered to the food grain requirements of the poor in terms of the proportion of the sample BPL cardholders benefited under PDS and the monthly lifting of PDS grains by an average BPL household. In Andhra Pradesh, Arunachal Pradesh, Gujarat, Meghalaya and West Bengal, all the selected BPL cardholders lifted some

quantity of PDS grains. In 14 out of the 18 selected States, there is at least one district in which all the selected BPL cardholders lifted PDS grains. In 46.7% of the sample districts, cent per cent BPL respondents lifted PDS grains. On the other extreme, there were 5 out of 60 sample districts (8.3%) two in Bihar and one each in Punjab, Rajasthan and Uttar Pradesh in which none of the selected BPL cardholders lifted PDS grains.

The scenario in the outlier States, including Bihar, Haryana, Punjab, Rajasthan and Uttar Pradesh, which have at least one district where none of the BPL respondents lifted their food grain quota, is difficult to explain in terms of strict quantitative analysis. They are explained with the help of PEO field notes and other empirical studies.

In Bihar, out of the 5 selected districts, cardholders of only four urban FPSs were selected from Vaishali district. All the selected BPL households lifted their full monthly quota in the district. Contrastingly, in the districts of Gaya, Araria, Kaimur and Munger, only the cardholders attached to rural FPSs were selected and only 6% of them lifted some quantity of PDS grains. In the extreme, the BPL cardholders of Gaya were not aware of their entitled quantity. The reasons attributed by the selected respondents for their non-lifting of PDS grains were the absence of any significant price differential between market and PDS (all districts), erratic/no supply through FPSs (Araria, Gaya and Munger) and unacceptable quality (Kaimur). The corresponding FPSs attributed the almost-nil-lifting of PDS grains to irregular supply of food grains to them (all districts) and availability of cheaper, locally more preferred, market varieties of grains to the BPL cardholders (Araria, Kaimur and Munger), indicating that the interplay of strong supply and demand side impediments rendered the PDS network in rural Bihar almost fully inconsequential.

In Haryana, the PEO field notes point towards the existence of mutually reinforcing supply and demand side constraints explaining the low demand for PDS grains. Every BPL family is offered 20 Kg of wheat flour in an attempt to pre-empt diversion of wheat by FPSs. People are reportedly reluctant to accept wheat flour on account of its poor quality, short shelf life, damage caused to flour due to poor stocking and handling conditions in the FPSs and people's inclination to purchase fresh flour. On the supply side, faced with one of the lowest margins in the country for retail handling of food grains and unsubsidized transport cost, FPSs tend not to lift wheat flour. There are charges of overpricing against FPSs.

In Punjab too, PEO field notes suggest the confluence of demand and supply side constraints making PDS relatively ineffective. Reportedly, in Punjab, people, by tradition, are inclined to purchase food grains for the entire

year during the harvesting season and stock them; only a small fraction in urban areas and those who have little purchasing power to go for at one go buy food grains on quarterly/weekly basis. Secondly, people earn considerable quantities of food grains by cutting crops and thus tend to depend less on PDS. On the supply side, the FPS owner, faced with heavy non-reimbursable transport cost and abysmally low margins (for wheat, the margin left is only the jute bag) might limit his supply to kerosene and sugar which are door-delivered. Again, it is reported that the quality of PDS grains, with substantial presence of foreign particles and high moisture content, is much poorer than the market grains. All this coupled with weak monitoring renders PDS ineffective.

In Uttar Pradesh, in Lakhim Pur Kheri district, where the lifting by the selected cardholders was nil, it was reported from the field that there was no demand for rice and wheat following increase in PDS prices in March 2000. In the extreme, 2 FPS owners (50% of the sample in the district) did not know about the scales of distribution and prices. Besides, almost 36% of the rice and wheat demand of the respondents was met from their own production. In Jalaun and Mathura, where there was some lifting, almost 36% and 37% respectively of their cereal demand was met out of own production and wage payment in kind. PEO field notes also suggested that the "small insignificant quantity" offered by TPDS coupled with marginal price differential made poor households indifferent towards PDS grains lifting. Non-enforcement of transparency norms, leakage (forced too) of food grains at various stages and disincentives arising out of sharp seasonality in the purchase of cereals by the poor resulted in supply side constraints (Srivasthava 2001). However, figures given in the table for the State present a better picture than the earlier estimate of a paltry 2.1% of the rural population making purchases from PDS (NSS 42nd Round as quoted in Srivasthava 2001).

Table 5.4: Rice and Wheat off -take from Various Sources by BPL Cardholders

State	% Share of different components in the rice & wheat basket of BPL respondents(*)			
	PDS off-take	Market purchase	Own production	Other sources
1	2	3	4	5
Andhra Pradesh	31.1(32.7 & 30.2)	61.6(69.8&54.0)	2.1(6.3&0.7)	5.2((14.7&0)
Arunachal Pradesh	42.1	51.8	6.0	0
Assam	35.0(41.6 & 24.3)	62.1(75.7&57.6)	2.8 (10.1&0)	0
Bihar	5.3(22.8 & 0)	86.7(93.1&76.9)	6.1 (10&1.4)	2(5.3&0)
Gujarat	30.8 (30.1 &29.3)	68.2(70.7&65.2)	1.0 (4.7&0)	0
Haryana	17.0(38&0.8)	66.0(70.9&59.5)	12.6 (22.3&0)	4.4(5.9&2.5)
Himachal Pradesh	33.2(40.2& 28.8)	50.8(59.5&45.2)	3.9 (6.3&-)	12.2(19.7&0.3)
Karnataka	40.9(52.1&21.3)	52.1(74.9&35.6)	2.2 (5.9&0)	4.8(6.3&3.2)
Kerala	42.1(50.9&27.2)	54.7(72.8&39.8)	1.1 (2.8&0.6)	2.2(6.5&0)
Madhya Pradesh	26.1(31&17.2)	63.6(82.8&52.7)	8.1(16.5&3.8)	2.2(8.4&0)
Maharashtra	49.0(59.4&32.4)	48.6(61.6&37.3)	2.3 (6&1.1)	0.1(0.2&0)
Meghalaya	20.7	76.2	2.6	0.4
Orissa	18.7(24.4&12.1)	63.7(75.6&56.4)	16.8(25.1&11.5)	0.9(2.8&0)
Punjab	8.4(15.8&0)	75.2(89.6&62.6)	2.4 (4.7&0.3)	14.0(21.3&5.7)
Rajasthan	24.7(36.9&0)	74.7(99.5&61.8)	0.5 (1.3&0)	0.2(0.5&0)
Tamil Nadu	53.9(55.7&49.3)	36.3(43.8&32.2)	7.5 (12.9&6.6)	2.3(7.2&0.1)
Uttar Pradesh	15.7(25.6&0)	57.2(79.6&37.5)	17.7 (35.6&4.4)	9.4(24.8&0)
West Bengal	23.6 (28.5&14.9)	71.7(79.5&66.2)	2.3(4.7&1.0)	2.4(5.0&0.1)

(*) Figures bracketed are the maximum (first figure) and minimum (second figure) of district level averages of the household responses on the respective variable.

The figures on the % share of PDS off-take in the total consumption of rice and wheat by the BPL respondents confirm the State level picture unfolded in the table above. The share of own production and other sources, mostly grain payment of wages, is particularly significant here as the share of the market and PDS are determined as residue of the former. The inter-district variations hidden in the State level figures on own production are considerable. All states, including Uttar Pradesh, Orissa and Haryana where the contribution the household's own production in its rice and wheat consumption is considerably high, have considerable variations across districts. This indicates that, *ceteris paribus*, all poor households cannot be assessed only on their family size in the determination of the residual quantity they would require from PDS (and market).

Table 5.5: Percentage of BPL Cardholders lifting PDS Grains

State	BPL cardholders showing BPL per capita expenditure		BPL cardholders showing APL per capita expenditure	
	Of them, % lifting PDS grains	Average monthly lifting	Of them, % lifting PDS grains	Average monthly lifting
1	2	3	4	5
Andhra Pradesh	100.0	16.36	100.0	15.47
Assam	100.0	19.43	100.0	15.14
Bihar	23.5	4.71	29.8	5.96
Gujarat	100.0	10.22	100.0	9.64
Haryana	18.2	2.73	55.1	9.86
Himachal Pradesh	100.0	22.50	94.1	19.41
Karnataka	83.7	16.63	77.9	14.45
Kerala	98.1		81.5	
Madhya Pradesh	83.8	16.59	87.0	16.22
Maharashtra	87.7	16.66	83.3	16.09
Orissa	88.6	13.85	93.3	14.90
Punjab	28.6	5.07	24.2	4.62
Rajasthan	67.0	13.66	50.0	13.21
Tamil Nadu	97.7	19.05	89.7	16.52
Uttar Pradesh	48.4	8.78	66.7	12.56
West Bengal	100.0	20.95	100.0	16.37
All States	**78.6**	**14.54**	**77.3**	**13.81**

The table attempts to verify the extent to which the TPDS benefits that accrued to the potentially ineligible BPL (BPL cardholders showing APL per capita expenditure, which is suggestive of error of inclusion) compared with those accrued to the eligible BPL (BPL cardholders showing BPL per capita expenditure, indicating correct identification). While on an average, there is hardly any difference between the monthly lifting of food grains between the two groups, there is some interesting state-specific pattern to this. In poorer States like Bihar, Uttar Pradesh and Orissa (and quite significantly in Haryana), the non-poor in terms of expenditure lift a greater quantity of PDS grains, perhaps due to greater access to economic resources when the cardholders are

perforce to lift food grains at one go in the absence of option to purchase in installments in most cases**.**

Table 5.6: Share of PDS Grains in the Total Purchase of Grains

State	Purchase from PDS by BPL respondents as % of their total purchase of grains		
	For all BPL respondents	For BPL respondents of urban areas	For BPL respondents of remote districts
1	2	3	4
Andhra Pradesh	33.5	30.0	
Arunachal Pradesh	44.8		
Assam	36.0	42.0	
Bihar	5.7	23.0	0.0
Gujarat	31.1	29.0	32.0
Haryana	20.5		
Himachal Pradesh	39.5	40.0	
Karnataka	43.9	22.0	52.0
Kerala	43.5	27.0	47.0
Madhya Pradesh	29.1	17.0	
Maharashtra	50.2	46.0	34.0
Meghalaya	21.4		
Orissa	22.7	24.0	
Punjab	10.1	0.0	
Rajasthan	24.8	0.0	
Tamil Nadu	59.7	56.0	
Uttar Pradesh	21.5	20.0	0.0
West Bengal	24.7	28.5	

The table confirms the results that emanated from the forgoing tables. The general trend seen in the separation of the sample results for urban areas from the total is that PDS catered to the rural market demand for cereals more than to the urban demand. This dichotomy is greatly pronounced in Karnataka, Kerala (both with exhaustive PDS infrastructure in the rural areas) and Rajasthan, mostly due to exposure to greater (and cheaper) variety of cereal in the urban areas. Bihar stands as a glaring exception, reflecting on weak delivery mechanisms (PEO field notes and Mooij 2001) and availability of cheaper coarse varieties in the rural areas (PEO field notes). The same should be true of the remote districts of Bihar and Uttar Pradesh.

5.6 Income Gain to the BPL Household from (Central and State) Food Subsidy

The following table read along with Table 5.3 (giving the average quantity lifted by the BPL respondents) and table 5.9 (giving the ratio of market price of rice and wheat to their PDS price) brings out the State-wise differences in the income gain received by BPL households on account of the provision of

subsidized food grains to them through FPSs. (Calculation made here for PDS grains can be readily extended to the provision of sugar and kerosene too.) The last column of the following table works out the income gain to an APL household on account of provision of food grains through FPSs. These figures are not amenable to further analysis, because the negative income gain seen from some States is probably on account of averaging the market price for different seasons and thereby nullifying the impact of higher market price in the off-season during when the PDS purchase might have been made. (However, the income gain made by an APL household in Tamil Nadu is equivalent to that of a BPL household, because the State does not distinguish between APL and BPL in the provision of food grains through PDS).

Table 5.7: Income Gain for BPL Households

State	Effective income gain per BPL household (in Rs)	Number of BPL households in the State (PC estimate) (in lakhs)	Effective income gain for all BPL households in the State (in crore)	% share of the State in the effective income gain of all States	% Share of the State in the BPL population of the country	Effective income gain per APL household (in Rs)
1	2	3	4	5	6	7
Andhra Pradesh	605.03	26.57	160.77	7.9	5.4	0.00
Arunachal Pradesh	1044.00	0.75	7.79	0.4	0.2	0.00
Assam	509.25	17.32	88.19	4.4	3.5	8.40
Bihar	54.64	80.28	43.86	2.2	16.5	0.00
Gujarat	754.42	13.57	102.37	5.1	2.8	0.00
Haryana	167.69	2.38	3.99	0.2	0.5	-8.38
Himachal Pradesh	967.65	0.97	9.40	0.5	0.2	-82.26
Karnataka	293.82	20.51	60.25	3.0	4.2	-15.30
Kerala	969.77	8.39	81.35	4.0	1.7	59.20
Madhya Pradesh	342.94	56.40	193.42	9.5	11.6	0.00
Maharashtra	792.31	47.70	377.90	18.6	9.8	-44.24
Meghalaya	377.07	1.47	5.56	0.3	0.3	0.00
Orissa	240.86	37.11	89.38	4.4	7.6	0.00
Punjab	111.93	2.63	2.94	0.1	0.5	0.00
Rajasthan	384.40	14.28	54.87	2.7	2.9	0.00
Tamil Nadu	1563.85	29.93	468.13	23.1	6.1	1408.76
Uttar Pradesh	79.88	85.19	68.04	3.4	17.5	0.00
West Bengal	491.83	42.46	208.85	10.3	8.7	85.99
All States			**2027.07**			

The effective income gain per household is worked out by multiplying the differential between the average market price and PDS price of the PDS grains with the average quantity lifted by cardholder (done separately for rice and wheat and then added up). Thus this income effect is the sum of a quantity effect and a price effect; the latter capable of determining the former to a considerable extent. Greater price differential not only increases the unit income gain, but also induces an increase in PDS lifting, thereby creating a multiple effect on the total effective income gain to a typical household. Also, out of the two components of the price differential, the market price is exogenously determined (if one ignores the market price elasticity of food grain handling by public agencies) and the PDS price is endogenously determined.

This is an unadjusted gain- a pure financial gain not adjusted for the greater convenience in buying food grains from the market, compromise on preferences etc.

Tamil Nadu stands out among the sample States in terms of the income gain per BPL household. It is the combination of additional price subsidy given by the State upon the Central Issue Price enlarging the difference between the market price and PDS price and sustenance of a comparatively high average PDS off-take (which is partly due to the additional price subsidy) that helped the State bestow such levels of effective income gains upon its poor through its PDS operations. The income gain obtained by a typical BPL household in Bihar is only 3.5% and of Uttar Pradesh only 5.1% of their counterpart in Tamil Nadu. The effect of a higher price differential can be demonstrated by taking the examples of Kerala and Karnataka. The average (pure) BPL off-take of grains in Kerala was only 5.7% higher than that of Karnataka; however the income gain per BPL household is 3.29 times higher in Kerala. This is mostly due to the higher market price prevailing in Kerala making the price differential in Kerala 3.5 times higher than that in Karnataka. This is despite the fact the PDS price of rice in Kerala was slightly higher than that in Karnataka. The dominating effect of average quantity lifted on the income gain can be seen by taking the examples of Arunachal Pradesh and Meghalaya. The average lifting in Arunachal was 2.4 times higher than Meghalaya and the price differential (market price-PDS price) only 16% higher in the former. But the overwhelming quantity effect makes the income gain per BPL household 2.8 times higher in Arunachal Pradesh.

The effective income gain blown up at the State level and later aggregated for the sample can readily be compared with the food subsidy bill of the Government of India during 2000-01, as the selected States contained almost 97% of the BPL population of the country (according to the Planning Commission poverty ratios). Besides, the glaring mismatch between the State's % share in the effective income gain of all States and % share of the State in the BPL population of the country seen from States like Bihar, Orissa and Uttar Pradesh speaks of the effectiveness of PDS in those States.

5.7 Proximate Factors Affecting Lifting of PDS Grains by BPL Households

This section lists down the supply and demand side factors that are expected to have a bearing on the lifting of food grains by BPL cardholders. The supply side factors would include the State-specific differences in entitlement to food grains, quality of PDS grains (represented by the presence of foreign

particles in them), PDS prices of food grains vis-a-vis their market prices and convenience offered to the PDS consumers (represented by the number of installments in which PDS grains can be lifted by BPL cardholders). The demand side factors include food grain preferences- variety and type-, wealth status of the household intrinsically defining his preferences, household size, etc.

5.7.1 Supply Side Factors

Differences in the scale of distribution of rice and wheat, a crucial determinant of the average monthly quantity lifted by BPL cardholders, are presented in the table below.

Table 5.8: Entitlement of BPL cardholder

State	Rice (in Kg)		Wheat (in Kg)		Per card entitlement	Comments
	Adult	Child	Adult	Child		
1	2	3	4	5	6	7
Andhra Pradesh	4	4	-	-	20 Kg (Max) Average: 16.3	Addition, 30 Kg (Max) wheat @ Rs.9/- per Kg
Arunachal Pradesh	-	-	-	-	20 Kg (fixed)	Quota = entitlement
Assam					20 Kg (fixed)	
Bihar	-	-	-	-	20 Kg (fixed)	8 Kg rice+12 Kg wheat
Gujarat	1	1	1.5	1.5	12.5 Kg Max) Average: 10.72	3.5 Kg rice (Max) + 9 Kg wheat (Max)
Haryana	-	-	-	-	20 Kg (fixed)	20 Kg. wheat flour
Himachal Pradesh	-	-	-	-	20 Kg (fixed)	10 Kg rice+10 Kg wheat
Karnataka	-	-	-	-	20 Kg (fixed)	16 Kg rice+ 4 Kg wheat
Kerala	8	4	*	*	20 Kg (Max) Average:19.03	* wheat is available to BPL @ APL price
Madhya Pradesh					20 Kg (fixed)	3-6 Kg rice + 13-17 Kg wheat
Maharashtra	-	-	-	-	20 Kg (fixed)	Different combinations of rice & wheat- Rice lower
Meghalaya	2	2	-	-	Not fixed Average: 9.2	2 Kg of rice per head
Orissa	-	-	-	-	16 Kg (fixed)	Only rice
Punjab	-	-	-	-	20 Kg (fixed)	3 Kg rice + 17 Kg wheat
Rajasthan	-	-	-	-	20 Kg (fixed)	Different combinations of rice & wheat- Rice lower
Tamil Nadu	1 unit=12 Kg, 1.5 unit=14 Kg, 2 units=16 Kg, 2.5 units=18 Kg & 3 and above units= 20 Kg				Average: 19.16	1 adult = 1 unit & 1 child (below 12)= 0.5 unit.
Uttar Pradesh	-	-	-	-	20 Kg (Fixed)	6 Kg rice+14 Kg wheat
West Bengal	2 or 2.5	1 or 1.25	2 or 2.5	1 or 1.25	Not fixed Average: 19.70	Varies according to family size

As table shows, 12 States–Arunachal Pradesh, Assam, Bihar, Haryana, Himachal Pradesh, Karnataka, Maharashtra, Punjab, Rajasthan, Uttar Pradesh, Madhya Pradesh, and Orissa have given a fixed entitlement to their BPL cardholders irrespective of their family size. While 11 of them have stuck to the centrally prescribed monthly entitlement of 20 Kg, Orissa gives a fixed monthly quantity of 16 Kg. Among those States with entitlement pegged to family size-6 of them altogether- there are many differences. The average entitlement furnished for these States is the average of the individual entitlements of respondent households calculated as their household size (adult and children size separately) multiplied by the respective scales of distribution. The average entitlement in Gujarat and Meghalaya are extremely low because; a) they fixed

low scale of distribution per household member and b) they laid a low cap on the maximum quantity. Kerala and Tamil Nadu allow smaller families (with size upto 3) to obtain a greater proportion (than Andhra Pradesh) of their food grains requirements from PDS and hence have a greater average entitlement per household. In Tamil Nadu, a three-adult-members' family is entitled to 20 Kg of rice while in Gujarat, the same family gets only 7.5Kg of food grains (37.5% of Tamil Nadu) and in Meghalaya only 6 Kg of rice (30% of Tamil Nadu). In Andhra Pradesh and West Bengal, a 5-member family gets an entitlement of the Centrally prescribed 20 Kg. In Kerala, a three-member family attains the same.

5.7.2 PDS Price versus Market Price

What is here treated as market price is not necessarily the wholesale/retail price of any standard (common/fine etc) variety of rice/wheat; it is the price at which that variety of rice/wheat which is considered by BPL respondents a close substitute to the PDS variety is made available to them locally. For example, the price ratio 101.2% reported from Bidar district of Karnataka is that between the price of the broken variety of the rice brand called Sona Masuri grown widely in Andhra Pradesh and the price of the PDS rice. The variations in the State averages of price ratios of rice/wheat, supplemented with its district level variance suggests that this, along with other supply and demand side factors, could be a powerful determinant of BPL lifting of rice/wheat at the household level. For example, in Bihar and Uttar Pradesh, where the BPL off-take of PDS grains was comparatively poorer, the price ratios are considerably lower too.

Table 5.9: Price Comparison –PDS Vs Market

State	Market price (as declared by BPL respondents) as % of PDS price:			
	Rice-1999	Wheat-1999	Rice-2001	Wheat-2001
1	2	3	4	5
Andhra Pradesh	224.9	113.3	160.7	116.7
Arunachal Pradesh	166.7	NA	170.7	NA
Assam	132.9	NA	134.0	NA
Bihar	221.6	201.9	119.7	113.3
Gujarat	317.8	392.0	309.8	409.7
Haryana	NA	141.7	NA	127.8
Himachal Pradesh	136.6	175.5	179.6	155.7
Karnataka	251.5	235.6	123.2	150.5
Kerala	262.3	128.9	178.2	149.9
Madhya Pradesh	188.8	164.8	153.5	127.5
Maharashtra	355.0	295.3	195.9	185.9
Meghalaya	138.2	NA	152.0	NA
Orissa	170.0	NA	124.0	NA
Punjab	227.3	182.4	176.8	142.6
Rajasthan	263.0	242.9	178.2	152.0
Tamil Nadu	273.8	110.8	316.1	NA
Uttar Pradesh	159.8	186.3	110.6	113.4
West Bengal	167.3	170.5	141.2	139.4

NA= Not Available.

Barring the selected North Eastern States (Assam, Meghalaya and Arunachal Pradesh), Himachal Pradesh and Tamil Nadu, the ratio between market and PDS prices has declined, indicating that after relating the price of BPL food grains to their economic cost to the FCI in the 2000-01 budget, there has been a general price disincentive to the demand for PDS grains.

5.7.3 Presence of Foreign Particles in PDS Grains

Presence of foreign particles in PDS grains is a tangible indicator of the quality of those grains. The following table summarizes BPL respondents' views on the presence of foreign particles in PDS grains.

Table 5.10: Quality of Grains

State	%of BPL cardholders reporting that foreign particles are substantially present in PDS grains	% Reporting presence of foreign particles in PDS grains- averaged at the district level	
		Maximum (%)	Minimum (%)
1	2	3	4
Andhra Pradesh	0.8	2.5	0
Arunachal Pradesh	100.0	100	NR
Assam	100.0	100	100
Bihar	77.8	100	80
Gujarat	36.4	60	15.4
Haryana	0.0	NR	NR
Himachal Pradesh	35.1	45.7	25.6
Karnataka	30.0	42.5	5
Kerala	82.4	95	57.5
Madhya Pradesh	7.1	25.7	0
Maharashtra	32.5	73.5	2.5
Meghalaya	100.0	100	NR
Orissa	38.6	55	0
Punjab	20.8	28.6	17.6
Rajasthan	46.0	100	25.0
Tamil Nadu	96.1	100	87.5
Uttar Pradesh	50.9	84.6	29.6
West Bengal	37.7	100	2.5
All States	**47.8**		

While, on an average, around 48% of the selected BPL cardholders across the country reported considerable presence of foreign particles in PDS grains, the data presented in the table exhibit wide variations across sample states and districts within them. The inter-state and intra-state variations in this respect suggest not only that the poor in the different parts of the country are offered different quality of food grains, but also that there are considerable variations in the quality of food grains kept in the different government godowns within a State. It may also be noted that the presence of foreign particles in PDS grains reported from the three biggest source states of PDS grains- Andhra Pradesh (rice), Punjab (rice and wheat) and Haryana (wheat) is comparatively lower. It is also seen that the major dependent states- the North Eastern States, Kerala, Tamil Nadu, and Bihar reported the highest presence of foreign particles in PDS grains. The dependency of certain states might be so high as to dilute the

strength of this variable as an independent argument in explaining variations in the lifting of PDS grains by BPL households.

The figures given in the table may be compared with the results of PEO Study on Essential Supplies Programme (PEO 1985) conducted in all but 4 North Eastern States, which suggested that in the national sample only 12.68% and 11.93% respectively believed that the PDS wheat and rice were adulterated.

5.7.4 Number of Food Grain Instalments Offered

The question of allowing installments in the lifting of PDS grains becomes particularly significant against the fact that 75.6% of the selected BPL respondents desired to lift their PDS entitlement to PDS grains in two or more installments.

Table 5.11: Frequency of distribution of PDS grains

State	% of BPL cardholders allowed to buy PDS grains in installments	Of column 3, % allowed only two installments	Of column 3, % allowed three or more installments
1	2	3	4
Andhra Pradesh	32.5	100.0	0.0
Arunachal Pradesh	20.0	100.0	0.0
Assam	81.3	91.5	8.5
Bihar	0.0	NR	NR
Gujarat	60.0	100.0	0.0
Haryana	5.2	50.0	50.0
Himachal Pradesh	7.2	100.0	0.0
Karnataka	8.3	100.0	0.0
Kerala	100.0	0.0	100.0
Madhya Pradesh	81.5	100.0	0.0
Maharashtra	50.6	98.7	1.3
Meghalaya	0.0	0.0	0.0
Orissa	72.7	96.9	3.1
Punjab	0.0	NR	NR
Rajasthan	2.8	100.0	0.0
Tamil Nadu	77.4	98.3	1.7
Uttar Pradesh	40.0	100.0	0.0
West Bengal	0.0	NR	NR
All States	**44.4**	**83.7**	**15.6**

In 8 States- Bihar, Haryana, Himachal Pradesh, Karnataka, Meghalaya, Punjab, Rajasthan and West Bengal- almost all selected BPL cardholders were deprived of an opportunity to lift their food grains in installments. While the status of Assam, Madhya Pradesh, Tamil Nadu, Orissa and Gujarat is comparatively better than that of the other States, **Kerala, where FPSs are observed to allow 4 equal weekly installments to all its BPL cardholders to lift their monthly food grain quota, stands out** in this respect. In Kerala, however, the BPL households are generally not allowed to carry forward their weekly quota to the succeeding week. The provision of weekly installments is facilitated by the fact that the indent for food grains is placed by FPSs with Taluka Supply Officer on a weekly basis and that the State in general has an efficient network. While the provision for submitting weekly indent for food

grains helps the retailers and wholesalers by offering them the flexibility of arranging the money for lifting a month's quota in four equal installments, the system, apart from conferring the same advantage to the poor households, also opens the option of making weekly decisions on purchase of PDS grains based on need and variety and quality of grains available at the FPSs. The sustenance of the system is difficult in the current scenario in face of drastically dwindled profitability impacted by the fall in off-take. Transportation of food grains four times a month certainly increases the transportation cost of the retail dealer; but it was not a felt problem when universal PDS existed prior to 1997.

The figures presented in the table above may be compared with results of the earlier survey on Essential Supplies Programme (PEO, 1985) derived from a sample of 18 States. 18.11%, 16.83%, 29.36% and 29.45% respectively were the proportions of cardholders who had weekly, fortnightly, monthly and irregular frequencies of drawing ration. 96.47% in Kerala, 100% in West Bengal, 80% in Tripura (outside the current sample), 22.5% in Maharashtra and 15% in Rajasthasn had weekly frequencies of drawing ration.

5.8 Demand Side Factors

Among the demand side factors, households' own production and other sources of food grains have already been analyzed; the rest are seen in the following sections.

5.8.1 Preference for PDS Grains vis-a-vis Local Variety

The question addressed to the selected BPL cardholders was whether the local variety of rice/wheat is strongly preferred to their PDS variety. All the Southern States except Andhra Pradesh (one of the major source States of PDS rice) did not use to get the rice variety of their choice. Karnataka had always complained that the Northern variety of food grains was thrust on them while they preferred their own or the Andhra variety of rice. In the highly food grain deficient Kerala, the local variety of double-boiled rice is the staple, whereas FPSs supplied them a totally different Northern variety. Surprisingly a considerable proportion of selected BPL cardholders from the major source States of Haryana and Punjab did not prefer the PDS variety; however the inter-district variations seen from these States might explain this, perhaps by way of inter-district movement of food grains from surplus regions to the deficit regions within the States. Again in Burdwan district of West Bengal, which reportedly contributed almost 80% of the PDS requirement for BPL rice in the State, 32.5% of the selected BPL cardholders preferred the local variety to the PDS variety.

Table 5.12: Preference for PDS Grains vis-a-vis Local Variety

State	% of BPL cardholders reporting that the local variety of grains is considerably different from PDS variety	% declaring that the local variety is strongly preferred to the PDS variety	% reporting strong preference for local variety averaged at the district level	
			Maximum (%)	Maximum (%)
1	**2**	**3**	**4**	**5**
Andhra Pradesh	0.8	0.0	NR	NR
Arunachal Pradesh	100.0	100.0	100	NR
Assam	100.0	100.0	NR	NR
Bihar	100.0	96.3	100	85
Gujarat	63.6	58.6	80	52.5
Haryana	45.3	68.2	96.6	13.3
Himachal Pradesh	40.0	12.9	16.1	10.3
Karnataka	100.0	60.8	85	20
Kerala	100.0	99.2	100	97.5
Madhya Pradesh	84.7	82.6	100	36.1
Maharashtra	89.0	84.4	100	75
Meghalaya	100.0	100.0	100	NR
Orissa	49.5	68.3	90	56.4
Punjab	24.5	46.3	60.5	12.5
Rajasthan	55.2	46.0	100	22.5
Tamil Nadu	100.0	97.4	100	92.5
Uttar Pradesh	24.5	85.7	100	66.7
West Bengal	97.2	33.5	100	2.5
All States	**74.8**	**70.1**		

Concealed in the observed preference pattern for variety are the differences in the preference for food grains (other than rice and wheat) itself. This should be viewed against the fact that 95% and 57% of the selected BPL cardholders of Gujarat and Maharashtra respectively declared bajra as their preferred food grains, while they are being offered a combination of rice and wheat through PDS. NSSO (April –September 2001 Round- Sarvekshana 86th Issue) too has estimated the consumption of bajra above rice in rural Gujarat and that of jowar above rice in rural Maharashtra. Some such strong grain preferences outside the Centrally imposed combination of rice and wheat went unrepresented in the limited PEO sample. For example, in Karnataka, which provides an interesting cross-section of regional variations in food pattern, rice, no doubt, is one of the basic cereals in most parts. However, in most parts of Northern Karnataka jowar has a considerable weightage in their consumption baskets and as has ragi in Southern Karnataka. As per NSSO estimates, the per capita quantity consumed of jowar is almost thrice as high as that of wheat in rural Karnataka (Sarvekshana 86th Issue) (ragi surprisingly is missing from the NSSO estimates). But in the urban Karnataka (as in other States), the composition of food grain basket is considerably different. Discussions revealed that mainly due to the longstanding infusion through PDS, wheat has finally come to occupy its place in the consumption baskets in small quantities. PDS, however, still sticks to the undifferentiated (between rural and urban) combination of 16 Kg of rice and 4 Kg of wheat for the Karnataka BPL.

5.8.2 Wealth Status of Cardholders

It is hypothesized that those who possess the specified household assets might exhibit a different demand pattern for the common variety of PDS grains from that of the BPL respondents without such assets. The table below distinguishes the BPL cardholders possessing (any or more) tangible household assets like producer assets (tractor or traveller or thresher), consumer assets (fridge or washing machine or vehicle), land in excess of one hectare and pucca houses from the rest.

Table 5.13: Position of Assets with BPL Cardholders

State	% of BPL respondents possessing specified assets	% of BPL respondents possessing specified assets- averaged at the district level	
		Maximum (%)	Maximum (%)
1	2	3	4
Andhra Pradesh	46.7	67.5	30
Arunachal Pradesh	0		
Assam	1.0	7.5	0
Bihar	21.5	27.5	2.5
Gujarat	17.0	22.5	5.0
Haryana	68.8	70.0	67.5
Himachal Pradesh	55.0	92.5	17.5
Karnataka	67.5	80.0	57.5
Kerala	88.2	95.0	82.5
Madhya Pradesh	11.0	22.5	0.0
Maharashtra	66.3	85.0	42.5
Meghalaya	0.0		
Orissa	16.5	22.5	5.0
Punjab	85.0	95.0	75.0
Rajasthan	38.3	72.5	5.0
Tamil Nadu	54.4	82.5	40.0
Uttar Pradesh	42.0	57.5	27.5
West Bengal	6.1	12.5	0.0

The table attempts to approximate the identification error of BPL population (the methodology for which is fine-tuned in another chapter) in order to facilitate testing the error of inclusion on lifting of food grains in the next section. Nationally, while, 36.5% of the BPL respondent cardholders possessed any one or more of these assets, their proportion varies vastly across States and districts, suggesting considerable inter-state and intra-state differences in the error of BPL identification. While Kerala, Punjab, Haryana, Karnataka, Maharashtra have shown very high (above 65%) possession of specified assets by their BPL respondents, the proportion is the lowest among Arunachal Pradesh, Meghalaya, Assam and West Bengal (all less than 10%). Inter-district variations are the largest in Himachal Pradesh and Rajasthan and are fairly high in Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra and Tamil Nadu.

5.8.3 Household Size of the Cardholders

Analyzing the distribution of BPL respondents according to family size is particularly significant against the fact that some States have related the BPL household entitlement to the family size and some not.

Table 5.14: Size of the Households in Different States

State	Percentage Distribution of BPL respondents according to household size equaling:					
	1 or 2	1 or 2 or 3	4 or 5 or 6	7 or 8	9 or above	Average household size
1	2	3	4	5	6	7
Andhra Pradesh	15.0	28.3	60.0	7.5	4.2	4.8
Arunachal Pradesh	0.0	2.5	85.0	12.5	0.0	5.5
Assam	1.9	13.1	79.4	6.9	0.6	4.9
Bihar	5.5	14.1	48.7	24.1	13.6	6.0
Gujarat	5.8	17.5	48.5	24.3	10.7	5.6
Haryana	18.8	36.3	53.8	7.5	2.5	4.3
Himachal Pradesh	15.0	26.3	57.5	12.5	3.8	4.6
Karnataka	11.7	31.7	52.5	7.5	8.3	4.6
Kerala	12.7	22.0	55.9	11.9	11.0	5.2
Madhya Pradesh	12.1	19.2	50.0	21.7	9.1	5.4
Maharashtra	16.1	28.6	48.4	13.7	9.9	4.9
Meghalaya	2.5	7.5	92.5	0.0	0.0	4.6
Orissa	9.5	20.6	63.3	12.6	4.0	5.0
Punjab	11.3	13.8	66.3	13.8	6.3	5.3
Rajasthan	3.4	7.6	59.7	24.4	9.2	6.0
Tamil Nadu	13.1	33.8	55.0	10.0	1.3	4.3
Uttar Pradesh	14.9	24.3	48.6	22.1	5.0	5.1
West Bengal	7.9	21.9	65.2	10.1	2.8	4.6
All States	**10.2**	**21.4**	**58.0**	**14.6**	**6.3**	**5.1**

The spread around the average household size, 5.1, especially in size classes 1-3 and 7 and above suggests that deciding on the household entitlement based on the average household size could be misleading. The off-take of food grains, ceteris paribus, could be less than the entitlement in the case of very small households, while entitlement might be insignificant for bigger households. While the concentration of smaller households is considerably high in Harynana, Tamil Nadu, Karnataka, Maharashtra, Andhra Pradesh and Himachal Pradesh, size of selected BPL households is visibly higher than the average in Bihar, Gujarat, Rajasthan,Uttar Pradesh and Madhya Pradesh.

5.9 Testing the Hypotheses-Multivariate Analysis

This section tests the casual relationship between the factors listed in Section V and the PDS lifting of food grains by BPL cardholders. Forming a quantitative supply side constraint, required for hypothesis testing is rendered difficult by the fact that the sample data did not suggest the presence of a pure supply side constraint pre-empting BPL lifting of PDS grains in any selected

district; irregular/non–demand for PDS cereals over a period coupled with infrastructural deficiencies and other weaknesses in the delivery system served as a disincentive to regular lifting by FPSs, eventually leading the PDS activity to a halt. Besides, the accepted criterion of not even a single household not drawing ration from a village as a measure of non-coverage of the village under PDS (Dutta and Ramaswami, 2001) cannot be applied to the PEO sample as the sample was drawn from the card assignment register of the selected FPSs (in the rural areas). Owing to this, the sample drawn from areas with extreme supply-cum-demand constraint has been explained in Section III as outliers and are omitted from the purview of hypothesis testing here.

Two equations are estimated here. Each equation tests a separate hypothesis; but both are explained together because of their being closely related. Equation (I) tests the expected relationship between the decision to buy or not to buy from the FPSs and its determinants while equation (II) tests the causality between the factors mentioned in Section VI and the monthly lifting of PDS grains averaged for those households, which reported PDS grain lifting. Such averaging helps in correctly fixing the factors behind determining the quantity to be lifted, once the decision has been made to purchase some food rice/wheat from PDS.

$$\%PD = 95.04 + 0.116(INS) - 0.362(OWN) - 0.142(ASTS) - 0.165(PRE) + 0.051(PR) - 66.11(D)$$
(12.85) (1.91) (-1.67) (-2.08) (-2.42) (1.68) (-6.09)

Equation (I) $R^2 = 0.62$, d.o.f = 43

(Figures in brackets are t values).

(All variables are averaged for sample households at the district level.)

%PD = % of BPL respondents lifting PDS grains averaged at the district level.

INS = % of BPL respondents allowed to buy PDS grains in installments.

OWN = % of rice and wheat requirements of BPL respondents met out of own production and kind payment of wages.

ASTS = % of BPL respondents possessing specified assets.

PRE = % of BPL respondents preferring the local variety of rice and wheat strongly to their PDS variety.

PR = The ratio between the weighted average of market price of rice and wheat and the weighted average of the PDS price of rice and wheat. The weights employed are the normative entitlements to rice and wheat to a BPL cardholder; when the entitlement is only for one of the two grains, the weight for the other becomes zero and the average becomes a simple average for the entitled grain.

D = A dummy variable for the presence of two outlier observations in the dependent variable.

Qpd =-0.79+1.037(ENT) +0.020 (INS)–0.067(OWN)+0.003(ASTS)-0.002(PR)-0.031(FS)
(-0.23) (6.91) (1.99) (-1.59) (0.189) (-0.3) (-00.54)

Equation (II) $R^2 = 0.61$
d.o.f = 43

(Figures in brackets are t values).

Qpd = Average PDS lifting of cereals by those BPL respondents reporting such lifting.

ENT = Average district-wise entitlement to PDS food grains to a BPL cardholder, not adjusted for supply side shortages.

FS = Ratio of number of households with size less than or equal to 2 in the total sample.

(The other variables are already explained).

In equation (I), all representative determinants, except the presence of foreign particles in PDS grains (omitted from the equation presented) are statistically significant at least at 10% level. The presence of foreign particles in PDS grains was strongly and positively correlated with the variable, PRE **(**% of BPL respondents preferring the local variety of rice and wheat strongly to their PDS variety), indicating that the adulteration/low quality of PDS grains got reflected in the preference for local varieties of grains. Equation (I) suggests that while INS and PR affect the decision to buy from PDS (%PD) positively, ASTS, OWN and PRE affect it negatively. Since the explained and the explanatory variables (except the dummy) are given in percentages, the regression coefficients serve as elasticities and are readily amenable to policy conclusions.

Equation (II) strongly suggests that once the decision to lift food grains is made, the quantity to be lifted is predominantly determined by the supply side factors, mainly, the quantity of food grains for which the household is entitled. This points towards the importance of having a clear policy towards fixation of

household entitlement and offering them to lift grains in convenient installments, which is crucially related to the viability of the delivery system, especially the FPSs. All the demand side factors turned out to be very weak in determining the quantity to be lifted, except, perhaps the contribution of own production and other non-market sources of cereals in the household's cereal basket. To explain the equations together, for instance, the ownership of designated assets (ASTS) (suggestive of error of inclusion) affects the decision to buy from PDS or not (Equation (I)); but once the asset owner decides to buy from PDS, he buys as much as the poorer BPL cardholder does (Equation II). Again, the ratio of market price to PDS price affects only the decision to buy or not (Equation (I); it is weak in determining the quantity bought from PDS (Equation (II). Both the results are explicable; it is after thoughtful consideration of the open market alternatives (in the case of asset owner) and the narrow wedge between the BPL price of PDS grains and their market price in the case of grain surplus areas (PEO field notes & Srivasthava 2001) that the cardholder decides to allocate some quantity of his market purchase to PDS; but as the quantity to be bought from the market is as high as 90% of the total requirement (sample average), the BPL cardholder does not hesitate to buy almost 28% of that from PDS (sample average).

Chapter 6

Performance & Impact of TPDS –An Assessment

The Targeted Public Distribution System (TPDS) was formulated in response to the failure of the earlier system to benefit the really poor (particularly in rural areas) and to keep the budgetary food subsidy under control. Conceptually, the transition from universal PDS to TPDS was a move in right direction as it was designed to include all the poor households and raise the unit subsidy and ration quota considerably for them. The objective of keeping the budgetary **consumer subsidy** in check was **proposed** to be met through sale of food grains to APL households at **Economic Cost** and confining the budgetary food subsidy to about sixty five million identified BPL families. Though the supply of the requisite quantity of food grains for distribution at BPL prices was to come from the **Central Pool**, the success of TPDS in terms of meeting its stated objectives depended largely on the ability of State Governments in identifying the genuine poor families, restricting the number of poor families to the numbers estimated by Planning Commission and putting in place an effective and efficient delivery system.

In the previous chapters, we have examined the various aspects of TPDS in the states under study. Large scale errors in the identification of BPL families, low utilization and off-take of food grains by the poor and weaknesses in the delivery system were observed in various degrees in different states. How do these weaknesses in the functioning of TPDS have an impact on the welfare of the poor and the budgetary consumer subsidy on food grains? In this chapter, an attempt is made to:

- quantify the targeting errors in the identification of BPL families, as also other types of errors in implementation;
- assess the leakage of food grains from the PDS due to weaknesses in the delivery system and identification errors;
- assess the performance and impact of TPDS in various States; and
- identify areas of weaknesses in implementation of TPDS that warrant reforms.

6.1 Errors in Implementation of TPDS

In a cross-country study of nine countries, Cornia and Stewart (1993) observed that transition from universal to targeted food and nutrition programs generally led to an increase in the **Errors of Exclusion** (of the poor) and a decline in the **Errors of Inclusion** (of non-poor). Targeting errors can arise in any targeted welfare program because of imperfect information and measurement of household characteristics, cost of participation and inefficiency and corruption in the delivery system. The public distribution system in India has been functioning since the early 1940s and extensively studied by researchers. Even the literature on the analysis of various aspects of TPDS (introduced in 1997) is quite rich. The reference of targeting errors can be found in a number of studies (Swaminathan et al, 2001; Jain, 2004; Mooij, 2001; Datta et al, 2001). Estimation of targeting errors was also attempted by some researchers. In a study of one village of Maharashtra, Swaminathan and Misra (2001) measured the targeting errors and found evidence in support of Cornia and Stewart hypothesis (1993). However, one does not come across evidence of state-wise and all-India level estimates of targeting errors in Indian context.

The measurement of targeting errors is important to understand whether and to what extent the benefit of TPDS is reaching the target group. However, identification and measurement of targeting errors require a formal analytical framework because, a number of factors relating to data base on household characteristics, methodology of BPL identification, cost of participation and various administrative malpractices have a bearing on the types and magnitudes of errors in the implementation of TPDS.

6.1.1 A Framework for Identification of Errors

A simple comparison of the state level secondary data on the number of ration cards (RC) issued and the estimated number of households (HH) reveals that while in many states RC >HH, in some others, like Assam, Bihar, Punjab and West Bengal RC < HH (Table 6.1). When the APL and BPL break-up of the ration cards (issued) is compared w.r. to Planning Commission's poverty estimates, wide inter-state differences in the BPL card-holding pattern surface again. A rudimentary analysis of field notes of PEO and FPS level data reveals that the share of BPL cards in the total cards handled by an FPS (as per their registers) is much lower (and in some cases, closer to Planning Commission's poverty ratios) than the share of BPL cards in the total ration cards in circulation in almost all the states, implying the existence of **ghost BPL** cards.

Table 6.1: Ration Cards in Circulation and Households –State wise

(Figures in lakh)

State	Est. No. Households 2001 (HH)	No. of BPL (*) Households (HHB)	Total Cards Issued (RCT)	Total APL Cards Issued (RCA)	Total BPL Cards Issued (RCB)	Excess Cards Issued (HHF)	Unidentified Households (HHU)
1	2	3	4	5	6	7	8
Andhra Pradesh	168.50	28.29	167.57	53.97	113.60	-	0.93
Assam	49.35	12.78	46.46	27.64	18.82	-	2.89
Bihar (2)	118.79	45.43	113.84	52.20	61.64	-	4.95
Gujarat	96.44	14.76	105.60	71.73	33.87	9.16	-
Haryana	35.30	5.49	43.07	37.43	5.64	7.77	-
Himachal Pradesh	12.41	3.58	12.09	9.11	2.98	-	0.32
Karnataka	102.32	21.79	111.74	47.10	64.64	9.42	-
Kerala	65.95	10.82	71.29	47.55	23.74	5.34	-
Madhya Pradesh (2)	99.03	28.73	130.83	82.27	48.56	31.80	-
Maharashtra	190.63	45.50	195.66	138.64	57.02	5.03	-
Orissa	78.70	22.97	80.95	39.78	41.17	2.25	-
Punjab	42.65	3.26	39.42	33.05	6.37	-	3.23
Rajasthan	93.42	16.93	104.07	80.33	23.74	10.65	-
Tamil Nadu	141.74	33.87	156.20	108.72	47.48	14.46	-
Uttar Pradesh (1)	292.96	74.37	351.54	261.08	90.46	58.58	-
West Bengal	160.44	36.07	153.34	99.94	53.40	-	7.10

* As on 1.3.2000, Ministry of Consumer Affairs, Food and Public Distribution

(1) For Uttar Pradesh, all the figures are as on 31.3.2004 (Post Uttaranchal), while for all other States, the figures are for 2001.

(2) For Bihar & Madhya Pradesh, the data maintained by the Ministry of Consumer Affairs, Food & Public Distribution have been used (see Background Note: 2004), as these States submitted the pre-bifurcation data.

Table 6.1 clearly brings out the mis-match between the number of ration cards and number of households for every category. In other words, the entries in Table 6.1 imply the existence of several types of errors in identification of BPL households and issuance of ration cards by the state government. For analytical convenience, we propose a formal framework, which is presented in Table 6.2. The concepts, definitions and symbols used in Table 6.2 are as follows:

RCT : Total ration cards issued.
RCA : APL ration cards (total number) issued.
RCB : BPL ration cards (total number) issued.
HHA : APL households
HHB : BPL households

HHF : Fictitious households
HHU : Unidentified households i.e. those households that have not been identified for issuance of any ration cards.
HHI : Those identified BPL households whose ration cards are not in their possession.

To start with, let us divide the households of a state into two categories, viz; households with ration cards (HHRC) and those without (HHNC). The typical RC-HH mapping in a state is presented in Table 6.2.

Table 6.2: Ration Cards- Household Mapping –A Conceptual Framework

Households Categories	Households issued Ration Cards (HHRC)			Total Cards in Circulation (RCT)	Households without Ration Cards (HHNC)		
Ration Card Categories	BPL household (HHB)	APL Households (HHA)	Fictitious Households holding excess cards (HHF)		Unidentified Households (HHU)	Identified Households (HHI)	Total Households without ration cards (TUINC)
1	2	3	4	5	6	7	8
APL Cards (RCA)	BA	AA	FA	RCA	UANC	IANC = a (AA+BA)	TUIA
BPL Cards (RCB)	BB	AB	FB	RCB	UBNC	IBNC =b (BB+AB)	TUIB
Total	TBH	TAH	TFH	RCT	TUHNC	TINC =c (TBH+TAH)	TUINC

Where:

BA No. of BPL households holding APL cards.
AA No. of APL households holding APL cards.
BB No. of BPL households holding BPL cards.
AB No. of APL households holding BPL cards.
FA No. of fictitious APL cards issued.
FB No. of fictitious BPL cards issued
UANC Unidentified APL households not holding cards.
UBNC Unidentified BPL households not holding cards.
IANC Identified APL households holding no cards. Assumed zero in the Study.
IBNC Identified BPL households holding no cards.
HH Total household

Consistency Check

$0 \leq a,b,c \leq 1$

(1-a) (AA+BA) = No. of Households actually holding APL cards.
(1-b) (BB+AB) = No. of Households actually holding BPL cards.

(1-c)(TBH+TAH) = No. of Households actually holding rations cards.

TUHNC >O for AP, Assam, Bihar, Himachal Pradesh, Punjab and West Bengal.

TINC & IBNC > 0 for all States except A.P., Punjab and Rajasthan,

Table 6.3 clearly shows the nature of different types of errors in the implementation of TPDS. Of the various errors noted, two are known in the literature (Cornia and Stewart, 1993) as the Exclusion Error (EE) and Inclusion Error (IE). In terms of the entries in Table-6.2, the two errors are measured as (all errors are expressed as% of total households):

(1) **EE** = (BA+IBNC+UBNC)/HH i.e. the proportion of BPL households deprived of their entitlement to subsidized grains from PDS.

(2) **IE** = (AB+FB)/HH i.e. the proportion of APL households that have been wrongly given entitlement to subsidized grains in PDS.

The other types of errors noted in the implementation of PDS are:

(3) **Double Counting Error (DE) =** TFH/HH i.e. the proportion excess of ration cards over the number of households. The overall APL-BPL ratio has been used to obtain the break-up of FA and FB in TFH.

(4) **Missing Households Error (ME)** = TUHNC/HH or 1-(RCT/HH) i.e. the proportion of households who have been left out of the TPDS; only aggregate level estimate will be attempted as the break-up of APL & BPL is not known.

(5) **Shadow Ownership Error (SE)** = IBNC/HH i.e. the proportion of BPL cards being held by persons/agencies other than the original owners. In the case of Tamil Nadu, SE =DE.

6.2 Implementation Errors & Their Implications

It may be noted that though these five errors have different implications in terms of welfare loss, delivery cost and systemic efficiency, there is interdependence among some of them, which need to be taken into account while interpreting their numerical magnitudes and implications. All the errors have been expressed as ratios of the total number of households so that their magnitudes are comparable and can be ranked. It may also be mentioned that for the unidentified households that have not been issued ration cards, it has not been possible to generate separate estimates for APL and BPL cards. Thus, we have to work with the aggregate level figures. The state-wise estimates of the five types of errors defined in the study are presented in Table-6.3.

Table No. 6.3: Estimates of Implementation Errors

(% of Households)

States	Exclusion Error (EE)	Inclusion Error (IE)	Double Counting Error (DE)	Missing HH Error (ME)	Shadow Owner Ship Error (SE)	Share of BPL Cards Issued	Poverty Ratio (PC 1999-2000)
1	2	3	4	5	6	7	8
Andhra Pradesh	3.20	36.39	-	0.55	0.0	67.42	15.77
Assam	47.29	17.16	-	5.86	12.30	38.14	35.09
Bihar	29.81	12.20	-	4.17	13.55	51.88	42.60
Gujarat	45.84	9.78	9.50	-	11.87	35.12	14.70
Haryana	27.90	14.16	22.01	-	0.42	15.98	6.74
Himachal Pradesh	8.86	20.39	-	2.58	7.01	24.01	7.83
Karnataka	23.38	42.43	9.21	-	20.58	63.17	20.04
Kerala	16.28	21.04	8.10	-	4.05	36.00	12.72
Madhya Pradesh	19.61	12.49	28.65	-	5.27	43.86	37.43
Maharashtra	32.69	11.11	2.64	-	4.34	29.91	25.02
Orissa	26.56	16.78	2.86	-	8.37	52.31	47.15
Punjab	7.75	12.33	-	7.57	0.0	14.94	6.16
Rajasthan	16.73	5.22	11.40	-	0.0	25.41	15.28
Tamil Nadu	-	49.65	10.20	-	10.20	NR	21.12
Uttar Pradesh	26.75	13.25	20.00	-	10.50	30.88	31.15
West Bengal	31.74	10.23	-	4.43	4.69	33.28	27.02

As inferred by Cornia and Stewart (1993), the exclusion errors (EE) are indeed very high for most states in the TPDS regime. However, in the states of Andhra Pradesh and Tamil Nadu, the EE is low and IE is high. The EE in Karnataka could also have been low, had there not been a large scale shadow ownership of BPL cards (due to serious weaknesses in implementation). The three Southern States exhibit a different pattern from the rest because they have historically followed a policy of extending the benefit of subsidized food grains to a larger section of the population. In fact, in Karnataka too, the exclusion errors arising out of APL-BPL identification errors is as low as in Andhra Pradesh. However, when the exclusion of BPL households due to shadow ownership error is included, the EE for Karnataka assumes a very high value– implying a major weakness in the implementation of TPDS in the State. Table 6.4 groups the States in terms of high and low values of EE.

Table 6.4: Categorization of States According to EE Values

High EE (more than 20%)		Low EE (less than 20%)	
Assam	47	Andhra Pradesh	3
Bihar	30	Himachal Pradesh	9
Gujarat	46	Kerala	16
Haryana	28	Madhya Pradesh	20
Karnataka	23	Punjab	8
Maharashtra	33	Rajasthan	17
Orissa	27	Tamil Nadu	Nil
Uttar Pradesh	27		
West Bengal	32		

The low value of EE, *ceteris paribus*, is an indicator of well functioning TPDS, while high values are indicative of serious weaknesses in implementation and welfare loss. If high values are disaggregated into **identification error** (which may be due to imperfect information on household characteristics, wrong methodology for identification and deliberate policy to exclude some groups by vested interest groups) and **error due to administrative malpractices** (such as, distortion of incentives and information to raise cost of participation for some BPL households or simply denying BPL cards to genuine BPL families), we get some insight into the quality of implementation of TPDS in these States (Table 6.5).

Table 6.5: Disaggregation of Very High EE (%)

States	Exclusion due to Identification Error (BA)	Exclusion due to Malpractices (SE)	Observations
1	2	3	4
Assam*	34.99	12.30	Both high
Bihar*	16.26	13.55	Both high
Gujarat	33.97	11.87	Both high
Karnataka	2.80	20.58	SE high, BA low
Madhya Pradesh	14.34	5.27	BA high, SE medium
Maharashtra	28.35	4.34	BA high, SE medium
Orissa	18.19	8.37	BA high, SE medium
Uttar Pradesh	16.25	10.50	Both high
West Bengal*	27.05	4.69	BA high, SE medium

* In the case of Assam, Bihar and West Bengal, EE due to identification error will be even higher if the data on APL-BPL break-up of the Missing Households were available.

Among the States having high rates of exclusion of BPL families from the TPDS, almost all of them (except Karnataka) have high **identification error**. This reflects the quality of the BPL identification survey (1997) and the application of the methodology suggested by the Ministry of Rural Development. Jain (2004) and Mooij (2001) for example, have mentioned of gross irregularities in the BPL Census (1997, 2002). PEO field notes also referred to arbitrariness and discretion in issue of ration cards in several States.

The fact that a large part of the EE is explained by the quality of implementation of the BPL Census (1997) methodology implies that a more **appropriate methodology** for identification would be required for successful implementation of TPDS. The EE due to administrative malpractices (SE), particularly in the States of Assam, Bihar, Gujarat, Haryana, Karnataka, Orissa and Uttar Pradesh is also very high. This error implies that while in official record some BPL cards have been issued, these BPL cards are not with the identified BPL households i.e. these BPL cards have **shadow ownership (SE).**

The `identification error' and `exclusion error due to administrative lapses' have different implications. While the former implies that some genuine BPL households are deprived of subsidized grains from PDS, the latter means that subsidized grains are not only not reaching the BPL families, but are also leaked out of the TPDS, leading to high delivery cost and ineffectiveness of TPDS. The former implies **loss of welfare**, while the latter implies **both loss of welfare** and avoidable **increase in delivery cost**.

Table 6.3 also presents estimates of other type of errors, all of which either lead to welfare loss through deprivation of BPL families or leakages due to malpractices or diversion to unintended beneficiaries or a combination of these. In brief, the implications of other errors are as follows:-

- **Inclusion Error (IE)**: Three States, viz., Andhra Pradesh, Karnatka and Tamil Nadu have exhibited very high **inclusion error**. This error is also high for some other States, viz., Assam, Bihar, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Orissa. Punjab and Uttar Pradesh. High inclusion error implies diversion of PDS benefits to unitended beneficiaries and hence, raises the cost of delivery and burden of budgetary food subsidies.

- **Double Counting Error (DE)**: Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Rajasthan, Tamil Nadu and Uttar Pradesh have issued a large number of excess ration cards over the number of households. If the overall APL-BPL break-up of the ration cards in circulation is assumed, it is possible to arrive at estimates of leakages of BPL quota of grains through this mode of corruption.

- **Missing Households Error (ME)**: Assam, Bihar, Himachal Pradesh, Punjab and West Bengal have exhibited high ME. Since no cards have been issued to these households, ME implies welfare loss to the extent the BPL households have been left out of purview of TPDS. Since APL-BPL break-up of these missing households is not available, we can not estimate the extent of welfare loss with a fair degree of certainty. However, one can make an attempt to work out an estimate of welfare loss by assuming that these left out households would have been distributed ration cards in the same ratio as the present composition of ration cards in circulation, had they been identified through BPL Census. No such attempt has been made in the study.

- **Shadow Ownership Error (SE)**: This error is a part of the EE, the implications of which have already been indicated in the description and analysis of EE. High values of SE observed in the States of Assam, Bihar,

Gujarat, Himachal Pradesh, Karnataka, Orissa, Tamil Nadu and Uttar Pradesh are indicative of **large scale leakage** of TPDS benefits through **administrative malpractices** in these States.

6.3 Implementation Errors and Diversion of PDS Food Grains

Conceptualization and measurement of different errors/ inadequacies in implementation of TPDS can also be used to estimate the various kinds of leakages and diversion of food grains from TPDS. Some estimates of the extent of leakage from PDS are available. Asthana (2000), for example, has quoted from a study by Tata Economic Consultancy Services, which found 31% and 36% leakage of PDS rice and wheat at all-India level. For Bihar, the same study found that leakages were 64% and 44% respectively for rice and wheat. In another study, Deepak Ahluwalia (1993) noted that at the all-India level, PDS grain leakages were 36.97% for rice and 37.8% for wheat for the reference year 1986-87. These estimates pertain to pre-TPDS i.e. to the universal PDS regime.

The methodology for arriving at estimates of the various types of errors in implementation in the present study has been clearly spelt out and the limitations explained. The same methodology and the error estimates already arrived at in this chapter (Table 6.3) will be used to work out the various types of leakages that occur in the implementation of TPDS. Leakages and diversions in TPDS take place in three distinct ways:

- **At FPS level**: When the actual off-take of subsidized food grains by active BPL card holders is less than their entitlement, the quantity of grains not issued to consumers is diverted by the FPS to make extra money. During the field survey, PEO field teams noted that many BPL families do not lift their ration quota regularly/ fully for several reasons (see chapter on Determinants of off-take). Also, many APL families who have been included in the target group, do not regularly lift ration grains in some States. Thus, in most States, the average off-take by a BPL cardholder is less than entitlement. In the case of Kerala and West Bengal, however, it is not possible to work out estimates of diversion by FPS through this mode, since these two States have not fixed the upper limit of ration quota at 20 kg/month per family. The beneficiaries of this leakage are primarily the retail FPS owners. It may be noted that this is just one method employed by the FPS dealers to divert grains to the open market. The other methods used by them include underweighment and informal arrangements with the BPL cardholders, which are described later.

- **More Leakages at FPS Level:** Discussion with households and knowledgeable persons revealed that underweighment at FPS is universal. It was also noted that many poor families, particularly the daily wage earners,

do not draw their full ration quota because they receive payment of wages in kind in particular seasons and due to seasonal migration to work places. The FPS dealers are the beneficiaries of both underweighment of food grains (at the final delivery points to consumers) and low off-take by some BPL cardholders. In the case of the latter type of leakage, however, a part of the benefit is often passed on to the BPL cardholders. It is difficult to assess the quantum of leakage through these modes. However, whatever be the magnitude, the FPS dealers are the major beneficiaries of these leakages. The various types of leakages taking place at the FPS level have a bearing on their viability (FPSs are not generally viable as noted in Chapter 4). Though the existence of such leakages through FPSs has been widely recognized (Ministry of Civil Supplies, 2004), we have not been able to arrive at an estimate of leakages through these modes. Thus, the estimates of leakages derived in the study at FPS level and hence, that of total leakage are under-estimates of their true values.

- **Leakage Through Ghost BPL Cards:** As already noted, in almost all the States under study, the existence of ghost ration cards is prevalent. We have referred to two types of ghost cards, viz; excess ration cards over the number of households (DE) and the BPL cards that are not with their owners (SE). We have referred to these two types of errors as "Double Counting Error (DE)" and "Shadow Ownership Error (SE)" in this chapter and found that the magnitudes of these errors are quite large in some States (Table-6.3). The beneficiaries of this leakage are any or all of the agencies/ persons involved in the supply chain, viz; the FCI, officials of the Civil Supplies Department, the wholesale dealers and FPS outlets.

6.3.1 Estimates of Diversion of PDS Grains

Based on the methodology described above, the State-wise estimates of diversion of food grains are presented in Table-6.6.

1. In the case of Tamil Nadu, there is no distinction between BPL & APL. However, Planning Commission's Poverty Ratio (1993-94) has been used to compute the shares of APL and BPL.

2. Figures in parentheses in col.6 are ranks, with the highest rank 1 and lowest 16.

Table 6.6: Leakage and Diversion of Subsidised Food Grains in TPDS

(Percentage of off -take of BPL Quota)

State	APL Households' share in subsidized food grains from TPDS	Total food grains leakage (Col. 4 + Col.5)	Food grains Leakage through Ghost Cards	Food grains leakage at FPS	Share of the poor households in Distribution
1	2	3	4	5	6
Andhra Pradesh	37.00	20.60	Neg.	20.60	42.40 (9)
Assam	12.00	41.68	33.35	8.33	46.32 (8)
Bihar	9.60	81.54	26.13	55.41	8.86 (16)
Gujarat	5.02	42.06	28.29	13.77	52.92 (7)
Haryana	11.00	55.65	Neg.	55.65	33.35 (12)
Himachal Pradesh	14.48	31.44	31.03	0.41	54.07 (6)
Karnataka	27.50	43.40	25.67	17.73	29.10 (14)
Kerala	17.30	21.71	3.91	17.80	60.99 (5)
Madhya Pradesh	3.64	62.42	54.48	7.94	33.93 (11)
Maharashtra	8.03	26.53	10.78	15.75	65.44 (2)
Orissa	12.98	23.39	13.49	9.90	63.64 (4)
Punjab	13.00	76.50	Neg.	76.50	10.50 (15)
Rajasthan	3.00	31.95	Neg.	31.95	65.05 (3)
Tamil Nadu	49.91	15.66	9.26	6.40	34.44 (10)
Uttar Pradesh	6.22	61.27	22.30	38.97	32.52 (13)
West Bengal	7.75	19.15	13.85	5.30	73.10 (1)
All India	**21.45**	**36.38**	**16.67**	**19.71**	**42.17**

Table 6.6 is an eye opener so far as the functioning of the TPDS is concerned. A larger part of the subsidized food grains does not reach the target group. Thus, **the objectives of TPDS of benefiting the poor households and reducing the quantum of budgetary food subsidy have not been realized**. This is not meant to indicate that the strategy to move from a universal PDS to TPDS was inappropriate. However, several types of systemic weaknesses have contributed to failure of the program. It seems that successful implementation of targeted welfare programs requires major systemic reforms. We shall suggest suitable reforms to improve the functioning of TPDS in the study.

The States can be grouped in terms of the proportion of subsidized grains leaked out of PDS (Col.3, Table-6.6):

Table-6.7: Leakage of Food grains – Ranking of States

Abnormal Leakage (More than 75%)	Very High Leakage (50%-75%)	High Leakage (25%-50%)	Low Leakage (upto 25%)
1	2	3	4
Bihar and Punjab	Haryana, Madhya Pradesh and Uttar Pradesh	Assam, Gujarat, Himachal Pradesh, Karnataka, Maharashtra and Rajasthan	Andhra Pradesh, Kerala, Orissa, Tamil Nadu and West Bengal

This categorization is in terms of the proportion of subsidized food grains leaked out of PDS because of the weaknesses in the delivery system. However, this ranking may differ if one ranks them in terms of their share in the aggregate (all India) leakage because in some States, like Punjab, Haryana, Assam and

Himachal Pradesh the off-take from Central Pool and distribution volumes are very low (see Table 6.12). Nevertheless, the ranking in terms of proportion of grains leaked out is a more meaningful indicator of the degree of **systemic weakness**.

To get further insight into the nature of weaknesses in the delivery mechanism, we have segregated the total leakage into two parts, viz; **leakage at FPS level** and leakage through **shadow ownership of BPL** cards. The grouping of the States with respect to the two types of leakages varies a great deal. These are shown in Table 6.8 and Table 6.9.

Table 6.8: Leakage at FPS Level (Low Off-take) – Grouping of States

Very High Leakage (+50%)	High Leakage (25%-50%	Moderate Leakage (10% to 25%)	Very Low Leakage (Less than 10%)
1	2	3	4
Bihar, Haryana and Punjab	Rajasthan and Uttar Pradesh	Andhra Pradesh, Gujarat, Karnataka, Kerala and Maharashtra.	Assam, Himachal Pradesh, Madhya Pradesh , Tamil Nadu, Orissa and West Bengal

Table 6.9: Leakage through Ghost Cards – Grouping of States

Very High Leakage (+30%)	High Leakage (10%-30%)	Moderate Leakage (less than 10%)
1	2	3
Assam, Himachal Pradesh and Madhya Pradesh	Bihar, Gujarat, Karnataka, Maharashtra, Orissa, Uttar Pradesh and West Bengal	Andhra Pradesh, Haryana, Kerala, Punjab, Rajasthan and Tamil Nadu

6.3.2 Diversion to Unintended Beneficiaries (APL)

In addition to leakage from the supply chain, a part of the subsidized grains reach the unintended beneficiaries (i.e. APL households). Though at the all-India level, this diversion constitutes around 21.45% of the subsidized grains distribution, some States like, Tamil Nadu, Karnataka, Punjab, Orissa, Andhra Pradesh, Himachal Pradesh and Kerala distribute a large proportion of subsidized grains to APL households (See Table 6.6, col. 2 for details).

Diversion through this mode is linked to the Inclusion Error (IE) and off-take behaviour. Some States have deliberately included a larger proportion of the households, while the smaller values of IE (and hence small levels of diversion through this mode) could be identification errors due to imperfect information and improper methodology of BPL Census.

Table 6.10 gives the state-wise off-take of BPL quota and estimated quantities of off-take by two types of BPL cardholders (i.e. APL in BPL and genuine BPL families as well as leakage from supply chain for the year, 2003-

04. These estimates (cols. 4-6) are derived by using the various types of errors estimated in the study (see Table 6.3)

Table 6.10: Balance Sheet of Central Pool BPL Food grains –Allocation, Off-take & Leakage

(Kg./households/annum)

State	Allocation from Central Pool 2003-04	Off-take by States Govt. 2003-04	Off-take by APL households Holding BPL Cards (IE)	Leakage of BPL	Off-take by genuine poor	Earmarked Food grains not reaching the poor households
1	2	3	4	5	6	7
Andhra Pradesh	483.54	**466.16**	172.48	96.03	197.65	**268.51**
Assam	533.03	**490.76**	58.89	204.55	227.32	**263.44**
Bihar	488.81	**138.13**	13.26	112.62	12.24	**125.88**
Gujarat	509.43	**320.24**	16.08	134.69	169.47	**150.77**
Haryana	498.18	**416.16**	45.78	231.60	138.79	**277.38**
Himachal Pradesh	544.08	**492.22**	71.27	154.75	266.14	**226.02**
Karnataka	502.75	**480.80**	132.22	208.67	139.91	**340.89**
Kerala	494.95	**407.58**	70.51	88.49	248.58	**159.00**
Madhya Pradesh	426.95	**365.57**	13.31	228.19	124.04	**241.50**
Maharashtra	504.00	**347.29**	27.89	92.14	227.27	**120.03**
Orissa	648.20	**276.37**	35.87	64.62	175.88	**100.49**
Punjab	504.30	**364.24**	47.35	278.65	38.25	**326.00**
Rajasthan	448.23	**366.53**	11.00	117.11	238.43	**128.11**
Tamilnadu	513.97	**525.95**	262.50	82.31	181.14	**344.81**
Uttar Pradesh	491.17	**285.16**	17.74	174.72	92.73	**192.46**
West Bengal	471.68	**336.78**	26.10	64.49	246.19	**90.59**
All States (Avg.)	**503.95**	**380.00**	**81.51**	**138.24**	**160.25**	**219.75**

Source for Col. 2&3: Ministry of Consumer Affairs, Food & Public Distribution (2004); Background Note on TPDS.

In the year 2003-04, out of **14.07 million tonnes** of food grains issued to 16 states at BPL issue prices from the **Central Pool,** only around **5.93 million tonnes** was delivered to the poor families. Of the remaining 8.14 million tonnes, **5.12 million tonnes** leaked out from the supply chain (FCI godown to retail outlets) because of **corruption in the delivery system**, while **3.02 million tonnes** was delivered to unintended beneficiaries (APL households). In other words, for every **kilogram** of grains delivered to the poor, the GOI released **2.4 Kg.** from the Central Pool. This has serious implications in terms of the **delivery cost** of the public distribution of food grains through the existing delivery mechanism. In addition to the normal delivery cost (i.e. cost of transport, storage, loading, unloading, administration and commission at retail points, which have not been explicitly considered in the study) incurred by the state governments, the Central Government incurs **an additional cost equivalent to subsidy implicit in the additional quantity (1.4 Kg) of food grains.** The state-wise picture of the total implicit subsidy per kg of food grains delivered to BPL families and its break-up in terms of **"intended"** and "**unintended"** subsidy is shown in Table 6.11.

Table 6.11: Central Unit Subsidy for BPL–Statewise

(Rs./Kg.)

State	Total Central Subsidy for Off-take by Genuine BPL	Intended Subsidy	Unintended Subsidy/ Additional Delivery Cost
1	**2**	**3**	**4**
Andhra Pradesh	13.75	5.83	7.92
Assam	12.59	5.83	6.76
Bihar	50.98	4.52	**46.46**
Gujarat	8.77	4.64	4.13
Haryana	12.44	4.15	8.29
Himachal Pradesh	9.19	4.97	4.22
Karnataka	18.78	5.46	**13.32**
Kerala	9.56	5.83	3.73
Madhya Pradesh	14.53	4.93	9.60
Maharashtra	7.32	4.79	2.53
Orissa	9.16	5.83	3.33
Punjab	40.15	4.22	**35.93**
Rajasthan	6.39	4.16	2.23
Tamil Nadu	16.93	5.83	**11.10**
Uttar Pradesh	14.13	4.60	**9.53**
West Bengal	6.63	4.84	1.79
All States	**12.24**	**5.16**	**7.08**

The "unintended unit subsidy" is very high in states where off-take by consumers is low and leakage high, while it is low in states where offtake is high and delivery system is relatively more efficient. **The states with abnormally high unintended unit subsidy are: Bihar, Karnataka, Madhya Pradesh, Punjab, Tamil Nadu and Uttar Pradesh. In all these states actual off-take by the poor vis-à-vis BPL offtake (from Central Pool) by the state is extremely low.** At the aggregate level (16 States), the total **Central Subsidy** is estimated at **Rs. 7258** crore for 2003-04, of which **Rs. 2640 crore leaked out** of the PDS because of malpractices in the delivery mechanism and **Rs. 1557 crore** went to **unintended beneficiaries** (APL households). The State-wise share in the total leakage and diversion to unintended beneficiaries is an indicator of the relative efficiency of the Public Distribution Systems in various states (Table 6.12).

About 66% of the total food grains (5.6 million tonnes) that leaked out of delivery system of PDS in 2003-04 is contributed by six (6) States, viz. Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Maharashtra and Uttar Pradesh. Similarly, about 68% of the total amount delivered to APL families has taken place in three southern States, viz. Andhra Pradesh, Karnataka, and Tamil Nadu.

The delivery mechanism of TPDS will have to be reformed and rationalized to minimize these leakages and diversions. The next Chapter (Chapter 7) is devoted to identification of specific areas that need corrective

measures and indicating the directions of such measures. While identifying the reform measures, the characteristics and functioning of TPDS in some States, viz; Andhra Pradesh, Bihar, Karnataka, Tamil Nadu, Uttar Pradesh and West Bengal which account for the larger part of the leakages and diversions of TPDS grains, will be kept in view. However, the feasibility of the suggested measures need to be examined in greater detail.

Table 6.12: Share of States in All India Leakage & Diversion

(in percentage)

State	Share in Leakage	Share in Diversion to APL Households
1	2	3
Andhra Pradesh	**5.13**	**19.84**
Assam	4.93	3.06
Bihar	**9.65**	2.45
Gujarat	3.75	.96
Haryana	2.40	1.02
Himachal Pradesh	1.05	1.04
Karnataka	**8.58**	**11.72**
Kerala	1.81	3.10
Madhya Pradesh	**12.37**	1.55
Maharashtra	**7.91**	5.16
Orissa	2.80	3.35
Punjab	1.71	0.63
Rajasthan	3.74	0.76
Tamil Nadu	**5.26**	**36.16**
Uttar Pradesh	**24.52**	5.36
West Bengal	4.39	3.83
All States	**100.00**	**100.00**

6.3.3 Market *versus* PDS –Relative Efficiency

In the pervious section, it was shown that only about 42% of the subsidized grains reach the BPL families and the rest leaked out of the PDS and diverted to unintended beneficiaries. This implies that out of estimated budgetary consumer subsidy of Rs. 7258 crore in 2003-04, Rs. 3061 crore reached the BPL families. To put it differently, the income transfer by the Central Government to BPL families through budgetary food subsidies amounted to Rs. 3061 crore.

A relevant issue in the context of income transfer through PDS is whether the real income gain to the beneficiary (BPL) is equal to (or more or less than) the amount of budgetary subsidy on food grains. If these two are unequal, it has serious implications in terms of the relative efficiency of the alternative modes of income transfer to the poor. To understand the issues let us assume that a typical BPL family meets its food consumption requirement from both open

market (at price P_m) and PDS (at issue price P). Let the ration quota of the BPL family be denoted by Q and economic cost by EC. Let us also assume that $P<P_m$. Then:

(i) the budgetary income transfer (BT) = (EC –P) Q
(ii) the income gain to the BPL family (YG) = (P_m –P)Q, assuming that in the absence of PDS, the family would have bought Q from the market.

If YG > BT, PDS is the more efficient mode of income transfer.

If YG < BT market is more efficient.

The inter-state variation in the relative efficiency (YG/BT) is shown in Table 6.13. It is obvious that except for Kerala which is a chronically food deficit state and where P_m > EC, the PDS is found to be a less efficient mode of income transfer through subsidized grain delivery. In the case of Andhra Pradesh, Assam and Himachal Pradesh, the EC and P_m are closer and hence both modes of income transfer are equally efficient (or inefficient).

Table 6.13: Market *Versus* PDS –Relative Efficiency

State	Average Annual Off-take by BPL (Kg.)	Budgetary Income transfer per BPL family (BT) (Rs.)	Market Price (P_m) (Rs./Kg.)	Issue Price (P) (Rs./Kg.)	Income Gain to BPL Family (YG) (Rs.)	Relative Efficiency (YG/BT) (Ratio)
1	2	3	4	5	6	7
Andhra Pradesh	190.56	1110.96	9.45	4.07	1025.21	0.92
Assam	210.00	1224.30	9.47	4.07	1134.00	0.93
Bihar	60.00	271.20	6.75	5.38	82.20	0.30
Gujarat	121.20	562.37	8.74	5.26	421.78	0.75
Haryana	106.56	442.22	9.01	5.75	347.39	0.79
Himachal Pradesh	238.56	1185.64	9.69	4.93	1135.55	0.96
Karnataka	182.76	997.87	7.29	4.44	520.87	0.52
Kerala	193.20	1126.36	11.39	4.07	1414.22	1.26
Madhya Pradesh	198.12	976.73	8.13	4.97	626.06	0.64
Maharashtra	197.64	946.70	9.00	5.11	768.82	0.81
Orissa	170.04	991.33	8.36	4.07	729.47	0.74
Punjab	56.40	238.01	8.12	5.68	137.62	0.58
Rajasthan	163.32	679.41	9.08	5.74	545.49	0.80
Tamil Nadu	223.08	1300.56	7.70	4.07	809.78	0.62
Uttar Pradesh	119.64	550.34	6.42	5.30	134.00	0.24
West Bengal	226.08	1094.23	7.58	5.06	569.72	0.52
All States	**158.72**	**819.00**	**8.14**	**4.78**	**533.30**	**0.65**

The relative inefficiency of PDS necessitates exploring possibilities of rationalization of the cost structure of handling food grains by public agencies and /or looking for more efficient modes of income transfer through subsidized grains. In the past the cost structure of handling food grains by public agencies was examined by BICP and ASCI. It seems another exercise is required to identify the areas of reform to bring down the cost of income transfer or to explore alternative modes, which are more efficient.

Chapter 7

Epilogue

The evaluation findings clearly suggest that the transition from universal PDS to TPDS has neither benefited the poor, nor helped reduce budgetary food subsidies in the desired manner. In the previous chapter, it has been shown that leakage and diversion (to unintended beneficiaries) are substantial. Only about 42% of the subsidized food grains released from the Central Pool reaches the poor, implying very high delivery cost of TPDS. Whether the delivery cost of TPDS is more/ less than that of the universal PDS is difficult to say. However, research works of Deepak Ahluwalia (1993), Kirit Parikh (1994) and Tata Consultancy Services (1998) reveal that leakages and diversions were substantial in the universal PDS, too. Ahluwalia arrived at a leakage estimate of about 36.9% for rice and 37.8% wheat, while the TCS estimates were 31% for rice and 36% for wheat. Our combined estimate of **leakage (36.38%) and diversion (21.45%)** far exceeds these estimates of universal PDS. Is TPDS more inefficient than the universal PDS? Should the TPDS be replaced by a new policy? Is there a better alternative system to meet the objective of ensuring food security for the poor? Are there important lessons from the evaluation study that can help design a food security system for the poor at low cost to the Exchequer? These are important questions in the minds of the planners and policy makers who have to respect, protect and promote right to food as a basic human right.

In this context, the findings of the study offer **important lessons** which may help in designing a more effective food security system for the poor. One finding that stands out is that TPDS, in spite of all its problems, has been able to improve the per household off-take of subsidized grains in PDS, when compared to pre-TPDS scenario (Swaminathan 2000, Table 4.4). However, TPDS is also plagued by widespread leakages and diversion because of a number of systemic weaknesses. The factors contributing to the failure are of two types; those that relate to identification of BPL families and those relating to the characteristics of the delivery mechanism –both contributing to abnormally high delivery cost in most States. The problem of identification relates not only to imperfect household level information, but also to the political economic context (Mooij, 2001) in which the PDS is implemented. The latter has been an important factor in extending the benefit of subsidized food to a large number of families above the official Poverty Line (IE see Table 6.3) in the states of Andhra Pradesh, Assam, Haryana, Himachal Pradesh, Karnataka, Kerala, Orissa, Punjab, Tamil Nadu, Uttar Pradesh & West Bengal.

The exclusion of a large number of poor families (Exclusion Error in Table 6.3) from the purview of the target groups in the States of Assam, Bihar, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh and West Bengal could also be largely due to the socio-political factors, though it is also partly due to imperfect information and inappropriate methodologies for identification.

The all pervasive weakness of the delivery mechanism of TPDS has been noted in the chapter on Delivery Mechanism. There is a collusion between the various agencies (such as the government officers, FCI, the wholesale dealers and FPS) to divert a large part of the subsidized grains from the supply chain of PDS. However, there are wide inter-state variations in the estimated leakages from the supply chain. The share of leakages in off-take from Central Pool is abnormally high, except in the states of West Bengal and Tamil Nadu. What then are the characteristics of the delivery mechanism in these States? The break-up of the total leakage in terms of that at the FPS level and that due to administrative malpractices gives a better insight into the efficiency and effectiveness of the delivery mechanism (see Table 6.6).

Andhra Pradesh, Haryana, Kerala, Punjab, Rajasthan and Tamil Nadu have less problems with the existence of ghost BPL cards and hence have less leakages due to administrative malpractices. Of these, however, the States of Bihar, Haryana and Punjab show very high leakages at FPS level because of low off-take by consumers. On the other hand, the states of Assam, Himachal Pradesh, Madhya Pradesh, Orissa, Tamil Nadu and West Bengal have very low leakages at FPS level.

What are the characteristics of the delivery system of those states that have shown relatively low leakages at FPS level? Perhaps, the **general awareness** of the **beneficiaries**, **high literacy** and **strong grassroot level organizations** (particularly PRIs) have helped states like West Bengal and Himachal Pradesh in minimizing the FPS level leakage, while in the case of Tamil Nadu, it is the elimination of private retail outlets from the supply chain. It has also been noted in the chapters on Delivery Mechanism and Viability of FPS that several other characteristics of the delivery system, such as, door-step delivery of grains, the proportion of non-private FPS, efficient monitoring system, effective involvement of the PRIs etc. have also contributed in varied measures to the performance of the TPDS. Based on the findings and the diagnostic analysis carried out in the study, the following may be suggested for improving the performance of TPDS.

7.1: On Identification of BPL Households –Suggestions

- It would be appropriate to **do away with** the methodology of identifying poor families on the basis of **income/expenditure criterion**, as identifying sources of income at the household level and measuring them with precision on such a large scale are fraught with many problems. Mooij (2001) and Jain (2004) have discussed in detail the various issues involved in this method. We, too, found large **Exclusion** and **Inclusion Errors** in most states due to imperfect information, arbitrariness and interference by vested interest groups in the BPL identification survey (Chapter 6).

- **The proportion of population with food insecurity need not necessarily be identified with Planning Commission's poverty ratio.** There are limitations to using NSSO expenditure data to define poverty line. In the PEO survey results, we noted that application of Planning Commission's Poverty Line expenditures leads to gross over-estimate of the proportion of poor families, implying that NSSO expenditure data may have an upward bias. In another study for Planning Commission by the Society for Socio-Economic Studies and Surveys, Dr. K.C. Seal, former Director-General, CSO, noted the same problem with the NSSO expenditure data (on-going study, the report to be submitted in March, 2005). An analysis of the survey data, in general, tends to suggest that the size of the population (families) with food insecurity will be larger than the size indicated by the Planning Commission's poverty estimates for many States. In some States like Haryana, Himachal Pradesh and Punjab, it would be lower, though.

- The **Planning Commission should devise** such an appropriate criterion and method of BPL identification that would enable the States to limit the size of the target group in the neighbourhood of its own estimates of people with food insecurity. It would be appropriate that the criteria for BPL identification include **only easily observable qualitative criteria** relating to occupations, assets or any other qualitative indicators of economic insecurity. Attempts at employing **wealth ranking** for identifying the poor may be taken note of. The variables used for beneficiary identification in District Poverty Initiative Projects (DPIP) in the States of Andhra Pradesh, Madhya Pradesh and Rajasthan may be studied to select appropriate indicators for identification of food-insecure households.

- A rudimentary analysis of survey data in this context tends to suggest that those families, **who do not have a secure source of regular income,**

should be netted into BPL category irrespective of their current income levels. This will net in a large majority of the poor. i.e those with economic insecurity. We found that many daily-wage earning families have been left out of BPL category because their current income levels are above the Planning Commission's Poverty Line. However, this criterion alone will not net in all the poor families and hence, it needs to be supplemented by other criteria to net in the rest of the poor.

- A scrutiny of the asset/occupational pattern of the selected APL and BPL cardholders across States strongly suggests that the **specification and scaling of qualitative criteria** that form the basis for BPL identification should **be State/region-specific**. The standardized set of moderately/high valued consumer and producer assets considered and analyzed in the Study, especially land possession of the respondents, failed to draw any meaningful distinction between different economic categories. The following table brings out the nature of the problem.

Table 7.1: Assets Pattern of BPL and APL Cardholders

Category	% with productive assets only	% with consumer assets only	% with both assets	% with more than 1 hectare land	% with pucca houses
1	2	3	4	5	6
BPL cardholders with BPL per capita expenditure	3.57	0.50	0.07	9.00	24.14
BPL cardholders with APL per capita expenditure	3.85	3.97	0.58	5.95	40.02
APL cardholders with BPL per capita expenditure	4.91	2.60	0.29	19.94	43.06
APL cardholders with APL per capita expenditure	7.74	16.85	6.74	27.72	69.66

The table does not imply that asset-based BPL identification would be intractable, but suggests that the set of assets and their relative weights need to be specified with utmost care and region-wise. The criterion should be widely pre-tested too. A uniform weighting system for all States can not be used. This complexity also warrants active and effective involvement of the grassroot level organizations in the Identification Survey.

- Active and effective **involvement of the PRIs** should be built into the process of identification of the poor.

- Since the BPL identification survey is so critical to the success of TPDS, it is appropriate that this be carried out in all the States, through a collaborative endeavour with reputed agencies such as the NSSO,

NCAER and State level research /survey institutions. The database so created may be computerized for effective monitoring and regular updating. The NIC may be given the task of maintaining and servicing of this database.

7.2 On Improving Delivery System –Suggestions

Leakage of food grains in the supply chain is universal. To plug these leakages and for an efficient and effective delivery system, major overhaul of the delivery mechanism is required. Some reform measures that can be suggested based on the findings of the study are as follows:

- Late arrival of food grains at FPS is an important constraint in the timely distribution of PDS grains in some States (Chapter 3). It is also a major factor contributing to FPS level leakage of subsidized grains. The full quota of **food grains** for distribution **must reach** the retail outlets (FPS) **within the first seven days of the month**. For this, **doorstep delivery** of grains by government agencies (the wholesale dealers) is required. The capacity created for doorstep delivery in some States must continue (Chapter 3). Ensuring timely availability of ration quota should be the responsibility of States. This important task cannot be left to the FPS owners, who are mostly private individuals with a profit motive.

- The **doorstep delivery** to retail outlets must be done in a transparent manner, e.g. in the presence of the PRI representatives. The quantity delivered and received at FPS level must **be authenticated by the PRI**.

- The consumers may be allowed to draw ration **quota in weekly installments.** 75.6% of the BPL respondents desired to lift their PDS entitlement in installments. Quantitative analysis revealed that this is one of the most important factors influencing the decision to buy grains from PDS and the quantity bought by those BPL respondents who made use of PDS. (Chapter 5)

- Composition of food grains offered through PDS in different States should give due **weightage to local preferences** in terms of cereals and their varieties wherever feasible. Quantitative analysis of the utilization of the PDS by BPL respondents revealed that variations in such preferences significantly affected their decision to buy food grains from the PDS (Chapter 5).

- The PEO field notes and field level discussions indicated that a large majority of the BPL cardholders do not lift or lift only part of the ration quota during the harvest and sowing seasons in rural areas, as many of them receive wage payment in kind and also because market prices during harvest season rule low. This seasonal pattern varies across States. It is necessary to build this behavioural pattern into the delivery schedule of PDS to minimize leakage and diversion.

- The Government of India may insist that the annual entitlement to food grains for a BPL household in any State should not be lower than what the GoI stipulates. It is observed that in some States, a typical BPL household was entitled to a lesser quantity than the Centrally prescribed 20 Kg per BPL household (Chapter 5; Table 5.8). The multivariate analysis explaining the determinants of off-take by BPL households suggested that the variations in food grain entitlement is the most significant among them (Chapter 5).

- It is felt that the buffer stocking subsidy incurred on food stocks in excess of the required buffer may be transferred to the consumers without increasing the fiscal burden on food subsidy. The BPL may be offered graduated prices –**their current entitlement (20 Kg) may be given at half the economic cost** and **the additional quantity (say 5 Kg) at the economic cost** *minus* **unit cost of maintaining buffer.** Similarly, the APL households who are not lifting ration from PDS at present may be offered food grains at less than economic cost.

- The FPS-wise information on delivery and receipt should be computerized at the block level for onward transmission and monitoring.

- It is proposed that the retail PDS outlets be handed over to cooperatives or self-help groups (SHGs) of the poor, wherever possible. These SHGs/ Cooperatives may be helped to get bank finance to run their FPS outlets. The feasibility and replicability of Tamil Nadu system of running the wholesale and retail supply chain with co-operatives availing bank credit facility may be examined (Chapter 3).

- **FPSs** may **be housed in public buildings**. The funds available in SGRY, SGSY and other asset creation programs can be judiciously used to erect such buildings. This would relieve the FPSs of the burden paying rental charges on private buildings, which constituted a significant portion of the recurring cost of the selected FPSs in many States (Chapter 4). The **funds available under PMGSY** and other schemes may be employed to make **approach road** to the FPS buildings. The feasibility of this proposal may be

examined in greater detail, as it is in tune with the Planning Commission's effort to obtain convergence of various development schemes. These measures would not only improve the viability of FPSs, but also solve the problem of accessibility to FPSs mentioned by many BPL respondents (Chapters 3 & 5).

- Considering the very low turnover and viability gap of FPSs, a host of interrelated initiatives is required (Chapter 4). The suggested requirement for full coverage of FPSs under door-step delivery of PDS items and erecting public buildings for housing FPSs (which is tantamount to full rental subsidy) are integral parts of this package.

- It is suggested that the **FPS level margin** on PDS items be fixed in **relation to their economic cost** to ensure uniformity in the margin structure and to improve their viability. Simulation exercises on FPS profits suggested that the policy package of; a) pegging the FPS level margin at 2% of the economic cost of food grains, b) providing for doorstep delivery of food grains and full rental subsidy, and c) removing the supply (and demand) constraints so that the FPSs reach the minimum turnover of about 122 tonnes per annum. These measures will make about 89% of the FPSs viable in the sense that they will earn a return of 12% on their capital. An annual return of 12% on PDS transactions can be justified on conditions of commercial viability/bankability; yet in view of the fact that the monthly net income earned by some of the aforesaid 88.6% of the selected FPSs is not sufficient (Rs.986/- per month for the lowest quartile of them). To ensure their sustenance as a full-time PDS dealer, it becomes necessary to give FPS dealers the freedom to trade in non-PDS items, under the strict surveillance of PRIs**.**

- For the remaining FPSs (11%), either the volume of transactions is extremely low or the recurring costs, especially the wage bill, are unmanageably high (Chapter 4). There cannot be any policy stimulus to those FPSs, which incur unjustifiably high wage cost at paltry level transactions. They will gradually stop operations in a regime that plugs loopholes. Simulation exercises revealed that the average number of APL cards and BPL cards possessed by the lowest quartile of viable FPSs are 264 and 103 respectively (Chapter 4). Depending on the requirements of viability, demand structure for PDS grains in different PDS regions of the State and its topographical diversities resulting in differences in accessibility and connectivity, the required number of cards per FPSs will need to be fixed region-wise within every State. This may become quite relevant for even the aforesaid 88.6% FPSs, in case they fail to realize the potential quantities (25 Kg per BPL card and 10 Kg per APL card). This policy will

necessitate arresting the mushrooming of FPSs and may call for selective delicensing of totally unviable FPSs. Any **relaxed specification of the number of cards per FPSs for hilly/inaccessible areas** may be associated with a required increase in FPS level margin in order that they are still viable. It is proposed that the **Government of India should not leave these important issues (fixation of FPS level margin and cards per FPS) to the discretion of states, but may evolve a policy framework for this.** Government of India's involvement will get strengthened if it bears full/part of the sum required for paying FPS level margins.

- The observance of transparency measures leaves much to be desired. Also, the involvement of PRIs in overseeing the functioning of PDS is generally nominal/ non–existent in most states (Chapter 3). Measures suggested above for involving PRIs plus complementary measures that create a sense of belonging among PRIs towards PDS in general, and, the FPSs in their jurisdiction in particular may further their involvement with PDS.

- While some of the measures suggested will raise the delivery cost per BPL household, the saving that would accrue to GOI by plugging leakages and diversions would be several times more than the additional cost. Thus, these suggestions, if operationalized, will give a more cost-effective TPDS.

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References

1. Ahluwalia, D (1993): Public Distribution of Food in India– Coverage, Targeting and Leakages, *Food Policy*, Vol. 18, No.1, (pages 33-54).

2. Asthana, M.D. and Pedro Medrano, ed; (2001): Towards Hunger Free India– Agenda & Imperatives (Edited), Introduction (pages 12-29).

3. Bhargava, P (2001): Food Security and Public Distribution System in Rajasthan. Paper presented at a seminar "Towards Hunger Free India" held at New Delhi, 24-26 April 2001

4. Cornia, G.A. and F. Stewart (1993): Two Errors of Targeting, in Lipton, M. and J. van der Gaag (ed.); Including the Poor: World Bank Washington DC (pages 67-90).

5. Datta, B. and B. Ramaswami (2001): Targeting and Efficency in the PDS – case of A.P. & Maharashtra; *Economic & Political Weekly*, May 5.

6. Jha, S. and P.V. Srinivasan (2001): Taking PDS to the Poor – Directions for Further Reform; *Economic & Political Weekly*, Sept. 29.

7. Jain, S.K. (2004): Identification of the Poor; *Economic & Political Weekly*, Nov.20.

8. Kabra, K.N. and Ittyerah A (1992); The Public Distribution System in India, Eastern books, New Delhi.

9. Kripa Shankar (2004): How Efficient is TPDS in Tribal areas? Economic and Political Weekly May 22, 2004 PP 2093-2096

10. (i) Mooij, Jos (2001): Food and Power in Bihar and Jharkhand – PDS & Its Functioning, *Economic & Political Weekly*, Aug. 25.

    (ii) Mooij, Jos (2001): Targeted Food Distribution in Karnataka & Bihar; in Asthana & Medrano (ed.), 2001.

11. Parikh, K.S. (1994): Who Gets How Much form PDS: How Effectively Does it Reach the Poor? *Sarvekshana*, Vol. XVII, No.3.

12. Srivastava, R.S. (2001): Public Distribution System in Rural Uttar Pradesh in Asthana et al (2001).

13. (i) Swaminathan, M. and N. Misra (2001): Errors in Targeting–Public Distribution of Food in a Maharashtra Village (1995-2000); *Economic & Political Weekly*, June 30.

    (ii) Swaminathan, M. (2000): **Weakening Welfare: The PDS of Food in India**, New Delhi, Left Word Press.

14. Sen, A (1992): Poverty Alleviation: Targeting Versus Universalism; Convocation Address in MDI, Gurgoan, India; July 3.
15. Wadia, F.K. (1996): India's Food Policy Since Independence, Journal of Indian School of Political Economy, Vol.8 No. 4, PP 641-689

16. Tata Economic Consultancy Services (1998): Study to Ascertain the Extent of Diversion of PDS Commodities (For Ministry of Food & Consumer Affairs).

Government of India Reports/Publications

17. Ministry of Consumer Affairs, Food & Public Distribution, GOI (Dec., 2004): Background Note on TPDS for MPs.

18. Evaluation of DPIP in Madhya Pradesh (on-going study), PEO (2005).

19. Government of India (1985): Evaluation Report on Essential Supplies Programme, Programme Evaluation Organisation, Planning Commission, New Delhi.

20. Government of India (2002): Report of the High Level Committee on Long –Term Grain Policy, Department of Food and Public Distribution, M/o Consumer Affairs, Food and Public Distribution.

21. Government of India (1995) : Evaluation Report on Revamped Public Distribution System, Programme Evaluation Organisation , Planning Commission, New Delhi.