

Evaluation Study of Targeted Public Distribution System in Selected States

Sponsored by

Department of Food and Public Distribution

Ministry of Consumer Affairs, Food and Public Distribution, Government of India

September 2015



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Foreword

India's **Public Distribution System** (PDS) seeks to provide a food safety net to poor and vulnerable people living below the poverty line. The coverage and entitlement of food grains in PDS have evolved over time. In 1997, a **Targeted Public Distribution System** (TPDS) was launched, replacing the nearly universal public distribution system. The TPDS sells major food grains, mainly rice and wheat, from Fair Price Shops at significantly lower prices than the market. Different states have adopted different reform measures to strengthen TPDS functioning.

Though the TPDS serves more than 65 million of the poor families, it has not been free from criticism. The TPDS has been criticised for poor identification of the targeted beneficiaries and for inefficient delivery and leakages.

In 2013, the **National Food Security Act** (NFSA) was passed and modified the TPDS programme, moving from a welfare approach to a rights-based approach to social protection. Under the NFSA, eligible beneficiaries are legally entitled to receive 5 kg of food grains at highly subsidized prices from the TPDS. A few states have already adopted the NFSA, while the rest are in the process of switching to it.

Against this backdrop, the **National Council of Applied Economic Research** was requested by the **Department of Food and Public Distribution, Government of India**, to carry out an evaluation study of the TPDS in six selected states. Three of these states—**Bihar, Chhattisgarh, and Karnataka**—have implemented the NFSA, while **Assam, Uttar Pradesh and West Bengal** were still following the TPDS. The main objective of this important NCAER study was to assess whether, and to what extent, the weaknesses noted by past evaluation studies of the TPDS have been adequately addressed by State governments.

This NCAER TPDS evaluation has been done at two levels: a beneficiary-level evaluation to measure outcomes at the household level and a systems evaluation to measure beneficiary targeting errors of exclusion and false inclusion, and the extent of diversion or leakage in food grains across beneficiary categories. Using a sample of three states that had switched to the NFSA and three that had not provided a useful additional basis for comparing performance.

The beneficiary evaluation is based on a primary household survey conducted by NCAER in the six States. The **NCAER 2014 TPDS Survey** covered 6,734 beneficiary and 1,000 non-beneficiary households along with other stakeholders. The Survey was conducted between October 2014 and December 2014.

The NCAER 2014 TPDS Survey and the systems evaluation showed that though the performance of the PDS has improved over time, it still leaves considerable room for improvement with the poor performance states considerably behind the best performing ones. The NCAER study notes that a significant portion of the total demand for food grains from poor people is met by the PDS, but they do not always receive their full entitlement of food grains due to a still faulty delivery mechanism. Beneficiaries also at times end up paying more than the price they are supposed to. In a few states, there is still low awareness among eligible beneficiaries about their entitlement and the price they should pay for PDS food grains.

The identification of vulnerable households under the TPDS is still a serious concern. States have used their own identification criteria under the NFSA, although the baseline is the Socio-Economic and Caste Census conducted in 2012. Beneficiaries were selected on the basis of previous BPL censuses for states still

following the TPDS. Chhattisgarh had the lowest exclusion error at 2 percent of all households eligible for benefits, while Assam had the highest at 71 percent. Bihar had the lowest inclusion error at 18 percent of all households who should be ineligible for benefits, and West Bengal had the highest at 47 percent. External factors such as political connections and caste also appear to play a role at times in determining the eligibility for benefits.

The NCAER study measures the diversion of food grain through an estimate of leakage. Leakage is found to be the lowest in Chhattisgarh, followed by Bihar. It is comparatively high in Assam, Uttar Pradesh and West Bengal. Leakage cannot be controlled unless the mechanisms to monitor the supply chain are strengthened.

The NCAER study shows that the public distribution system continues to have a positive impact on household welfare. Respondents from poor and vulnerable households unanimously acknowledged the important role of the public distribution system in mitigating hunger. But much more can be done to improve both the efficiency and the effectiveness of the PDS system.

In line with the Government of India's mandate, this NCAER study did not go into issues of the supply chain of PDS grain, from the announcement of the Minimum Support Price for grain procurement to grain storage and transport and the overall impact on inflation. It also did not go into the impact of the TPDS and the NFSA on nutrition outcomes, particularly for children.

This work follows on other recent research on food security at NCAER. This includes the NCAER 2010 study on *Targeted Public Distribution System: Performance and Inefficiencies*, a 2014 conference on Under nutrition in India and Public Policy,¹ and a recent paper by Desai and Van Neman (2015) in NCAER's *India Policy Forum 2014-15* on the NFSA and nutrition.

I hope that the detailed findings of this NCAER evaluation study of TPDS and its policy recommendations will make an important contribution to the future evolution of food security in India. It will also help concerned State governments wishing to make a transition from TPDS to NFSA to adopt and implement appropriate policies so that the public distribution system in their State succeeds in fulfilling its objectives.

New Delhi
September 2015

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Director General

¹http://www.ncaer.org/event_details.php?EID=68

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Acknowledgements

This comprehensive report on the evaluation of the targeted public distribution system would not have been possible without the extended support and co-operation of a number of people and organisations.

We are grateful to the officials of the Ministry of Food and Public Distribution System. We would like to express our sincere gratitude to Mr. Sudhir Kumar (Former Secretary, Department of Food and Public Distribution), Mr. Prabhash Kumar Jha (Additional Secretary), Mr. Deepak Kumar (Joint Secretary), Mr. Nitish Sinha (Former Director), Mr. Nilambuj Sharan (Director), Ms. Sudha Meena (Under Secretary) and Mr. Sunil Chauhan (Under Secretary) for all the support extended during the course of the study. We duly acknowledge other officials from the Department of Food and Public Distribution and the Food Corporation of India who have attended various meetings and progress seminars and extended their valuable suggestions.

We are genuinely grateful to members of advisory committee, Prof. Manoj Panda, Dr. S. P. Pal and especially to Prof. Sonal Desai for their valuable insights, encouragement and support during the study period.

We express our sincere thanks to all the respondent households, fair price shop owners and all other stakeholders participated in the survey. We duly acknowledge the proficient support provided by all the field staff and networking agencies in carrying out the primary survey for this project. Our special thanks are due to the food secretaries in the six states along with all other state, district and block officials, interactions with whom have enriched our study. We are also thankful to Dr. P. K. Ghosh, Dr. Dinesh Tiwari and Mr. O. P. Sharma from NCAER for their valuable suggestions during fieldwork. We thank Dr. Renu Gupta and Ms. Tara Nair for their editorial support to maintain the quality of the report.

We would like to express our indebtedness to all those who have not been explicitly mentioned above but who have worked hard to make this report a reality.

Sohini Paul

Abbreviations

APC	Agricultural Prices Commission
AAY	Antyodaya Anna Yojana
APL	Above Poverty Line
BPL	Below Poverty Line
CIP	Central Issue Price
CEP	Consumer End Price
CGFSA	Chhattisgarh Food Security Act
CAG	Comptroller Auditor General
DGRO	District Grievance Redressal Officer
DOFPD	Department of Food And Public Distribution
EW-POS	Electronic weighing Point of Sale
FCI	Food Corporation of India
FPS	Fair Price Shop
FSU	First Stage Unit
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GOI	Government of India
GEN	General
IHDS	Indian Human Development Survey
LAMP	Large Aadimjati Multipurpose Co-operative Societies
MKSY	Mukhyamantri Khadyann Sahayata Yojana
MPCE	Monthly Per Capita Expenditure
MSP	Minimum Support Price
NSS	Nine State Survey
NFSA	National Food Security Act
OBC	Backward Caste
OMS	Open Market Sales
PL	Partial Leakage
PRI	Panchayati Raj Institutions
PHH	Priority Household
SC	Scheduled Caste
ST	Scheduled Tribe
SECC	Socio-Economic Caste Census
SSU	Second Stage Units
VC	Vigilance Committees
WDRA	Warehousing Development Regulatory Authority

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Executive Summary

Rising population along with changing consumption patterns in India have increased the demand for food since independence. At the same time a considerable proportion of the Indian population lives in poverty and hunger. To mitigate hunger and to save poor people from volatile market prices of food, a food security programme, the Public Distribution System (PDS), has been operative in the country for a long period. Though the form and coverage of the programme evolved over the time, its objective has remained the same, namely, to provide food security to the poor. In 1997, the Targeted Public Distribution System (TPDS) was introduced, replacing the almost universal PDS. It was targeted at poor people below the poverty line who were identified through a BPL survey. In general, under the TPDS, major food grains including rice and wheat are sold from Fair Price Shops at significantly lower prices than the market rate. Different states have adopted various reform measures to strengthen the functioning of the TPDS. However, the efficiency and delivery mechanism of the programme is not beyond criticism.

The TPDS was functional in almost all the states and UTs until 2012. In 2013, there was a paradigm shift in the food security programme in India through the notification of the National Food Security Act (NFSA). It is a transition from a welfare approach to a rights-based approach. Under the NFSA, every eligible beneficiary is entitled to receive 5 kg of food grain at a highly subsidised price. A few states have already adopted the NFSA or have implemented a modified version of the NFSA, whereas the rest of India still follows the TPDS system.

Against this backdrop, the Ministry of Food, Public Distribution and Consumer Affairs has entrusted a study to the NCAER to assess whether, and to what extent, the weaknesses noted by past evaluation studies on the TPDS have been adequately addressed by state governments. The ministry has asked the NCAER to cover six states, viz., Assam, Bihar, Chhattisgarh, Karnataka, Uttar Pradesh and West Bengal. Of these, Chhattisgarh, Bihar and Karnataka have already implemented the NFSA (2013), while the remaining states follow the TPDS.

E1 Main objective of the study is to carry out a beneficiary-level evaluation along with system evaluation

The specific objectives of the study are given below.

(i) Beneficiary-level evaluation across APL/BPL/AAY categories

- Average quantity received relative to entitlement and price paid for the purchases by the beneficiaries.
- Regularity/predictability in receiving PDS items including aspects like timely opening of FPS, availability of ration, etc.
- Access to FPS including distance travelled, transaction time, dealers' attitude, etc.
- Quality of food grains received from FPS.
- Grievance registration and redressal: availability of avenues for grievance registration, assessment of number of grievances received and redressed, satisfaction of the complainants, etc.
- Overall assessment of beneficiary satisfaction with the TPDS including reasons for dissatisfaction.

(ii) System evaluation of the public distribution mechanism through measuring

- Targeting errors, i.e., inclusion/exclusion errors.
- Extent of diversion/leakage in food grains across beneficiary categories, i.e., APL/BPL/AAY.

E2 Primary survey was conducted to generate required database

We covered 24 districts, 397 villages, 24 towns, 520 fair price shops and 7,734 households under the study. In total, there were 3,626 BPL/PHH households, 2,072 APL households and 1,036 AAY households. BPL/PHH cardholders are from poor households, while AAY cardholders belong to the poorest of the poor stratum of society. We also interviewed 1,000 households that do not have ration cards. Structured questionnaires were canvassed to the sample units to generate the required primary information in addition to focus group discussions (FGD). The reference period for the

study is the 2014–15 agricultural year, i.e., July 2014 to June 2015. The primary survey was conducted during October–December 2014.

E3 A considerable proportion of total food demand is met by PDS

The major focus of the survey is on BPL and AAY ration card holders. Coverage of the TPDS programme expanded during 2004–05 and 2011–12 as indicated by an increase in the number of households holding ration cards (Desai, 2015). Our survey showed a promisingly high usage of the PDS. It is more than 90% for both BPL and AAY categories in six states.

The average age of the head of the respondent household in these categories ranges from 43 years to 58 years in six states, which falls within the working age group. Poor households mainly earn their living as landless casual agricultural labour, non-agricultural skilled and unskilled daily wage labour, etc. In other words, they are wage earners by occupation. Expenditure on food is a major component of total expenditure for these families who have to feed a family size of four to six per household. On average, BPL and AAY families spend 64% and 60%, respectively, of their total MPCE on food. In rural areas, the proportion ranges from 53% in Assam to 69% in West Bengal, while in urban areas it ranges from 40% in Assam to 74% in Chhattisgarh. The per capita expenditure on food is the lowest in rural Chhattisgarh and urban Uttar Pradesh among BPL/AAY families.

Poor people mainly consume rice and wheat since they may not always be able to afford other sources of the required nutrition. The requirement for these two food grains varies across the states depending on the agro-climatic zone and food habits. We found that on average one person needs 8 to 13 kg of food grain, including rice and wheat, per month. Since market prices are extremely high and subject to fluctuations, they need protection against such fluctuations and also need ensured availability of food grain.

A substantial proportion of the grain demand of people below the poverty line is met through public distribution at subsidised rates. The average proportion of total household requirements for rice and wheat that a BPL household in the rural areas of non-NFSA states buys from the PDS ranges from 37% in West Bengal to 56% in Assam; while in NFSA states the proportion varies from 38% in Bihar to 68% in Karnataka. These households either purchase the remaining requirement from the open market or

mitigate the demand from home produce. The latter situation arises mainly for households in rural areas.

E4 Do poor people always receive the full quota of food grain from PDS?

The magnitude of entitlement across states evolved over time starting from the inception of the TPDS in 1997. In 2014–15, total grain entitlement for an AAY cardholder household in the states under study was 35 kg per month except in West Bengal. In West Bengal, ration cards are issued per person per household unlike other states. A BPL cardholder in Assam, Chhattisgarh and Uttar Pradesh receives 35 kg of food grains in a month. The scale of entitlement for AAY and BPL cardholders is 1 kg of rice and 750 gm wheat per week in West Bengal. However, the food entitlement is lower under the NFSA. The average monthly food grain entitlement for a Priority Household (PHH) in Bihar is 5 kg. In Karnataka, the monthly grain entitlements for a single-person PHH family, two person PHH family and PHH families with three or more people are 10 kg, 20kg and 30kg, respectively².

The average monthly take-home of food grain from PDS per BPL/PHH cardholder household per month for Assam, Chhattisgarh, Karnataka and Uttar Pradesh are 29.23 kg, 33.81 kg, 27.11 kg and 32.6 kg, respectively, while the per capita per month for Bihar and West Bengal are 4.49 kg and 5.96 kg, respectively. It is evident from the figures that there is a gap between the entitled amount and the take-home amount. A considerable proportion of card holders receive less than the full entitlement. Forty-two per cent of card holders in the PHH and AAY category in Bihar on average receive 1.1 kg and 3kg less than the full entitlement (Table 4.10). The proportion of beneficiaries receiving less than their full entitlement is significantly low in Chhattisgarh and moderate for the PHH category in Karnataka. These two states are good performers in PDS. On average, BPL families receive 6 kg and 7 kg less than their quota in Assam and Uttar Pradesh, respectively, while it is 1.6 kg less for a BPL cardholder in West Bengal (Table 4.11).

²It was followed until April 2015. From 1 May 2015, it has changed to unit-based distribution on a scale of 5 kg per person.

E5 Beneficiaries are charged at higher than entitlement price at FPS, though it is significantly lower than the market price

Grain is sold through the PDS at highly subsidised prices. However, there are many instances when beneficiaries pay more than the entitled price to purchase food grain from an FPS. The issue and purchase prices for rice and wheat are given in Table 4.12 for NFSA-implemented states and Table 4.13 for non-NFSA states in Chapter 4. It varies across different states depending on awareness about price and the efficiency of the delivery mechanism. FPS dealers argue that they are not always reimbursed for the transportation cost incurred to ferry the grain from the nearest FCI go-down to the ration shop. Thus, it is adjusted by charging a higher price for grain from the beneficiaries.

Even though poor people may end up paying some extra money to buy PDS grain, we cannot deny that the price of the grain from FPS is still many times lower than the market price. The ratio of market price to the PDS price of food grain has increased significantly from 2001 (GOI 2005) to 2014–15, and the nominal value of food subsidy has also increased during the same period. The ratio of market price to PDS price is even higher in states that have switched from the TPDS to the NFSA. We observed that beneficiaries in Chhattisgarh and Karnataka gain the most because the PDS price of rice and wheat is even lower than the central issue price under the NFSA. This becomes possible through state subsidy on top of central subsidy. Interestingly, these two are the rich and well-performing states in PDS that were considered under the study. Besides, the gap between the market price and the PDS price is the lowest in Assam, followed by Uttar Pradesh. These two states still follow the TPDS and have a poor track record in PDS functioning.

E6 Appropriate identification of target households is a serious concern

The successful implementation of a government programme depends on appropriate targeting of beneficiaries. The identification of poor households for the TDPS was a

challenging task. Targeting errors arise due to misclassification or non-classification of poor households. To assess the preliminary extent of identification errors, we compared the number of ration cards that should have been distributed (RC_{ideal}) to the total number of ration cards actually distributed (RC_{actual}) in Table 6.1 of Chapter 6 using state-level secondary data. Except in Assam, the number of fake cards is considerably high in all the other five states, especially in Uttar Pradesh.

We further estimated exclusion as well as inclusion errors for the six states using an analytical framework developed by Cornia and Stewart (1993). This may help in appropriate policy formulation for the respective states. Exclusion error captures the proportion of people that should be included in the PDS programme but are excluded in reality, whereas inclusion error measures the proportion of people that are not eligible to be covered by the PDS programme but get included by mistake/inefficiency. Chhattisgarh, as the best performing state, has the lowest exclusion error, but the inclusion error is quite high. In Bihar, the exclusion error is 30.45%, while the inclusion error is 18.38%. The highest inclusion error was observed in Karnataka among the three NFSA states. The exclusion error in the three non-NFSA states—Assam, Uttar Pradesh and West Bengal—is 70.84%, 63.12% and 29.77%, respectively, while the corresponding figures for the inclusion error are 28.49%, 22.16% and 46.6%, respectively. High inclusion error is one of the sources of leakage of food grain from the central pool.

E7 Magnitude of leakage of food grain varies across six states

Leakages from the PDS refer to the proportion of food grain not reaching the beneficiary households (Khera2011a). For NFSA states, we have estimated leakage for PHH and AAY families by clubbing them together since allocation is made as an NFSA allocation for these two categories together, while leakage is estimated for non-NFSA states for the three different card categories separately. The leakage figures across different card categories may be indicative in nature in a few states because of the small sample size of those categories. The results are reported in Tables 6.4 and 6.5 in Chapter 6. The magnitude of leakage is the lowest in Chhattisgarh (6.96%) among the six states in the study. Leakage has also come down significantly in Bihar (16.28%) during the last

couple of years because of a major revamp in the functioning of the PDS in the state. The magnitude of leakage in Karnataka is at 17.34%.

Leakage from allocations for the APL card category is high in the three non-NFSA states, where the PDS functioning is poor in general. It is the highest in Assam. Average leakage for the BPL category in Assam, Uttar Pradesh and West Bengal are 36.76%, 32.87% and 28.19%, respectively. The magnitude of leakage for this category is higher than the leakage found in NFSA-implemented states. Leakage is comparatively moderate for the AAY category in non-NFSA states.

E8 Monitoring mechanism needs to be strengthened for better functioning of PDS

A well-functioning grievance redressal mechanism along with a vigilance committee may monitor the functioning of the PDS at the level of the state, district and village or urban ward to tackle problems like wrong identification of eligible households or leakage of food grain from the supply chain. The Department of Food and Public Distribution, Government of India, in its PDS Control Order, 2001 (GOI 2001) issued a provision for the establishment of a grievance redressal mechanism as well as a monitoring system to oversee the functioning of the PDS. In reality, our survey found that the proportion of respondents aware of the existence of a grievance redressal mechanism was low in all states including the good performers. We have presented feedback on the grievance redressal system in Table 7.1 of Chapter 7. Awareness about the monitoring mechanism is extremely poor in Assam and low in Karnataka, West Bengal and Uttar Pradesh. In Bihar, a fairly moderate proportion of respondents are aware of the grievance redressal mechanism. In Karnataka, the complaint and grievance redressal system is not being promoted in an appropriate manner and suffers from low usage.

Unfortunately, vigilance committees are almost non-functional even after the revamp of the PDS in several states. It is ideally the village counterpart of the monitoring system. A vigilance committee is technically constituted of members from the gram panchayat (or city council) and other representatives from the local village or urban ward. The number of members varies from five to ten. It is expected to monitor the activities of the FPS on a regular basis. According to our field survey; awareness of vigilance

committees is the highest in Chhattisgarh followed by Bihar and Uttar Pradesh (Table 7.2). It is extremely low in Assam, West Bengal and Karnataka.

E9 PDS has a positive impact on household welfare

Though the PDS in India suffers from malfunctioning even at the administrative level along with misidentification, varying levels of leakage and a poor monitoring system in six states, it is still very popular among poor households. The main reason is the availability of cheap food grains under the PDS. We cannot deny the welfare implications of the food security scheme as well. It is measured by using implicit income transfer in this study. In other words it is the amount of money saved by a household when they buy food grains from the PDS at a price lower than the market price. The average amount of implicit subsidy through the PDS has increased approximately three-fold between 2004–05 and 2011–12 as pointed out in the IHDS survey (Desai 2015). Major structural shifts were observed in the functioning of the PDS in many of the states during 2011–12. In addition, the NFSA was implemented in 2013, which resulted in a significant increase in the amount of subsidy mainly for the BPL/PHH and AAY categories. The subsidy for the APL category decreased because the allocation for this group was either reduced to zero in some states or reduced significantly in others. The amount of per capita implicit subsidy per month for a BPL/PHH cardholder in Assam, Bihar, Chhattisgarh, Karnataka, Uttar Pradesh and West Bengal is Rs. 92, Rs. 79, Rs. 141, Rs. 140, Rs. 73 and Rs.66, respectively.

Effective income gain for the poor comprising BPL and AAY ration cardholders at the state level is also estimated in Chapter 4 to understand the welfare implication at the state level. The effective income gain is higher in the better performer states than in the poor-performer ones (Table 4.16). It is the highest in Karnataka and Chhattisgarh at the household level. One reason could be that the amount of food subsidy in these two states is higher than in the remaining four states. They allocate an additional subsidy using state funds over and above the central subsidy.

E10 Appropriate policies need to be adopted to improve the functioning of PDS in India

To realise the full potential of food security scheme, the appropriate identification of target households, and modernisation of the delivery system and effective monitoring of the food security programme need to be promoted. We will discuss in detail the suggested policy measures in these particular areas in the following paragraphs.

Suggested Measures related to identification of target households

- Misidentification is a problem that has persisted over the past decade and hindered the successful implementation of the PDS in the country. The identification process needs to be state or region-specific since state priorities are different across the country. However, the criteria adopted should help in easily identifying the target group.

Suggested Measures related to improving efficiency in PDS functioning

The success of the PDS programme also depends on the adoption of modern techniques in its functioning. We have suggested a few techniques to improve the functioning of the PDS, some of which have been adopted on a pilot basis in the better performing states.

- Distribution of food coupons should be adopted to stop leakages at the FPS level, especially in poorly performing states such as Assam and Uttar Pradesh.
- Ration cards should be digitised. Although many of the state's claim to have completed the process of digitisation, these cards had not yet been circulated at the time of our survey. It is important to minimise red tape and distribute the digitised cards at the earliest.
- The introduction of electronic weighing machines in place of conventional ones may help resolve the problem of beneficiaries receiving less than their entitlement of food grain under the PDS.
- To decrease leakage of food grains, one important step is to authenticate whether the food grain distributed through the PDS is received by an eligible household. Collecting biometric information on all members of a cardholder's family (head of the family and other members of the household) or of all cardholders where the entitlement is on an individual basis, linking it with their

Aadhar number and storing it in an electronic weighing machine may solve the problem.

- Lack of awareness about their entitlement and the issue price among beneficiaries is another challenge. Display boards containing the correct information about entitlement, availability of food grain and the issue price should be maintained at all FPSs. Information must be written in the local language so that it is easily read by beneficiaries. Respondents suggested during our field survey that display boards should be placed at prominent points in the village like the local panchayat bhawan, near schools, etc., in addition to those put up at FPSs. A significant proportion of PDS beneficiaries are illiterate and may not be able to read the information on the display board. Hence, this would have to be supplemented by awareness campaigns conducted by NGOs and government officials on a regular basis in villages.
- The introduction of an SMS alert at the beneficiary level is an important measure to increase awareness. All states should adopt a scheme to send an SMS to beneficiaries at the beginning of the month regarding their entitlement and the exact price to be paid at the FPS. Even if all beneficiaries do not have mobile phones, they could get this information from their peers or neighbours.
- Our survey finding was that a sample of the food grain to be distributed is not kept in the majority of the FPSs. Some FPS dealers complained that they do not even see such samples in the godown from where they collect the PDS supply. The practice of keeping such samples needs to be reintroduced to ensure the quality of food grain.
-

Suggested measures to introduce an effective monitoring mechanism

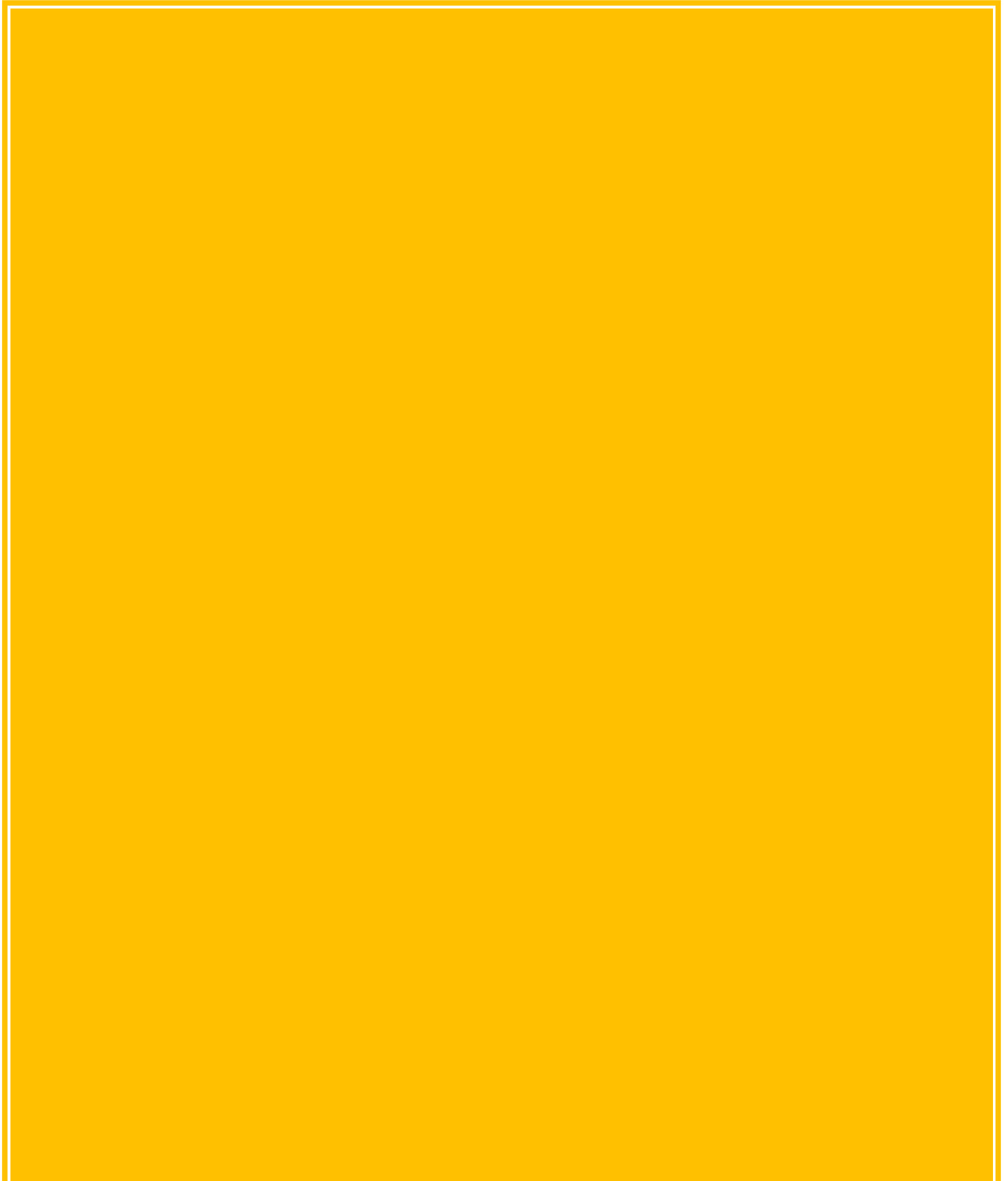
The adoption of the measures mentioned above to improve the functioning of the PDS will become effective only when there is an effective monitoring mechanism.

We suggest the following measures to improve the monitoring mechanism.

- Unbiased inspection of FPSs by the state department of Food and Civil Supply should be arranged on a regular basis. At present, inspectors visit FPSs only occasionally and they do not always check all the registers in the FPS. The

process is characterised by corruption. Introducing a corruption-free monitoring mechanism will be crucial to the success of the food security programme.

- Gram panchayat members should be made aware of their role in the PDS in states like Karnataka. Such awareness may be increased through the involvement of civil society and local NGOs.
- Representatives from state food departments should meet beneficiaries in villages or urban wards to hear their complaints and address their concerns at regular intervals.
- The grievance redressal mechanism in all six states needs to be revamped immediately. Awareness campaigns about the grievance redressal mechanism should be conducted with the help of local NGOs and civil society. The details of delegated officials and functional help lines should be made available to beneficiaries through display boards at FPSs.
- The Department of Food in each state should open a special cell on grievance redressal and appoint a grievance redressal officer as the nodal person. Although the appointment of a grievance redressal officer was proposed, it never happened. There should be a small grievance redressal cell in each district supply office as well.
- State governments should take initiatives to reconstitute the vigilance committee (VC) in all villages and urban wards. Awareness of the existence of the committee should be increased among beneficiaries. The VCs should be elected by local villagers and should consist of representatives from members of the gram panchayat and beneficiaries. The district supply office should oversee the functioning of the VCs; they, in turn, should be monitored by the state department of food and public distribution. Members of the VCs should also take part in the grievance redressal process and awareness campaigns.



Chapter 1

Introduction

1.1 Background of the Public Distribution System in India

The Public Distribution System (PDS) is the largest food subsidy programme in India. It reaches out to nearly 11 crore households and provides food grains at subsidised rates. PDS has its origin in the 'rationing' system introduced by the British during World War II (1939–45) and was retained as a key component of social policy during the process of planned economic development initiated in 1951. It formed the basis of the policy for growth with justice. During the First Five-Year Plan (1951–56), the system was extended to cover all rural areas that suffered from chronic food shortages. In 1965, the Food Corporation of India (FCI) and the Agricultural Prices Commission (APC) were formed. Over the years, PDS was continued as a deliberate social policy to provide food grains and other essential items to vulnerable sections of society at subsidised prices. Until 1997, the PDS provided food subsidy to all beneficiaries without targeting.

Although the programme has served millions of poor in the country, it was widely criticised for its failure to serve the entire population below the poverty line, its urban bias, negligible coverage, and lack of transparency and accountability (Sawant and Jadhav, 2013). Jha (1992) noted that 40-50% of the population avail of the benefits of the distribution system, of which about half are non-poor, implying that a substantial part of PDS benefits accrued to the non-poor and it has not had much of an impact on the nutritional status of the targeted population. In this context, it was felt that targeting the PDS to the poor is a fundamental reform that could not be delayed for long.

1.2 Targeted Public Distribution System was launched in 1997

The Government of India revamped the almost universal PDS and launched the Targeted Public Distribution System (TPDS) in 1997 to narrow its coverage to a focused group of beneficiaries. The aim was to provide food grains to a targeted population below the poverty line (BPL). Identification of BPL families was carried out through the BPL census conducted by the Ministry of Rural Development, Government of India. Food

grains were sold to this group at half the economic cost, while people above the poverty line (APL) were offered food grains at economic cost. There was a fixed entitlement of food grains per month consisting of rice and wheat/atta for BPL families, while there was no fixed entitlement for APL families. The entitlement for BPL families increased over time. A supplementary food security scheme was launched in the year 2000 to cater to the poorest of the poor stratum of society, namely, the Antyodaya Anna Yojna (AAY). There was a set of five criteria to identify these families following a Supreme Court order. The entitlement was fixed at 35 kg per month per family covered under AAY. The scheme was expanded in two phases, in 2003 and in 2004, to increase coverage.

The central government is responsible for making available the food grains needed for the PDS through the Food Corporation of India and providing a subsidy to make it affordable, whereas state governments are responsible for ensuring that beneficiaries can access commodities sold under the PDS, co-ordinating the entire supply process from FCI godowns to the beneficiaries and monitoring PDS activities. Fair price shops (FPSs) functioning under the PDS are nodal points of immense importance since beneficiaries purchase subsidised PDS goods through the FPS. The method of licensing FPSs and monitoring compliance through vigilance committees and other government officials are elaborately discussed in the PDS Control Order 2001 (GOI 2001), issued by the Department of Food and Public Distribution, Government of India.

The FCI purchases food grains from farmers at the minimum support price (MSP) and issues food grain at a uniform central issue price (CIP) to all states. The CIP is lower than the economic cost incurred by the central government to procure food grain. The main components of economic cost include payment to growers and costs for transporting, handling, storing and distributing the grain, in addition to the cost of maintaining the prescribed buffer stock. The difference between the economic cost and the CIP is the food subsidy borne by the central government from its annual non-Plan budget. The states fix consumer end prices (CEP) at the FPS level at not more than Re.0.50 per kg over the central issue price (CIP), particularly for the population below the poverty line. The states are also free to add to the coverage under the BPL category and meet the subsidy from their own resources.

1.3 Review of PDS reforms and performance is mixed in the literature

The TPDS, as an important component of the food security programme in India, has attracted immense attention in the social science literature. It was criticised on the grounds of leakage, mis-targeting and inefficiencies in the supply chain during the first 10 years of its implementation. The Planning Commission (GOI 2005) estimated that for every Rs.3.65 spent by the Government of India, only Re.1 reaches BPL households. Following a survey conducted in 2002, Khera (2008) pointed out that only one-third of the households have access to the PDS in Rajasthan. This has been attributed to implementation problems caused by lack of co-ordination and information flow between the central and state governments. Arora (2013), using NSS data 2004–05, points out that the system failed to reach the poor in most states except in the southern states of Andhra Pradesh, Tamil Nadu and Kerala.

Studies have also found that the TPDS process has improved over time. Rahman (2014) used different rounds of National Sample Survey data and found improvement between 2004–05 and 2011–12. However, the extent of improvement varies across states. Bihar and Jharkhand experienced significant improvement between 2009–10 and 2011–12 as late-mover states in revamping the PDS process. Among other states, Tamil Nadu and Himachal Pradesh continued to perform well. A twelve-state study conducted by National Council of Applied Economic Research (Kumar 2010) has reported high satisfaction levels for various indicators of the PDS, including quality and quantity of grain, and with the performance of the FPSs. A nine-state survey of PDS in 2011 indicated that beneficiaries receive 84–88% of their entitlement (Khera 2011b). In the study, 80% of the respondents said that the PDS is “very important” to cover family needs. Himanshu and Sen (2013) add that the importance of the PDS has increased over time, especially to feed the poor at a time of rising food inflation in the country.

The functioning of the TPDS has attracted criticism from its inception. A large stream of literature focused on the estimation of identification errors based on field survey data (Hirway 2003; Khera 2008; Mahamallik and Sahu 2011; Swaminathan and Misra 2001) and calculated the leakage, using mainly different rounds of NSS data (Drèze and Khera 2015; Himanshu and Sen 2011; Jha and Ramaswamy 2010; Khera 2011a). We will discuss these findings in detail in relevant chapters of this study. While several studies

(Hirway 2003; Sundaram 2003; Jain 2004; Saxena 2009) criticise the identification exercise on grounds of corruption, low data quality and coverage, imprecise scoring methods, and poor survey design, other studies suggest that the situation is gradually improving and the poor are still provided food security by the TPDS (Aggarwal 2011). It is heartening to note that the estimated leakage has decreased over time, especially after 2011–12 when many of the states adopted various measures to improve the PDS system (Drèze&Khera 2015).

Improvement measures in the states included the near universalisation of the PDS in Chhattisgarh, Tamil Nadu and Himachal Pradesh. In Orissa, the PDS was almost universalised in the KBK region (Kalahandi–Balnagar–Koraput) (Chatterjee 2014), one of the most hunger-prone areas in the country. Expansion of coverage was also observed in Chhattisgarh, Tamil Nadu, Andhra Pradesh and Bihar. The PDS price was lowered to below the central issue prices and, therefore, the amount of implicit subsidy was increased in Tamil Nadu, Chhattisgarh, Rajasthan, Orissa, Jharkhand and Andhra Pradesh. Many of the states have introduced items other than rice, wheat and sugar in the PDS. For example, Chhattisgarh provides 2 kg of chanadal and 2 kg of iodised salt per card, apart from the regular PDS items. Interestingly, Tamil Nadu, Chhattisgarh and Andhra Pradesh implemented better monitoring systems. Many states have used their own identification criteria, apart from the criteria specified by BPL census, to identify target households. Jharkhand, Tamil Nadu, Bihar and Andhra Pradesh are among those states.

Chhattisgarh is the pioneer in PDS reforms starting from early 2000. Between 2000 and 2004, it introduced two important reforms. First, the state allowed private dealers to apply for licences to run FPSs. Second, the state increased the allotment of PDS rice to beneficiaries, bearing the cost itself. However, the Chhattisgarh PDS control order implemented in 2004 discontinued the operation by private FPS dealers. Instead, it has ordered that FPS operations will be run mainly by co-operatives and self-help groups. Social audits and inspections to strengthen the system have been reinforced. The PDS coverage was further increased through the state programme of Mukhyamantri Khadyan Sahayata Yojana (MKSY) scheme launched in April 2007. Food grain was delivered at the doorstep of designated FPSs directly by the state government to reduce leakages. Krishnamurthy, Pathania and Tandon (2014) have estimated a significant

growth in rice consumption from the PDS in Chhattisgarh during 1999–2009. In a two-district study of Chhattisgarh, Puri (2012) found that 88% of respondents were happy with the functioning of the TPDS system in the state.

Andhra Pradesh, another good PDS performer, implemented TPDS with almost universal coverage in 2001 (Dutta and Ramaswamy 2001). Food coupons were introduced here from the year 2000 for rice distribution and distributed by the Department of Civil Supplies to cardholders. The beneficiaries collect their ration by using these coupons. It helped reduce the proportion of fake ration cards in the system (Ravi and Indrakant 2003). In 2009, while adopting further measures to improve the PDS mechanism, the state expanded the coverage of the system even further, especially in rural areas. In addition, the state started the cheap rice scheme from the same fiscal year; rice is sold at Rs 2 per kg to BPL cardholders. However, Deb (2009) contends that the Andhra Pradesh government will have to adopt a more cost-effective PDS strategy since it will become difficult to bear the higher subsidy burden likely to result from distributing food grains at such low prices in the long run.

To curb leakages, Bihar introduced a coupon system for beneficiary households from 2007. The rationale was that it would deter FPS dealers from selling the PDS commodities in the open market. Each cardholder household used to receive 12 coupons for rice, wheat and kerosene. Their entitlements and the price to be paid for each commodity were mentioned in the coupon. The coupons were distributed at village camps organised by gram panchayats under the supervision of officials from the block development office. Beneficiary households used to redeem one coupon each month against supplies from the local FPS. At the end of the month, the FPS owner forwarded these coupons to district officials to receive supplies for the subsequent month. A field survey in a western Bihar district indicated that the coupon system could not entirely eradicate malpractices in the PDS in Bihar (Chotihani and Prichard, 2015). There were instances when households received expired coupons and FPS dealers forced beneficiaries to deposit more than one coupon for only a month's rations. The coupon system was temporarily suspended in the middle of 2014. The government of Bihar has plans to re-implement it later in 2015. Interestingly, a high-level committee report (GOI 2015) challenged the contention that recent state reforms had any impact

on PDS leakage; it was based on a biased estimate of leakage (Drèze&Khera 2015) calculated by Gulati and Saini (2015).

Many states still face obstacles in operating the PDS. Rashpaljeet and Kaur (2014) found that nearly 76% of the food grains were diverted to the open market and another 13% was diverted to APL households in Punjab; only about 10% of the grains reach BPL beneficiaries. A study by Sawant and Jadhav (2013), based on a survey of Satara district in Maharashtra, has observed that problems such as leakage and benefits spilling over to the non-poor are a result of the exclusion of eligible beneficiaries from the PDS list.

One way to curtail inclusion and exclusion errors and to wipe out related rent-seeking behaviour is to universalise the PDS. Drèze and Sen (2011), drawing attention to the successful case of Tamil Nadu, have pointed out although the initial cost would be higher, it would generate budgetary and public efficiency in the long run. Drèze and Khera (2013) also have shown the positive impact of the PDS on rural poverty if the system is well functioning and inclusive.

To curtail identification errors and stop the leakage of food grains from the central as well as the state pool, a group of experts and practitioners in social policy research have suggested a move to direct cash transfers to the bank accounts of the identified beneficiaries (Basu 2011; Kotwal, Ramaswami and Murugkar 2011 Gangopadhyay, Lensink and Yadav 2013). According to them, direct cash transfer has the potential to optimise efficiency gains, which is almost impossible through the ration system. Svedberg (2012) further argued that cash transfers, if designed in an appropriate manner, would enable larger transfers than the amount of subsidy available under the TPDS to the poorest households. According to him, this scheme also has the ability to eliminate the risk of exclusion errors. However, it is too early to comment on the future performance of such a transition from the PDS to direct cash transfers.

1.4 National Food Security Act, a rights-based approach to food security, enacted in 2013

The National Food Security Act, notified in 2013, marked a paradigm shift in the history of the food security programme in India. It is a transition from a welfare approach to a rights-based approach. The legislation confers a legal right on beneficiaries to obtain entitled quantities of food grains at highly subsidised prices. It also extended legal rights to women and children and other unprivileged groups including the destitute, homeless, disaster- and emergency-affected people living in starvation for free meals or meals at an affordable price.

The coverage under the NFSA has increased dramatically compared with the TPDS. The total coverage is 67% of the population. It is 75% in rural areas and 50% in urban areas at the national level. It is even higher in well-performing states such as Chhattisgarh and Karnataka with state initiatives. According to officials of these states, it is 90% and 82%, respectively. As coverage is significantly increased, new BPL families are identified from the existing BPL category and the APL category. The eligible beneficiaries are identified using state-specific criteria and termed as Priority Households (PHH). They are allotted to receive food grains of 5 kg per person per month at the issue prices of Rs.3.00, Rs.2.00 and Rs.1.00 per kg for rice, wheat and coarse grains, respectively. However, entitlement and coverage has not changed for AAY households compared to the previous TPDS scheme, except for legal protection of their right to food. They will continue to receive 35 kg of food grains per household per month.

The NFSA, 2013 (GOI 2013) as well as the TPDS (C) Order, 2015 (GOI 2015b) prescribe various provisions for the involvement of local authorities including panchayat raj institutions (PRIs) in the implementation of the TPDS in an elaborate manner. The definition of the local authority under the Act includes the panchayat, municipality, district board, cantonment board and town planning authority. In Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura where panchayats do not exist, the village council or committee has been vested with the control and management of distribution services. Moreover, state governments can assign additional responsibilities needed to implement the TPDS to the local authority by notification. The responsibilities of state

and local authorities under the National Food Security Act (2013) are described in Appendix 1 of the study.

1.5 Quantum of food subsidy has increased significantly over the past decade

The funds required to arrange for the distribution of grain under the food security scheme are huge. It is important that the quantum of subsidy is utilised in an effective manner so that it helps the poor attain adequate levels of nutrition through food security.

Table 1.1 presents the amount of food subsidy released by the central government to maintain minimum nutritional support to the poor through subsidised food grains and to maintain price stability in different states. The TPDS covers over 65 million BPL households. Although the economic cost of wheat and rice has increased continuously, the issue price has been kept unchanged since 1 July 2002. With the implementation of the National Food Security Act (NFSA), the government continues to provide large and growing amounts of subsidy for distribution under the TPDS/NFSA and other nutrition-based welfare schemes.

Table 1.1: Quantum of food subsidies released by the central government

Year	Food Subsidy (Rs. crore)	Annual Growth Rate (%)	Food subsidy as a % of GDP
2006-07	23,828	3.3	0.85
2007-08	31,260	31.2	0.88
2008-09	43,668	39.7	1.06
2009-10	58,242	33.4	0.89
2010-11	62,930	8.0	1.13
2011-12	72,371	15.0	1.11
2012-13	84,554	16.8	1.82
2013-14	89,740	6.1	1.72
2014-15	107,824	20.2	1.87

Source: Various issues of the Economic Survey.

The budget for Financial Year 2014–15 has earmarked roughly Rs 1.15 lakh crore as food subsidy. But the Department of Food and Public Distribution (DoFPD) also estimated pending dues (arrears from earlier years) of Rs 50,000 crore that need to be cleared on account of food subsidy. The calculations of the DoFPD suggest that full implementation of the NFSA will cost approximately 1% of current GDP at market prices. However, the actual food subsidy is turning out to be higher; the food subsidy as a proportion of current GDP at market price is nearly 1.9% in 2014–15.

Given the level of overall fiscal deficit, a cautious and judicious approach to stem the wastage and leakages is critically important. A scrutiny of India's food distribution programme reveals that the higher expenditure is not only because of the NFSA or more food grains being sought to be distributed, but also because India's population has increased and so has the demand for food. Successive hikes in the procurement price are another reason why food spending may increase.

1.6 Evaluation of the Public Distribution System in six states

The central government has constituted committees and expert groups to suggest measures to improve the performance of the TPDS, to ensure that budgetary food subsidies meant for the poor reach the intended target group and to ensure that leakage from the supply chain is minimised. These committees have suggested several changes including monitoring the movement of grains, digitising the records in the entire supply chain from the FCI to the consumer, effective involvement of panchayati raj institutions (PRIs) and making fair price shops (FPSs) viable. Some states made attempts to reform TPDS implementation. The extent to which such reforms have been implemented by states and their outcome is generally not well documented. In the meanwhile, the National Food Security Act (NFSA) was passed in 2013 as a modified measure of food security. The coverage of NFSA is substantially greater than that of the TPDS. A few states have already implemented NFSA or its variants, while others are yet to switch from the TPDS to the NFSA.

Irrespective of whether the states have adopted TPDS or NFSA to ensure food security to the poor, issues concerning the inefficiency of the supply-chain, weaknesses in implementation/administration, errors in identification and leakages of subsidised

grains still remain relevant. The Ministry of Food, Public Distribution and Consumer Affairs has entrusted a study to the NCAER to assess whether, and to what extent, the weaknesses noted by the past evaluation studies on TPDS have been adequately addressed by state governments against this backdrop. The ministry has requested the NCAER to cover six states, viz., Assam, Bihar, Chhattisgarh, Karnataka, Uttar Pradesh and West Bengal. Of these, Chhattisgarh, Bihar and Karnataka have already implemented NFSA (2013), while the rest of the states follow the TPDS.

We have organised the report in the following manner. Chapter 2 outlines the objectives and methodology of the study. We discuss the socio-economic characteristics of the respondents in Chapters 3. Grain entitlement, purchase and pricing under the TPDS and the National Food Security Act are discussed in Chapter 4 and the service delivery mechanism in Chapter 5. The performance of the TPDS and the NFSA is presented in Chapter 6. The grievance redressal system and monitoring mechanism of the TPDS are discussed in detail in Chapter 7. Chapter 8 summarises the overall findings and provides policy suggestions.

Chapter 2

Objective and methodology

2.1 Background

The broad objectives of the evaluation of the TPDS study in six states are two-fold: beneficiary-level evaluation and system evaluation. The six states under the scope of the study are from three categories of PDS performers: good performers (Chhattisgarh), languid performers (Uttar Pradesh, West Bengal and Assam) and reviving states (Bihar and Karnataka).

2.2 Objectives of the study

The specific objectives of the study are given below.

- (i) Beneficiary-level evaluation across APL/BPL/AAY categories
 - Average quantity received relative to entitlement and price paid for the purchases by beneficiaries
 - Regularity/predictability in receiving PDS items including aspects such as timely opening of FPS and availability of ration
 - Access to FPS including distance travelled, transaction time, dealers' attitude, etc.
 - Quality of food grains received from FPS
 - Grievance registration and redressal, availability of avenues for grievance registration, assessment of number of grievances received and redressed, satisfaction of the complainants, etc.
 - Overall assessment of beneficiary satisfaction with the TPDS including reasons for dissatisfaction
- (ii) System evaluation by estimating**
 - Targeting errors, i.e., inclusion/exclusion errors.
 - Extent of diversion/leakage of food grains across beneficiary categories, i.e., APL/BPL/AAY.

2.3 Sampling Methodology

A sample survey was conducted in the six states to generate the required database for the study. The six states covered under the study represent the north, south, east, central and north-eastern geographical regions of the country that have 42% of the total population. The allocation of total sample households in a state was done in proportion to its share in the total population of the six states. The sample households were further allocated in rural and urban areas within a state in proportion to the rural/urban population share in the state.

2.3.1 Sample design

A multi-stage sample design was adopted for the present survey of TPDS beneficiaries. In the case of rural areas, districts, villages and households formed the first, second and third stages of sampling, respectively, while cities/towns, urban wards and households were the stages of selection in the urban areas. The list of 2011 census districts and villages constituted the sampling frame for rural areas and the list of 2011 census cities/towns for urban areas. In the absence of a definitive list of households from state authorities, the sampling frame (list of cardholder households) for the last stage of selection was obtained from FPS dealers. Since FPS dealers may not have shared the appropriate list, we randomly checked the beneficiary list provided by FPS dealers with the beneficiary list supplied by the state government at the end of the survey in Bihar, Uttar Pradesh, Chhattisgarh and Karnataka. It matched in 99% of the cases.

In the present survey within a state, NSS regions were used to select the districts. Due to variations in social and economic characteristics within a state, the NSS regions are demarcated on the basis of homogeneity in cropping patterns, vegetation, climate, physical features, rainfall pattern, etc. Thus, an NSS region is a group of districts within a state that are similar in respect of agro-climatic features.

2.3.2 Selection of rural samples

The sample of 24 districts was allocated to six states in proportion to the total number of districts in each state. Further, within each state, the NSS regions were re-grouped such that the total number of districts to be selected in a state was equal to the number of NSS regions in each state. From each region within a state, one district was selected at

random using the equal probability approach as the first stage sample unit (FSU). The list of selected districts is given in Table 2.1.

Table 2.1: Selected districts across states

S. No	Assam	Bihar	Chhattisgarh	Karnataka	Uttar Pradesh	West Bengal
1	Bongaigaon	East Champaran	Surguja	Gulbarga	Saharanpur	Jalpaiguri
2	Cachar	Purnia	Rajnandgaon	Chikmaglur	Sitapur	Malda
3	Golaghat	Bhagalpur	Uttar BastarKanker	Tumkur	Allahabad	North 24 Parganas
4		Nawada			Deoria	Bankura
5					Varanasi	
6					Chitrakoot	
7					Agra	

Villages formed the second stage units (SSU) of the selection procedure in rural areas. The allocated number of sample households in rural areas within a state was distributed in proportion to the rural population of each selected district within the state. Thus, the number of villages to be selected within each district was obtained by dividing the number of households allocated by 15 in consultation with the ministry. The allocated number of sample villages in each selected district was selected randomly using the equal probability sampling approach. In each selected village, the list of cardholders was obtained from the ration cardholder register (from the FPS dealer). If there was more than one FPS dealer in the same village, one FPS dealer was selected at random for the sample survey. The total number of cardholder households was further stratified by APL, BPL, AAY categories of households. From each of these strata, the selection of the allotted number of households (i.e., 7 BPL, 4 APL and 2 AAY households) was carried out randomly using the equal probability sampling approach. The list of non-cardholder households was collected from the panchayat and two such households were also selected independently from the list.

2.3.3 Selection of urban sample

It was decided to select one town from the selected district (the district headquarters) in consultation with the ministry from each NSS region for the urban sample. The number of wards to be selected from each town was worked out in the same way as was done for villages in rural areas. The allotted number of wards in a town was selected independently through a systematic random sampling procedure, i.e., equal probability sampling approach.

A similar procedure was adopted to select an FPS in each selected ward and a list of ration cardholder households was obtained from FPS dealers. The list of cardholder households was stratified by type of cardholder household, i.e., BPL, APL or AAY. The required number of households from each stratum was selected randomly with equal probability sampling approach from the list.

The number of districts, villages and households selected in each state is given in Table 2.2.

2.3.4 Sample Size

It was decided to select around 7,734 households in rural and urban areas spread over 24 districts in six states in consultation with the ministry. It was also decided to select 15 households from each village/ward for the survey covering 7 BPL, 4 APL, 2 AAY cardholder households and 2 non-cardholder households from each sample place in rural and urban areas in these states. The sample size was based on past experience in conducting such evaluation studies at the NCAER and the available resources in consultation with the ministry. In total, we covered 3,626 BPL/PHH households, 2,072 APL households and 1,036 AAY households. In addition, we interviewed 1,000 non-cardholders. The break-up of the sample profile at the household level is presented in Table 2.2. We also interviewed 520 FPS dealers, 520 representatives from gram panchayats or from vigilance committees as well as representatives from NGOs at the district level and government officials at the district and state levels.

Table 2.2: State-wise sample profile of beneficiary households

State	Rural						Urban					
	Number of districts selected	Number of villages selected	Number of cardholder households selected				Number of towns selected	Number of wards selected	Number of cardholder households selected			
			APL	BPL/PHH	AAY	Total			APL	BPL/PHH	AAY	Total
Assam	3	24	96	168	48	312	3	4	16	28	8	52
Bihar	4	95	380	665	190	1235	4	12	48	84	24	156
Chhattisgarh	3	20	80	140	40	260	3	5	20	35	10	65
Karnataka	3	38	152	266	76	494	3	24	96	168	48	312
Uttar Pradesh	7	157	628	1099	314	2041	7	46	184	322	92	598
West Bengal	4	64	256	448	128	832	4	29	116	203	58	377
Total	24	398	1592	2786	796	5174	24	121	480	840	240	1560

2.3.5 Study instruments

The instruments were prepared to cover representatives from the demand side as well as the supply side. Structured questionnaires were canvassed to the sample units to generate the required primary information in addition to focus group discussions (FGD). We conducted one FGD in each of the selected 24 districts. At least one FGD in a state was conducted in an urban area, while the rest were conducted in villages. Secondary data sources were also used for the analysis wherever required.

The questionnaires for the primary survey included the state schedule, FCI schedule, the schedule for the district food supply office, NGO/civil society schedule at the district level, elected representative/vigilance committee schedule at the village/urban ward level, the village schedule, the fair price shop schedule and the household schedule. The first set of schedules was targeted at designated officials. The state schedule and district schedules were filled by representatives from the department of food and civil supplies at the state and district level, respectively. Information for the village schedule was provided by a representative from the respective panchayat at the village level. We interviewed FPS dealers from randomly selected fair price shops and randomly picked households from the listing to interview. Information collected from beneficiary households is key in this evaluation study.

We focused on the following parameters in the household schedule to capture the information required to answer the research questions in the evaluation study:

- Information related to ration cards
- Grain requirements *vis-à-vis* purchase of grains from the PDS
- Pricing of grain in the PDS as well as the open market
- Qualitative aspects of PDS commodities
- Service delivery mechanism of fair price shops
- Grievance redressal mechanism and the role of the vigilance committees
- Role of panchayati raj institutions or urban local body in the PDS
- Overall feedback on the functioning of the PDS

2.3.6 Reference period for the study

The reference period for the study is the 2014–15 agricultural year, i.e., July 2014 to June 2015. The primary survey was conducted during October–December 2014.

2.4 Collection of primary data

Questionnaires were pre-tested at the state level. Based on the feedback, survey instruments were modified and refined. The NCAER field survey team carried out the primary data collection, i.e., the primary survey. A three-layered structure was adopted. At the central level, the core research team handled the monitoring and operational work; in each of the six states under the study, one field supervisor from the NCAER was stationed to monitor and participate in the survey work, except in Uttar Pradesh where there were two field supervisors. Seven NGOs under the supervision of field supervisors and NCAER's core research team were appointed to collect data. Five rigorous field training sessions were organised separately in five states for four days each in September–October 2014. Training for five states was conducted in the home state, while the training for Assam was conducted in West Bengal.

The survey was conducted through face-to-face interviews. Supervisors checked the selection of the eligible sample, ensured that informed consent procedures were collected and that the questionnaires were completely and accurately filled. The supervisors scrutinised all instruments in the field on a daily basis.

To ensure the quality and accuracy of the data, fieldwork was monitored by NCAER's core research team. Field monitoring was done by field supervisors at the village/urban ward level. Back-checking and surprise visits were carried out by the NCAER team in selected villages/urban wards to monitor the fieldwork. Following the usual norm, there was 10–20 per cent back-checking of the data collected in the field to ensure its quality, validity and reliability.

2.5 Data entry and validation

All questionnaires were checked by supervisors in the field prior to leaving each district to ensure that they were fully and correctly completed. Priority was given to cross-checking and validation of data on the spot by the field teams, as the supervisors made

random checks of schedules on the spot and cross-checked data by repeating the interview. The data collected from respondents was transferred to pre-coded schedules, which facilitated cross-checking and validation of data. The team regularly participated in interactive discussions to share their observations. Questionnaire data was then entered into suitably designed data entry templates and data entry errors identified and corrected systematically until no transcription/entry errors remained. After data entry, the data was cleaned to ensure logical validity. Two-layered checking with checking of 20 per cent of data in each layer and physical matching was done.

2.6 Data Analysis

A data analysis framework was designed to analyse the quantitative and qualitative data gathered through the field survey. The data analysis was carried out at the NCAER, New Delhi. The data collected through structured questionnaires was analysed by a team of analysts. After the master data sheets had been analysed, tabulation formats were created to prepare the database. The database contained a large number of tables; the descriptive tables were finalised by applying appropriate statistical techniques. The database was interpreted in terms of the objectives and evaluation framework, and the report was prepared based on the analysis and interpretation of the qualitative and quantitative data.

Chapter 3

Beneficiaries of PDS in six states

3.1 Background

The major group of interest in the present evaluation study is the beneficiaries covered under the PDS scheme. In general, these people are Below Poverty Line (BPL) and the poorest of the poor (AAY) as identified by BPL surveys or state-specific identification criterion under the NFSA. The eligible group of the poor usually have BPL ration cards in Assam, Uttar Pradesh and West Bengal, while they own PHH cards in Bihar, Chhattisgarh and Karnataka. The other two groups included in the survey are non-poor people holding APL ration cards and non-card-holders. We will describe the demographic and economic background of the respondents considered under three ration card categories, APL, BPL/PHH and AAY.

The ultimate unit of sample selection is the household. The total number of households covered in each of the three card categories in six states is presented in Table 3.1. In total, 6,734 beneficiary households were surveyed. Of that, 54% constitutes BPL/PHH, while 15% and 31% consist of AAY and APL ration cardholder households, respectively.

Table 3.1: Coverage of households

State	APL	BPL/PHH	AAY	Total
Assam	112	196	56	364
Bihar	428	749	214	1391
Chhattisgarh	100	175	50	325
Karnataka	248	434	124	806
Uttar Pradesh	812	1421	406	2639
West Bengal	372	651	186	1209
Total	2072	3626	1036	6734

Source: Based on the number of households surveyed in the field.

As discussed in the previous chapter, sample allocation was based on the population of the state. Therefore, a smaller number of households was surveyed in the smaller states, and a larger number in the larger states.

3.2 Demographic profile

In most cases, the household head of a family was interviewed. The average age of the respondents varies across different card categories in six states (Table 3.2). It ranges from 43 years in Chhattisgarh to 54 years in Assam and West Bengal among BPL/PHH families. The average age of the household head in AAY families is higher than the average age under the APL category. Approximately, 80–90% of the total respondents are in the working age group.

Table 3.2 Average age of respondents

State	APL	BPL/PHH	AAY
Assam	50	54	54
Bihar	49	47	51
Chhattisgarh	46	43	47
Karnataka	52	49	54
Uttar Pradesh	48	52	51
West Bengal	53	54	58

Source: Author's calculation based on field data.

Family size of a beneficiary household plays a crucial role in determining the amount of grain allocation under PDS in a few states. Grain is allotted per person in Bihar and West Bengal for BPL/PHH. In Karnataka, the entitlement of grain under PDS is a function of household size for PHH, while grain allotment in the remaining three states is determined irrespective of household size for BPL/PHH. Household size does not play any role in grain allotment among AAY families in any of the six states. However, AAY families always have an incentive to convert to BPL families in NFSA states if the family size is larger than 7; they would then gain in terms of grain allotment. This is discussed in detail in Chapter 4.

Table 3.3: Average household size

State	APL	BPL/PHH	AAY	Census 2011-12
Assam	4.66	4.81	4.68	4.4
Bihar	5.06	5.79	4.88	5.5
Chhattisgarh	3.78	3.79	3.62	4.6
Karnataka	4.07	4.23	5.41	4.5
Uttar Pradesh	5.19	5.54	5.6	6
West Bengal	4.88	5.01	4.58	4.5

Source: Author's calculation based on field data; the final column is from Census 2011-12.

The average family size of the sample households across different card categories is reported in Table 3.3. The final column of the table presents household size based on Census 2011-12. The average BPL household size is the highest in Bihar and the lowest in Chhattisgarh. The household size of BPL and AAY families ranges from 1 to 12 in all the six states. In Karnataka, 4%, 9% and 87% of the total surveyed PHH households belong to a single-member, two-member and three-plus member family, respectively.

It is interesting to note that respondents come from varied social groups. We classified them into five caste categories based on the broad classification used in the literature: general, scheduled caste (SC), scheduled tribe (ST), other backward caste (OBC) and others. The caste distribution of the surveyed respondents is presented in Tables 3.4 to 3.9. We have not reported figures for the 'Others' category because of space limitations; therefore, the row sums may not always add up to 1. In Bihar, the majority of the BPL and AAY households belong to the OBC category, while in Karnataka and Uttar Pradesh they are either from the SC or the OBC category. The proportion of ST respondents is significantly high only in Chhattisgarh out of the six states. A considerable proportion of respondents are from the general category in Assam and West Bengal.

Table 3.4: Caste distribution - Assam

	GEN	SC	ST	OBC
Rural				
APL	0.41	0.17	0.23	0.19
BPL	0.40	0.15	0.23	0.22
AAY	0.35	0.27	0.15	0.23
Urban				
APL	0.58	0.18	0	0.24
BPL	0.44	0.19	0	0.37
AAY	0.5	0.13	0	0.37

Note: The figures are reported in proportions.
Source: Author's calculation based on field data.

Table 3.5: Caste Distribution - Bihar

	GEN	SC	ST	OBC
Rural				
APL	0.26	0.12	0.02	0.57
BPL/PHH	0.16	0.2	0.02	0.58
AAY	0.1	0.33	0.02	0.51
Urban				
APL	0.14	0.12	0	0.65
BPL/PHH	0.14	0.07	0.1	0.66
AAY	0.14	0.18	0.04	0.57

Note: The figures are reported in proportions.
Source: Author's calculation based on field data.

Table 3.6: Caste distribution - Chhattisgarh

	GEN	SC	ST	OBC
Rural				
APL	0.21	0.08	0.31	0.4
BPL/PHH	0.07	0.07	0.39	0.46
AAY	0.08	0.11	0.29	0.53
Urban				
APL	0.5	0.04	0.04	0.43
BPL/PHH	0.33	0.07	0.14	0.45
AAY	0.15	0.08	0.15	0.62

Note: The figures are reported in proportions.
Source: Author's calculation based on field data.

Table 3.7: Caste distribution – Karnataka

	GEN	SC	ST	OBC
Rural				
APL	0.57	0.04	0.07	0.26
BPL/PHH	0.35	0.22	0.09	0.26
AAY	0.19	0.32	0.14	0.32
Urban (in %)				
APL	0.32	0.15	0.01	0.36
BPL/PHH	0.12	0.21	0.07	0.36
AAY	0.13	0.21	0.02	0.38

Note: The figures are reported in proportions.
Source: Author's calculation based on field data.

Table 3.8: Caste distribution – Uttar Pradesh

	GEN	SC	ST	OBC
Rural				
APL	0.22	0.25	0.01	0.52
BPL	0.11	0.43	0.02	0.44
AAY	0.1	0.48	0.03	0.39
Urban				
APL	0.29	0.19	0	0.52
BPL	0.1	0.41	0.01	0.48
AAY	0.07	0.39	0.01	0.53

Note: The figures are reported in proportions.
Source: Author's calculation based on field data.

Table 3.9: Caste distribution - West Bengal

	GEN	SC	ST	OBC
Rural				
APL	0.42	0.37	0.05	0.15
BPL	0.31	0.47	0.09	0.1
AAY	0.27	0.51	0.11	0.1
Urban				
APL	0.74	0.21	0.01	0.04
BPL	0.57	0.35	0.01	0.05
AAY	0.5	0.4	0.02	0.03

Note: The figures are reported in proportions.
Source: Author's calculation based on field data

3.3 Occupational distribution

Poor beneficiaries in most of the states are engaged in the unorganised sector with a meagre income. The occupational classification of the respondents has six broad categories—self-employed in agriculture with ownership of less than one hectare land (OCC1); self-employed in agriculture with ownership of more than one hectare land (OCC2); self-employed in non-agricultural activities (OCC3); wage earners (OCC4); salaried employment (OCC5) and others (OCC6). We have reported occupational distribution across three card categories in six states in Tables 3.10–3.15.

The highest proportion of respondents among BPL/PHH households consists of wage earners in all states except Chhattisgarh. Wage earners include landless casual agricultural labour, non-agricultural skilled and unskilled daily wage labour, etc. In Chhattisgarh, PHH households in rural areas are self-employed in agriculture, while in urban areas they are self-employed in non-agricultural activities. The poorest of the poor group (AAY) in all the states under study are wage earners. APL respondents in Karnataka and Chhattisgarh are mainly self-employed in agriculture in rural areas and employed in salaried jobs in urban areas. A considerable proportion of APL households in other states is self-employed in non-agriculture, or consists of wage earners employed in salaried jobs. It is evident from the occupational pattern that APL respondents have more choices than BPL/AAY families in terms of livelihood. A small proportion of self-employed agricultural families in the AAY category own more than one hectare of land in all states except Chhattisgarh.

Table: 3.10 Occupational distributions – Assam

Rural						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.18	0.02	0.19	0.35	0.20	0.06
BPL	0.08	0.02	0.23	0.58	0.08	0.01
AAY	0.04	0.00	0.17	0.73	0.06	0.00
Urban						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.00	0.00	0.53	0.00	0.24	0.24
BPL	0.00	0.00	0.44	0.37	0.15	0.04
AAY	0.00	0.00	0.13	0.63	0.25	0.00

Note: The figures are reported in proportions.

Source: Author's calculation based on field data.

Table 3.11: Occupational distribution – Bihar

Rural						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.33	0.09	0.09	0.34	0.11	0.04
BPL/PHH	0.14	0.03	0.07	0.68	0.06	0.02
AAV	0.08	0.00	0.05	0.72	0.10	0.04
Urban						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.00	0.00	0.31	0.44	0.12	0.13
BPL/PHH	0.00	0.00	0.19	0.62	0.14	0.04
AAV	0.00	0.00	0.25	0.64	0.04	0.07

Note: The figures are reported in proportions.

Source: Author's calculation based on field data

Table 3.12: Occupational distribution – Chhattisgarh

Rural						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.11	0.39	0.07	0.01	0.18	0.24
BPL/PHH	0.28	0.27	0.07	0.19	0.02	0.16
AAV	0.34	0.21	0.05	0.26	0.00	0.13
Urban						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.00	0.00	0.07	0.04	0.32	0.57
BPL/PHH	0.00	0.02	0.48	0.19	0.10	0.21
AAV	0.00	0.08	0.08	0.38	0.08	0.38

Note: The figures are reported in proportions.

Source: Author's calculation based on field data

Table 3.13: Occupational distribution – Karnataka

Rural						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.30	0.14	0.05	0.28	0.12	0.11
BPL/PHH	0.14	0.09	0.03	0.67	0.04	0.03
AAAY	0.10	0.08	0.06	0.69	0.05	0.01
Urban						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.02	0.03	0.13	0.29	0.34	0.19
BPL/PHH	0.01	0.01	0.18	0.70	0.04	0.07
AAAY	0.02	0.02	0.13	0.75	0.02	0.06

Note: The figures are reported in proportions.

Source: Author's calculation based on field data.

Table 3.14: Occupational distribution – Uttar Pradesh

Rural						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.16	0.10	0.11	0.44	0.14	0.05
BPL	0.10	0.04	0.13	0.63	0.06	0.04
AAAY	0.06	0.02	0.13	0.69	0.04	0.05
Urban						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.00	0.00	0.30	0.41	0.22	0.07
BPL	0.00	0.00	0.22	0.62	0.07	0.10
AAAY	0.00	0.00	0.19	0.67	0.04	0.10

Note: The figures are reported in proportions.

Source: Author's calculation based on field data.

Table 3.15: Occupational distribution – West Bengal

Rural						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.20	0.06	0.13	0.46	0.11	0.05
BPL	0.10	0.03	0.17	0.63	0.03	0.03
AAAY	0.07	0.01	0.10	0.74	0.04	0.04
Urban						
Card type	OCC1	OCC2	OCC3	OCC4	OCC5	OCC6
APL	0.00	0.00	0.29	0.26	0.31	0.15
BPL	0.00	0.00	0.40	0.41	0.15	0.04
AAAY	0.00	0.00	0.36	0.36	0.19	0.10

Note: The figures are reported in proportions.

Source: Author's calculation based on field data.

3.4 Economic status of beneficiaries

It is important to get some idea of the economic status of the respondent's family. This information would help us infer how important a food security scheme like PDS is to mitigate the food demand of poor families. We used per capita expenditure as a proxy for the economic status of surveyed households. Although we collected information on income, we have not reported the descriptive statistics on income because there are credibility problems with the information. The mean per capita monthly expenditure of households across rural and urban areas in the six states is presented in Table 3.16.

Table 3.16: Average per capita monthly expenditure (in Rs.)

State	Rural			Urban		
	APL	BPL/PHH	AAY	APL	BPL/PHH	AAY
Assam	937	895	891	1674	1168	1101
Bihar	1055	869	872	1330	1142	848
Chhattisgarh	959	683	676	1415	982	898
Karnataka	1172	1029	942	1621	950	855
Uttar Pradesh	926	751	717	1255	876	811
West Bengal	1487	998	883	1564	1283	1213

Source: Author's calculation based on field data.

As expected, the monthly per capita expenditure (MPCE) of APL families is higher than that of BPL families, which is higher than the MPCE of AAY families in all the states in the study. The average MPCE is the highest in Karnataka and the lowest in Uttar Pradesh. It should also be noted that the MPCEs for BPL and AAY households are below the projected poverty line estimate of 2014–15 using the Planning Commission's poverty line estimate published in 2011–12 and the average MPCE is higher than the estimated poverty line in all the APL households surveyed except in Assam. The MPCE in the BPL group is the lowest in rural Chhattisgarh. In Karnataka, the richest state among the six within the scope of the study, it ranges from Rs 100 to Rs 3,666 for the BPL (and AAY) group. The range of MPCE in Uttar Pradesh, Chhattisgarh and Bihar is Rs. 140-Rs. 4,000, Rs. 214-Rs. 2,250, and Rs. 390-Rs. 3,250, respectively.

Expenditure on food items is of great relevance in this study since the food security programme aims to provide food to poor families at a cheap price. The average monthly per capita food expenditure in the six states is given in Table 3.17.

Table3.17 Average per capita monthly food expenditure (in Rs.)

State	Rural			Urban		
	APL	BPL/PHH	AAY	APL	BPL/PHH	AAY
Assam	553	476	470	751	470	450
Bihar	701	571	568	855	709	487
Chhattisgarh	594	463	451	742	733	577
Karnataka	733	586	560	1156	657	623
Uttar Pradesh	598	514	491	598	514	491
West Bengal	857	691	646	842	690	768

Source: Author's calculation based on field data.

On average, rural and urban BPL/AAY families spend 64% and 60%, respectively, of their total MPCE on food. In rural areas, the proportion ranges from 53% in Assam to 73% in West Bengal, while in urban areas it ranges from 40% in Assam to 74% in Chhattisgarh. The per capita expenditure on food is the lowest in rural Chhattisgarh and urban Uttar Pradesh among BPL/AAY families. On average, the proportion of spending on food out of total expenditure for an APL household is 3% lower than the spending on food by a BPL/AAY family.

Chapter 4

Public Distribution System and Food Grain Purchase

4.1 Background

A significant proportion of poor people in India depend on the Public Distribution System to mitigate their hunger. The PDS ideally ensures availability of required food grain to the vulnerable section of the society that lacks the purchasing power to buy the required food grain at market prices. Rice and wheat are mainly sold at cheap prices under the PDS from ration shops. A few states also sell coarse grain and pulses under the PDS. In our study, we limit our analysis to rice and wheat. We will discuss food grain entitlement vis-à-vis purchase, pricing of food grain in the PDS and welfare impact of this food security scheme in this chapter.

4.2 Purchase of food grain from different sources

Poor people, in general, purchase food grain from the PDS, from the market or consume from other sources, such as home production, especially in rural areas. Since the market price of rice and wheat is generally several times higher than the PDS price, it is assumed that poor people in general exhaust their quota from the PDS and the remaining required quantity is obtained from the market or other sources. We also assume here that a family consumes whatever it purchases.

On average, the total consumption of food grains, consisting of rice and wheat, varies from 8 to 13 kg per month per capita. In 2004–05, the proportion of total grain off take from the PDS for a BPL cardholder in Assam, Bihar, Karnataka, Uttar Pradesh and West Bengal was 36%, 5%, 44%, 22% and 25%, respectively (GOI 2005). Using our survey data, in 2014–15, the numbers rose to 56%, 38%, 65%, 53% and 37% in rural areas of the respective states. The sharp increase in the purchase of food grain from the PDS can be explained by the wider coverage and an increase in the quantity of entitlement. We have presented the share of grain purchased from different sources across different cardholder categories in six states in Tables 4.1–4.6.

Table 4.1: Grain purchase from different sources – Assam

Card type	Rural (in %)		Urban (in %)	
	PDS	Open market/ other sources	PDS	Open market/ other sources
APL	13	87	20	80
BPL	56	44	54	46
AAY	80	20	90	10

Source: Author's calculation based on field data.

Table 4.2: Grain purchase from different sources – Bihar

Card type	Rural (in %)		Urban (in %)	
	PDS	Open market/ other sources	PDS	Open market/ other sources
APL	1	99	1	99
BPL/PHH	38	62	39	61
AAY	61	39	60	40

Source: Author's calculation based on field data.

Table 4.3: Grain purchase from different sources – Chhattisgarh

Card type	Rural (in %)		Urban (in %)	
	PDS	Open market/ other sources	PDS	Open market/ other sources
APL	26	74	27	73
BPL/PHH	60	40	66	34
AAY	70	30	73	27

Source: Author's calculation based on field data.

Table 4.4: Grain purchase from different sources – Karnataka

Card type	Rural (in %)		Urban (in %)	
	PDS	Open market/ other sources	PDS	Open market/ other sources
APL	0	100	0	100
BPL/PHH	65	35	67	33
AAY	73	27	68	32

Source: Author's calculation based on field data.

Table 4.5: Grain purchase from different sources – Uttar Pradesh

Card type	Rural (in %)		Urban (in %)	
	PDS	Open market/ other sources	PDS	Open market/ other sources
APL	13	87	19	71
BPL	53	47	62	38
AAY	54	46	60	40

Source: Author's calculation based on field data.

Table 4.6: Grain purchase from different sources – West Bengal

Card type	Rural (in %)		Urban (in %)	
	PDS	Open market/ other sources	PDS	Open market/ other sources
APL	16	84	22	78
BPL	37	63	40	60
AAY	38	62	42	68

Source: Author's calculation based on field data.

While urban families mainly depend on the open market in addition to the PDS to fulfil their demand for food grain, rural families use home-grown produce as a third source of consumption. Land holding plays a crucial role in determining how much a family will consume from home production. As expected, the average land holding for cultivation is higher for APL families than for BPL/AAY families. A significant proportion of BPL families are marginal farmers and landless casual agricultural labourers. The average operational land holding of BPL households surveyed is high in Chhattisgarh and Karnataka when compared to the other four states. It is the lowest in Assam. In the rural areas of surveyed states, 7% to 17% of the total grain requirement comes from home produce. Our field visits also reveal that poor families in some areas of Karnataka and West Bengal sell their home produce in the open market at a higher price instead of using it for self-consumption.

4.3 PDS and its usage among the beneficiary groups

The number of ration cardholders in the BPL and AAY categories increased significantly between 2004–05 and 2011–12 according to the Indian Human Development Survey (Desai, 2015). However, the proportion of eligible beneficiaries drawing rations varies across different states. In 2004–05, 100% of the sample BPL cardholders lifted grain from the PDS in Assam and West Bengal, while the proportion was 80% in Karnataka (GOI 2005). The magnitudes were comparatively lower in Bihar (25%) and Uttar Pradesh (54%). In 2011–12, the proportion of AAY and BPL cardholders purchasing grain from the PDS was as high as 90% at the national level using the India Human Development Survey data (Desai 2015).

Table 4.7: Usage of PDS among ration cardholders (in %)

State	APL	BPL/PHH	AAJ
Assam	93.25	100	100
Bihar	NA	99.65	100
Chhattisgarh	94.38	100	100
Karnataka	NA	99.42	100
Uttar Pradesh	77.08	99.52	100
West Bengal	98.35	97.93	100

Source: Author's calculation based on field data.

In 2014–15, 100 per cent of the AAY cardholders purchased grain from the PDS in the six selected states, while the proportion ranged from 98% in West Bengal to 100% in Assam and Chhattisgarh among BPL/PHH cardholders (Table 4.7). We present these figures with the caveat that we may not be able to report the total coverage of households under the PDS because of data limitations. Among the six selected states, Bihar has experienced a significant rise in PDS usage, which can be attributed to two reasons. First, the coverage has increased significantly over the past decade. Second, there has been an improvement in the PDS delivery programme because the state adopted stringent revamp measures in 2011–12 starting with a system for tracking food coupons (Drèze and Khera 2015a, 2015b). The Bihar government also has put in efforts since 2013–14 to cancel old ration cards after new cards were issued under the NFSA (Khera2015).

4.4 Food grain entitlement *vis-à-vis* purchase from the PDS

Food grain entitlement refers to the sum of entitlement to rice and wheat in most of the states. The magnitude of entitlement across states evolved over time starting with the inception of the TPDS in 1997. In 2004–05, it was fixed at 20kg in Assam, Bihar, Karnataka and Uttar Pradesh for a BPL cardholder household. Although it was not fixed in West Bengal, the average entitlement for a BPL household in this state was 19.7 kg (GOI 2005)³.

In 2014–15, the total grain entitlement for an AAY cardholder household in all the states under study was 35 kg except in West Bengal. The food grain for AAY cardholders includes 29kg rice and 6kg wheat in Karnataka, 20/25 kg rice and 10/15 kg wheat in Uttar Pradesh, 21kg rice and 14kg wheat in Bihar and 25kg rice and 10 kg wheat in

³Entitlement for Chhattisgarh was not specified in GOI (2005). It was a new state formed in the year 2000.

Chhattisgarh. A BPL cardholder in Assam and Uttar Pradesh receives 35 kg food grain. In Assam there is no wheat entitlement for BPL or AAY families since rice is the main staple in this state, while in Uttar Pradesh for the same category the maximum rice and wheat entitlement is 20kg and 15kg, respectively. West Bengal, the third state under study that still follows the TPDS, distributes grain on the basis of individual cards. The scale of entitlement for AAY and BPL cardholders is 1kg rice and 750g wheat per week; unlike the other five states, West Bengal distributes grain on a weekly rather than on a monthly basis.

Of the three states following the NFSA, Karnataka is the only one that distributes grain based on household size, while the other two states distribute grain without taking into account household size. The average entitlement for a BPL cardholder in Bihar is 3kg rice and 2kg wheat. Chhattisgarh provides 25 kg rice and 10 kg wheat under the Chhattisgarh Food Security Act to a BPL family. In Karnataka, grain entitlement for a single-person family, two-person family and families with three or more people was 10kg, 20kg and 30kg, respectively, during the field survey in 2014. South Karnataka districts have a higher quota of rice and a lower quota of wheat than districts in the north, because there are different agro-climatic zones in different parts of the state.

Table 4.8 Grain entitlement *vis-à-vis* take home quantity (per month per household)

State	APL		BPL/PHH		AAY	
	Entitlement	Take home	Entitlement	Take home	Entitlement	Take home
Assam	10 kg	6.65	35kg	29.23	35kg	33.17
Bihar	0	0	5kg*	4.49	35kg	33.93
Chhattisgarh	15 kg	14.52	35kg	33.81	35kg	32.29
Karnataka	0	0	30kg	27.11	35kg	33.58
Uttar Pradesh	10 kg wheat, no rice	5.16	35kg	32.6	35kg	34.78
West Bengal	2kg wheat, No rice *	1.43	7 kg*	5.96	7 kg*	5.89

*Note: In West Bengal and Bihar (BPL), grain allocation is made per person.

Source: Author's calculation based on field data.

The allocation of food grains for APL families has decreased sharply over time to curb leakage, as it was one of the main sources of grain leakage from the central pool. Assam, on average, issues 8.87 kg of food grain to an APL household with a range of between 7 and 10 kg. There is no rice allotment for APL households in Uttar Pradesh and West Bengal. Under the new NFSA regime, Bihar and Karnataka stopped allotting food grain to APL families. The non-poor category in Chhattisgarh used to receive 5kg wheat and 10kg rice until the time of the fieldwork in 2014.

Chhattisgarh and Karnataka, two good performer states in public distribution that allocate food grain from the state's own food security scheme on top of the NFSA entitlement, have adopted a significant change in grain entitlement from May 1, 2015. Chhattisgarh, burdened with a considerable proportion of fake cards and a consequently huge subsidy burden on the state exchequer, has switched from household-based allotment to individual allotment of food grain. State officials in Chhattisgarh also complained of families splitting across the state, mainly among PHH category, to reap undue benefits from the state food security scheme. As a result, the quota has been changed from 35 kg per family to 7kg per individual from May 1, 2015. Karnataka has made a similar shift from household entitlement to an individual allotment of 5kg per person following the national law from the same date. We have presented the average take home quantity by household/person against the entitlement in Table 4.8. It is evident that even if the average take home quantity is high across almost all the categories in the six states, it is consistently lower than the full entitlement. One reason is lack of awareness about food grain entitlement under the PDS among beneficiaries in the so-called laggard states of Uttar Pradesh, Assam and West Bengal. Karnataka also faces problems due to complications arising from distribution based on household size. The purchase entitlement ratio, defined as the ratio of average PDS purchase to official PDS allocation, is observed to be the highest in Chhattisgarh (97%) and the lowest in Assam (84%) for BPL/PHH households among the six states.

The average monthly per capita rice and wheat purchase from the PDS is given in Table 4.9. In this particular case, per capita PDS purchase refers to the average across APL, BPL and AAY ration cardholder households. The mean quantity across six states is higher than the averages found in NSS 2011-12. There is evidence that the NSS

understates total cereal consumption in India in comparison with the total availability of cereal given by the Ministry of Agriculture (Deaton and Drèze 2009). In addition, the sample frame of the NSS covers ration cardholders as well as non-cardholder families; whereas we have calculated the average based only on PDS users. The average rice purchase is the highest in Chhattisgarh as expected. The state, which is the best performer as far as public distribution of food is concerned, also has the highest relative coverage of beneficiaries. While many other states have stopped allocation for APL households under the NFSA, Chhattisgarh still supplies food grain to this group at prices that are significantly lower than market prices.

Table 4.9: Rice and wheat purchase from PDS (per capita per month)

State	Rice (in kg)		Wheat (in kg)	
	Rural	Urban	Rural	Urban
Assam	3.57	3.29	0.21	0.06
Bihar	2.67	2.27	1.8	1.81
Chhattisgarh	6.49	6.16	1.32	1.59
Karnataka	4.26	3.49	1.43	1.4
Uttar Pradesh	4.56	4.52	1.58	1.53
West Bengal	2.48	2.16	1.01	1.11

Note: Average amount of purchase is reported. Source: Author's calculation based on field data.

A considerable proportion of beneficiaries receive less than the full entitlement from the PDS. On average, 42 per cent of ration cardholders in the PHH and AAY category in Bihar receive 1.1 kg and 3kg less than the full entitlement (Table 4.10). We received similar feedback from our focus group discussions in Bihar. Some villagers complain that the FPS dealer does not provide the full quota of grain. At times, awareness about entitlement or lack of it also plays an important role in cardholders receiving less than their entitlement. Only 56 percent of respondents in Bihar are aware of their entitlement from the PDS, while awareness about entitlement is significantly high in Chhattisgarh and Karnataka. The proportion of beneficiaries receiving less than their full entitlement is considerably low in Chhattisgarh and moderate for the PHH category in Karnataka.

Table 4.10: Grain received from PDS, less than full entitlement (NFSA states)

State/ Category	Card	Less than full entitlement (in %)	Offtake by this group		
			Mean (in kg)	Median(in kg)	SD
Bihar					
	PHH	42.2	3.99	4.23	0.77
	AAY	42.22	32	33.33	3.52
Chhattisgarh					
	PHH	2.48	27.42	28.33	6.18
	AAY	Negligible			
Karnataka					
	PHH	15.24	21.63	21	6.55
	AAY	25.77	30.11	30	5.02

Source: Author's calculation based on field data.

Note: Column 2 reports the percentage of people that received less than their full entitlement in different card categories. Columns 3 and 4 report the mean and median quantity of off take by this group. Column 5 reports the standard deviation of the off take amount.

Awareness about grain entitlement from the PDS is extremely poor in the three states that still follow the TPDS. A significant proportion of beneficiaries in the BPL category receive less than the full entitlement of grain from the PDS (Table 4.11). On average, they receive 6kg and 7kg less than their quota in Assam and Uttar Pradesh, respectively, while this amount is 1.56kg for a BPL cardholder in West Bengal.

Table 4.11: Grain receipt from PDS, less than full entitlement (non-NFSA states)

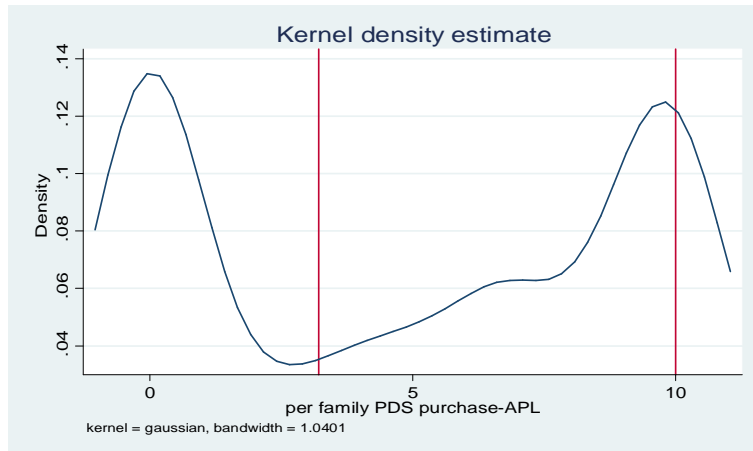
State / Card Category	Less than full entitlement	Offtake by this group		
	(in %)	Mean(in kg)	Median(in kg)	SD
Assam				
APL*	NA	NA	NA	NA
BPL	91.23	29.16	30.66	4.09
AAV	32.97	32.54	33	1.67
Uttar Pradesh				
APL	51.84	3.21	3	3.23
BPL	20.15	28.09	30	6.18
AAV	4.97	30.82	30	3.94
West Bengal				
APL	52.32	1.31	1.43	0.44
BPL	43.61	5.44	5.77	1.3
AAV	37.55	5.52	5.33	0.96

Source: Author's calculation based on field data. Note: Column 2 reports the percentage of people that received less than their full entitlement in different card categories. Columns 3 and 4 report the mean and median quantity of off take by this group. Column 5 reports the standard deviation of the off take amount. *Full entitlement is not fixed for APL category in Assam.

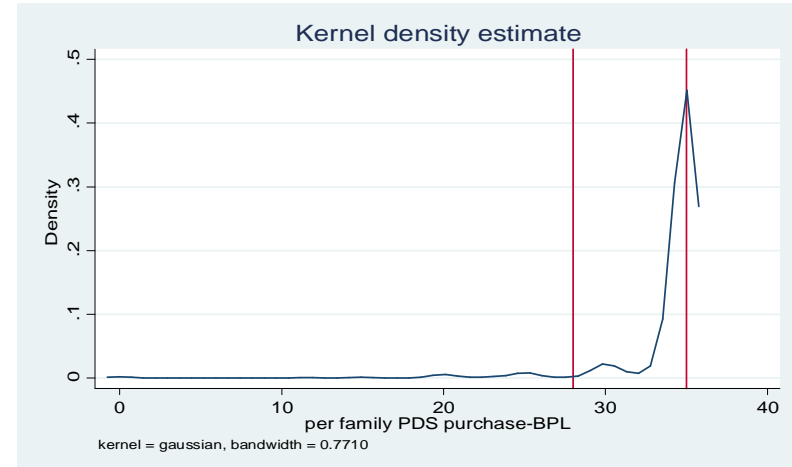
In our field visits in Assam, beneficiaries alleged that several FPS owners in the Cachar and Bongaigaon districts are dishonest. On average, they distribute 3 to 5 kg less than the full quota to BPL or AAY cardholders. Sometimes, the FPS dealers even charge the beneficiaries on the basis of full entitlement even if they distribute less than the entitlement. The distribution of food grain purchase is captured through fitted kernel density plots in six states for different card categories (Figures 4.1–4.6). Kernel density estimation is a non-parametric technique to visualize the underlying distribution of the continuous variable. Two cut-offs have been set on the kernel density plots: at official entitlement and at the median amount received by the group getting less than the full quota. For example, the entitlement for BPL cardholders in Assam is fixed at 35 kg. Figure 4.1(b) shows the mode of distribution at 35kg, which is the full quota amount, and then the distribution of food grain purchase follows a decreasing trend. The second cut-off is fixed at 31kg here, which the approximate median quantity received by the group is getting less than the full quota. Food grain distribution for BPL/PHH and AAY categories in the six states is uni-modal, while APL distribution in Assam and Uttar Pradesh is bi-modal, with the first mode lying close to zero and the second mode at the highest amount of the grain quota.

Figure 4.1: Distribution of food grain purchase from PDS – Assam

4.1 (a) APL



4.1 (b) BPL



4.1 (c) AAY

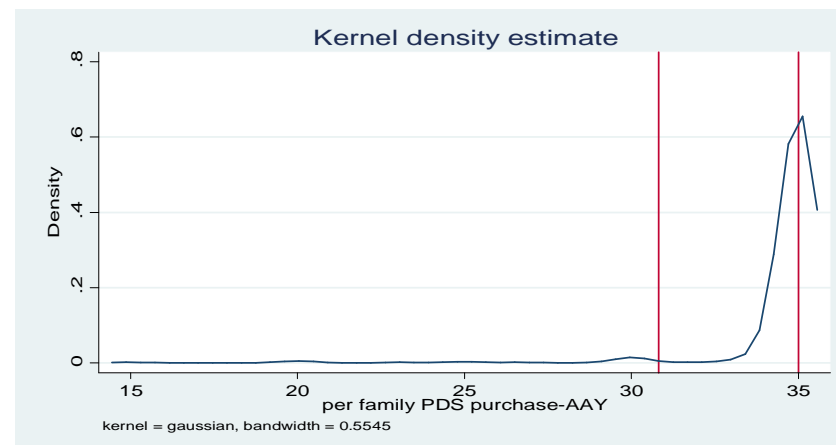
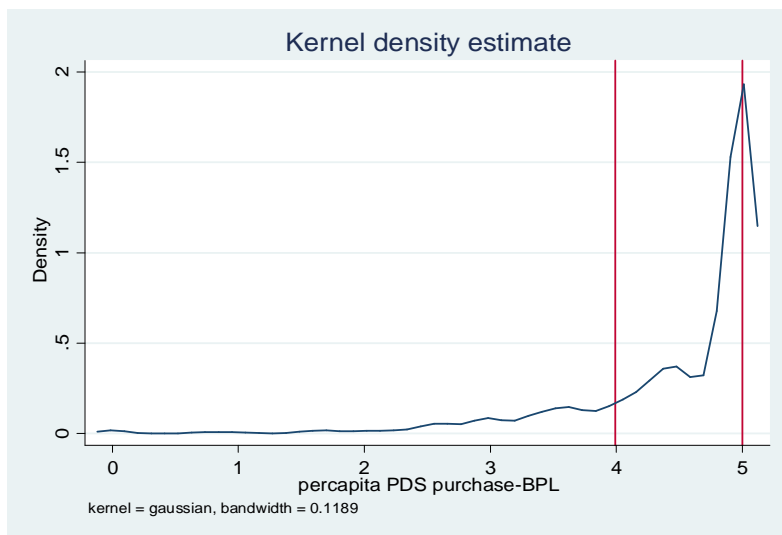


Figure 4.2: Distribution of food grain purchase from PDS – Bihar

4.2(a) PHH



4.2 (b) AAY

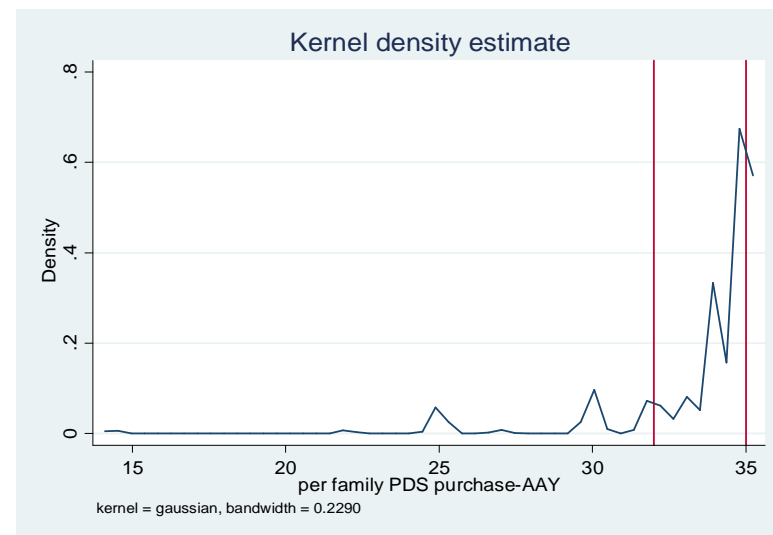
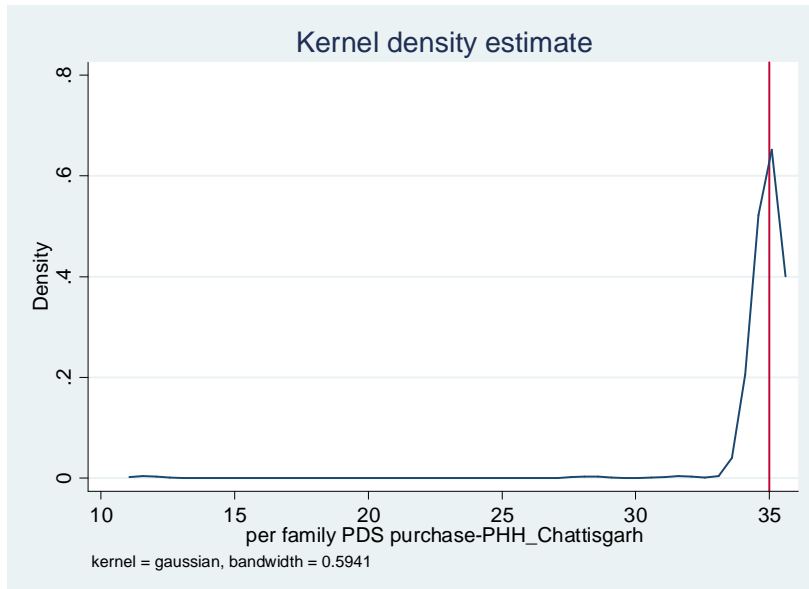


Figure 4.3: Distribution of food grain purchase from PDS – Chhattisgarh

4.3 (a) PHH



4.3 (b) AAY

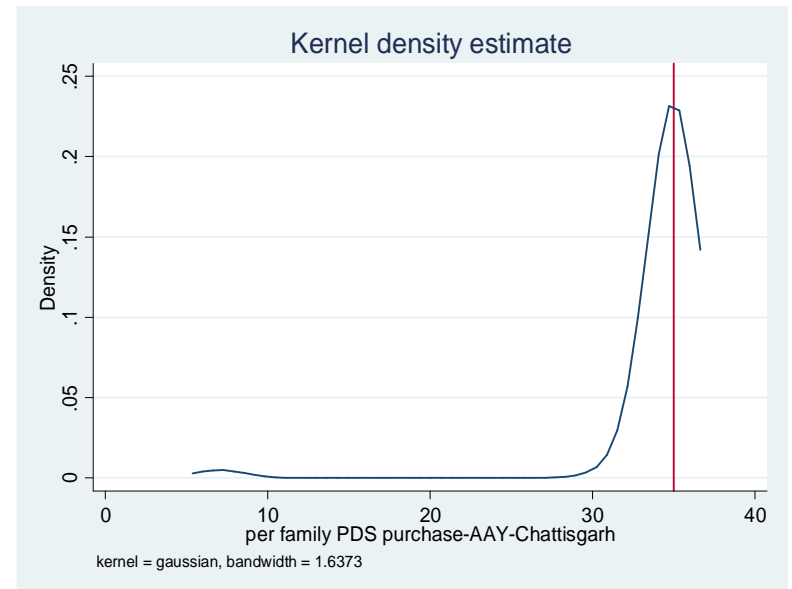
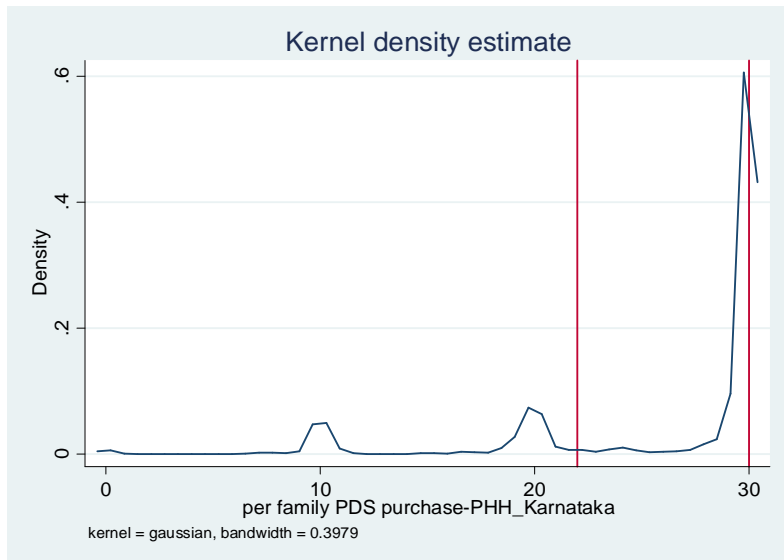


Figure 4.4 Distribution of food grain purchase from PDS – Karnataka

4.4 (a) PHH



4.4 (b) AAY

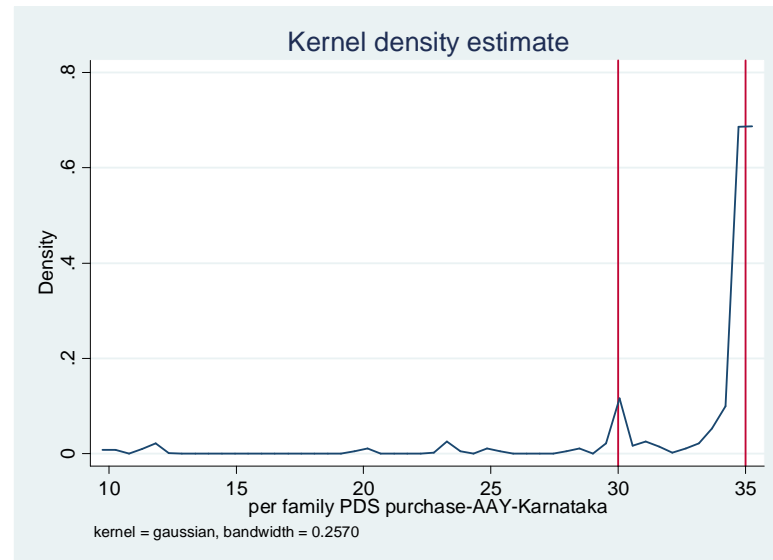
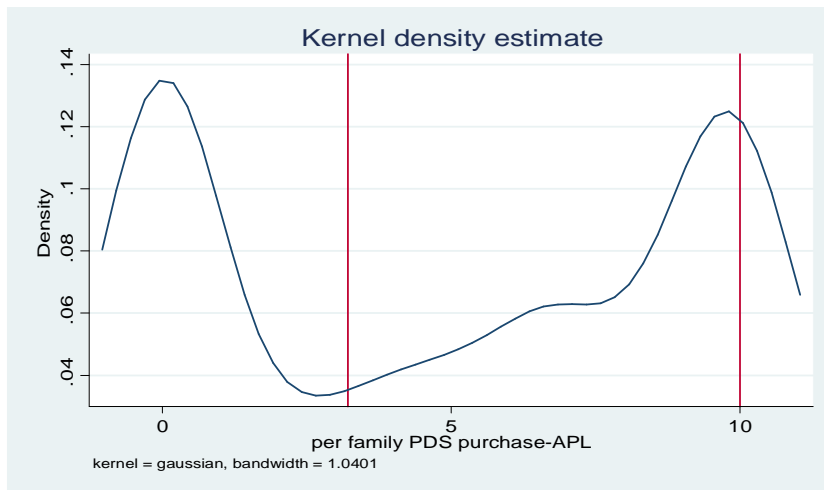
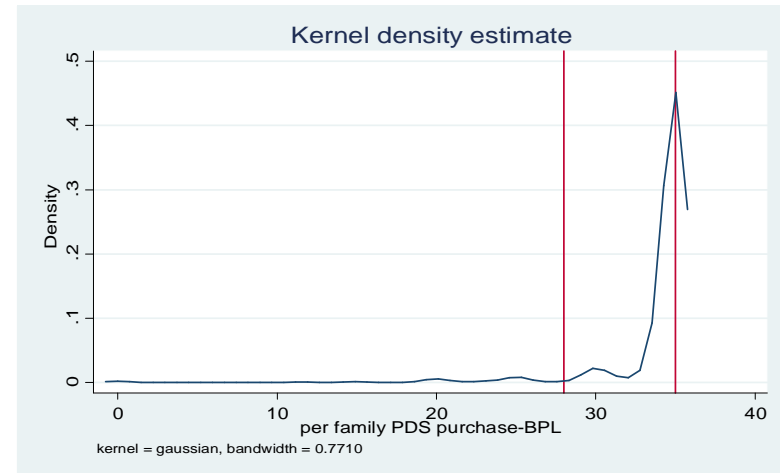


Figure 4.5: Distribution of food grain purchase from PDS – Uttar Pradesh

4.5 (a) APL



4.5 (b) BPL



4.5 (c) AAY

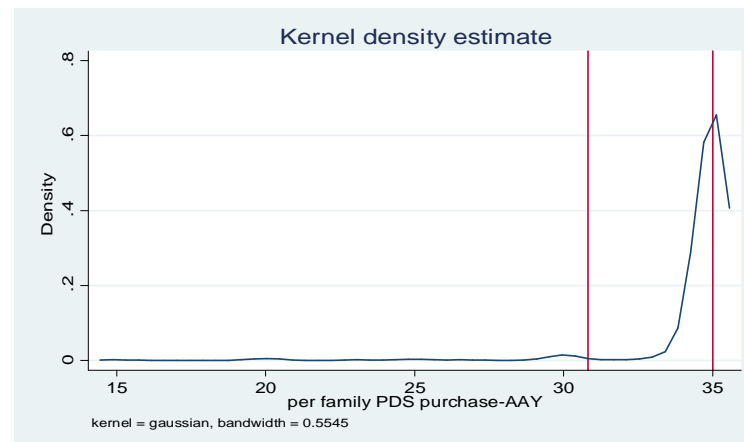
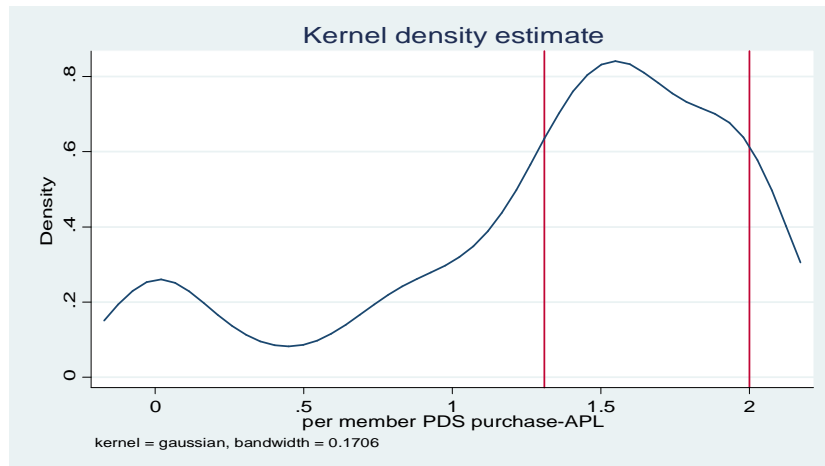
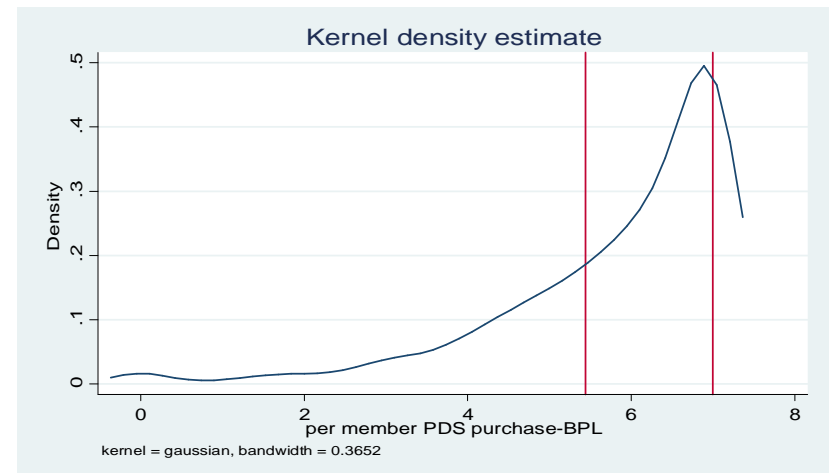


Figure 4.6: Distribution of food grain purchase from PDS – West Bengal

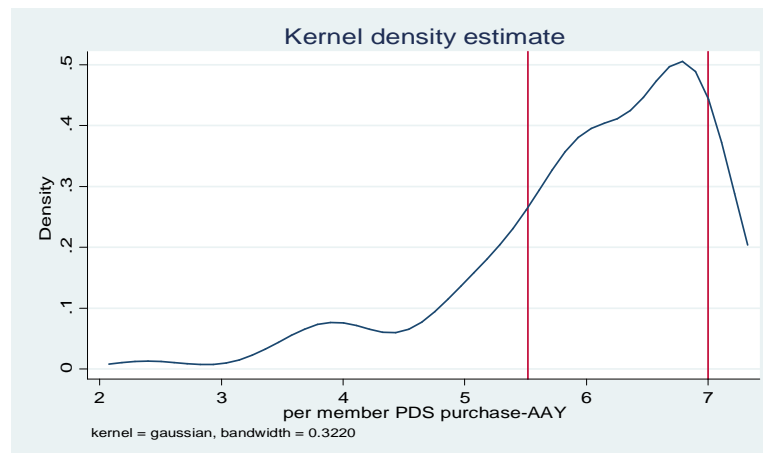
4.6 (a) APL



4.6 (b) BPL



4.6 (c) AAY



4.5 Pricing under the PDS

Grain is sold under the PDS at highly subsidised prices so that poor people can buy the required amount from ration shops at prices that are lower than market rates. The price of rice and wheat varies across the different states that follow the TPDS, while the prices of rice and wheat are Rs.3 and Rs 2 per kg, respectively, under the NFSA. Bihar provides grain at the NFSA price, although Karnataka and Chhattisgarh provide a state subsidy and supply food grain at a cheaper rate than the rate fixed by the NFSA. The issue price of rice and wheat is Re1/kg in these two states. From May 1, 2015 Karnataka has started distributing food grain free of cost to BPL and AAY cardholders under the state food subsidy scheme, which is a modified version of the NFSA. There is a difference between the issue price and the actual price paid under the PDS at the time of grain purchase. It varies across states depending on beneficiaries' awareness about prices and the efficiency of the delivery mechanism. The issue and purchase prices for rice and wheat are given in Table 4.12 for NFSA states and Table 4.13 for non-NFSA states.

Table 4.12: Issue price vis-à-vis price paid (Rs/kg) –NFSA states

State / Card Category	Rice		Wheat	
	Issue Price	Price paid*	Issue Price	Price paid*
Bihar				
BPL/PHH	3	3.33(3,5)	2	2.40(2,5)
AAY	3	3.29(3,4.08)	2	2.30(2,4)
Chhattisgarh				
APL	9.50	9.75(9.50,10.20)	6.75	6.89 (6.75, 7)
BPL/ PHH	1	1(1,1.33)	1	1
AAY	1	1	NA	NA
Karnataka				
PHH	1	1.01(1,9)	1	1.07(1,5)
AAY	1	1.15(1,10)	1	1.26(1,3)

Source: Author's calculation based on field data.

Note: *Price paid is reported at the average. Range of price paid is given in parentheses. For example, the issue price for one kg of rice for the PHH card category in Bihar is Rs 3, but they pay Rs 3.33 per kg on average. The price ranges from Rs 3 to Rs 5.

PHH families in Bihar pay 33 paise and 40 paise extra on average for one kg of rice and wheat, respectively, while AAY families pay 30 paise extra for rice as well as for wheat. Such discrepancies are marginal for poor people in the other two NFSA states, which are good performer states.

The situation is worse in non-NFSA states. Awareness about issue price in general is very poor in Assam and Uttar Pradesh as was revealed during our FGDs in these states. Although it is officially claimed that the display board at fair price shops indicates the price, this may not always be true. In addition, beneficiaries know how much to pay for a food basket for diversified commodities in the aggregate to be received under the PDS, but in many cases they are not aware of the unit price for separate PDS commodities.

Table 4.13: Issue price vis-à-vis price paid (Rs/kg) – non NFSA states

State / Card Category	Rice		Wheat	
	Issue Price	Price paid*	Issue Price	Price paid*
Assam				
APL	11 to 15	12(11,16)	7	9.45(7,11)
BPL	7	7.48(7,11)	NA	NA
AAY	3	4.13(3.50, 6.20)	NA	NA
Uttar Pradesh				
APL	NA		6.6	7.10(6.60,14.80)
BPL	6.15	6.46(5.15,13.40)	4.65	4.98(4.70, 8.46)
AAY	3	3.25(3,10)	2	2.26(2,6)
West-Bengal				
APL	NA		6.75	6.92(6.75,7.50)
BPL	2	2.04(2, 6.80)	6.2	7.17(6.20,13.70)
AAY	2	2.06(2,9)	2.6	3.40(2.60, 8.70)

Note: *Price paid is reported at the average. Range of price paid is given in parentheses. For example, the issue price for one kg of rice for the BPL card category in Assam is Rs 7, but they pay Rs 7.48 per kg on average. The price ranges between Rs 7 and Rs 11.

Source: Author's calculation based on field data

In Assam, BPL and AAY families usually pay 48 paisa and Rs1.13 more than the issue price. State officials from Assam could not clarify the exact issue price for rice among APL families. This group paid on average Rs 2.45 extra for one kg of wheat. FPS dealers in this state argued that they charge extra to accommodate the cost of transportation; otherwise, they would have to pay for the transportation of food grain from the god own to the FPS from their pocket. BPL and AAY cardholders do not receive wheat from the PDS. In Uttar Pradesh also, FPS dealers in a few districts confessed that they charge extra money from consumers to cover the cost of transportation from the god own to the local FPS. Although the cost of transportation is supposed to be reimbursed by the FCI, The FPS dealers claim that, in reality, they have to pay for transportation. Another serious problem is that the issue price for rice and wheat is not rounded off in some

states. Since calculation becomes complicated, it is automatically rounded off. As a result, beneficiaries end up paying extra.

In West Bengal, the main concern relates to individual-based ration cards. One family may have mixed categories of cards. For example, in a family where elderly parents have BPL cards, the children may have APL cards. West Bengal has stopped issuing new BPL cards for some time. In our survey, a family was selected as a BPL household if the household head had a BPL card. In such cases, the poor usually withdraw only against the BPL quota. On average, the extra amount paid for rice among BPL and AAY cardholders in West Bengal is lower than in Uttar Pradesh and Assam, but it is higher than the price paid for the same category of card holders in Uttar Pradesh in the case of wheat or *atta*.

4.6 PDS price *vis-à-vis* market price

Information on the price of the major food grains, namely, rice and wheat, in the local market was collected as part of the household survey. For rice, it does not indicate the retail price of any particular category; rather, it is the price of the local variety of rice that beneficiaries consider a close substitute for the PDS variety. For example, in Karnataka, Sona Masuri is the variety of rice distributed under the PDS. A slightly better quality of the same variety is available in the open market.

Table 4.14 presents a comparison between the market price and PDS price, where market price is expressed as a percentage of PDS price. It gives an idea of how food subsidy in India helps the poor by providing food security. The poor (BPL/PHH) as well as the poorest group of cardholders (AAY) provided information on the market price for a three-month recall period prior to the survey. There may be scope for over- or under estimation since seasonality was not taken into account.

Table 4.14: Market price as a percentage of PDS price

State / Card Category	Rice	Wheat
Assam		
BPL	291	NA
AAY	436	NA
Bihar		
PHH	713	782
AAY	720	779
Chhattisgarh		
PHH	2042	1614
AAY	2014	NA
Karnataka		
PHH/AAY	2488	1777
Uttar Pradesh		
BPL	316	314
AAY	616	696
West Bengal		
BPL	1300	178
AAY	1303	440

Source: Author's calculation based on field data.

The ratio of market price to PDS price has increased significantly from 2001 (GOI 2005) to 2014–15. The ratio is even higher in states that have switched from the TPDS to the NFSA. The highest ratio of market to PDS prices is observed in the two states that follow the NFSA, that is, Chhattisgarh and Karnataka, while the lowest ratio is reported in Assam followed by Uttar Pradesh, which are yet to switch to NFSA. West Bengal, however, has a much higher open market to PDS price ratio. The welfare implications of such high subsidies through the food security scheme are estimated in the next section.

4.7 Implicit subsidy and PDS

Implicit income transfer is a popular measure that is used to understand the welfare effect of the PDS on poor households. It measures the amount of money saved by a household when they buy food grains from the PDS at a lower price compared to the market price. This saved amount is termed 'implicit subsidy'.

Mathematically, implicit subsidy/ implicit money transfer can be defined as:

$$T_{cs} = Q_{cs}^{PDS}(P_{cs}^{mkt} - P_s^{PDS}) \text{ -----(4.1)}$$

where T_c : amount of income transfer for a household belonging to category c in state s ;
There can be three categories: APL, BPL/PHH and AAY

Q_{cs}^{PDS} : Quantity of subsidised grain provided under the PDS in a month for a household in category c in state s

P_{cs}^{mkt} : Median price paid at market for PDS commodity per kg by category c in state s

P_{cs}^{PDS} : Issue price of subsidised grain per kg under the PDS for a household in category c in state s ; it is household-invariant across categories.

We assume here that total consumption of food grain for a household is more than the quantity received from the PDS. We have estimated the total implicit transfer by aggregating the implicit transfers for rice and wheat, since these are the two major food grains supplied through the PDS in India. We collected information on the market price paid by households for rice and wheat. However, it varies across different card categories and, to some extent, within the same card category as well. One main reason for such variation is inter-household variation in the quality of grain purchased. To tackle such variation, we have considered the median market price paid for rice or wheat by different card categories of households in states. However, there may still be scope for over or underestimation

The average amount of implicit subsidy through the PDS has increased approximately three-fold between 2004–05 and 2011–12 as pointed out in the India Human Development Survey (Desai 2015). Major structural shifts were observed in the functioning of PDS in several states during 2011–12. In addition, the NFSA was implemented in 2013, which resulted in a significant increase in the amount of subsidy mainly for the BPL/PHH and AAY categories. The subsidy for APL decreased because the allocation for this group was either reduced to zero in some states or reduced significantly in others. We may not be able to capture the corresponding figures at the national level since our study is limited to six states. We have calculated the magnitude of implicit subsidy per capita per month using Equation 4.1. The estimates are presented in Table 4.15.

Table 4.15: Implicit subsidy per capita per month for PDS users (in Rs)

State	APL	BPL/PHH	AAY
Assam	17.12	92.27	111.90
Bihar*	0.00	79.16	125.36
Chhattisgarh	44.06	141.08	162.71
Karnataka*	0.00	140.45	125.61
Uttar Pradesh	8.18	73.00	95.77
West Bengal	2.07	65.69	85.33

Note: *APL allocation is zero under the NFSA in Bihar and Karnataka.

Source: Author's calculation based on field data.

The amount of per capita subsidy is the highest in Chhattisgarh and Karnataka since these states provide an additional subsidy over and above that given by the centre. The per capita subsidy in non-NFSA states is comparatively lower than the amount of subsidy in the three states that have implemented the NFSA.

We also attempted to estimate the effective income gain for the poor, which comprises BPL and AAY ration cardholders, at the state level as another welfare measure. The income gain was estimated separately for BPL and AAY cardholders; these were aggregated to get the total effective gain at the state level. We calculated the effective income gain at the household level by estimating value of food subsidy. It is calculated as the product of the average quantity of grain lifted from the PDS at the household level and the local price discount. Price discount is calculated as the difference between the average market price and PDS price. The income gain from rice and wheat purchase was calculated separately and then added to get the total effective income gain from the PDS at the household level. To calculate the state-level income gain, the income gain at the household level was multiplied by the total number of ration cards issued for the BPL/PHH and AAY categories in the state. Information on the category-wise total number of ration cards in circulation at the state level was provided by the department of food and civil supplies of the respective states. The results are given in Table 4.16.

Table 4.16: Effective income gain per month from PDS at the state level

States	Effective income gain per BPL household (in Rs)	Total number of BPL ration cardholders in the state (in lakh)	Effective income gain at state level for BPL households (in crore)	Effective income gain per AAY households (in Rs)	Total number of AAY ration cardholders in the state (in lakh)	Effective income gain at state level for AAY households (in crore)	Effective income gain at state level for BPL and AAY households (in crore)	% share of the state in effective income gain of six states
Assam	443.80	12.02	53.34	523.71	7.04	36.87	90.21	3.19
Bihar	458.35	142.11	651.36	611.78	25.01	153.01	804.37	28.45
Chhattisgarh	622.16	48.72	303.12	589.00	17.51	103.13	406.25	14.37
Karnataka	594.12	96.61	573.98	679.53	10.98	74.61	648.59	22.94
Uttar Pradesh	404.43	65.85	266.32	536.33	40.95	219.63	485.95	17.18
West Bengal	329.11	13.14	43.25	390.83	89.34	349.17	392.42	13.88
Total			1891.37			936.42	2827.79	

Source: Author's calculation based on field data.

Note: Information on the total number of ration cards in the BPL and AAY categories at the state level was provided by the state department of food and civil supplies.

The effective income gain is higher in the NFSA states than in the non-NFSA ones. It is the highest in Karnataka and Chhattisgarh at the household level since these two states provide an additional subsidy over and above the central subsidy. However, the effective income gain at the state level is the highest in Bihar. We were unable to calculate the percentage share of the states in the effective income gain of all states since the study is limited to six states. Three states—Bihar, Karnataka and Chhattisgarh—together get the lion’s share of effective income gain, 66%, out of the six states covered in the study.

4.8 Sugar and the PDS

Sugar is another important commodity distributed through the PDS at subsidised prices. However, many states have stopped allocating sugar. For example, Bihar has not distributed it for the past 10years because of high transport costs. The situation is similar in Assam. The remaining four states in the study distribute sugar among BPL and AAY cardholders.

Table 4.17: Sugar allocation and actual purchase

States	APL		BPL		AAY	
	Entitlement	Take home	Entitlement	Take home	Entitlement	Take home
Assam	No allocation	NA	No allocation		No allocation	
Bihar	No allocation	NA	No allocation		No allocation	
Chhattisgarh	No allocation	NA	1 kg	0.99	1kg	0.89
Karnataka	No allocation	NA	1 kg	0.98	1kg	1
Uttar Pradesh	No allocation	NA	0.7kg*	0.43	0.7kg*	0.41
West Bengal	No allocation	NA	0.5 kg*	0.23	0.5kg	0.25

Note: *Official allocation is based on per member per household; Source: Author’s calculation based on field level data

The official entitlement and actual purchase of sugar from the PDS is shown in Table 4.17. The purchase entitlement ratio for sugar is very high in Chhattisgarh (99%) and Karnataka (98%), while it is low in Uttar Pradesh (61%) and West Bengal (46%) for PHH/BPL cardholders. In January 2015, the Cabinet Committee on Economic Affairs (CCEA) gave states the flexibility to fix the retail price of sugar. The issue price of sugar has been kept unchanged since 2002 and it is fixed at Rs 13.50. However, the actual price paid by the beneficiaries to purchase sugar from the PDS is higher than the issue

price (Table 4.18 and Table 4.19). The extra payment ranges from 15 paise per kg for PHH households in Chhattisgarh to 84 paise per kg on average for BPL household in Uttar Pradesh.

Table 4.18: Issue price *vis-à-vis* price paid for sugar –NFSA states

State / Card Category	Sugar	
	Issue Price	Price paid
Bihar		
BPL/PHH	No allocation	
AAY	No allocation	
Chhattisgarh		
APL	No allocation	
BPL/PHH	13.5	13.65(13.50,16)
AAY	13.5	13.63(13.50,16)
Karnataka		
PHH	13.5	13.70(13.50,15.30)
AAY	13.5	13.80(13.50, 15)

Note: Price range is given in parentheses. For example, in Chhattisgarh the official PDS price of sugar for the PHH category is Rs 13.50 per kg. However, they actually pay Rs 13.65 per kg on average. The amount paid ranges from Rs 13.50 to Rs 16.

Source: Author's calculation based on field data.

Table 4.19: Issue price vis-à-vis price paid for sugar –non-NFSA states

State / Card Category	Sugar	
	Issue Price	Price paid
Assam		
APL	No allocation	
BPL	No allocation	
AAJ	No allocation	
Uttar Pradesh		
APL	No allocation	
BPL	13.5	14.34(13.50, 18.33)
AAJ	13.5	14.30(13.50,18)
West-Bengal		
APL	NA	
BPL	13.5	13.75(13.50,15)
AAJ	13.5	13.58(13.50,15)

Note: Price range is presented in parentheses. For example, in Uttar Pradesh, the official PDS price of sugar for the PHH category is Rs 13.50 per kg. However, they actually pay Rs 14.34 on average per kg. The price ranges from Rs 13.50 to Rs 18.33.

Source: Author's calculation based on field data.

We also estimated the welfare effect of subsidised sugar purchase on household income. This is reported as an implicit subsidy or implicit income transfer. The amount of implicit subsidy per head per month for sugar is Rs 4 in Chhattisgarh and Karnataka, while it is Rs 11 and Rs 16 in Uttar Pradesh and West Bengal, respectively, for the PHH/BPL category.

Chapter 5

Service delivery mechanism in PDS

5.1 Background

Fair price shops (FPSs) play a significant role in the service delivery mechanism of the PDS. It is the last leg of the supply chain and deals with beneficiaries directly. In other words, the FPS is the face of the PDS for beneficiaries. In this chapter, we provide a qualitative assessment of FPS functioning from the beneficiaries' perspective. Such feedback is important to improve the efficiency of the supply chain. Eligible beneficiaries need ration cards as identity proof to withdraw PDS commodities from an FPS. The cards are issued by the government at a token fee of Re.1. The beneficiaries, who are often uneducated and for whom the food security programme is implemented, lack awareness of their rights. In the nineties, there were incidents where poor beneficiaries were forced to keep their ration cards with the FPS dealers. However, the situation improved over time because of NGOs, media campaigns, initiatives by the government, etc. From our field survey, it appears that 94% to 100% respondents in all the states, except Bihar, keep their ration cards with themselves. In Bihar, ration cards are with the beneficiaries in 87% of the cases, while 8% of beneficiary cards are with the ration dealers. Of the total respondents 5% get their ration based on their name in the list with the dealer. The process of card cancellation and the issuance of new cards were being carried out during the period of the field survey in Bihar. Therefore, many genuinely poor people did not possess any ration card during that period. Eligible beneficiaries even have to spend extra money to get a new ration card. The average cost incurred in getting a ration card is higher in Karnataka than in Bihar, Uttar Pradesh, West Bengal and Assam. One BPL/PHH card in rural Karnataka costs Rs.118 *vis-à-vis* Rs. 23, Rs. 14, Rs. 54 and, Rs. 61 in rural Bihar, rural Uttar Pradesh, rural West Bengal and rural Assam, respectively. In Assam and Karnataka, people have paid as much as Rs 3,000 and Rs 2,000, respectively, to get a BPL/PHH card. Chhattisgarh is the only state where the average cost of getting a new BPL card is almost insignificant. The total cost of a new card includes the bribe and agent charges in addition to travel time and lost wages.

5.2 Food grain distribution and FPS

Beneficiaries collect PDS commodities on designated days in a month from the FPS. Commodities under the PDS are distributed on a monthly basis in all the states covered in the study except in West Bengal, which has been following a system of weekly distribution for a long time. Usually, FPSs distribute food grains at the beginning of the month depending on the supply from the FCI go down or wholesale dealer. If the dealer does not receive supplies on time, or if there is a time lag in getting supplies, distribution from the FPS also gets delayed. Ideally, the FPS dealer should inform the beneficiaries of any change in the days or timing of distribution through personal visits in villages or by phone in urban areas. In many villages, beneficiaries come to know about the day of commodity distribution from neighbours. In other words, information about the day of distribution or availability of food grains at the FPS spreads mainly by word of mouth. We elicited views on the functioning of FPSs through a set of qualitative questions in our household schedule. The results are reported in Tables 5.1 and 5.2.

Table 5.1: FPS functioning: Qualitative assessment by beneficiaries – Part 1 (in %)

	Assam			Bihar			Chhattisgarh			Karnataka			Uttar Pradesh			West Bengal		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Did not receive full quota of food grains (in last six months)																		
Never	95.76	94.47	95.57	88.59	89.39	88.50	99.95	98.11	99.63	90.93	70.37	84.70	97.69	98.71	97.72	70.13	96.80	77.64
1-2 months	1.21	5.40	1.82	8.09	7.98	8.55	0.05	1.26	0.26	2.64	4.76	3.28	1.52	0.98	1.50	11.08	1.43	8.36
3-5 months	0.92	0.00	0.78	3.31	3.15	3.15	0.00	0.00	0.00	0.34	1.77	0.77	0.50	0.19	0.47	3.42	0.20	2.52
> 5 months	2.12	0.13	1.82	0.00	0.00	0.00	0.00	0.63	0.11	6.10	23.10	11.25	0.31	0.10	0.30	15.37	1.57	11.48
Number of working days in the ration shop is adequate (yes)																		
	98.73	91.75	97.70	97.63	96.16	97.46	88.21	94.89	89.37	73.35	83.85	76.24	75.00	74.00	75.00	90.68	98.09	92.76
Aware of opening and closing times of ration shop (yes)																		
	95.93	95.01	95.79	89.32	86.65	89.03	98.24	100.0	98.55	82.38	86.50	83.52	89.00	97.00	91.00	96.44	89.50	94.49
Ration shop in general is open in a day for																		
Less than three hours	0.71	0.97	0.74	0.44	0.96	0.50	3.53	0.00	2.92	1.36	0.25	1.06	1.14	1.45	1.21	15.81	1.82	11.87
3-5 hours	34.20	29.91	33.56	31.74	33.30	31.92	6.26	56.23	14.97	26.50	23.40	25.72	12.16	10.99	11.89	26.03	18.60	23.93
More than 5 hours	65.10	69.13	65.69	67.82	65.74	67.59	89.93	43.77	81.89	71.01	76.27	72.46	86.70	87.56	86.89	58.16	79.59	64.19
Don't know	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.23	1.03	0.07	0.77	0.00	0.00	0.00	0.00	0.00	0.00
Display board providing information on availability of PDS items (yes)																		
	46.60	77.80	51.21	88.83	94.23	89.43	83.66	73.22	81.84	40.73	58.29	45.56	70.00	78.00	72.00	90.87	98.45	93.00
Display board providing information on prices of PDS items (yes)																		
	38.05	78.76	44.07	88.27	90.04	88.46	83.30	66.32	80.34	39.41	52.84	43.10	68.00	65.00	68.00	91.47	97.57	93.18
Display board in local language																		
	45.51	53.63	46.71	95.81	93.39	95.55	84.49	73.38	82.55	57.92	72.89	62.01	77.00	83.00	78.00	95.15	99.06	96.25

Contd.....

Contd.....Table 5.1: FPS functioning: Qualitative assessment by beneficiaries – Part 1 (in %)

	Assam			Bihar			Chhattisgarh			Karnataka			Uttar Pradesh			West Bengal		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Level of satisfaction with the timings of distribution of food grains at PDS																		
Very dissatisfied	0.07	0.00	0.06	2.00	1.99	2.00	0.37	1.08	0.49	0.43	2.56	1.02	4.56	4.86	4.63	5.74	5.74	5.74
Dissatisfied	0.77	0.80	0.77	2.12	2.77	2.20	14.44	23.31	15.99	11.38	5.84	9.86	14.92	8.29	13.41	8.24	1.51	6.35
Neutral	7.80	8.51	7.90	44.29	26.20	42.29	3.98	13.64	5.67	11.03	6.20	9.70	10.40	13.67	11.15	0.56	0.81	0.63
Satisfied	89.92	88.39	89.70	47.77	66.50	49.84	81.21	61.64	77.80	71.97	81.37	74.56	67.14	70.89	68.00	82.37	84.69	83.02
Very satisfied	1.44	2.30	1.57	3.82	2.54	3.68	0.00	0.34	0.06	5.19	4.03	4.87	2.98	2.30	2.82	3.08	7.24	4.25

Source: Author's calculation based on field data.

It is important for beneficiaries to have correct information about the working days and hours of fair price shops. We collected information on the level of satisfaction about the timings of FPSs on a five-point scale. The level of satisfaction ranged from 53% in Bihar to 91% in Assam. In general, respondents are aware of the opening and closing times of ration shops. There were not many complaints regarding the operating hours of FPSs in any of the states. A considerable proportion of shops in all states were open for more than five hours on the days of distribution. The PDS Control Order 2001 (GOI 2001) clearly states that every FPS should maintain a display board outside the shop containing information on the availability of commodities and the issue price. Dealers are also encouraged to display the information in the local language. Several respondents from West Bengal and Bihar said that there are display boards containing information on the availability of food grains and prices, but the quota of food grains is not always mentioned on the display board. According to respondents, the availability of such information is quite low in Karnataka, Assam and Uttar Pradesh. For example, in Tumkur district in Karnataka it was noticed that most FPSs did not have display boards in front. If there were display boards, they are incomplete or not up-to-date, which undermines the transparency objective of the scheme. Beneficiaries' awareness about food grain entitlement and the issue price varies across states. In Assam, a significantly high proportion of beneficiaries believed that they received their full quota of grain during the past six months, but this was based on their perceptions. In reality, we found during our Focus Group Discussions and field visits that beneficiaries in Assam had low awareness about their entitled quota of food grains under the PDS. Some beneficiaries complained about dishonest FPS dealers in several areas of Assam. For example, some of the more aware respondents from Cachar district in Assam said that they never get their full quota of grain because FPS dealers deduct 3–4 kg per card. The dealers admitted this was true; they justified this deduction as the cost of transport from the godown to the shop, which was never reimbursed by the government. A similar situation was observed in Bongaigaon district of Assam. This means that dealers distribute 32–33 kg food grain per card at the cost of 35 kg food grain. There are several instances across Assam where ignorant beneficiaries pay extra money and receive less than their full quota of food grains as observed during our field visits. Chhattisgarh has shown high awareness of PDS entitlement and price among beneficiaries for a long time

because it is a best performer state in PDS. At the same time, such awareness has increased significantly in Bihar as a reviving state in PDS since 2011–12. The main problem in this state was the time lag in the distribution of food grains. Usually, there is a gap of one month. For example, the quota for September is distributed in October. If the FPS dealer is dishonest, he may not distribute the requisite quota every month.

The awareness about entitlement is low in Uttar Pradesh and West Bengal although beneficiaries believe that they usually get the full quota from the FPS. FPS dealers in Saharanpur district in Uttar Pradesh charge, on average, Re.1 extra per kg from beneficiaries to adjust for the cost of transport. In Sitapur district in Uttar Pradesh, food grains are supposed to be distributed on the 8th and 9th of every month. If villagers fail to collect their rations on the designated date, FPS dealers refuse to provide the rations on another date. Also, beneficiaries in general receive 2 kg less than their quota; FPS dealers openly admit that they deduct the amount to compensate for transport costs and loss in storage. AAY families at times have to pay Rs 5 extra per transaction. There is no display board outside the ration shops. In some parts of Allahabad in eastern Uttar Pradesh, ration shops are often opened on random dates and times, so that the dealers can later accuse beneficiaries of not coming to collect food grains when the shops were open, or claim that the month's stock had been sold out and they were distributing food grains from the next month's quota. In this manner, beneficiaries are swindled out of a month's quota by FPSs. There were a few instances in the villages of Uttar Pradesh when people either did not go to buy food grains from the ration shops or were persuaded by dealers not to buy during the harvest season on the promise that beneficiaries could buy that quota when the harvest season ended. But dealers would come up with excuses later to not supply the entitled quantity, and beneficiaries finally gave up on receiving it.

Table 5.2: FPS functioning: Perspective of beneficiaries – Part 2 (in %)

	Assam			Bihar			Chhattisgarh			Karnataka			Uttar Pradesh			West Bengal		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Distance of ration shop from home																		
Less than 1 km	88.04	92.51	88.7	76.5	92.24	78.24	30.96	68.5	37.51	45.85	48.57	46.6	74.32	83.53	76.42	79.91	97.23	84.79
1km– 3 km	2.75	2.68	2.74	13.43	7.22	12.8	69	31.5	62.46	34.57	46.82	37.9	22.84	15.92	21.26	18.68	2.46	14.11
3km–5km	8.58	4.81	8.02	9.49	0.54	8.5	0.04	0	0.03	13.07	4.61	10.75	2.47	0.56	2.03	1.4	0.31	1.09
>5km	0.63	0	0.54	0.57	0	0.5	0	0	0	6.5	0	4.72	0.37	0	0.28	0.01	0	0.01
Transaction time at the ration shop																		
<10 minutes	22.52	23.52	22.67	10.83	7.88	10.51	43.9	43.56	43.84	3.88	7.63	4.91	4.39	2.64	3.99	9.26	35.51	16.65
10–30 minutes	57.39	67.54	58.89	82.76	86.98	83.23	48.18	45.87	47.77	18.2	20.31	18.78	31.84	34.46	32.44	77.87	60.09	72.87
31–60 minutes	19.54	8.94	17.97	5.14	5.14	5.14	7.21	10.57	7.8	35.54	30	34.02	42.09	35.53	40.59	8.13	3.28	6.76
>60 minutes	0.55	0	0.47	1.27	.	1.13	0.71	0	0.59	42.38	42.06	42.29	21.68	27.37	22.98	4.74	1.13	3.72
Conduct of FPS shop owner: polite and helpful																		
	93.5	77.7	91.16	95.36	96.01	95.43	47.98	79.86	53.54	95.06	91.56	94.1	64.89	67.27	65.43	95.35	92	94.41

Source: Author's calculation based on field data.

We collected information on the location of FPSs and the transaction time for the beneficiaries at the FPS since these are two essential parameters in evaluating the performance of FPS. There is no specific order about location in the control order, but, ideally, the FPS should be located in the central area of the village, so that it is accessible to everyone. The location of a fair price shop in the village is usually decided by the gram panchayat. The average distance of the ration shop from beneficiaries' homes in most cases was less than one km in all states except Chhattisgarh, where the average distance is 1–3 km (Table 5.2). The transaction time at the ration shop includes the time a beneficiary is required to wait in the queue plus the travel time. The average transaction time is 10–30 minutes according to the majority of respondents in Assam, Bihar, Chhattisgarh and West Bengal. Many of the respondents in Karnataka and Uttar Pradesh said that it took half an hour to one hour to complete a transaction at the FPS.

Since FPS dealers play a crucial role in the PDS process, it is important to know how they deal with beneficiaries. Although we received positive feedback that dealers in general are polite and helpful, the scenario is not the same everywhere. A considerably lower proportion of respondents in Uttar Pradesh agreed that FPS owners were helpful and polite than the proportion in other states. Respondents from Bhagalpur district in Bihar complained about the behaviour of dealers. They did not get the appropriate quota every month and availability was irregular.

Table 5.3: Feedback on quality of food grains at FPS (in %)

	Assam			Bihar			Chhattisgarh			Karnataka			Uttar Pradesh			West Bengal		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Level of satisfaction with the quality of food grains supplied at the ration shop																		
Very dissatisfied	0	0	0	0.25	0	0.23	4.76	1.38	4.17	3.72	9.5	5.3	3.23	3.79	3.36	4.39	11.7	6.45
Dissatisfied	6.17	11.7	6.99	0.12	0.92	0.21	43.4	26.1	40.4	43.3	38.5	42	13.8	17.4	14.6	53.9	46	51.6
Neutral	0.89	3.87	1.33	20.4	22.4	20.6	11.1	13.3	11.5	9.7	4.37	8.24	15.9	13.5	15.4	5.03	4.44	4.86
Satisfied	91.8	79.6	90	77.2	74.5	76.9	39.7	59.3	43.1	39.8	41.9	40.4	64.2	63.4	64	36.4	37.8	36.8
Very satisfied	1.12	4.81	1.67	2.1	2.13	2.1	1.07	0	0.89	3.53	5.65	4.11	2.85	1.98	2.65	0.32	0.09	0.26
Reasons for dissatisfaction with quality of food grains supplied at FPS																		
Presence of foreign particles	27.9	11.1	23.4	12.4	12.8	12.5	7.39	21.3	9	19.9	19.1	20.3	14	15	16	23.1	24.6	23.5
Rotten	12.6	11.1	12.2	12	12.8	12.2	1.41	3.5	1.65	9.55	9.25	9.82	5	6	6	5.58	2.33	4.7
Broken grains	1.01	0	0.74	29.2	5.89	22.4	32.5	25.7	31.7	19	19.1	19.9	19	18	18	16.7	28.3	19.8
Insect-infested supply	0	0	0	21.7	17	20.3	0.22	11.9	1.57	13.9	13.1	14	15	15	14	14.7	18.2	15.6
Colour is not good	29.3	33.3	30.3	0.42	26.1	7.91	0.67	2.35	0.86	14.4	14.8	15	10	11	10	15.3	10.6	14
Taste is not good	15.3	22.2	17.2	16.1	25.5	18.9	31.6	21.4	30.4	16.5	17.7	18	30	28	29	11.1	10.9	11
Foul smell	13.3	22.2	15.7	7.82	0	5.53	0.67	0	0.59	5.29	5.37	5.6	2	2	2	12.9	4.75	10.7
High moisture content	0.64	0	0.47	0.42	0	0.3	25.5	13.9	24.2	1.51	1.63	1.6	5	6	5	0.74	0.29	0.62
Sample of food grains to be distributed displayed at the ration shop																		
	7.51	24.2	9.97	20.6	23.6	20.9	66.3	30.8	60.1	36.1	60.3	42.7	2.49	1.11	2.18	42.8	89.7	56
Quality of food grains distributed is the same as sample displayed																		
	62.1	68.1	64.3	19.2	23.5	19.7	100	99.7	100	34.8	59.7	41.6	2.06	0.13	1.62	97.6	95.2	96.5
Local variety of grains different from PDS variety																		
	83	87.7	83.7	50.3	49	50.2	67.6	60.2	66.3	72.7	71.9	72.5	68.3	61.9	66.8	99.7	99.8	99.7
Prefer local market variety over PDS variety																		

Source: Author's calculation based on field data.

The quality of food grains received from FPSs varies across states. The quality of rice is more of a concern than wheat. In the 1980s and 1990s, beneficiaries used to complain about the poor quality of rice from the PDS and it was generally accepted that the quality was poor because it was subsidised. The situation has improved over time. We have presented the feedback on quality-related aspects of food grain in Table 5.3. We did not ask for separate feedback on rice and wheat. Therefore, the responses should be considered as a combined response for rice and wheat. The major reasons for dissatisfaction with the quality of food grains supplied at FPSs included the presence of foreign particles, broken grain, insect-infested grain and bad taste across all six states. Our field team observed poor quality of storage of grain in a few shops in Uttar Pradesh and Chhattisgarh.

Beneficiaries dissatisfied with the quality of food grain in Purnia district in Bihar said that two different qualities of rice were available at the FPS: fine quality and inferior quality, which is rice mixed with *kankar* and foreign particles. FPS dealers charge two different prices for the two varieties of rice. Although rice should cost Rs 3 per kg in the FPS, the beneficiaries at times have to pay Rs 5 per kg to purchase fine quality rice. According to respondents, the quality of wheat is also not up to the mark.

According to the control order of PDS 2001 (GOI 2001), a sample of food grains to be distributed should be kept in all FPSs for beneficiaries to check. However, this is rarely done. Even FPS shop owners were surprised at this question in some villages in the eastern part of Uttar Pradesh. Only one per cent of the respondents said that samples of the grain to be distributed are displayed at the FPSs in rural Uttar Pradesh. Bihar and Assam suffered from the same problem. The situation was better in Karnataka and Chhattisgarh, the good performer states in PDS. If respondents said that sample grain was displayed at the FPS, the follow-up question was whether the quality of grain distributed was similar to the quality of sample grain displayed at the FPS. Respondents from Chhattisgarh said that the quality of the grain displayed and the grain distributed were the same. However, the answer was not the same in Karnataka.

A significant proportion of respondents in all six states said that the variety of food grains, especially rice, distributed through the PDS was significantly different from the

rice sold in the open market. In response to a further query during field visits, beneficiaries said that they thought that the question about the variety of PDS grain was about its quality. For example, in Kanker town in Chhattisgarh, women participants of the FGD said that the rice distributed through the PDS is soggy and sometimes smelt foul. Participants of the FGD in North 24 Parganas district of West Bengal mentioned that they get par-boiled rice (“siddhochawal”) from the PDS, which takes a long time to cook. In Sitapur district of Uttar Pradesh, respondents mentioned that the rice from the PDS contained moisture (“bhejachawal”). In Karnataka, the quality of Sona Masur rice in the open market is different from that distributed under the PDS. In Cachar district of Assam, beneficiaries said that they do not have complaints about the quality of rice. However, the quality of atta distributed among APL families was poor, so they purchased atta from the open market. All respondents across all states indicated that the quality of food grains available in the PDS was somewhat inferior to that available in the open market (but not completely inedible) and, thus, the variety was also considered different. They had to accept the PDS variety since the grain is cheaper. Beneficiaries in several cases preferred the variety of food grains available in the open market given the available choices.

Table 5.4: Role of PDS in mitigating hunger (in %)

	Assam			Bihar			Chhattisgarh			Karnataka			Uttar Pradesh			West Bengal		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Importance of PDS to cover family needs																		
Not at all important	0.07	0.00	0.06	4.03	7.09	4.37	2.63	3.18	2.73	1.36	4.41	2.27	4.95	10.96	6.33	5.65	0.52	4.21
Somewhat important	2.04	0.00	1.74	7.65	12.49	8.18	5.48	8.74	6.05	3.90	2.23	3.40	23.13	21.13	22.67	33.62	27.42	31.88
Neutral	6.05	0.00	5.16	22.49	13.02	21.44	22.61	8.88	20.22	1.63	1.28	1.53	11.92	18.10	13.33	7.78	2.26	6.22
Important	60.32	83.71	63.78	43.44	41.27	43.20	65.36	46.92	62.15	27.36	31.95	28.73	45.72	37.23	43.78	37.35	48.90	40.60
Very important	31.51	16.29	29.26	22.38	26.12	22.80	3.91	32.28	8.85	65.75	60.13	64.07	14.28	12.58	13.89	15.60	20.90	17.09

Source: Author's calculation based on field data.

Beneficiaries gave mixed feedback on various aspects of the functioning of the PDS. However, they unanimously agreed that the PDS is important to cover their food grain requirements. We have presented the feedback from beneficiaries on this aspect on a five-point scale in Table 5.4. Poor beneficiaries said that the food subsidy should not be reduced since this would make it difficult for them to feed their families. In Nawada district of Bihar, all women participants of FGDs said that grains at subsidised price from the PDS were extremely important to feed the family; most beneficiaries in that district are landless labourers. Surprisingly, in Tumkur district in Karnataka, beneficiaries said that they did not want food grains at such a cheap rate. Rice and wheat in Karnataka is sold in the PDS at Rs 1 per kg, but some beneficiaries would prefer the government to spend that amount on sponsoring skill development programmes so that the employability of the marginalised sections of society could be improved.

Chapter 6

Performance evaluation of the Public Distribution System

6.1 Background

The TPDS was introduced in 1997 as a revamped food security programme in India, replacing the almost universal PDS. The main aim was to identify people below the poverty line and provide food grains at subsidised prices to them across the country. However, from the beginning of the programme, it faced criticism from academics and policy practitioners. The two major criticisms were: (i) wrong identification of target households, the prevalence of ghost cards and unidentified households and (ii) the huge leakage of food grains along with poor accessibility, malpractices in the supply chain, etc. For higher coverage of the poor and to curb leakages from the supply chain, the NFSA was implemented in India in 2013 as a modified measure of TPDS. Since 2013, a few states have already implemented the NFSA, while the rest are still in transition. This chapter provides a detailed analysis of the system evaluation of PDS in the six selected states under study. The two broad parameters of the system evaluation are: (i) measuring implementation and identification errors, and (ii) estimating the extent of leakage of food grains.

6.2 Identification errors in PDS

Successful implementation of a government programme depends on appropriate targeting of beneficiaries. The identification of poor households for the TDPS was a challenging task. Targeting errors arise due to misclassification or non-classification of poor households. The state of poverty is dynamic. Therefore, it is difficult to select the parameters by which a household can be identified as poor. The Government of India uses criteria such as income, expenditure, land holding and ownership of assets to identify the target households. Three rounds of the BPL census were conducted until 2007—in 1997, 2002 and 2007. States also used their own criteria at times to categorise the poor depending on local economic conditions.

There has been a transition in the PDS mechanism from general entitlement under the TPDS to food as a legal right under the NFSA in 2013. The poor have been re-identified following state-specific identification criteria. Three states covered under the study —

Bihar, Chhattisgarh and Karnataka —switched from the TPDS to the NFSA in 2013. Of these three states, Bihar adopted the NFSA fully in March 2014, while Karnataka and Chhattisgarh have implemented the NFSA partially under the names ‘Anna Bhagya Yojna’ and ‘Chhattisgarh Food Security Act (CGFSA)’ respectively. Karnataka implemented the NFSA in July 2013 and Chhattisgarh implemented it from September 2013. These two states have adopted the criteria proposed by expert committees appointed at the state level to identify the poor. The new categorisation of priority households (PHH) under the NFSA includes families below the poverty line and a proportion of families that previously belonged to the APL category. Bihar has identified PHH following the state-specific identification survey conducted in 2011–12. The identification criteria are broader than the criterion of income/expenditure followed in the previous BPL censuses conducted in 1992 and 1997. The identification mechanism focuses on automatic inclusion criteria such as households without shelter, destitute living on alms, manual scavengers, etc. Ownership of land, durable goods, vehicles are also considered as exclusion criteria in addition to an income cut-off at the national level. Chhattisgarh, under the Chhattisgarh Food Security Act (CGFSA), 2012, targeted landless labourers, small and marginal farmers in rural areas and people associated with the informal sector, especially construction workers in urban areas, in addition to the other state-specific identification criteria. Karnataka, under Anna Bhagya Yojna (2012), has clearly defined exclusion criterion with 14 points for appropriate targeting of PHH families. These points covered families assessed for income taxes, having government servants of any class or cadre or government undertakings or autonomous bodies or boards, etc., among other criteria. Three states —Assam, Uttar Pradesh and West Bengal —are yet to switch to NFSA and, still follow the TPDS mechanism.

Box: 6.1: The Chhattisgarh Experience



Chhattisgarh has distributed new cards among PHH families. However, a large proportion of the cards issued were bogus, according to state officials. To rectify the error, a move to cancel fake ration cards known as ‘Satyarpan’ took place in July–August, 2014 before the state assembly elections. During our visit to Kanker district in December 2014, we found that the cancellation process was to some extent faulty and politically motivated. FPS dealers and local residents hinted that cards were cancelled on an *ad hoc* basis rather than on proper criteria. Several owners of the cancelled cards were deserving families who should have been brought within the ambit of the programme. Interestingly, a proportion of cancelled cards were returned to beneficiaries after the elections, subject to the submission of an application form along with a copy of identity proof. A few complained that people with strong connections with local political parties got back their cards, while some genuine beneficiaries did not get their cards back.

The PHH card of Surinder Kumar (name changed) was cancelled in the process. He was in his late seventies with a sick wife and a son. He does not have a regular source of income and is not even enrolled for any senior citizen pension scheme. According to Mr. Kumar, his card was cancelled by mistake on the grounds that his son is in government service. In reality, his son works as a contract labourer with a daily wage of less than Rs 50. Subsidised grain from the PDS is extremely important to sustain his family. He has submitted his application to get his card back. He has requested the local FPS dealer and members of the local urban body to restore his card but to little effect

Under a Chhattisgarh state scheme for senior citizens, a single-person household holding a green card is supposed to receive 10kg rice free of cost. There are two issues observed in this regard. FPS dealers in many cases may not have a separate list for this group. Identification, therefore, becomes problematic. Although state rules allow FPSs to provide them with less grain free of cost, in many cases such senior citizens received 35kg grain at the rate of Re.1 per kg. Since 35kg is more than the requirement for a single-person household, we cannot ignore the possibility that PDS grain is sold in the open market in these cases.

Several studies have estimated targeting errors for different states. Swaminathan and Misra (2001) found a large number of wrong exclusions based on the size of landholding, type of house and ownership of assets during a field study of Maharashtra villages. In a study of six villages in Gujarat, 34% of the respondents were wrongly included, based on a list of consumer durables (Hirway 2003). A nationwide study by the Planning Commission in 2004–05 (GOI 2005) revealed significant exclusion errors in Assam, Bihar, Uttar Pradesh, West Bengal and Karnataka. Out of 400 randomly selected households from eight villages in Rajasthan, 44% of households were wrongly excluded while a quarter had been wrongly included (Khera 2008). Other studies have criticised the identification exercise on the grounds of corruption, low data quality and coverage, imprecise scoring methods and poor survey design (Sundaram 2003; Jain 2004; Saxena 2009). Some studies suggest that the situation has been gradually improving and the food security needs of poor households are still primarily served by the TPDS (Aggarwal 2011).

Our current evaluation study aims to determine the effectiveness of reform measures undertaken in the selected states to reduce targeting errors. The introduction of the NFSA makes it even more imperative to assess whether the current methodology of identification is adequate, or whether there is a need to revamp the identification exercise with a more dynamic, need-based and unbiased approach to achieve the goal of the NFSA. To assess the extent of identification errors, we compared the number of ration cards that should have been distributed (RC_{ideal}) and the total number of ration cards actually distributed (RC_{actual}) using state-level secondary data (Table 6.1). If $RC_{actual} > RC_{ideal}$, fake cards have been issued in the system. There are unidentified households if $RC_{ideal} > RC_{actual}$. We projected the total number of households from Census 2011–12, while information on the exact number of ration cardholders across three categories of ration cards was provided by the department of food and public distribution of the respective states. We estimated the aggregate number of fake ration cardholder households or unidentified households with the following caveat. The method of defining household differs in the census and in the distribution of ration cards. Therefore, there may be a scope of over or underestimation in these estimates. Except for Assam, the number of fake cards is fairly high in the other five states, especially in Uttar Pradesh.

Table 6.1: State-wise total number of households and total number of ration cards circulated (in lakh)

States	Estimated total households (2015)*	Total BPL/ PHH cards issued**	Total AAY cards issued**	Total APL cards issued**	Total cards issued**	Excess cards issued	Unidentified households
Assam	66.95	12.02	7.04	38.62	57.68		9.27
Bihar	201.76	142.11	25.01	68.56	235.68	33.92	
Chhattisgarh	59.89	48.72	17.51	4.5	70.73	10.84	
Karnataka	138.96	96.61	10.98	33.52	141.11	2.15	
Uttar Pradesh	351.11	65.85	40.95	342.71	449.5	98.39	
West Bengal	211.19	40.11	17.37	134.32	236.8	19.39	

Source: *Estimated from Census 2011-12.

** Information provided by the Department of Food and Civil Supplies in six states.

Note: Column 7 and Column 8 is the difference between Column 2 and Column 6.

In West Bengal, the ration card is distributed to individuals. We have divided the number of individual cardholders by the average family size to get the number of households in a particular card category.

There may be overestimation in the figures for fake cards in our calculation, because family splits have increased in states like Uttar Pradesh during the past three to four years to avail of subsidised PDS food grain at the household level. Such incidents can be avoided if allocation of food grain is based on the size of the household instead of considering one household as one unit. However, Table 6.1 clearly indicates that there is significant incongruity between the number of households and number of ration cardholder families. This type of mismatch implies the presence of identification errors in the system. We used the analytical framework developed by Cornia and Stewart (1993) to estimate the percentage of identification error in six states. Identification error or programme implementation error is mainly captured through inclusion errors and exclusion errors. The major classification mistakes under the PDS are explained in Table 6.2 through a classification matrix.

Table 6.2 Classification Matrix: E and F** Mistakes in Public Distribution System**

	Poor	Non-Poor	
All covered by PDS	P ^C	NP ^C	N ^C
		[E mistakes]	
All non-covered by PDS	P ^{nc}	NP ^{nc}	N ^{nc}
	[F mistakes]		
Total	P	NP	N

Source: Adapted from Cornia and Stewart (1993).

Where, P^C = Poor covered by PDS; NP^C = Non-poor covered by PDS; P^{nc}= Poor not covered by PDS; NP^{nc}= Non-poor not covered by PDS;

$$P + NP = N^C + N^{nc} = P^C + P^{nc} + NP^C + NP^{nc} = N$$

E mistake: Error due to excessive coverage or inclusion error or Type II error

F mistake: Error due to failure to cover target group or exclusion error or Type I error

If there is no mis-targeting, P^C+ NP^{nc} = N. If there is 100% wrong targeting, NP^C+ P^{nc} = N

In other words, exclusion error or Type 1 error is defined as the number of eligible households not included within the programme out of the total population of the poor. It measures how far a government scheme like the PDS fails to cover the target group. Inclusion error or Type II error measures the number of households wrongly included in the programme out of the total number of non-poor households. It indicates the inefficiency of the programme in identifying the right group of beneficiaries. This type of error occurs due to excessive coverage or leakage in the programme, leading to extra cost. We estimated both exclusion and inclusion errors for the six states under two scenarios. Scenario 1 reports the estimated error using state-specific criteria for the NFSA states of Bihar, Chhattisgarh and Karnataka and using the Socio Economic and Caste Census (SECC), 2011 criteria for the other three states, i.e., Assam, Uttar Pradesh and West Bengal. The SECC was conducted in 2012 as the basis for identification under the NFSA. However, the Department of Food Production and Distribution (DOFPD) has clarified that under the NFSA the, criteria for identification of eligible households is to be evolved by states/UTS. Therefore, states/UTS are free to use SECC or any other data for identification under NFSA. Under Scenario 2, the implementation error was estimated using the Planning Commission poverty line based on per capita expenditure projected for the year 2014–15. Among the three states following the TPDS, Uttar

Pradesh and Assam used the income criterion to identify poor households. In Assam, if a family earns less than Rs. 15,000 per year, they would be considered under the BPL category. The income cut-off in rural and urban Uttar Pradesh is Rs 19,884 and Rs. 25,546, respectively, per family per year. Although we collected information on income, it is not a very reliable measure to estimate identification errors. Therefore, we used the Planning Commission poverty line estimated at per capita expenditure per month at the state level following the Tendulkar methodology for 2011–12 and projected it for the year 2014–15.

The identification error under the two scenarios was estimated in order to provide a broad comparison between the performance of the TPDS and the NFSA in six states, although we may not be able to do a robustness check of such findings due to data limitation. The estimates of the implementation error are reported in Table 6.3.

Table 6.3 Estimates of Implementation error (in %)

State	Scenario 1		Scenerio2	
	State-specific criteria/SECC under NFSA*		Planning Commission poverty line	
	E- Mistake (Inclusion Error)	F-Mistake (Exclusion Error)	E- Mistake (Inclusion Error)	F-Mistake (Exclusion Error)
	<i>Type 2 Error</i>	<i>Type I Error</i>	<i>Type 2 Error</i>	<i>Type I Error</i>
Assam	16.26	27.14	28.49	70.84
Bihar	18.38	30.45	27.74	52.31
Chhattisgarh	22.09	1.93	19.51	54.97
Karnataka	31.24	16.02	27.07	52.66
Uttar Pradesh	21.61	36.49	22.16	63.12
West Bengal	20.45	26.78	46.6	29.77

Source: Author's calculation based on field data. *Note:* *We used state-specific identification criteria to calculate identification errors under Scenario 1 for Bihar, Chhattisgarh and Karnataka, and SECC criteria for Assam, Uttar Pradesh and West Bengal. For the second set of states, the error estimated under Scenario 1 is hypothetical since these states are yet to switch to the NFSA. Figures in bold show inclusion and exclusion errors for the six states.

The relevant figures of inclusion and exclusion errors for the six states are given in bold. For NFSA states, Scenario 1 would be applicable, while for non-NFSA states Scenario 2 would be relevant. For example, in Bihar the exclusion error is 30.45% while the inclusion error is 18.38%. Compared to the other two NFSA states, the Type I error is quite high in Bihar. As we have mentioned before, our fieldwork in Bihar was conducted during a transition phase. Bihar had distributed new ration cards in a hurry to implement the NFSA on time in 2013. This resulted in huge levels of misidentification.

To rectify the error, the state cancelled many cards in 2014 and took up an initiative to redistribute cards. This may have caused the high exclusion error. The process of cancellation in Bihar may not be fool proof. During our field visit in East Champaran and Purnia, there were some complaints about malpractice. Some families received a PHH card in which the names of all family members had not been included. According to beneficiaries, there are several instances of eligible people being excluded in the process.

On the other hand, Chhattisgarh, as the best performing state, has the lowest exclusion error, but the inclusion error is quite high. Conversations with state officials and our field visits revealed that a huge number of fake cards were issued at the time of implementing the CGFSA. Although Chhattisgarh cancelled a good proportion of fake cards before the state assembly election in 2014, the rectification of errors is still in process. The highest inclusion error was observed in Karnataka among the three NFSA states considered in the study. Our field team observed that getting a BPL/PHH card in all these three states depends not only on the state-specific identification criteria but also on political connections and money.

BOX 6.2 Case study from Karnataka

Amina Biwi (name changed) paid Rs. 500 to get a new card. During a one-and-a-half month period, she spent Rs 500 on the application process. She had to go the office four times. She had to pay the computer operator Rs 300 at the biometric centre to feed in the biometric information of her family members. The food officer took Rs 100 for authenticating her thumb impression.

Of the three non-NFSA states—Uttar Pradesh, Assam and West Bengal—the exclusion error is significantly high in Assam and Uttar Pradesh. These states stopped issuing new BPL cards some time ago. In Assam, the last BPL survey was conducted in 2002. Although the state has started to issue new BPL cards after revising the income criterion, it follows an *ad hoc* system. According to state officials in Uttar Pradesh, ration cards are renewed every five years. This exercise was last carried out in 2005 and took over a year to be completed. Panchayat or village council secretaries play an important role at the time of identification of new BPL families as well as the renewal of a BPL card. There were innumerable complaints even after the completion of the renewal process in 2005. The state department of food ordered a survey for new ration cards in 2012 through the district supply offices. The proposal included digitisation of records

along with maintenance of an online database of ration cardholders. State officials claimed that the survey has been conducted and that new ration cards were ready to be distributed. However, until April 2015, no action had been taken.

In some villages in Sitapur district of Uttar Pradesh, the head of the village council (panchayat pradhan) is the sole decision-maker about the type of card to be issued to beneficiary families. Local villagers complained to our field team that many of the rich, who voted in favour of the gram pradhan during the panchayat elections, received BPL and AAY cards even though they were not eligible for those cards. The poor and the needy, who did not vote for him, were deprived of the cards. In one village in Sitapur, 72 BPL cards were lost by the FPS dealer. Caste, religion and political connections play a major role in getting BPL cards in Uttar Pradesh.

In West Bengal too, the last BPL survey was conducted in 2002. It was revised in 2007 and it was decided that if a family had less than a cut-off score of 32 based on many criteria listed in the 2002 BPL census, it would be considered as a BPL family. However, we received several complaints during the FGDs in the four districts covered in the survey regarding the issuance of new cards. According to FGD participants, only APL cards have been issued at present. Many genuinely poor families have been given APL cards and are deprived of the benefits under the PDS.

We expect that the situation in Assam, Uttar Pradesh and West Bengal will improve once they start following SECC criteria or state-specific criteria based on the local situation to correctly identify BPL households.

6.3 Leakages in the PDS

Leakage of food grains from the supply chain at various levels is a major concern related to the functioning of the TPDS in India. As a result, poor beneficiaries are deprived of their due and full potential of the PDS programme is not realised yet. The scale of diversion and leakage varies over time and from one state to another. A Planning Commission study conducted in 2004–05 (GOI 2005) indicated that of every Rs.3.65 spent by the Government of India, only Re.1 reaches BPL households. However, the definition of leakage it used to measure differs from the definition used in the PDS literature, which defines it as the proportion of food grain not reaching beneficiary households (Khera2011). Although in recent years a strong lobby has been advocating

the replacement of the PDS with direct cash transfers to the poor on the grounds of the huge leakage and malfunctioning of the food security scheme, a stream of studies have presented an encouraging picture of the PDS during the past decade. Leakages decreased between 2004–05 and 2011–12 because of a significant improvement in the functioning of the PDS (Dreze & Khera 2015) in several states as well as at the national level. The estimate of leakage was 54% and 42% at these two points in time using different rounds of NSS data. Using the same NSS dataset, Gulati and Saini (2015) came up with a figure of 47% leakage at the national level in 2011–12, and recommended scrapping the PDS system and replacing it with a system of direct cash transfers. However, the formula used by Gulati and Saini (2015) to calculate leakage is not foolproof (Dreze & Khera 2015). Leakage estimates based on NSS data may also not always be reliable since the PDS is not its main focus and it covers both ration cardholders as well as non-ration cardholders. A policy research brief based on two series of IHDS data indicates that the leakage estimate at the all-India level decreased from 42% to 32% between 2004–05 and 2011–12 (Desai 2015). Several studies have pinpointed the declining trend in leakage, particularly in states that have introduced reforms in the PDS. Another independent household survey showed that the leakage figure was 10–20% in Bihar and 2% in Chhattisgarh (Somanathan & Kjelsrud 2015). The quota for APL remains the main source of leakages. We have attempted to estimate leakages for the six states covered under the study. It would provide a broad comparison of PDS performance across three categories of states, i.e., the historically good performer (Chhattisgarh), the historically poor performers (Uttar Pradesh, Assam, West Bengal) and the ‘reviving’ states (Bihar, Karnataka).

The following algebraic formula is used to calculate the state-wise leakage of food grains across three different card categories—APL, BPL and AAY—for the year 2014–15.

$$L_{ist} = \{(O_{ist} - P_{ist}) / O_{ist}\} * 100 \text{ -----(6.1)}$$

where,

L_{ist} = Leakage in state “s” for i^{th} category of ration cardholders (APL, BPL, AAY) in the year “t”

O_{ist} = Offtake from central pool by state “s” and offtake from state’s own allocation (if applicable) for i^{th} category of ration cardholders in the year “t”

P_{ist} = Total purchase of food grains from the PDS by i^{th} category cardholders in the year “t”.

Here, $t = 2014-15$

An estimator of P_{ist} is given below:

$$P_{ist} = PCMP_{is} * N_{ist} * 12 \text{ -----(6.2)}$$

where,

$PCMP_{is}$: per capita monthly purchase of grains from PDS for i^{th} category of cardholders in state “s” (average of last three months recall); [Note: per capita is the same as per ration cardholder for this exercise]

N_{ist} : Number of ration cardholders in category “i” in state “s” in year “t”.

We used primary survey data as well as data collected from secondary sources to estimate leakage. The per capita per month purchase of grains (rice+wheat) from PDS was calculated from our household survey. Robustness of these figures was checked by using other relevant survey data. The number of ration cardholders for the three different categories (BPL, APL and AAY) was provided by the respective state department of Food and Civil Supplies. We collected monthly off take data for the reference agricultural year, July 2014 to June 2015, from the respective state departments of food and civil supplies. We also collected data on off take from food grains procured by the state themselves, if any. Chhattisgarh and Karnataka are two states in the study that procure food grain from open market sales (OMS) or the state pool. These states augment the food supply to meet the demand from additional BPL families covered by the state beyond the NFSA coverage norm set by the centre. We added the off take from the state pool and central pool for every month for these two states. We then added the monthly off take figure for 12 months of the reference agricultural year to get the annual off take figure for each of the six states under study. The estimated figures of diversion are given in Tables 6.4–6.5. We also cross-checked our estimates by taking into account opening and closing stock of food grain. We calculated standard error of leakage estimate by using the bootstrap simulation technique. We reported 95% confidence interval of leakage estimate as well.

For NFSA states, we estimated the leakage for PHH and AAY families by clubbing them together since allocation is made for them together, while leakage was estimated separately for non-NFSA states for the three different card categories. We estimated leakage across separate card categories, which would be helpful for appropriate policy prescription. However, the leakage figures across card categories may be indicative in nature in a few states because of the small sample size of those categories⁴.

Table 6.4: Leakage estimates – NFSA states (in %)

State	Mean	Std. Err.	[95% Conf. Interval]	
Bihar	16.28	0.02	16.32	15.96
Chhattisgarh	6.95	0.1	7.15	6.75
Karnataka	17.34	0.03	17.40	17.28

Source: Author’s calculation based on survey data and data provided by respective state department of food and civil supplies.

The magnitude of leakage is the lowest in Chhattisgarh among the six states in the study and it remains the “good performer” in PDS (Table 6.4). We have reported leakage only for the combined PHH and AAY category, since APL is not considered under the NFSA. Chhattisgarh was able to cut down leakage drastically because of a well-managed delivery mechanism. However, there are instances where co-operatives in these states were involved in the mismanagement of food grains. FPS dealers in this state in many cases are paid employees of co-operatives. They are also involved in distributing food grain on an *ad hoc* basis in some places. Improvements in the monitoring system to

⁴ As per the agreement, we were supposed to receive the list of beneficiaries for the selected villages from the respective state authorities. However, we did not get it after several attempts. Finally, we collected the list of beneficiaries from randomly selected FPS dealers. We cannot ignore the possibility that FPS dealers may not have shared the appropriate list. For instance, if an FPS dealer gets the allocation based on 120 ration cardholders, but distributes it to only 100 ration cardholders and withholds the names of cardholders to whom he does not distribute rations, the measure of leakage would be an underestimate.

Estimated leakage based on the list provided by FPS dealer; “*Partial leakage (PL)*”. Therefore, Actual leakage = PL + x
 where x is leakage due to inappropriate coverage and the biased list from the FPS dealer.
 However, state authorities from Uttar Pradesh and Bihar shared the list of beneficiaries after the survey and this list is available online in Karnataka and Chhattisgarh. We randomly matched approximately 60% of the beneficiary list received from the state authority to the list received from FPS dealers. It matched in 98% of the cases. Such cross-checking could not be carried out for Assam and West Bengal since the state authorities in these two states did not share the list even after the survey.

weed out fake cards, an issue of serious concern over the past two to three years, may further increase the efficiency of the PDS in Chhattisgarh.

Leakage has also come down significantly in Bihar during the past couple of years because of a major revamp in the functioning of the PDS in the state. The implementation of the NFSA also may have brought a significant positive change here (Drèze, Khera and Pudussery 2015). Quite apart from the greater awareness of their entitlement among cardholders, the stoppage of allocation to APL families is another reason for the reduction in leakage. The PDS literature considers allocations to APL a major source of leakage. Although Bihar becomes a successful 'reviving state', the state still has a long way to go to make the food security programme successful. We received complaints of food grain being siphoned off in the border districts of Bihar. Beneficiaries also complained of not getting their full entitlement or of bad behaviour by FPS dealers in many districts including Purnia, Bhagalpur and East Champaran.

The magnitude of leakage is the highest in Karnataka among the three NFSA states. However, it is significantly lower than the average leakage figure of the three states that are yet to switch to the NFSA. Here too we estimated leakage for PHH and AAY together and excluded APL from the leakage calculation. To minimise leakage, Karnataka has adopted various measures such as installing and using electronic weighing machines or EW-POS machines on a pilot basis in Tumkur district and linking the ration card record with biometric information of the adult members of the beneficiary households. The latter can also help to identify genuine beneficiaries. There were complaints about the electronic weighing machines in Tumkur district, which are affected by power outages that average three or four hours a day. FPS dealers may not always be ready to install power back-up systems. Therefore, beneficiaries struggle to get ration at their preferred time. Since a significant proportion of programme participants are employed in the unorganised sector, they have to forgo their wages to collect the ration. Another concern in Karnataka is that grain entitlement was technically based on household size until April 2015. Therefore, information on family size is of great importance in deciding the amount of allocation. There have also been instances of the family size being exaggerated in a bid to receive a higher entitlement. However, to cut down leakages Karnataka started unit-based food grain distribution as per NFSA norms from May 2015.

Table 6.5: Leakage estimates –non-NFSA states (in %)

State / Card Category	Mean	Std. Err.	[95% Conf. Interval]	
Assam				
APL	70.68	0.05	70.78	70.58
BPL	36.76	0.04	36.84	36.68
AAY	12.13	0.03	12.19	12.07
Uttar Pradesh				
APL	35.29	0.1	35.49	35.09
BPL	32.87	0.02	32.91	32.83
AAY	5.13	0.01	5.15	5.11
West Bengal				
APL	38.75	0.1	38.94	38.55
BPL	28.19	0.06	28.30	28.07
AAY	10.59	0.12	10.82	10.35

Source: Author's calculation using field data and secondary information provided by the Department of Food and Civil Supplies in six states.

Leakage from allocations for the APL card category is high in the three non-NFSA states, where the PDS functioning is poor in general. There is no procurement by the state on top of the central allocation in any of the three states. The estimated leakage for the APL category is extremely high for Assam. State officials said that food grain allocation for the APL category is not fixed. We tried to find out whether the grain allotted for the APL category is used to meet demand from the BPL category. State officials insisted that the grain earmarked for each category was distributed only among cardholders in that category. In reality, a significant proportion of APL families, mainly in urban areas, do not purchase rice from the PDS, because they are not very happy with the quality of grain provided through the PDS. As a result, such APL families end up purchasing rice from the open market. A huge proportion of their allocation remains unsold and dealers usually sell the undistributed grain in the open market at much higher prices. Such incidents were observed in at least three of the districts—Bongaigaon, Cachar and Golaghat. A similar situation prevailed in Uttar Pradesh and West Bengal. However, the extent of diversion is lower in these two states than it is in Assam.

Our field team from Sitapore district in Uttar Pradesh revealed that there is a strong nexus between the FPS owner, village functionaries and government officials —one reason why food grain is distributed only on two days of the month. Food grain is

illegally sold at the point of collection by the FPS dealer and the full quantity of entitlement does not reach the FPS. FPS owners were also found to insist that they would distribute food grain only to the head of the family; in cases where the head of the family is out of town on the days designated for distribution, beneficiaries are unable to purchase their monthly quota. This grain is then diverted to the open market to be sold at a higher price. Moreover, instead of the 35 kg quota allotted for BPL and AAY cardholders, many receive only 33 kg in Uttar Pradesh. The remaining food grain is sold in the black market. Although the existence of such malpractices is well known, complaints are rarely lodged, partly because the gram pradhan and FPS dealer are hand in glove. In the eastern districts of Uttar Pradesh (Allahabad, Varanasi, Deoria, etc), FPS dealers have to bribe either the inspector, or a person named by him, to the tune of Rs. 2,500 before lifting the goods from the god own. On average, they receive 3–5 kilos less per jute bag of wheat, rice and sugar from the god own. The ration dealers, in turn, siphon off about 100–200g of the grain sold per beneficiary and charge them 20–40p/kg more than the price fixed by the government.

In West Bengal, another problem is the individual ownership of ration cards. Many families in this state own both APL and BPL cards. Since new BPL cards have not been issued for a long time, there are instances where parents in a family have BPL cards, while their children have APL cards. In such a situation, they purchase food grain only from the BPL quota since it is cheaper. Allocations under the APL quota then get diverted to be sold at higher prices in the open market by FPS dealers. Food grain is distributed in West Bengal on a weekly basis. The total quota for a month is divided into four equal instalments. If there are five weeks in a month, ration is not distributed in the fifth week.

The leakage from the quota allocated for the BPL category varies from 28% in West Bengal to 37% in Assam. A major reason for the diversion is lack of awareness about their entitlement among beneficiaries. In Assam and Uttar Pradesh, food grain is allotted irrespective of household size. Many BPL families in Bongaigaon district of Assam told our field team that they would prefer allotment based on family size. Under the present system, small families who receive more food grain than they require sell the extra amount in the open market at higher prices. In West Bengal, we received

complaints that food grain allotted to BPL families is sold to people who do not have ration cards at a higher price.

In all three non-NFSA states, leakage is the least in the case of allocations for AAY families. The allotment is straightforward for the poorest of the poor households. But even in the case of food grain earmarked for this category, leakage ranging from 5% in Uttar Pradesh to 12% in Assam still takes place. Once the PDS functioning is revamped in these poor performing states, the diversion is expected to decrease. One of the most important corrective measures would be to stop APL allocation immediately. It is interesting to note that states running the PDS on the basis of the NFSA criteria perform better in terms of both identification errors and leakages. It may be due to NFSA or due to better governance or any other factor. Our study may not be able to establish a causal relationship between implementation of NFSA and PDS performance due to data limitation.

Chapter 7

Grievance redressal system and monitoring mechanism of the PDS

7.1 Background

The Department of Food and Public Distribution, Government of India, has announced through the PDS Control Order, 2001 (GOI 2001) its intention of putting in place a well-functioning grievance redressal system in all states. The central government also directed state authorities to bring about awareness among beneficiaries of the existence of a grievance redressal mechanism. The Public Distribution System (Control) Order, 2001 requires state governments to include the following among the duties of the Fair Price Shop (FPS) owners. They need to display a notice at a prominent place in the FPS containing information about the authority for redressal of grievances with respect to quality and quantity of essential commodities under the PDS. The Order further empowers the state government to monitor the implementation of the PDS in the state as well as take necessary action against violations of its provisions by any person under the Essential Commodities Act, 1955. The Order also requires state governments to educate ration cardholders about their rights and privileges under the PDS.

As far as monitoring is concerned, the PDS Control Order states:

State Governments shall ensure a proper system of monitoring of fair price shops and prescribe model sale register, stock register and ration card register. Gram Panchayats or Nagar Palikas or Vigilance Committees or any other body nominated for monitoring the functioning of the fair price shop by state governments shall display the stocks of essential commodities allotted during the month to the fair price shops on a notice board outside their office. Meetings of the Vigilance Committees on the Public Distribution System at the State, District, Block and FPS level shall be held on a regular basis. The date and periodicity shall be notified by state governments. However, the periodicity shall not be less than one meeting a quarter at all levels (GOI 2001).

This chapter discusses our findings on the functioning of the grievance redressal system and the vigilance committee in the six states covered by the study. The role of panchayati raj institutions in improving the public distribution system is also covered here.

7.2 Grievance redressal mechanism

The proportion of respondents aware of the existence of a grievance redressal mechanism was low in all states including the good performer ones. We have presented feedback on the grievance redressal system in Table 7.1. Awareness is extremely poor in Assam and low in Karnataka, West Bengal and Uttar Pradesh. In Bihar, a fairly moderate proportion of respondents are aware of the grievance redressal mechanism and of the toll-free helpline number mentioned on the display boards in fair price shops. Many beneficiaries from Bhagalpur district complained that the helpline number did not work, and demanded that an alternate toll-free number be provided. Although beneficiaries vaguely know that they have a right to complain, they do not know whom to complain to. Another recommendation from respondents of Bihar is to place the display board at panchayat bhawans, FPSs and in the block office with more details about the grievance redressal mechanism. It was also suggested that the name and designation of the person to be contacted to lodge a complaint should be clearly mentioned on the display board. In Karnataka, the complaint and grievance redressal system is not being promoted and suffers from low usage. Our field observations confirmed that the majority of the cardholders are not aware of how to lodge a complaint. No complaint register was maintained in the shops visited and information about the grievance redressal system was not displayed at the PDS shops. Awareness of consumer rights is extremely low. The majority of the beneficiaries surveyed were not aware of the consumer helpline in Karnataka. A follow-up question asked of respondents who were aware of the grievance redressal mechanism was whether they knew where they could lodge a complaint. The most frequent response was the food and civil supplies office. Other places included the panchayat offices and vigilance committees. The latter is functional only in Chhattisgarh. The district grievance redressal officer exists only on paper in many districts of the six states. The proportion of beneficiaries who lodged written complaints was also extremely low, ranging from 0.55% to 2.92%.

Table 7.1: Feedback on grievance redressal system in PDS (in %)

	Assam			Bihar			Chhattisgarh			Karnataka			Uttar Pradesh			West Bengal		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Aware of the grievance redressal system																		
	4.92	6.09	5.10	58.90	54.10	58.40	69.72	34.41	63.56	17.91	13.13	16.56	37.82	42.71	38.94	17.78	51.27	27.21
Places where complaint can be lodged																		
Panchayat office	30.10	0.00	24.79	53.60	48.50	53.00	72.14	47.96	69.86	11.89	0.00	8.74	33.70	12.07	28.76	39.10	18.54	28.20
Vigilance committee	4.89	54.75	13.69	51.10	51.10	51.10	93.01	94.57	93.16	4.78	0.74	3.64	29.58	28.23	29.27	11.40	3.26	7.08
Food and civil supplies office	95.11	100.0	95.98	40.40	39.50	40.30	9.76	35.70	12.21	13.20	12.52	13.01	13.45	27.10	16.57	64.88	80.14	72.97
District grievance redressal officer	0.00	0.00	0.00	38.50	42.40	38.90	83.07	71.41	81.97	7.55	10.25	8.31	15.95	22.21	17.38	31.14	28.75	29.87
Lodged written grievance	0.65	0.00	0.55	1.20	5.45	1.67	0.92	0.00	0.76	2.75	0.82	2.20	2.68	3.73	2.92	0.31	3.15	1.11

Source: Author's calculation based on field data.

In Cachar district in Assam, the field team observed that there was no monitoring system to assess whether the PDS commodities reach the targeted population. Beneficiaries from the area hinted at a nexus between a section of government officials, black marketers and corrupt elected representatives who were involved in the diversion of PDS food grain. Our field team also came across incidents of extortion of money by department officials from FPS dealers on the pretext of redressing a written or verbal grievance against a ration dealer, or stock inspection or other pretexts in some districts in eastern Uttar Pradesh.

7.3 Panchayati Raj Institutions and PDS

Provisions for the involvement of Panchayat Raj Institutions (PRIs) in PDS functioning are clearly mentioned in the PDS Control Order 2001, which was amended in 2004. These provisions are mainly intended to bring transparency and accountability into the system. NFSA 2013 along with TPDS Control Order 2015 further has assigned various roles to local authorities including PRIs in the implementation of the PDS.

The findings about the role of the panchayat in villages (or urban local body in the city council) in the functioning of the PDS are given in Table 7.2. The proportion of respondents aware of the role of the village council was the highest in West Bengal. Such awareness was fairly low in Chhattisgarh and Karnataka, the two good performer states. We also found that the extent of help given by panchayats to beneficiaries is mainly concentrated in five areas: getting information about the PDS, getting ration cards, getting food grain, resolving grievances and other. The responses on these are noted in Table 7.2. According to the field data analysis, the panchayats mainly help beneficiaries get new ration cards in West Bengal. It plays an important role in providing information on the PDS as well. Unfortunately, the panchayat does not help beneficiaries get their grievances addressed in any of the states except Chhattisgarh. A significant proportion of respondents said that they did not have any idea of whether the PDS had improved through the active involvement of elected members. We received the highest positive responses on this question in Chhattisgarh, followed by Bihar.

Our field observations revealed that the panchayat secretary played an important role in authenticating new ration cards to be distributed in Bihar. Similarly, the gram pradhan played an important role in Uttar Pradesh. They are, at times, involved with

the open market sale of PDS food grains along with FPS dealers in villages in Sitapur district in Uttar Pradesh. Moreover, they often refuse to listen to PDS-related problems of beneficiaries. Under the guise of stock inspection, the panchayat secretary sometimes extorts Rs. 500–1,000 per month from ration dealers in the districts of eastern Uttar Pradesh.

Most of the elected representatives of the gram panchayat or city corporations from the study area in Karnataka were not even aware that they had an important responsibility or role to play in the functioning of the PDS. The majority of the elected representatives said that they became aware of the definitive role they could play in the smooth functioning of the PDS/FPS in their area only after meeting with our survey team. Most representatives admitted that they had never visited the FPS in their area nor observed how it functions. It was observed during the visit to the gram panchayats/ward offices that most of them did not possess any data about the area under their jurisdiction.

Table 7.2 Feedback on the role of Panchayat Raj Institutions and Vigilance Committee in PDS functioning (in %)

	Assam			Bihar			Chhattisgarh			Karnataka			Uttar Pradesh			West Bengal		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Awareness about the role of village panchayat/urban local body in PDS (Yes)																		
	45.17	47.29	45.48	54.95	46.74	54.04	32.31	17.78	29.78	34.28	32.62	33.78	67.01	57.36	64.80	83.29	73.82	80.63
Panchayat Raj institution helped the beneficiaries																		
To get information about PDS	1.84	7.05	2.52	67.51	50.42	67.48	8.89	4.08	8.38	67.33	69.99	68.14	18.24	13.94	17.36	13.74	1.83	11.19
To get ration card	2.04	7.05	2.70	5.26	0.97	4.88	34.98	32.05	34.67	22.85	13.00	19.87	41.36	30.66	39.18	36.19	24.43	33.66
To get foodgrains	0.00	0.00	0.00	14.01	9.52	13.89	29.84	32.92	30.17	1.78	5.26	2.83	11.71	21.96	13.80	14.61	3.25	12.17
To resolve grievances	0.00	8.25	1.08	0.38	0.00	0.34	26.22	28.47	26.46	1.31	10.14	3.98	9.85	3.40	8.53	2.10	9.22	3.63
Other	0.16	0.00	0.14	1.68	4.83	1.98	0.07	0.00	0.06	0.00	0.00	0.00	0.23	0.16	0.21	0.09	4.82	1.11
Did not help	95.97	77.64	93.56	11.16	34.26	11.43	0.00	2.48	0.26	6.73	1.61	5.18	18.61	29.88	20.91	33.27	56.44	38.24
PDS improved through the active involvement of elected members (Yes)																		
	1.07	10.01	2.19	45.73	30.82	44.08	52.59	13.11	45.71	12.30	7.35	10.82	29.28	21.51	27.51	27.69	35.66	29.93
Awareness about Vigilance Committee for monitoring at FPS level																		
	1.46	13.34	2.95	49.71	43.58	49.03	58.20	20.14	51.56	4.66	0.17	3.31	34.82	32.08	34.20	2.19	4.32	2.79

Source: Author's calculation based on field data.

Note: The sum of five rows in percentage terms may not add up to 100 since the population that did not know the role of panchayati raj institutions has been excluded.

7.4 Vigilance Committee and PDS

A vigilance committee is technically constituted of members from the Gram Panchayat (or city council) and other representatives from the local village or urban ward. The number of members varies from five to ten. The committee is expected to monitor the activities of the FPS on a regular basis. Unfortunately, vigilance committees are almost non-functional even after the revamp of the PDS in many states. According to our field survey, awareness of vigilance committees is the highest in Chhattisgarh followed by Bihar and Uttar Pradesh (Table 7.2). It is extremely low in Assam, West Bengal and Karnataka

Our field team found that in the Bongaigaon district of Assam, the vigilance committee was formed at the village level three to four years ago. However, it does not exist anymore. Respondents suggested that committees be formed at the local level for proper monitoring. They also urged that the government should carry out regular inspections of the local FPS to ensure that the system runs efficiently.

According to state officials in Chhattisgarh, a state grievance redressal cell has been formed in the state capital of New Raipur. The cell's call centre receives complaints, which are forwarded to the concerned district. However, no designated district-level grievance redressal office has been formed so far even in the best performing state. During our field visit to Kanker district of Chhattisgarh, we found that no social audit system has been introduced. In October 2014, 102 grievances were lodged from all across the state through the call centre. This is an extremely low number considering the wide coverage of the PDS in Chhattisgarh. Although a provision for a social audit system exists under the Chhattisgarh Food Security Act, it is not yet functional. In many parts of Kanker, vigilance committees existed only on paper. The committees were not given any responsibility. Committee members were also not aware of their responsibility. Therefore, there is no monitoring of local fair price shops.

In Bihar, approximately 49% of the respondents were aware of the existence of a vigilance committee or 'Satarkikaran Samiti'. However, participants in the FGD in East Champaran and Bhagalpore, said that there was no such committee in their locality. According to them, there have been no inspection visits by any government official to the ration shop. None of the government representatives ever visited the village or asked

them about their experience with the PDS. According to them, although they are aware of the monitoring system, it has been of little use to them. There is collusion among the FPS dealer, village council and district-level supply offices. If a poor beneficiary dares to complain about being charged a price higher than that stipulated or of irregularity in supply at the FPS, he/she is threatened and punished by influential people close to the dealer. The respondents also said that the caste system is quite strong in some parts of Bihar. The entire PDS functioning, including the local FPS, is controlled by upper caste people in several villages in these districts. If any of the beneficiaries from the dalit community or lower castes complain against the FPS, his family is ostracised. There have been instances of beneficiaries being threatened because they complained of receiving less than their entitlement from the FPS dealer.

In Allahabad district of Uttar Pradesh, the vigilance committee is a sham in most of the ration shops in the district. The situation is similar in several other districts of Uttar Pradesh, especially in the eastern part of the state. In most cases, either vigilance committees have not been constituted or they are not active.

According to state officials in Karnataka, a five-member vigilance committee is constituted for every FPS at the village or urban ward level. All members are supposed to be women and they are selected by the district minister⁵. However, these committees may not be functional, according to the officials. Our findings indicate that vigilance committees are a complete failure, undermining the accountability of service providers in Karnataka. Over 90% of PDS consumers and 50% of PDS shopkeepers surveyed in Tumkur district were not aware of the existence of vigilance committees. Where vigilance committees have been formed, the members themselves are not aware that they are members of the committee and they are ignorant about their duties and responsibilities. Respondents reported that records of meetings do not exist. Although some FPS dealers claimed that there were inspections by the vigilance committee once in two months, beneficiaries were completely unaware of their existence or their inspection activities. In 2014, the Karnataka government abolished the existing vigilance committees throughout the state and issued a fresh notification for the formation of new vigilance committees. In a nutshell, the monitoring mechanism of PDS is not up to the mark in many parts of the six states.

⁵In Karnataka, 36 state cabinet ministers are in charge of 36 districts of the state.

Chapter 8

Conclusion

8.1 Major findings of the study

We carried out an evaluation study of the Public Distribution System in six states; Assam, Bihar, Chhattisgarh, Uttar Pradesh, Karnataka and West Bengal, as requested by the Department of Food, Government of India. The sample strategy was designed in consultation with the ministry and 24 districts were randomly selected across the six states for the study. A field survey was conducted from October to December 2014 and data was collected by seven NGOs under the constant supervision of the core research team from the NCAER. The study has been undertaken at an important juncture when India is transitioning from the TPDS to the NFSA.

As mentioned in previous chapters, three of the six states—Bihar, Chhattisgarh and Karnataka—switched to the NFSA while the field survey was being conducted. The remaining three states—Assam, Uttar Pradesh and West Bengal—were still following the TPDS. Of the three states that implemented the NFSA, Bihar implemented the NFSA fully while the remaining two states adopted it partially and launched a food security programme under state Acts, namely, the Chhattisgarh Food Security Act (CGFSA) and the Anna BhagyaYojnain Chhattisgarh and Karnataka, respectively.

The main differences between the NFSA and the TPDS are the following. The TPDS used to provide food grain as a general entitlement, while the NFSA confers a legal right to food grain on the poor. Many states used to provide commodities at the household level under the TPDS, while the NFSA allocates food grain per person. However, some states, including Chhattisgarh and Karnataka, supplied food grain at the household level till recently even after the introduction of the NFSA. They bear the extra cost from state funds.

The outreach of the NFSA is higher than the TPDS while entitlement became individual specific. It is 5kg per person for priority households (revised BPL group) under the NFSA. It becomes more beneficial for the large households compared to the small families. The entitlement of a small family of 4 members became 20kg per month under NFSA while it was 35kg per month under TPDS. Another important feature of the NFSA

is that it provides for the stoppage of food grain allocation to the APL category. Allocation for the APL category has been one of the main sources of diversion of food grain from the PDS for a long time. There is no APL allocation of food grain in Bihar and Karnataka. Chhattisgarh, the third state following NFSA, still continues APL allotment from the state budget.

In spite of the criticism about the functioning of the TPDS, it indisputably plays an important role in covering the food grain requirement of poor families, according to respondents who participated in the field survey. The share of grain purchase from the PDS also increased over the past decade, mainly because of an increase in entitlement. We find that a high share of poor people with BPL/PHH/AAY ration cards withdraw rations on a regular basis if rations are available at the FPS. This is in line with other national-level survey findings, namely, the IHDS survey (Desai 2015).

Our study indicates that the proportion of total food grain off take from PDS, inclusive of rice and wheat, in the rural parts of Assam, Bihar, Chhattisgarh, Karnataka, Uttar Pradesh and West Bengal are 56%, 38%, 60%, 65%, 53% and 37%, respectively, as against 35%, 5%, 41%, 16%, and 24% in Assam, Bihar, Karnataka, Uttar Pradesh and West Bengal, respectively, in 2004–05 (GOI 2005). The average amount of take-home grain is quite high in all the states under the study. However, a considerable proportion of households, except in Chhattisgarh, receive less than their full grain entitlement. The incidence of receiving less than the entitled quota is the highest for BPL cardholders in Assam. The mean quantity of the per capita purchase of rice from the PDS is the highest in Chhattisgarh and the lowest in West Bengal.

The issue prices of rice and wheat are Rs. 3 and Rs. 2, respectively, under the NFSA for PHH as well as AAY categories of card holders. Bihar charges the same price, while Chhattisgarh and Karnataka supply both grains at Re. 1 per kg. West Bengal, Assam and Uttar Pradesh distribute rice at the rate of Rs. 2, Rs. 7 and Rs. 6.15 per kg, respectively, to BPL cardholders. Beneficiaries in all states except Chhattisgarh and Karnataka end up paying more than the stipulated issue price to purchase food grains from the PDS. Lack of awareness about the actual issue price may be one reason.

The ratio of open market price to the PDS price of food grains has increased significantly during the past decade. While the open market price has increased steadily due to food

inflation, the PDS price of grain has been kept low, resulting in an increase in food subsidy. The difference between the open market and PDS prices is one of the most important reasons for the high usage of the PDS among the poor. This ratio is even higher in NFSA states than in the states that still follow the TPDS. It is promising to note that the PDS leads to positive welfare for the beneficiary households. The amount of per capita implicit income transfer as a result of subsidised food grain is the highest in Chhattisgarh and Karnataka at Rs. 141 and Rs. 140, respectively, for the PHH category. The magnitude of implicit subsidy in Assam, Bihar, Uttar Pradesh and West Bengal is Rs. 92, Rs. 79, Rs. 73, and Rs. 66, respectively. The effective income gain at the household level is higher in NFSA states than in non-NFSA ones. It is the highest in Karnataka and Chhattisgarh at the household level since these states provide additional subsidy on top of the central subsidy for the food security scheme.

The Public Distribution System suffers from leakages in the form of diversion of food grain because of a few systemic weaknesses. Inappropriate identification of BPL families and the huge cost of misidentification along with inefficiencies in the supply chain contribute to the high cost of delivery in most states. The supply chain of the PDS is riddled with malpractice at different levels including the administrative level. Since the return from BPL/PHH cards is quite high, there is a rush in every state to get a new card. Eligible people do not always receive ration cards if they are not politically well connected or are unwilling to pay a bribe. The government charges a token fee of Re. 1 to issue a new ration card. However, we observed from our field survey that one new BPL/PHH card in rural Karnataka costs Rs. 118 against Rs 23, Rs 14, Rs. 54 and Rs. 61 in rural parts of Bihar, Uttar Pradesh, West Bengal and Assam, respectively.

The NFSA is considered to be a modified version of the TPDS, which is designed to curb leakages. Various measures have been proposed under the NFSA to increase the efficiency of the delivery system including doorstep delivery of rations and stringent monitoring of the functioning of the PDS by involving local authorities. The identification of beneficiaries under the NFSA is ideally based on the Socio Economic and Caste Census (SECC), 2011, which uses several more criteria beyond the income-expenditure method used in the previous rounds of the BPL census. However, states are free to choose their own criteria based on the local situation or the SECC for identification of eligible beneficiaries under the NFSA.

Our study offers an important contribution to the existing literature on the PDS as it helps analyse performance of the PDS in six states at the important juncture of transition from the TPDS to the NFSA. The performance evaluation of the NFSA in three states at the early stage of its adoption may give some idea of whether the NFSA is suitable for the welfare of society in the long run. States that have already switched to the NFSA can learn from these findings. States that are yet to move to the NFSA may implement appropriate policies to provide food security to the vulnerable sections of society. We would like to note that our study indicates mere correlation between PDS reforms such as the NFSA and PDS performance. We cannot draw inferences about a causal relationship between these two from the study findings.

The identification of eligible households is crucial in running the food security programme successfully. All six states considered in the study issued fake cards (or, bogus cards). Karnataka has the lowest number of fake cards. Compared to other states, it is quite low in Chhattisgarh but fairly high in Bihar. Bihar had issued new ration cards in a hurry to implement the NFSA within the stipulated timeframe resulting in incorrect identification of eligible households. To rectify the mistakes, a huge number of bogus cards were cancelled in the state in 2014 and new cards had been issued partially at the time of the field survey. Although the number of cards issued to ineligible households is lower in the NFSA states than in the TPDS states, there is ample scope to reduce their numbers further. Uttar Pradesh has the highest number of bogus cards in the system among the non-NFSA states.

We estimated the inclusion and exclusion errors following Cornia and Stewart (1993). The exclusion error was found to be the highest in Assam. Interestingly, Bihar also faces a high exclusion error even after using broader identification criteria to identify eligible beneficiaries for the NFSA. One of the reasons may be the following: The state was going through the process of issuing new ration cards at the time of the field survey following the detection of bogus cards. A significant proportion of eligible beneficiaries were yet to receive the new ration cards. Chhattisgarh experiences the lowest exclusion error. The highest inclusion error is observed in West Bengal, while it is the lowest in Bihar. One way of reducing inclusion and exclusion errors could be to make the entire process free of corruption and politics. High inclusion errors along with a malfunctioning supply chain lead to the diversion of food grain. It leads to high delivery costs, which in turn

cause loss of welfare. We estimated leakage figures using information from our survey data and secondary information provided by the respective states and the Department of Food and Public Distribution, Government of India.

Our survey data shows a decrease in leakage compared with the estimates made by Drèze & Khera (2015) using NSS data 2011-12⁶. Therefore, our findings indicate an improvement in the functioning of PDS over the time. Leakage is found to be the lowest in Chhattisgarh (7%). The credit for this goes to the efficient management of the PDS mechanism in this state. It may go down further with the complete eradication of bogus cards. Bihar is also doing significantly better than before in terms of leakage. Leakage in Karnataka is higher than in Chhattisgarh and Bihar but significantly lower than in the rest of the three states covered under the study. As expected, leakage is the highest for the APL categories in the three states that follow the TPDS. It is extremely high in Assam since monitoring as well as management is a complete failure in this state. The leakage from the allocation for the BPL category in Assam, Uttar Pradesh and West Bengal ranges from 28% to 37%. Diversion of food grain is fairly low from allocations for AAY ration cardholders in these states. The leakage figures may be constrained by the small sample size in a few cases.

Both the PDS control order 2001 (GOI 2001) and NFSA (GOI 2015b) have emphasised the need for an effective monitoring system and the introduction of a fully functional grievance redressal mechanism. Although there is a mixed level of awareness about the existence of a grievance redressal mechanism, beneficiaries are completely in the dark about how the monitoring system works.

The NFSA has also emphasised the need to involve local authorities in monitoring through the establishment of vigilance committees. Unfortunately, all these monitoring systems exist only on paper except in Chhattisgarh. Our study also found that vigilance committees do not exist in most of the states. An effective monitoring system is crucial to ensure the success of any programme, something that state governments have so far failed to do.

⁶It should be noted that NSS data usually underestimates the magnitude of PDS purchase of food grain.

8.2 Policy suggestions

The identification of target households, modernisation of the delivery system and effective monitoring of the food security programme are the main areas that need attention. Miss-identification is a problem that has persisted over the past decade and hindered the successful implementation of the PDS in the country. To address it, a report by the Planning Commission (GOI2005) and a previous study by the NCAER (Kumar 2010) have suggested that the government do away with the income–expenditure criterion used to identify eligible beneficiaries. During our survey, states that were in the process of transiting to the NFSA mechanism, like Assam and Uttar Pradesh, were following the income cut-off to identify eligible households. As has been pointed out in the PDS literature, the income cut-off criterion is not very scientific. People usually do not reveal their actual income. Sometimes, it is difficult for less-educated people working in the unorganised sector to calculate the right income figure. Hence, the identification process becomes biased.

The SECC (2011) conducted by the Ministry of Rural Development has used broad criteria, such as the pattern of landholding and other asset-based criteria as well as qualitative criteria. The marginalised section of society is supposed to be considered under the PDS following SECC. However, states are also free to select their own criteria based on the local economic situation. For example, Chhattisgarh and Karnataka use their own criteria to identify beneficiaries covered under the NFSA. Despite using modified criteria beyond only income or expenditure, the identification of beneficiaries in the three NFSA states still suffers from a moderately high inclusion error.

Suggested measures to identify target households

- The identification process needs to be state or region-specific since state priorities are different across the country. However, the criteria adopted should help to easily identify the target group. During the identification survey, questions related to identification should be straightforward and easy to understand.
- In several instances, the respondents' lack of education results in their giving incorrect information. Therefore, interviewers need to be trained rigorously.

- Organisations conducting identification surveys should have a strong local base and proficiency in the local language to get the right information. They must be chosen at the state level.
- Organisations participating in such surveys should be unbiased with no political inclination. The survey will become error-free only when it can be conducted in a non-corrupt environment without interference from any political party.

Suggested measures to improve efficiency in PDS functioning

The success of the PDS programme also depends on the adoption of modern techniques in its functioning. We have suggested a few techniques that could be adopted to improve the functioning of the PDS, some of which have been adopted on a pilot basis in the better performing states.

- Distribution of food coupons may be adopted to stop leakages at the FPS level, especially in poorly performing states like Assam and Uttar Pradesh. Twelve coupons a year may be distributed through village camps. Beneficiaries will exchange one coupon every month when collecting their quota of food grain. Their entitlement and exact issue price of grains should be written clearly on the coupons.
- Ration cards should be digitised. Although several states claim to have completed the process of digitisation, these cards had not been circulated by the time our survey was conducted. West Bengal and Uttar Pradesh are among the states that claimed they had completed the digitisation process. It is important to minimise red tape and distribute the digitised cards at the earliest.
- The introduction of electronic weighing machines in place of conventional ones may help resolve the problem of beneficiaries receiving less than their entitlement of food grain under the PDS. Karnataka has already introduced this measure on a pilot basis in six districts. Our field visits revealed that frequent power cuts and problems with Internet connectivity in that state hindered the use of such machines. Therefore, it is also important to ensure uninterrupted supply of electricity, proper power back-up and Internet connectivity.

- To decrease leakage of food grains, one important step is to authenticate whether the food grain distributed through the PDS is received by an eligible household.

Collecting biometric information of all cardholders in a household (head of the family and other members of the household), linking it with their Aadhar number and storing the data may solve the problem. This will also enable any member of a household to collect monthly rations. Karnataka has already collected biometric information of ration cardholders in selected districts. However, our field visits revealed that matching the thumb impression of elderly people becomes a challenge in Karnataka.

The Department of Food, Government of India has taken the initiative to conduct a pilot run in at least one district of each state by installing electronic weighing machines and supplying food grain only to households whose biometric information is authenticated. The unique identifier of the ration cardholders could become the Aadhar number in that case. However, the proportion of Aadhar enrolment is still extremely low in a few states, including Uttar Pradesh. It is of the utmost importance to complete the enrolment process of Aadhar along with the collection and storage of biometric information of cardholders so that electronic weighing machines can be installed and used.

- Lack of awareness regarding their entitlement and the issue price among beneficiaries is another challenge. Display boards containing the correct information about entitlement, availability of food grain and issue price should be maintained at all FPSs. Information must be written in the local language so that it is easily read by beneficiaries. Respondents suggested during our field survey that display boards should be placed at prominent points in the village such as at the local panchayat bhawan and near schools, in addition to those put up at FPSs. A significant proportion of PDS beneficiaries are illiterate and may not be able to read the information on the display board. Hence, information related to the PDS can also be disseminated through awareness campaigns conducted by NGOs and government officials on a regular basis in villages.

- The introduction of an SMS alert at the beneficiary level is an important measure to increase awareness. The SMS alert facility is being implemented by the food and civil supplies department in Karnataka. As soon as the monthly quota of food grains is released from godowns to the fair price shop owner, an alert is sent to the local panchayat/corporation member. Our field visits revealed mixed responses to the SMS alert scheme. Ration cardholders are not covered under this scheme. All states should adopt a scheme to send an SMS to beneficiaries at the beginning of the month regarding their entitlement and the exact price to be paid at the FPS. Even if all beneficiaries do not have mobile phones, they could get this information from their peers or neighbours.
- Our survey has found that a sample of the food grain to be distributed is not kept in the majority of FPSs. Some FPS dealers complained that they do not even see such samples in the godown from where they collect the PDS supply. The practice of keeping such samples needs to be re-introduced. It will help beneficiaries to match the quality of food grain that they are supposed to receive with the food grain they actually receive from the FPS.

Suggested measures to introduce an effective monitoring mechanism

The adoption of the measures mentioned above to improve the functioning of the PDS will become effective only when there is an effective monitoring mechanism. There are many complaints about the current monitoring system in all states, whether they are good or bad performers. It seems that the numerous directives regarding monitoring mentioned in the PDS control order 2001 (GOI 2001) and NFSA 2013 are not being followed. We suggest the following measures to improve the monitoring mechanism.

- Unbiased inspection of FPSs by the state department of food and civil supply should be arranged on a regular basis. At present, inspectors visit FPSs only occasionally, and they do not always check all the registers in the FPS. The process is characterised by corruption. Introducing a corruption-free monitoring mechanism will be crucial to the success of the food security programme.
- Gram panchayat members should be made aware of their role in the PDS in states such as Karnataka. Such awareness may be increased through the involvement of

civil society and local NGOs. The involvement of the gram panchayat has been observed in states like Bihar and Uttar Pradesh. However, our qualitative assessment suggests that it has either had a negative effect or has not been of much use to beneficiaries. Immediate action should be taken to change the situation in these states. Although some of the measures like changes in the attitude of society towards caste may be beyond the control of state food departments, steps should be taken to protect the legal rights of the poor to food.

- Representatives from state food departments should meet beneficiaries in villages or urban wards to listen to their complaints and address their concerns at regular intervals.
- The grievance redressal mechanism in all six states needs to be revamped immediately. Awareness campaigns regarding the grievance redressal mechanism should be conducted with the help of local NGOs and civil society. The details of delegated officials and functional helplines should be made available to beneficiaries through display boards at FPSs.
- The Department of Food in each state should open a special cell on grievance redressal and appoint a grievance redressal officer as the nodal person. Although the appointment of a grievance redressal officer was proposed, it never happened in reality. There should be a small grievance redressal cell in each district supply office as well.
- State governments should take initiatives to reconstitute the vigilance committee (VC) in all villages and urban wards. Awareness of the existence of the committee should be increased among beneficiaries. The VCs should be elected by local villagers and should consist of representatives from the gram panchayat and the beneficiaries. The district supply office should oversee the functioning of the VCs; they, in turn, should be monitored by the state department of food and public distribution. Members of the VCs should also take part in the grievance redressal process and awareness campaigns.
- Appropriate budget allocation should be made to maintain the monitoring system. It may increase costs initially, but a functional monitoring system will help in realising the goal of PDS in the long run by minimising identification errors and leakage of food grain.

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Appendix 1

The responsibilities of state and local authorities under the NFSA 2013

The responsibilities of state and local authorities under the National Food Security Act (2013) are the following:

Identification of eligible households

The detailed procedure for finalising the list of eligible households after drawing up a draft list, putting the draft list in the public domain including reading out of the list in meetings of the gram sabha or equivalent body in urban areas, inviting objections, disposal of objections and appeals are handled at the state level. A state government, after finalising the list of eligible households, is supposed to display category-wise lists in the public domain including the office of the local authority and on the state's web portal. The head of the local authority and the designated authority jointly verify and certify the final list of eligible households and the local authority needs to pass a resolution adopting the final list.

Lifting of food grains

The designated authority ensures that one copy of the allocation order made to the FPS is delivered to the local authority, vigilance committees, and any other body nominated by the state government to monitor the functioning of FPSs.

Distribution of food grains

The monthly certificate related to distribution of food grains should be given by the FPS owner and two or more persons, such as the head of the local authority, executive officer, secretary of the local authority, members from vigilance committees or women's self-help group, as may be authorised by the state government

Operation of FPSs

The licence issued by the state government to the FPS owner is supposed to lay down the duties and responsibilities of the FPS owner to maintain accounts of the actual

distribution of food grains. The balance stock at the end of the month has to be sent to the designated authority of the state government with a copy to the local authority. The local authority is authorised by the state government to conduct periodic social audits of the functioning of TPDS, to publicise its findings and take necessary action as prescribed by the state government.

FPS owner to include gram panchayat/PRIs

Clause 2 (j) of the NFSA Act defines the "fair price shop owner" as a person or a co-operative society or a body corporate or a company of a state government or a gram panchayat or any other body in whose name a shop has been licensed to distribute essential commodities under the PDS. It is also specified that state government should accord preference to public institutions or public bodies such as panchayats, self-help groups, co-operative societies in FPS licensing and management of FPSs by women or their collectives.

Role of Vigilance Committee

To bring transparency and accountability to the distribution mechanism, Vigilance Committees (VCs) have been in existence at the state level since the inception of the rationing system. However, in practice, their presence has not been felt at the village level despite repeated requests to state governments to activate these committees by associating members from amongst card holders, consumer activists and Members of Parliament.

In the Model Citizens' Charter (1997), the constitution of VCs by state governments at the level of panchayat/ward, taluk, district and state/UT was emphasised. In the guidelines issued in 1999, it was clearly mentioned that the gram panchayat/gram sabha should be encouraged to form FPS committees to ensure smooth functioning of the PDS and redressal of problems associated with their functioning.

Instructions have also been issued to all the states/UTs to involve the sarpanch, pradhan, pramukh, and food minister/food secretaries as chairpersons of the VCs at village/FPS, block, districts and state level respectively. In order to further strengthen the provisions of the VCs, the setting of the committees has been brought under the

provisions of the National Food Security Act, 2013. The provisions have been elaborated upon further in the new TPDS (Control) Order, 2015 notified on March 20, 2015. It enjoins quarterly meetings of the VCs at all levels. VCs have also been entrusted with the task of regularly supervising the implementation of all schemes under the NFSA including TPDS; they are also required to inform the District Grievance Redressal Officer (DGRO) in writing of any violation of the provision of the Act.

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