

Evaluating Access and Utilization of Public Distribution System in Rural and Urban India

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Abstract

The Public Distribution System (PDS) is a program in India that contributes to household food security by providing the staple grains at low prices to the needy. However, PDS is highly criticized due to its inability to deliver benefits to all the vulnerable households resulting in an ongoing debate about replacing the PDS with cash transfers. As these debates continue to persist, this paper will review the existing literature to determine the effectiveness of the PDS in facilitating food access and enhancing the food grain consumption pattern of the beneficiaries of the rural and urban India, as well as indicate the key factors influencing them. The results indicate that not everybody accesses PDS and those accessing it are not using it to its full potential. Its desired results are not achieved despite the wide reach of the PDS due to various barriers such as corruption, targeting errors and socio-economic inequalities. As pointed out in the review, although the PDS has helped in better access to food grains, the benefits do not reach all the targeted households most of the time because of administrative challenges, corruption at local levels and inconsistent implementation.

Keywords: Public distribution system, Access, Utilization, Consumption

1. Introduction

1.1. Background: India is a developing country and still majority of its citizens are living below poverty line (BPL). Following the Tendulkar Committee methodology, 21.9 per cent of total population living below poverty line in 2011-12, 25.7 per cent in urban areas and 13.7 per cent in rural areas (GoI, 2013). Poor people are struggling to meet their basic food needs even with the large availability of food grains stocks in the country. Rising inequality, informal employment and inflation in food prices further make it harder for vulnerable households to meet their food requirements. Under such conditions, state led food program is relevant.

The Indian Government has launched several policies to resolve these issues with the Public Distribution System (PDS) serving as an important mechanism for supplying the poor households with affordable food grains. With the help of PDS, government also aims to stabilize prices of essential food items, regulate food grain markets, and provide access to nutritious food, thus helping to both improve the welfare as well as the general economic growth. Massive chunk of the government social spending is on the subsidization of food under the PDS. This subsidy acts as the gap between the price of central issues and the economic cost of acquiring food grains. In 2020-21, around 4.22 lakh crore was being spent on food subsidy (Union Budget, 2021). This increasing subsidy bill shows the government's worry about food security, but it also raises questions about cost-efficiency and implementation effectiveness of the program.

PDS in India has not achieved its goal due to inefficiency in its operations despite huge budgetary allocations. This failure raise serious questions about its effectiveness and fairness in reaching the intended beneficiaries. One of the biggest problems with discussions about the PDS is that it is able to target its beneficiaries accurately. A major issue in debates surrounding the PDS is its incapability to target its beneficiaries accurately. Under the NFSA, 2013, the scheme was designed to cover about two-thirds of India's population, with covering 75 percent and 50 percent of rural and urban population respectively. As India had about 121 crore population by the year 2011, PDS was to cover the population of around 80 crore people (GoI, 2023). However, there has been large exclusion errors because of continued use of outdated 2011 Census data. Dreze & Khera (2020) estimated that about 10 crore eligible people have been excluded from PDS coverage. India is expected to grow to about 140 crore by March 2024, by using the 67 per cent entitlement threshold of the NFSA means coverage of nearly 96 crore households (National Commission on Population, 2020). This mismatch indicate the necessity to update population data and revise targeting policies. By doing so, the systemic barriers may be resolved so that the PDS benefits may be availed by all the eligible beneficiaries in an effective and fair way. Given these challenges, several state governments have attempted to boost the efficiency of PDS through technological interventions such as digitized ration cards, biometric authentication, etc. A recent initiative in this direction is the introduction of the One Nation One Ration Card (ONORC) scheme (Ministry of Consumer Affairs, Food & Public Distribution, n.d.). Despite these measures, issues like diversion of food grain, misidentification of beneficiaries and corruption still persist. As an example, leakage rates increased to 46.7 per cent in 2011-12 compared to 41.2 per cent in 2009-10 (Gulati & Saini, 2015). This increase raises questions on what has been done to curb this leakage and enhance targeting of beneficiaries. With such criticisms and challenges continuing, there is a rising debate about replacing the PDS with cash transfers. The Shanta Kumar Committee reported the leakage figure to be much higher and hence suggested cash transfers as a possible alternative to the PDS which could result in a decrease in the food subsidy cost of government. However, many studies argue in favour of continuation of PDS. The study by Bathla et al. (2015) suggested that in-kind transfers should be used over cash transfer since the latter option may not be feasible in remote and inaccessible areas. Furthermore, studies by Khera (2011) and Ghosh and Kumar (2022) also argues in favour of continuation of PDS over the cash transfers, reflecting concerns regarding high market prices and misuse of cash. Ghosh and Kumar (2022) also found from primary survey that preference for cash subsidies remains generally low, with the majority of districts indicating no preference whatsoever.

Given the debate of replacing PDS with cash transfers, it is important to do a thorough evaluation of the PDS. Accessibility, in particular is an important measure of its performance because it determines the actual access of the system by intended beneficiaries. Unfortunately, only a limited portion of the targeted population is actually able to benefit from the PDS food. Another key issue is that, even if households may have ration cards but they do not always use them to purchase commodities from the PDS. However, the access and utilization of the PDS differs across states which can be attributed to issues like the inefficiency of the targeting of beneficiaries, urban biasness, leakages, biometric authentication problems, and corruption. Considering all these problems, this paper reviews the existing body of literature on the PDS to examine how it works, how people utilize it, where leakages are, how technology is employed and what areas needs additional research. In this way, the paper aims to assist in evidence-based policy changes and promote a more effective food distribution system. By doing so, the paper seeks to contribute to evidence-based policy reforms and advocate for a more inclusive and efficient food distribution framework.

1.2. Objective

The main objective of this literature review paper is to examine access to and utilization of the PDS in India and to identify the factors influencing these outcomes.

1.3. Methodology: The study is based on secondary data with literature collected from various scholarly and institutional sources. Literature was collected through targeted searches on databases like JSTOR, Scopus, Google Scholar, ResearchGate and government websites including the Ministry of Consumer Affairs, Food and Public Distribution and NITI Aayog. The literature was identified using combinations of keywords such as PDS, NFSA, PDS access, leakages, targeting, food subsidy, determinants and utilization.

1.3.1. Literature Selection Approach

Relevant literature was selected based on defined inclusion and exclusion criteria to ensure clarity and thematic alignment. Although the review does not follow a formal systematic framework, it adopts a transparent selection process to enhance credibility. The applied criteria are summarized in Table 1 below.

Table 1: Criteria for Inclusion and Exclusion of Studies

Criteria	Inclusion	Exclusion
Time period	Studies published between 2008 and 2024	Studies published before 2008
Geographic focus	Studies focused on India (especially rural/urban households, state-level PDS)	Studies focusing on non-Indian contexts
Topic relevance	Studies analyzing PDS access, utilization, targeting, leakages, factor affecting access and utilization	Studies unrelated to food distribution or not focused on PDS
Type of publication	Peer-reviewed journal articles, working papers, news articles, government/evaluation reports	Conference abstracts, blogs, unpublished thesis
Language	English-language publications	Non-English publications

2. Conceptual Overview of PDS

2.1. Evolution and Definition of PDS. The Public Distribution System (PDS) is India's largest food security program managed by the Ministry of Consumer Affairs, Food and Public Distribution. It provides many essential commodities (i.e., rice, wheat, sugar, kerosene, etc.) through Fair Price Shops (FPSs). It is operated jointly by the centre and state government. The Central Government, via the Food Corporation of India (FCI), oversees the procurement, storage, transportation, and large-scale distribution of food grains to state governments. In contrast, state governments are responsible for tasks such as identifying eligible households, issuing ration cards, distributing food grains within the state, and overseeing the functioning of FPSs. Changes in the PDS in India have been numerous throughout the decades with the program starting as an emergency measure during wartime and ending up to be one of the biggest food security programs in the entire world. It has evolved to indicate the evolving priorities of the Indian government to deal with poverty, hunger and regional inequalities.

Public Distribution System (1940s-1990s) The PDS was started in 1942 during the World War 2 to provide food to the individuals who were in shortage due to the war. It was also continued after the country gained independence as a method of controlling scarcity and stabilization of prices. Between 1950s and 1990s, the PDS was a universal program whereby food grains were distributed at subsidized prices without any level of targeting.

Revamped Public Distribution System (RPDS), 1992. In 1992, the Government of India launched the Revamped Public Distribution System (RPDS) to remove regional differences in access to food. It aimed to improve food security in remote, hilly, and tribal areas that were initially not covered by the regular PDS.

Targeted Public Distribution System (TPDS), 1997

The TPDS was introduced in 1997 to focus subsidies on the poor and vulnerable households. Under this system, beneficiaries were categorized into:

- **Below Poverty Line (BPL)** - households entitled to a higher quantity of food grains at lower prices.
- **Above Poverty Line (APL)** - households entitled to smaller quantities at relatively higher subsidized prices.

The TPDS was the first systematic effort to differentiate entitlements by economic status but was not effective due to leakage and errors in identification.

Antyodaya Anna Yojana (AAY), 2000. The government rolled out AAY in 2000 to ensure food access among most vulnerable households by targeting the poorest of the poor. The AAY added a third category to the targeting structure of TPDS.

National Food Security Act (NFSA), 2013

The introduction of the NFSA in 2013 changed the approach of food security in India by recognizing it as a rights-based approach. The NFSA legally entitles:

- **Priority Households:** Receive 5 kg of food grains per person each month at subsidized prices of ₹3/kg for rice, ₹2/kg for wheat, and ₹1/kg for coarse grains.
- **Antyodaya Anna Yojana (AAY) Households:** Entitled to 35 kg of food grains per month, irrespective of family size.

The NFSA covers nearly 67 per cent of India's population, with entitlements extending to 75 per cent of rural and 50 per cent of urban residents.

3. Review of Literature

This section is structured around several key themes that emerge from available research evidences on the access and utilization of the PDS in rural and urban India. The themes are explained by summarizing their main insights and arguments in the literature. Through such organization of literature, the review will present a detailed insight into the debates, findings and gaps in the field. Each theme captures a different yet interconnected aspect of the topic, giving insights into the effectiveness, challenges, and policy implications of the PDS.

3.1. Access and Utilization of PDS. The term 'Access' refers to whether households consume any amount of food grains from the PDS (Rahman, 2014). While the possession of a ration card theoretically ensures access to subsidized food grains and essential commodities through the PDS but there is usually a gap between number of households possessing ration card and those actually benefiting from them. At the national level, the percentage of the population accessing the PDS increased significantly from 27 per cent in 1993-94 to 45 per cent in 2011-12 (Kumar et al., 2015). The rural India has witnessed greater accessibility of PDS-supplied rice and wheat over 2004-05 to 2011-12 with PDS rice accessibility availability improved to 46 per cent as compared to 24 per cent and wheat accessibility to 34 per cent as compared to 11 per cent (Rahman, 2014). In urban areas too, access to the PDS increased, with rice access increasing from 13 per cent to 23 per cent, and wheat from 6 per cent to 19 per cent over the same period. Overall, the accessibility of subsidized rice and wheat through PDS improved significantly across both rural and urban areas, with rural areas having more accessibility than urban areas. It demonstrates growing reliance on the PDS over time to get basic food items. Access to the PDS varies across states due to differences in implementation. There were major improvements in access to PDS in states like Chhattisgarh, Uttarakhand, Tripura and Odisha between 2004-05 and 2011-12 (Kumar et al., 2015). The PDS performance of the state of Bihar has also improved significantly since the PDS access in the state has increased from 1.9 per cent in 2004-05 to 42.2 per cent in 2011-12. States with least accessibility include Manipur, Nagaland, Haryana and Punjab (Kumar et al., 2015). Although these improvements have taken place, there are still challenges to ensure better access to the PDS across India. These challenges highlight the current issues in PDS, as well as the necessity to keep working on to enhance equitable access to essential food commodities in the country.

Another big issue regarding the PDS is the inconsistency over the utilization of the ration cards by the households despite the households having the cards. The utilization of the PDS means buying the PDS commodities by the cardholders. Access to and utilization of PDS is determined by types of ration cards possessed as prices vary with the types of ration cards. The PDS share in the household consumption of cereals increased in both rural and urban India, and the rural areas had higher PDS than the urban areas (Anuradha, 2018; Krishnan and Bathla, 2019; Takri and Choubey, 2022). PDS contributed to 21.7 per cent of the total cereal consumption in the rural areas, 13.9 per cent in the urban areas and an aggregate of 19.7 per cent in 2011-12 (Kumar et al., 2015). The share of PDS in cereal consumption at all- India level has gone

up by 19.7 per cent in 2011-12 as compared to 9.8 per cent in 2004-05 (Kozicka et al., 2016). Nationally, only 44 per cent of households, on average, consumed PDS wheat or rice, revealing disparities in utilization (Kozicka et al., 2016). Despite the increase in wheat and rice consumption from the PDS, the total average household consumption of wheat and rice has decreased over the years. This may be a sign of change in eating habits, economic conditions or access to substitute sources of food.

The analysis of the state-level data indicates varying level of PDS utilization, with states such as Himachal Pradesh, Jammu and Kashmir, Mizoram, Tamil Nadu reporting higher PDS utilization (Kumar et al., 2015). State-level reforms have also significantly contributed to the increase of PDS access and utilization. For example, the adoption of PDS reforms in Chhattisgarh led to a significant increase in the consumption of PDS rice in contrast to the neighboring states. The PDS rice utilization increased by an additional .289 higher in Chhattisgarh compared to the border districts where there were no such reforms taken (.33 less .041) (Krishnamurthy et al., 2014). Similarly, Odisha government implemented PDS initiatives such as extension of PDS coverage, introduction of mobile PDS vans, the implementation of model fair price shops and end-to-end computerisation. These reforms led to increase in the share of PDS in the consumption of cereals from 6.0 per cent in 1993-94 to 27.2 per cent in 2011-12 (Kumar et al., 2017). These findings point to the need to increase the efforts toward promoting the access and utilization of PDS. The next critical issue is the underutilization of the PDS as there is seen a significant difference between the foodgrain intake from PDS and non-PDS sources. Surprisingly, there are still a lot of ration card holders who rely primarily on the non-PDS sources to consume the food grains. In 2004-05, in rural India, average monthly consumption of PDS rice and wheat was 13.5 kg as compared to 35.4 kg of other sources (Ray and Ray, 2011). In the same light, Rahman (2014) noted that in 2011-12, about 54 per cent of rural households bought rice and 66 per cent bought wheat from non-PDS sources, which shows that there was underutilization of PDS. Moreover, PDS use is extremely low even in non-grain items as well such as sugar and kerosene since supply of the products is irregular (Chatterjee, 2014). These results raise questions on the ability of the PDS to provide benefits efficiently and fairly to its target population.

3.2. Socio-Economic Factors and PDS. The effectiveness and coverage of the social welfare programs like the PDS are determined by the socio-economic factors also which comprise the type of ration card possessed, household demographic composition, household income, education, occupation, caste, household size and gender of the household head. All these factors are quite instrumental in determining the degree to which people can use their rights to get their entitlements. A number of studies have found that socio-economic factors also play important roles in determining PDS access and utilization in India. Research indicates that most PDS beneficiaries belongs to Scheduled Caste (SC), Scheduled Tribe (ST) and Other Backward Class (OBC) groups (Khera, 2008; Gupta and Mishra, 2018; Takri and Choubey, 2022). Majority of these beneficiaries are non- agriculture labourers and belong to 3 or more person family (Khera, 2008; Panigrahi & Pathak, 2018). According to Khera (2008), only one-third of the households in Rajasthan accessed the PDS and most of these beneficiaries were illiterate and had no stable employment. It is further noted that the household of SC as well as OBC uses more PDS rice and wheat compared to those of the other castes (Mukesh et al., 2017). This implies that there are inequalities in the access and use of the PDS between the different social classes. In addition, gender factors also affect PDS access and utilization as households led by a female typically spend more on the PDS than those led by males (Mukesh & Srivastava, 2017). It is also discovered that bigger families are more inclined to consume more PDS wheat and rice (Jha et al., 2013; Mukesh and Srivastava, 2017). The observation shows the high dependency of the large households on the PDS to meet their basic food needs. Such results indicate socio-economic obstacles to equal access to PDS in India, and that the implementation of targeted interventions is required to manage differences and provide equal access to food.

3.3. Factors affecting PDS Access and Utilization

The factors concerned with the access and utilization of the PDS in India have been identified in various studies. Going to the operational level, Naik (2009) identified that the differences in PDS access are as a result of a number of factors such as low level of public awareness, local power relations, irregular stock arrivals, poor quality of the items as well as diversion of the products in black market. These directly affect the levels of engagement of the beneficiaries with the system and whether they can fully get their entitlements or not.

The physical distance to Fair Price Shops (FPS) also has an influence on accessibility. Research conducted by Jha et al. (2010) and Khera (2011) revealed that an increase in distance to FPS will cause a decrease in the demand of PDS wheat and rice. This implies that the cost of transacting is likely to be more expensive to the households that live farther away and thus, consumers might end up receiving less of the PDS benefits due to time and effort costs. Pradhan and Roy (2019) also found that there are five correlating factors that cause the disparity in access to the PDS and they are possession of ration cards, the actual quantity of grain received, price differences, grain quality and service delivery quality. These dimensions mark some important areas where there is still exclusion or inefficiencies.

Poor targeting mechanisms is still among the key barriers towards fair access to PDS. Earlier studies have pointed out mistakes in the mechanisms of identifying eligible beneficiaries (Khera, 2008; Naik, 2009; Jha et al., 2013; Sahoo et al., 2019). Chatterjee (2014) observed that outdated poverty data and multifaceted system of eligibility criteria and identification process are the causes of two types of targeting errors. The first is inclusion error where non-poor households are falsely recognised as beneficiaries. The second is exclusion error where the real poor households end up being excluded out of the system. According to Sahoo et al. (2019), only 39.6 per cent of the poor households were able to have ration cards and the rest (60.4 per cent) did not. Ray and Ray (2011) further found that large sections of the poor, specifically those belonging to category of agricultural labourers, SC, ST, landless households, and those in the lowest MPCE bracket were left out from the PDS. Moreover, most of the non-poor households had also used PDS (Dhanraj & Gade, 2016). The inclusion of non-poor households and exclusion of poor households reveals problems in the identification process. Poor targeting not only leads to waste and inefficiency in resource distribution but also raises the cost of food subsidies.

The quality of food grains distributed through the PDS has also been a matter of concern. Many households prefer buying food grains from the open market instead of the PDS due to quality issues such as the presence of foreign matter, broken or insect-infested grains and inferior taste (Khera, 2011; Panigrahi & Pathak, 2018). This raises question on the perceived reliability and desirability of PDS supplies and thus led to underutilization of PDS. Others reason responsible for PDS underutilization include irregularities in the distribution of the food grains, unavailability of some food grains, long queues, and quantity fraud in which the beneficiaries receive less food grains than they are entitled to receive (Chatterjee, 2014; Hundal and Chaudhary, 2020).

The fraud activities also undermine the effectiveness and the integrity of the PDS. These are like use of false ration cards, diversion in the open market and presence of ghost beneficiaries. Dhanraj and Gade (2016) found that this type of malpractice is also made easier by the near-universality of the system and tends to be unfavorable to the really needy households. Kumar (2010) had approximated that over 2 crore bogus ration cards were in circulation and this was costing the government a lot of money. So it is important to reduce such fraud practices and thus avoiding leakages to recover the lost transparency and increase the efficiency of the targeting system.

The geographical difference also plays a role in the access to the PDS and some of the determinants include population density, the transport and communication networks and economic development. Many studies have identified differences in the accessibility of PDS between rural and urban regions. For example, access to PDS has grown amongst rural and urban population from 24.8 per cent to 50 per cent and 15.4 per cent to 30.7 per cent respectively between 2004-05 and 2011-12 (Himanshu & Sen, 2013). The access differences between rural and urban

population as they have been over the years depict the necessity to employ targeted interventions that will reduce the difference between the two groups and produce the same level of access to the PDS in all areas. There is need to study the factors that have increased accessibility of the PDS in rural as compared to urban areas. It is also found that several poor do not have access to ration as their ration cards are not linked with Aadhar card. Such mandatory Aadhar linking causes instances of starvation to death. Masiero (2015) argued that JAM (Jan Dhan Yojana, Aadhar, and mobile number) tools could be helpful in the fight against diversion of foodgrain in PDS but couldn't be used as a means to dismantle the PDS. Dreze et al. (2017) argue that the integration of Aadhaar-based Biometric Authentication (ABBA) into the PDS has led to significant exclusion errors, as technical glitches such as device failures and unstable connectivity have prevented many eligible individuals from accessing their food entitlements. Although technological integration is often recommended to increase the efficiency of the PDS, its application in Jharkhand has revealed significant implementation challenges. The introduction of technological interventions has caused a number of issues like deletion of ration cards, Aadhar and ration card linking issue, biometric authentication failure, internet failure, etc. leading to digital exclusion of households (Singh, 2019).

4. Conclusion

This review paper gives a comprehensive review of the PDS access and usage in India and aspects that influence it. After reviewing studies based on PDS, it can be concluded that despite this massive spending on food subsidies, PDS has failed to achieve complete food security as most of the beneficiaries are still dependent on non-PDS sources. Various studies indicate a gradual improvement in PDS access over time, with a positive impact on household food consumption. Nonetheless, there are still high disparities between rural and urban because rural regions still exhibit more access to and utilization of PDS compared to urban regions. Currently, PDS is not accessed by all poor in India and the ones who do are not fully utilizing it. Targeting errors, inadequate quantity, bad quality of goods, administrative inefficiencies, quantity fraud, and infrastructural constraints that influence the overall efficacy of the system are the key factors that have led to the underutilization of PDS. This paper provides a comprehensive insight into the reality of PDS operations by considering both demand as well as supply-side factors. The findings indicate that policy reforms are required to improve the mechanism of targeting, bring more transparency and promote localized delivery mechanisms in order to enhance food security outcomes. Such findings can guide policy formulation to enhance working of the Indian food distribution programs.

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