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AN ANALYSIS OF EFFECTIVENESS OF PUBLIC DISTRIBUTION SYSTEM OVER THE FOOD SECURITY IN RAJNANDGAON DISTRICT OF CHHATTISGARH

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Abstract

The study evaluated the effectiveness of Public Distribution System (PDS) at Chhattisgarh in ensuring food security for low-income households. It focused on criteria such as accessibility to distribution points, use of E-POS devices, supply timeliness, ration quantities, FPS regularity, and anti-black marketing measures. The findings showed a high overall effectiveness with a 92.45% satisfaction rate, indicating strong PDS performance, though improvements were needed in distribution accessibility and E-POS functionality. The PDS significantly reduced monthly household expenditures in Dongargarh and Rajnandgaon by providing essential items like rice, sugar, salt, and kerosene at subsidized rates. For instance, households in Dongargarh (FPS I) reported savings of Rs. 1167.46, while FPS II users saved Rs. 1185.12. In Rajnandgaon, savings reached up to Rs. 1002.31 and Rs. 1075.12 for FPS III and IV, respectively. Regular purchases of staples like rice, sugar, and salt were made by all beneficiaries, though kerosene purchases varied, with FPS 2 showing 83.33% regularity. Overall, the PDS effectively supported low-income households through financial savings and consistent access to basic necessities, highlighting the need for further improvements to enhance its food security impact.

Keywords: PDS, food security, FPS, effectiveness, subsidy, expenditure, beneficiaries, e-POS device

INTRODUCTION

"Food not only represents our lifestyle but also provides mental, physical, social, and economic stability". The Ministry of Consumer Affairs, Food, and Public Distribution in India is in charge of distributing necessary edible goods fairly and at reasonable prices. The Department of

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Consumer Affairs and the Department of Food and Public Distribution are the two divisions of this ministry. In addition to overseeing the Republic of India's consumer movement, the Department of Consumer Affairs controls the prices of vital commodities and keeps an eye on their availability on the commercial market. India's food distribution system is managed by the Food and Public Distribution Department. A fair commodities pricing system for farmers is one of the Department's main goals. The Public Distribution System, or PDS, is also managed by it.

Basic goods including rice, wheat, salt, and sugar are all part of the Public Distribution System. A nationwide network of Fair Price Shops (FPSs) distributes these goods. One of the key tools used by the Indian government to carry out its economic policy to safeguard the impoverished is the Public Distribution System (PDS).

Review of Literature

Bhat and Hussain (2020), PDS is essentially an anti-poverty and social welfare initiative of the Indian government. Under the PDS, individuals receive discounted rates for necessities such as rice, wheat, sugar, kerosene, and similar items. The goal of the research is to examine the PDS system in Kashmir, which is sometimes referred to as the "Kashmir Model" of food security programme implementation. Under this system, customers get subsidised grain from farmers at prices that are higher than market rates. We examined the effectiveness of the PDS in Kashmir in this paper and discovered that there is widespread supply theft inside the system. Every ration card holder has access to Fair Price Shops (FPS) within a two kilometer radius. Kashmir is primarily dependent on imports for food, but it also has a comparative edge in the production of cash crops..

Jha *et al.*, (2021) , the program was not targeted, and the poor benefited from subsidies, according to a different comparative analysis on PDS conducted by the same authors based on characteristics such food subsidies, income transfers, and low participation.

Chittedi and Thomas (2021), one key way to study the income transfer between the rich and the poor is to evaluate the poverty reduction in terms of food subsidies through the Public Distribution System (PDS). Analysis of PDS's effect on poverty in both rural and urban areas is the goal of the study. Additionally, a comparison of the subsidy transfers between the rich and low expenditure classes of households is made. The National Sample Survey Organization's (NSSO) 68th round report on PDS and other sources of household consumption (2011–2020) is where the statistics for this target were taken from. Using the income transfer approach, the monthly per capita consumption expenditure (MPCE) decile-wise impact of PDS on poverty is calculated for the key

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17 states included in the NSSO study. Through implicit income transfers or subsidies, the effect of PDS on poverty is calculated. The study's findings for all of India, in both rural and urban locations, indicated that the poorest expenditure class in the highest MPCE deciles across all states had a greater impact in terms of a percentage rise in real MPCE.

Applanaidua *et al.,* (2022) when government spending on rural development remains a macro variable, the population's food security is positively impacted.

Takri & Choubey (2022), however, because the beneficiary's households were more reliant on non-PDS sources, they had not received full food security.

Malghan *et al.,* (2023), in their investigation of enhancing the public distribution system's efficacy in India - A thorough investigation looked at the PDS value chain, system leaks, estimation and allocation, distribution, and lessons learned from the states of Chhattisgarh and Tamil Nadu. PDS positioned itself as an effective institution to end hunger in India in the near future, especially when combined with its extensions from the National Food Security Act. The TPDS had a clearly defined objective, however its execution in the states of Tamil Nadu, Chhattisgarh, Maharashtra, and Himachal Pradesh was relatively more successful than in other states.

Elayaraja and Manjunath (2023), according to their analysis of the Karnataka State targeted public distribution system's effectiveness, the system was essentially a rationing mechanism that gave households access to food grains, essential commodities, and specified quantities at reasonable prices for those who fell below the poverty line, above it, and antyodaya anna yojana families. They discovered that the majority of individuals in the state of Karnataka relied on agriculture for their everyday sustenance. They had to rely on PDS to satisfy their basic food needs because they were not being compensated for their labor. As a result, PDS has grown to be India's biggest food entitlement program.

Bhagyasree (2024), in her research on the effectiveness of the public distribution system with regard to Colachel Municipality, the author discovered that most PDS users were from below-poverty households; that rice is more important than other products, such as kerosene and wheat, as locals consume more rice and less wheat; and that PDS supplies are used by all demographic groups due to their cheaper cost, which serves as a driving force. The study also revealed that the supply of rice, wheat, sugar, kerosene under PDS was adequate to the family but the supply of pulses and palm oil were not adequate to the PDS beneficiaries because of which they were buying from the open markets.

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Sen and Gupta (2024) found that the public distribution system is an effectiveness means of reducing poverty. The vulnerable population receives food security from PDS. The Indian government has this social welfare programme. During World War II, it was first launched. Among India's principal policies is this one. This application is effective in spite of its many flaws and inadequacies. Truth be told, our nation still faces significant issues from poverty, hunger, and malnutrition. Using the beneficiaries' responses from the research region, the current study has attempted to gauge the efficacy of Madhya Pradesh's public distribution system. According to the study, there is a considerable association between the success of PDS and beneficiaries' happiness.

Methodology

The study is based exclusively on Primary data. This study was conducted in Rajnandgaon district of Chhattisgarh. From the district's four blocks, Rajnandgaon and Dongargarh were purposively chosen due to their high number of Fair Price Shops (FPS). Two villages from each block and two FPS from each block, totalling four FPS were chosen for the study. To gather data, 10% of BPL beneficiaries from each village were randomly selected, comprising total of 110 respondents. Primary data was collected through personal interviews using a pre-tested survey schedule, while secondary data was sourced from government offices and research publications. The analysis utilized statistical tools like tabular analysis, averages and percentages helped evaluate the PDS's effectiveness in promoting food security, focusing on criteria such as regularity, beneficiary perceptions, and the acceptance of food quality distributed through FPS. This approach allowed for a comprehensive understanding of beneficiaries' experiences and the PDS's impact on their food security.

Results and Discussion

The Public Distribution System (PDS) is a government initiative in India that provides low-income households with discounted food grains such as ration, sugar, salt, and kerosene. Its primary purpose is to ensure that everyone, particularly the impoverished, has sufficient food to consume.

1. List of The Questionnaires/Criteria To Evaluate The Effectiveness of PDS

i. Accessibility to distribution point is less than 1 km.
ii. Information regarding PDS supplies availability and prices.
iii. Availability of E-POS devices by FPS dealers.
iv. Compulsory usage of E-POS devices by FPS dealers.
v. Timely supply of PDS supplies.
vi. Regular working hours of FPS.
vii. Fluently work of E-POS device.

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viii. Weighting procedure fair by FPS staff.
ix. Sufficient quantity of ration.
x. FPS dealer does not support black marketing.

The data collected for each criterion is summarized in the table no 1. To evaluate the effectiveness, percentage calculation measure is used. Percentage of 'Yes' responses for each criterion were calculated and average of these percentage was computed.

TABLE 1 CALCULATION OF EFFECTIVENESS OF PDS OVER THE CHOSEN CRITERIA:

S. N.	Criteria	Yes	No	Total	Yes Percentage
1	Accessibility to distribution point is less than 1 km.	74	36	110	67.27
2	Information regarding PDS supplies availability and prices	110	0	110	100.00
3	Availability of E-POS devices by FPS dealers	110	0	110	100.00
4	Compulsory usage of E-POS devices by FPS dealers	110	0	110	100.00
5	Timely supply of PDS supplies	99	11	110	90.00
6	Regular working hours of FPS	110	0	110	100.00
7	Fluently work of E-POS device	83	27	110	75.45
8	Weighting procedure fair by FPS staff	110	0	110	100.00
9	Sufficient quantity of ration.	101	9	110	91.82
10	FPS dealer does not support black marketing	110	0	110	100.00
	Overall Percentage			1100	92.45

Total yes percentage with 92.45 signifies a highly effective Public Distribution System in study area. The system excels in areas such as information dissemination, technological implementation, operational regularity, and anti-corruption measures. However, there are areas for potential improvement, particularly in enhancing the accessibility of distribution points and ensuring the smooth functionality of E-POS devices. Overall, the PDS demonstrates a strong performance in meeting its goals and serving the intended population efficiently.

2. **Role of PDS in Saving Monthly Expenditures of Beneficiaries**

Public Distribution System (PDS) plays a crucial role in household savings by providing essential food grains and other commodities at subsidized prices. This reduces the overall expenditure on basic necessities for lower-income families, allowing them to allocate more of their income to savings. By ensuring food security and affordability, PDS helps families to save money that would

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otherwise be spent on market-priced goods, contributing to their financial stability and potential economic mobility.

TABLE 2: ROLE OF PDS IN SAVING MONTHLY EXPENDITURES OF BENEFICIARIES

Selected Area	Average required food items per month		Avg. Supplied items quantity by FPS (kg or lt)	Average Expenditure on food (Rs/Month)	Market Expenditure (Rs/Month)	Net Expenditure saved through PDS (Rs/Month)
	Items	Quantity (kg./lt)				
Dongargarh (FPS I)	Rice Sugar Salt Kerosene	36.4 3 2.42 0.7	35.77 1 1 0	1150 126 29.35 70	19.90 84 17.22 70	1130.33 25 12.13 0
Total				1375.59	191.13	1167.46
Dongargarh (FPS II)	Rice Sugar Salt Kerosene	41.34 3.91 2.58 1.17	37.5 1 1 2	1252.18 161.28 25.8 117	116.31 120.03 15.8 0	1135.87 24.25 10 15
Total				1556.27	252.14	1185.12
Rajnandgaon (FPS III)	Rice Sugar Salt Kerosene	33.92 3.26 2.26 0.81	33.8 1 1 2	953.49 136.92 22.6 81	3.37 94.92 11.6 0	950 25 11 16.2
Total				1194.01	109.89	1002.31
Rajnandgaon (FPS IV)	Rice Sugar Salt Kerosene	33.68 3.07 2.34 0.4	3 3. 4 8 1 1 2	1023.19 128.94 23.4 40	6.07 86.94 13.4 0	1017.12 42 1 0 6
Total				1215.53	106.41	1075.12

Source: Primary Data (Field Survey)

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In the table no. 2 show's role of PDS in savings monthly family expenditure Public Distribution System (PDS) for four selected FPSs. At FPS I, beneficiaries needed 36.4 kg of rice, 3 kg of sugar, 2.42 kg of salt, and 0.7 litters of kerosene per month. This FPS provided most of the items, resulting in savings of Rs. 1167.46. FPS II showed the highest savings of Rs. 1185.12, smaller quantities of sugar and salt. Finally, FPS IV saved beneficiaries Rs. 1075.12, providing essential items at low cost, though beneficiaries still needed to purchase additional kerosene. Overall, the PDS system significantly reduced monthly expenses across all FPS locations, with net savings ranging from Rs. 1002.31 to Rs. 1185.12, showing its strong impact on alleviating financial burdens for low-income households.

3. Utilization and Regularity of Commodity in Study Area

The effectiveness of functioning of PDS has calculated by evaluating regularity of PDS in study area. Utilization refers to how the food grains provided by the PDS (such as rice, sugar, salt, kerosene) are actually used by the beneficiaries and regularity of purchase refers to how consistently families are able to buy food grains from the PDS each month. "Regular" means the beneficiary buys items every month, while "irregular" means the beneficiary buys items every two, three, or four months as needed or sometimes does not buy at all.

TABLE 3: REGULARITY OF PURCHASE FOR RICE, SUGAR AND SALT FROM PDS

Commodity Purchase From PDS		**FPS 1**	**FPS 2**	**FPS 3**	**FPS 4**	**Total**
Rice, Sugar, Salt	Regular	35 (100)	24 (100)	26 (100)	25 (100)	110 (100)
	Irregular	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Total		35 (100)	24 (100)	26 (100)	25 (100)	110 (100)

Source: Primary Data (Field Survey)

In table 3 all beneficiaries in FPSs 1, 2, 3, and 4 purchase rice, sugar, and salt from the PDS regularly (100% regular purchase). This regularity is due to the subsidies provided, which make these essential items affordable. Additionally, the PDS supports those with low incomes, ensuring they have access to these necessities. The beneficiaries were getting rice, sugar and salt from PDS every month on a regular basis.

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TABLE 4: REGULARITY OF PURCHASE FOR KEROSENE

Commodity Purchase from PDS		FPS 1	FPS 2	FPS 3	FPS 4	Total
Kerosene	Regular	0 (0)	20 (83.33)	11 (42.30)	8 (32)	39 (35.46)
	Irregular	35 (0)	4 (16.67)	15 (57.70)	17 (68)	71 (64.54)
Total		35 (100)	24 (100)	26 (100)	25 (100)	110 (100)

Source: Primary Data (Field Survey 2024)

In table 4 FPS 1, none of the beneficiaries purchase kerosene from the PDS, indicating that kerosene is not available there. In FPS 2, 83.33% of the beneficiaries purchase kerosene regularly, while 16.67% purchase it irregularly. In FPS 3, 42.30% of the beneficiaries purchase kerosene regularly, and 57.70% purchase it irregularly. In FPS 4, 32% of the beneficiaries purchase kerosene regularly, and 68% purchase it irregularly. Overall, out of 110 beneficiaries across all four FPSs, 35.46% purchase kerosene regularly, and 64.54% purchase it irregularly. This irregular purchase pattern is due to the high price of kerosene and the fact that the beneficiaries do not always need kerosene. The reason being some of the rural households are habituated in using lot of fire wood after cutting trees that is being used by them instead of kerosene. There is a good supply of LPG cooking gas by government but few are still using kerosene as an alternative when power cut is there and when LED equipment is not available/ discharged.

Conclusion

The Public Distribution System (PDS) was highly effective, with 92.45% positive responses from beneficiaries. It successfully provided essential items like rice, sugar, and salt consistently, ensuring regular access for all. The system also supported food security and economic stability, significantly reducing monthly expenses for low-income families, with savings ranging from Rs. 1002.31 to Rs. 1185.12 across different FPS locations. However, the irregular purchase of kerosene due to high prices and occasional demand pointed to challenges in availability and cost. While the PDS helped families with essential items, improvements in the accessibility of distribution points, EPOS device functionality, and more consistent kerosene supply could further enhance its effectiveness. Ensuring a consistent supply across all FPS would provide greater benefits to low-income households, reinforcing the importance of fuel subsidies and better distribution practices. The reason being some of the rural households are habituated in using lot of fire wood after cutting trees that is being used by them instead of kerosene. There is a good supply

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