



Project Jaankari

SESSION 2021 - 22



Performance Assessment of the Public Distribution System



The Economics Society, SRCC



Introduction	1-6
Policy Review	7-9
Methodology	10-13
○ Questionnaire	10-12
○ Analysis	13
Analysis & Interpretation	14-27
○ Visitor & Owner Profiles	14-15
○ Single Variable Analysis	16-17
○ Multivariate Analysis	18-19
○ Inter-Head Analysis	20-21
○ Zonal Analysis	22-26
○ Comparative Analysis	27
Recommendations	28-52
○ Diversification of Supplies	29-31
○ Improvement in Infrastructure	32
○ Digitization	33-36
○ Efficient Implementation of E-POS	37-38
○ Grievance Redressal	39-43
○ Issue of Ration Cards	44-46
○ Ration Wastage & Spoilage	47-49
○ MMGGRY	50-52
Conclusion	53-55
Timeline & Questionnaire	56
References	57-58
Team 2021-22	59



Table of Contents

INTRODUCTION



ABOUT THE PUBLIC DISTRIBUTION SYSTEM

India's food demand has increased since independence majorly due to rising population and changing consumption patterns. At the same time, a sizable segment of the Indian population is impoverished, suffering from hunger and malnourishment. Poverty in India is widespread, with the nation estimated to have a third of the world's poor. In 2010, the World Bank reported that **32.7%** of the total Indian people fall *below the international poverty line of US\$ 1.25 per day* while **68.7%** live on *less than US\$ 2 per day*.

Access of the poor to food is a primary objective of all poverty-alleviation policies. To mitigate hunger and protect the poor from variable food market prices, the country has long introduced a food security programme known as the **Public Distribution System (PDS)**. The Public Distribution System in India is possibly the world's largest distribution system of its type, with a network of over **400,000 Fair Price Shops (FPS)**. PDS is said to distribute commodities to **16 crore families**, worth more than **Rs 15,000 crore** each year. Delhi alone has seen over *a million ration* transactions under the Centre's One Nation One Ration Card scheme that was implemented by the Delhi government in July 2021, according to official data.

The Public Distribution System (PDS) is a food security system in India, established by the Ministry of Consumer Affairs, Food, and Public Distribution. PDS emerged as a system of scarcity management through the distribution of food grains at an affordable cost. Currently, commodities such as wheat, rice, sugar, and kerosene are allotted to states/UTs for distribution under the PDS. Some states/UTs distribute additional mass-consumption commodities through PDS outlets, such as pulses, edible oils, iodized salt, spices, and so on. The Public distribution system in India has been introduced with an objective to ensure that the essential consumer goods reach at cheap and subsidized prices to the consumers so as to isolate them from the effect of rising prices of these commodities and maintain the minimum nutritional status of countries' population.

Ration shop in West Delhi



This research project entails an attempt to use evidence-based tools to understand the working and efficiency of ration shops in delivering services to the consumers. Through this study a primary research was conducted, with data being collected through a detailed questionnaire covering both qualitative and quantitative aspects, and analyzed to assess the efficiency of the public distribution system in the Union Territory of Delhi. The study has detailed primary analysis conducted under four categories: *Single-variate analysis*, *Multi-variate analysis*, *Inter-variate analysis* and *Zonal analysis* together with suitable recommendations.

EVOLUTION OF PUBLIC DISTRIBUTION SYSTEM IN INDIA

The public distribution of essential commodities had its origin in the country during the inter-war period. This rationing system in India was first introduced by the British during World War II and was originally implemented in 1939 in Bombay, subsequently extended to other cities and towns. This scheme was started on 14 January 1945, during the Second World War, and was launched in the current form in June 1947. The introduction of rationing in India dates back to the 1940s Bengal famine.



However, PDS, with its focus on distribution of food grains in urban scarcity areas, had emanated from the acute food shortages of the 1960s and revived in the wake of scarcity during the period. PDS had significantly contributed to the containment of rise in food grains prices and ensured access of food to urban consumers. In the 1970s and 1980s, as national agricultural production increased in the aftermath of the Green Revolution, PDS outreach was expanded to tribal blocks and places with a high prevalence of poverty. Subsequently, the government set up the Agriculture Prices Commission and the Food Corporation of India in 1965 to improve domestic procurement and storage of food grains for PDS.

The Revamped Public Distribution System (RPDS) was introduced in June 1992 with the goal of strengthening and refining the PDS as well as expanding its reach into the distant, hilly, and inaccessible areas where a significant portion of the disadvantaged classes live. The Government of India launched the Targeted Public Distribution System (TPDS) in June 1997, with a focus on the disadvantaged.

FUNCTIONING

The PDS is managed jointly by the Central and state governments. The Food Corporation of India (FCI) has taken the responsibility of procurement, storage, transportation, and bulk allotment of food grains to state governments on behalf of the central government. Food grains are purchased from farmers at a minimum support price (MSP) and sold to states at central issue pricing. It's the responsibility of the central government to transport the grains to the godowns in each state. State governments are in charge of operational duties such as allocation within the state, identification of eligible households, issuance of Ration Cards, and supervision of the operation of Fair Price Shops (FPSs), etc.

Each family below the poverty line is entitled to 35 kg of rice or wheat per month under the PDS scheme, whereas a household over the poverty line is entitled to 15 kg of foodgrain per month. A public distribution shop, commonly known as fair price shop (FPS), is a part of India's public system established by the Indian Government which distributes rations at a subsidized price to the poor. These are also known as ration shops in the local community.

Ration shops are currently working in most localities, villages, towns and cities. India has around 5.5 lakh (0.55 million) shops, making it the world's largest distribution network. Up to 30.6.2011, the total number of Fair Price Shops (FPSs) recorded by States/Union Territories (UTs) in the country was 5,05,879.



The Department of Food, supplies, and consumer affairs, GNCT (Government of National Capital Territory of Delhi) of Delhi was established in 1962 and is responsible for managing the Public Distribution System of essential commodities in the National Capital. The Delhi government distributes free ration to beneficiaries under the **National Food Security Act (NFSA) 2013** and the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKY)** through electronic point of sale devices. It also implemented the ONORC scheme in July this year. Under the ONORC scheme, people holding a ration card under the NFSA can collect their monthly quota of food grain from any fair price shop across the country. Many reform measures are taken by GNCTD to make the PDS more transparent like ration card portability services, issuing SMS alerts to the beneficiaries. Almost all digital food security cards are Aadhar enabled.

At present, the public distribution system in Delhi is for distribution of wheat and rice to all food card holders under the NFS Act and sugar to AAY cardholders. According to the Department of Food & Supplies, In March 1999, there were **3,214 PDS** outlets in Delhi. Of these, **2,811 outlets** were in *urban areas* and **403** in *rural areas*. On an average, each Fair Price Shop handles 1,000 ration cards. The number of households in Delhi that carry ration cards increased from **23.02** lakh in 1990-91 to **33.53** lakh in 1998-99. The number of ration card holders dropped significantly post implementation of National food security Act in Delhi as all the non-beneficiaries are excluded. Over **2000** fair price shops are present in Delhi. The city has **17.77 lakh** card holders and has around **72.78 lakh** beneficiaries.



THE WAY FORWARD

FPSs will act as financial service agents to cater multiple services of a consumer, and will “evolve” to offer greater conveniences. As a lot of communities in Delhi face digital divide, these FPSs aim to directly tackle the problem by integrating a technology friendly user interface. Under the Digital India Programme, consumers will witness establishment of **Common Service Centres (CSCs)** which aim to cover the remote rural areas and enable them access to financial and personal services. The government has an ambitious vision for the FPS dealers-bank credit to **upto 10 lakh** for *MSMEs*, for better infrastructure.

MAJOR UNDERTAKINGS

17,00,000

New FPS license shops issued,
to push supply

1,983

Active e-PoS devices as on 1 May 2022

94.3%

Beneficiaries covered under ONORC plan in the
National Food Security Act (NFSA).

2020-21

Introduction of **Minimum Threshold Parameter**
(MTP) for monitoring and strategic decision making.

POLICY REVIEW

This section includes the policies and initiatives that have been undertaken by the Public Distribution System to achieve the objectives laid down by the Ministry of Consumer Affairs, Food and Public Distribution with the aim of bringing food security in India.

PDS in Delhi comes under the ambit of The Department of Food and Civil Supplies, Government of National Capital Territory of Delhi. It entails distribution of wheat and rice to all the cardholders under National Food Security Act, 2013 and sugar to Antyodaya Ann Yojana cardholders. Grievance redressal mechanism has been improved upon, with the helpline numbers 1967 and 1800-110-841.

CENTRAL GOVERNMENT SCHEMES

Integrated Management of PDS (IM-PDS)

This scheme implemented a technology driven Central Sector Scheme in April, 2018. With a total outlay of Rs. 127.3 crores for this scheme needs to be implemented in all states and UTs in India by March, 2023. This scheme, also known as the 'One Nation One Ration Card Plan' is majorly concerned with implementing **nation-wide portability** of ration cards. This is especially beneficial for migrant ration card holders as they can avail their share of food grains from any **e-PoS enabled Fair Price Shop (FPS)** in the country using their existing ration card after biometric/Aadhar authentication. This scheme is currently functional in **35 states and UTs**. A Central Repository of all ration cards in the country has been set up which expedites the national portability transactions and also helps detect ration card holders who are eligible for national portability. The scheme is being implemented with the technical partnership of *National Informatics Centre (NIC)*.

Grievance Redressal Mechanism:

It is compulsory to for all states to set up internal grievance redressal mechanism including call centres, helplines, nodal officers, etc as per Section 14 of the National Food Security Act, 2013. Section 15 provides for a District Grievance Redressal Officer for the effective redressal of grievances in matters relating to distribution of entitled foodgrains.



POLICY REVIEW

The government has assigned the Delhi Public Grievance Commission as the State Food Commission for effective and timely redressal of grievances of beneficiaries. Measures are taken by the Delhi government to make the PDS more transparent like issuing SMS alerts to the beneficiaries and setting up helpline numbers for complaints.

Antyodaya Anna Yojana (AAY)

This scheme, launched in December, 2000, was launched to make TPDS more focused towards providing food to the poorest families in the BPL population. This includes families who are unable to afford 2 square meals a day on a sustained basis throughout the year and have such low purchasing power that they are not able to afford food grains all year round. Those who are at the starving threshold are being provided 25 kg wheat and 10 kg rice per month at Rs. 2/- per kg and Rs. 3/- per kg respectively. 1 kg sugar per household per month at Rs. 13.50/- per kg is also being provided to AAY card holders. As on 31st March 2021, total 68,729 families consisting of 2,81,039 members were beneficiaries under this scheme in Delhi.

STATE GOVERNMENT SCHEMES:

Food Grains at BPL Rates to Welfare Institutions/Hostel Scheme

Under this scheme, the government of Delhi provided food grains at BPL rates to welfare institutions and hostels such as Bal Niketan, Widow Home for Women, Observation Home for Girls, Nari Niketan, etc. As on 31st March 2021, there were 232 inmates in the above institutes.

Kerosene Free City

Under this scheme, launched in 2012, the government of Delhi has provided free LPG connection with an LPG filled cylinder, two burner chullah, etc to kerosene oil user ration cardholders. The total number of kerosene oil users as per the e-PDS database in Delhi was 3,56,395. The scheme has however been discontinued since September 2013 and Delhi was been declared as a "Kerosene Free City" in October 2013.



POLICY REVIEW

Technology based reforms

- 1.SMS alerts - SMS alerts are sent to the Vigilance Committee headed by the MLA of the area, concerned FSO, inspectors and ration cardholders who have registered their mobile numbers in the website, as and when SFA is dispatched from the godowns.
- 2.e-Ration Card - This has been implemented on April 2015 to encourage transparency and efficient delivery of ration cards to the users. Around 16,99,740 ration cardholders have benefited from this initiative.

PAHAL

Under this scheme, if the consumer is an Aadhar card holder, then that remains the medium of cash transfer. If the consumer does not have an Aadhaar number, then they can directly receive the subsidy their bank account without the use of Aadhaar number.

Mukhya Mantri Corona Sahayta Yojana

The F&S Department has distributed food grains free of cost to those from vulnerable sections of society and economically weaker sections who don't possess ration cards especially migrant labourers and unorganised workers during COVID-19 pandemic. Each beneficiary was provided 4 kg wheat and 1 kg rice per month. A one time kit of minimum essential oil, 1 kg chhole chana, 1 kg sugar, 1 kg salt, 200 gm haldi powder, 200 gm dhania powder, 200 chilli powder and 2 soaps was provided free of cost to each PDS households and to non-PDS families.

Distribution of Dry Ration to Sex Workers

Under the Supreme Court's orders, free ration (4kg wheat and 1kg rice) was distributed to sex workers free of cost through NGOs in 2020.



METHODOLOGY

Primary survey was undertaken to collect data for this report. A detailed questionnaire involving both **qualitative** and **quantitative** questions was prepared. The sample space constituted the owners/regulators of the ration shops and the visitors. The Questionnaire set was structured into the two sections of the sample space - the *owners/regulators* and the *visitors* since the variables studied were different for both. Further segregation was done for the supply and demand side respectively. The questions asked to the owners/regulators of ration shops focused on their working conditions and duties as PDS employees whereas the ones for the visitors aimed at understanding their satisfaction, experience and grievances. The table on the next page highlights the broad categories of questions asked from each of the parties.

A team of 3-5 students was sent to each ration shop for conducting interviews with the respondents. A free-flow conversational approach was utilized to obtain accurate and honest responses.



VISITORS

BASIC DETAILS

- Number and type of ration card holders in the family
- Consumption requirements
- Proximity from ration shops

DEMAND SIDE

- Ration card related expenses
- Frequency of and waiting time for buying ration
- Quality and quantity of ration
- Availability and efficiency of digital infrastructure
- Services during Covid-19
- Non-utilisation and misappropriation of services
- Importance of ration shops

SUPPLY SIDE

- Regularity in opening/closing of shops
- Efficiency during Covid-19
- Infrastructure of shops
- Grievance mechanism
- Satisfaction from services
- Mukhya Mantri Ghar Ghar Ration Yojna (MMGGRY)

MISCELLANEOUS

- Any suggestions or additional feedback

OWNERS/REGULATORS

BASIC DETAILS

- Availability and sufficiency of salaried employees
- Salary, commission and social security benefits
- Literacy level
- Number of working hours

BUSINESS-RELATED

- Stock management
- Size of shop and availability of proper facilities and electricity
- Availability and efficiency of e-POS devices and Geographic Information System
- Mukhya Mantri Ghar Ghar Ration Yojna (MMGGRY)

DEMAND SIDE

- Number of customers on daily basis
- Opening and closing hours of shop
- Busiest hours/days
- Impact of Covid-19 on demand
- Repeat customers
- Satisfaction and grievances of customers
- Sufficiency of stock
- Waiting time for customers

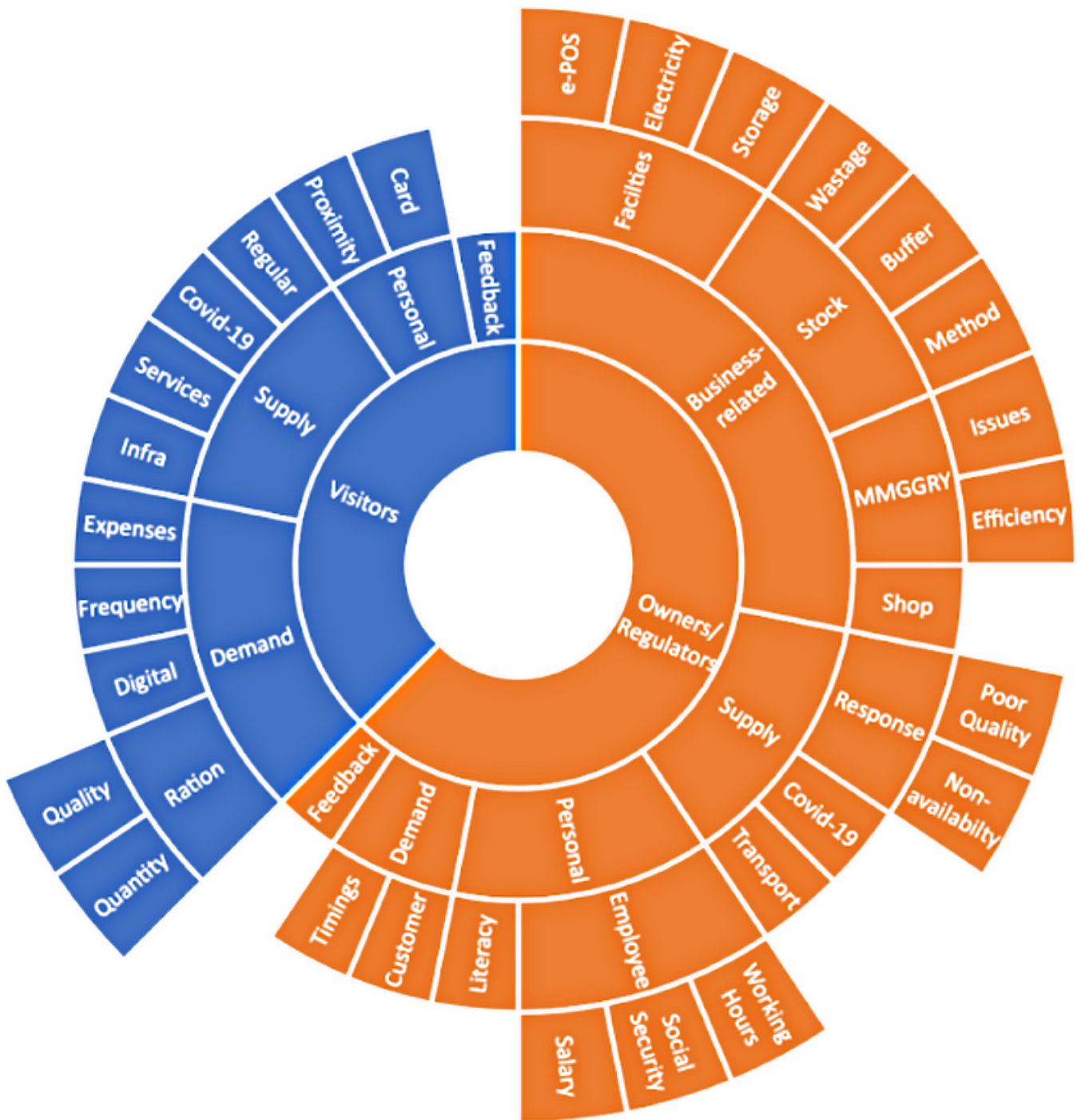
SUPPLY SIDE

- Transportation of grains
- Impact of Covid-19 on supply
- Sale of surplus stock
- Cooperation of suppliers
- Response on non-availability or poor quality of grains

MISCELLANEOUS

- Any suggestions or additional feedback

The following sun-burst diagram represents the broad categories of the variables studied through the questionnaire:



A total of 550 responses, including 29 employees and 521 visitors, were garnered from 59 ration shops in 8 zones of Delhi. Interviewees' consent was obtained for using their answers and pictures in this report. Owing to the current scenario, necessary precautions such as social-distancing and wearing of masks were taken during the data collection process.

To analyze the collected data, a structure was built wherein the analysis was conducted under four categories. All the questions/variables asked from the consumers and the regulators/ employees were studied individually as Single Variate Analysis to better understand the parties concerned. Under Multivariate Analysis, two or more variables, pertaining to a single party, were studied together to determine internal linkages and divisions in the variables. Under Inter-Variate Analysis, the responses of Consumers with that of regulators/employees were compared to find a relation between the two. Lastly, under zonal analysis, eight zones identified during the survey were compared based on certain indicators.

SINGLE VARIABLE ANALYSIS

Single Variate Analysis involved interpreting the individual questions asked to both the customers and the employees/regulators. This was done to get a better understanding of the demographics of the respondents and their views. For example, questions pertaining to availability of food grains, operating performance of the FPS shops, stock management were answered through this analysis.

MULTIVARIATE ANALYSIS

Multi-Variate analysis involves studying two or more variables to establish a relationship among them and understand a correlation between them. It also helped in dividing the data pertaining to a single factor into segments. For Example, what time do the consumers prefer to visit the shop and how much time is spent in lines outside the shop?

INTER-HEAD ANALYSIS

Under this segment, the questions asked to customers and regulators/employees point towards the same indicators, were analyzed so as to find out variations in their answers. For Example, a correlation was derived between how often do the consumers have complaints/grievances and how fast is the grievance mechanism for them?

ZONAL ANALYSIS

The objective of Zonal Analysis was to shed light on the performance of PDS system in the identified eight zones of the city from where the data was collected and studied. This was done based on indicators like infrastructure, availability and quality of grains, producer vigilance etc. For Example, how often do the shops open in different zones of Delhi.

VISITOR PROFILE

91.2% consumers visit ration shops on a monthly basis

The average waiting time in queues is **28.5** minutes

50% visitors agreed that digitisation made the process more efficient

45.4% agreed that complexity in obtaining ration card lead to demand discrepancies

80.6% customers had a BPL ration card

81.33% customers rated the importance of ration cards as **>4/5**

70.96% consumers gave a rating of **>4/5** to the PDS infrastructure

83.3% customers received the quota they were entitled to



OWNERS PROFILE

85.7% of them hired Salaried Workers

92.9% of them managed the stock through online databasing

84% of them said that denied that the pandemic had induced a supply shock

70.4% of them said that their stock meets the local demand for Ration

66.7% of them said that 9-11 A.M were the peak hours of operation

85.7% of them opened their shops between 9-11 A.M and 50% of them closed their shop before 7 P.M



57.1% of them said that over 50% of their customers were repeat customers

94.7% of them had E-POS devices and 89.5% agreed that they were effective in Ration distribution

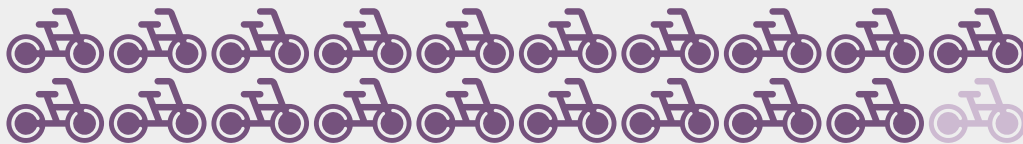
SINGLE VARIABLE ANALYSIS



6 in 10 ration holders receive more than 50% of their total consumption from ration cards



5 in 10 families spent more than 30 minutes in the queue outside the ration shop to receive their ration



19 in 20 ration card holders have a ration shop within a 5 km radius



18 out of every 20 families purchase ration from the fair price shops every month



11 of 20 ration card holders were satisfied with the quality of foodgrains



22 out of 25 ration shop owners found E-POS devices to be effective in ration distribution



5 out of 10 ration shop owners cater to more than 30 customers on a daily basis.



13 out of 20 ration card holders were aware of the MMGGRY, while 12 of 20 reported serious problems with its implementation

MULTIVARIATE ANALYSIS

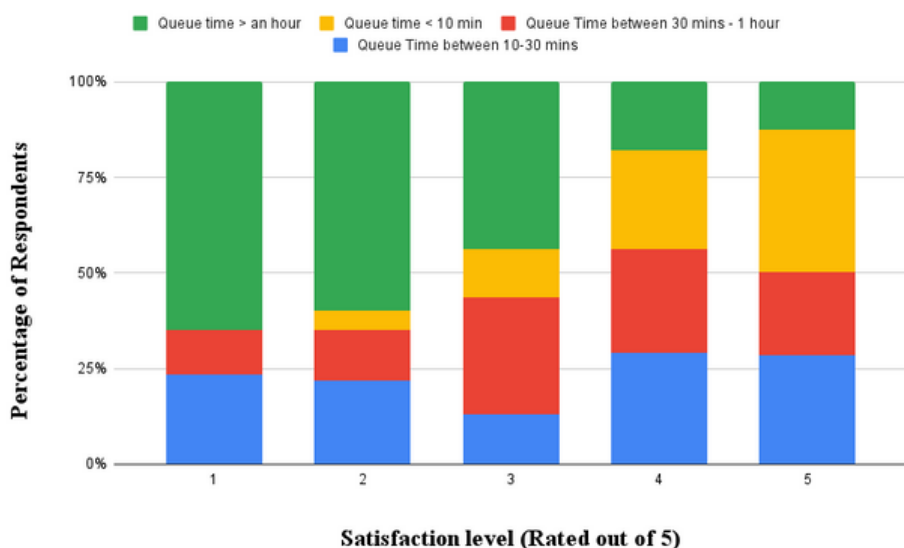
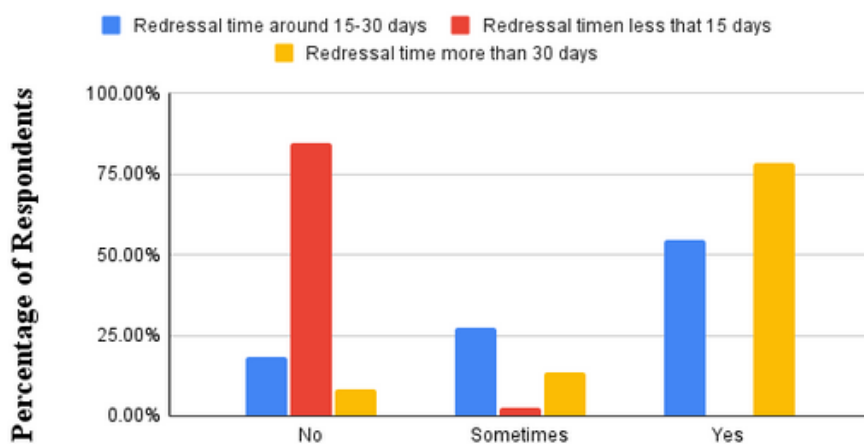


Figure 1: Queue time and satisfaction chart

The adjacent diagram illustrates the satisfaction of ration card holders against the time spent standing in queues.

Figure 2: Complaints and Redressal Time

The adjacent diagram illustrates whether consumers have complaints against the time taken for their redressal



Complaints of the Consumer

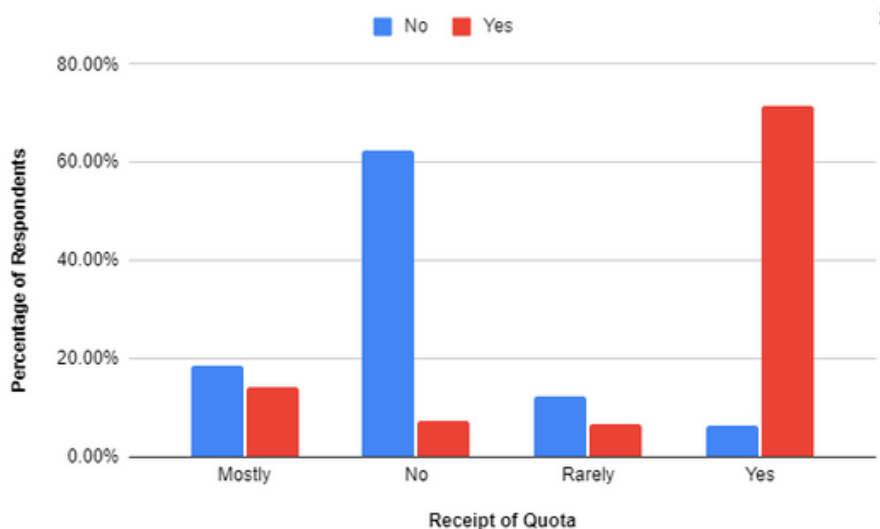


Figure 3: Awareness of Quota and receipt of the same

The adjacent diagram illustrates the awareness among the consumers about the entitled quota against the receipt of the same

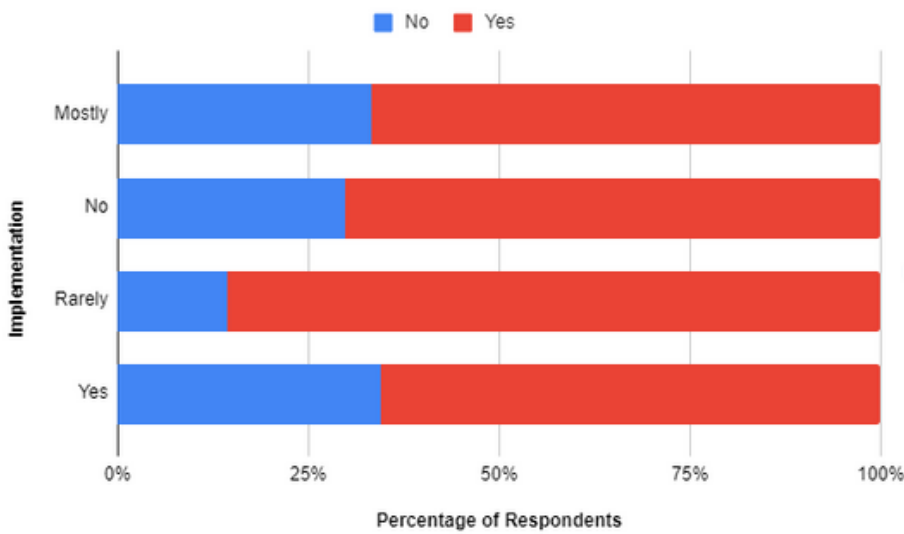
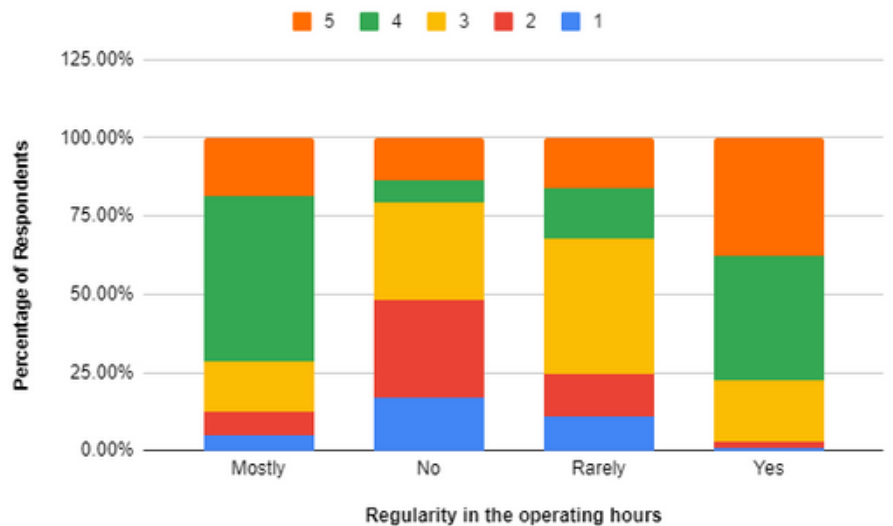


Figure 4: Awareness of MMGGRY and its implementation

The diagram illustrates the consumers aware of the MMGGRY against their perception of how frequently it is implemented.

Figure 5: Regularity in the opening hours of shops and satisfaction

The adjacent diagram illustrates the regularity in opening of shops and the consumers' satisfaction with the services provided



Regularity in the operating hours

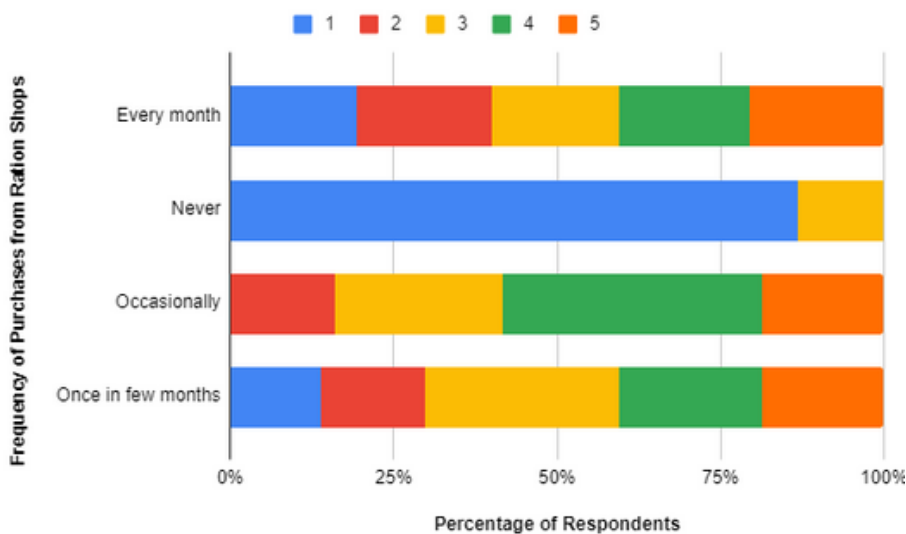


Figure 6: Frequency of purchases and rating of quality

The adjacent chart illustrates a relation between the frequency of purchases by consumers from PDS shops and their satisfaction with its quality.

INTER-HEAD ANALYSIS



Consumers' satisfaction with the quality of grains and complaints received by the producers for the same

The consumers were moderately satisfied with the quality of grains whereas the producers reported to have received negligible complaints regarding the same.

Availability of Food Grains

There was a consensus between the consumers and shop owners about adequate availability of food grains as most of them responded to have not faced any issues of non-availability and supply shocks.



Satisfaction with Services

The consumers and shop owners both reported that the services being offered and the behaviour of shopkeepers was fairly satisfactory for the consumers.



Effectiveness of Digitization Process

The consumers were divided about the efficiency of the digitization process but the shop owners agreed to its effectiveness.

Stock being sold in the Open Market

The consumers and shopkeepers both had a consensus regarding the stock being sold in the open market or to personal contacts as both responded "no" when asked about the same.



Time Spent in Queues outside the shops

There was a mismatch between the responses of consumers and shop owners about the time spent in queues as the consumers said they spent more than 30 minutes whereas as per the shopkeepers the waiting time was just 10-15 minutes

ZONAL ANALYSIS

1. EFFICIENCY

Indicator	North	North East	East	South East	South	South West	West	North West	Weights
Queue Time	3	2	5	6	7	8	1	4	0.15
Efficiency during Covid 19	1	2	6	7	8	3	4	5	0.2
Stock Wastage	6	1	4	3	5	7	8	2	0.1
Online Stock Management	7	1	5	3	8	6	4	2	0.15
Ease of Digitisation	2	8	1	3	5	7	6	4	0.1
Shop open on all days	2	3	5	4	6	8	1	7	0.1
Regularity of Opening Hours	4	1	5	3	6	8	2	7	0.2

The first basis of comparison for the eight zones is Efficiency. The same was judged through 8 parameters, namely queue time, efficiency during Covid 19, etc. These were derived from a string of questions centered around the personal experiences of the consumers with respect to their comfort, ease of access, and other similar factors. The said measures were given their respective weights and the zones were accordingly ranked thereafter. Post survey and analysis, it was inferred that while some zones performed exceptionally well in some areas, they did not manifest satisfactorily in the others. There was mostly a balanced performance by all zones, with the West Zone leading overall and the South-west Zone being the last one in the ranking. The overall rankings are indicative of the performance of each zone based on the four indicators and their respective weights.

RANKINGS ON THE BASIS OF 'EFFICIENCY'

WEST	NORTH-EAST	EAST	NORTH	SOUTH-EAST	NORTH-WEST	SOUTH	SOUTH-WEST
------	------------	------	-------	------------	------------	-------	------------

2. CUSTOMER SERVICE

Indicator	North	North-East	East	South-East	South	South-West	West	North-West	Weights
Complaints	1	2	7	5	3	8	6	4	0.25
Redressal Time	2	3	6	1	8	7	5	4	0.2
Importance to Family Welfare	1	2	4	8	7	6	5	3	0.45
Shopkeepers' behaviour	1	2	3	6	7	8	4	5	0.1

The second basis of inter-zonal comparison is the Customer Service, judged by the consumers with respect to their experience with PDS shops. There were 4 parameters used in this analysis, namely complaints, redressal time, importance to family welfare and shopkeepers' behaviour. The measure is to account for the quality of service at PDS shops and to check the behaviour of shopkeepers with the consumers. The measures were given their respective weights, and a weighted arithmetic mean was calculated thereafter. It was inferred that the customer service and hygiene maintained were not satisfactory and that there was a need for tangible changes to be brought in this regard. The North Zone leads here with the South-West Zone ranking last. The rankings below are indicative of the performance of each zone based on the two indicators and their respective weights.

RANKINGS ON THE BASIS OF 'CUSTOMER SERVICE'



3. ELEMENTS OF CORRUPTION

Indicator	North	North-East	East	South-East	South	South-West	West	North-West	Weights
RC Money	3	5	8	4	2	1	6	7	0.4
Open Market Selling	2	4	6	1	5	8	3	7	0.6

The second basis of inter-zonal comparison is the Customer Service, judged by the consumers with respect to their experience with PDS shops. There were 4 parameters used in this analysis, namely complaints, redressal time, importance to family welfare and shopkeepers' behaviour. The measure is to account for the quality of service at PDS shops and to check the behaviour of shopkeepers with the consumers. The measures were given their respective weights, and a weighted arithmetic mean was calculated thereafter. It was inferred that the Customer Service and hygiene maintained was not satisfactory and that there was a need for tangible changes to be brought in this regard. The North Zone leads here with the South-West Zone ranking last. The rankings below are indicative of the performance of each zone based on the two indicators and their respective weights.

RANKINGS ON THE BASIS OF 'ELEMENTS OF CORRUPTION'



4. Infrastructure

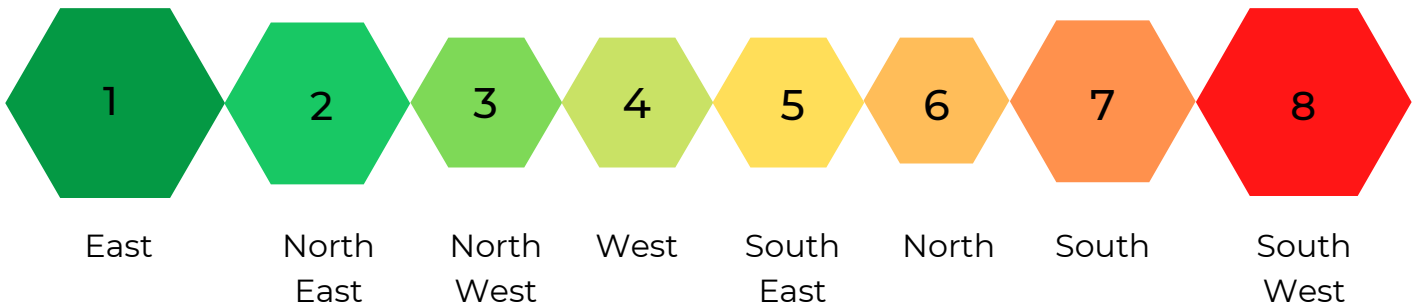
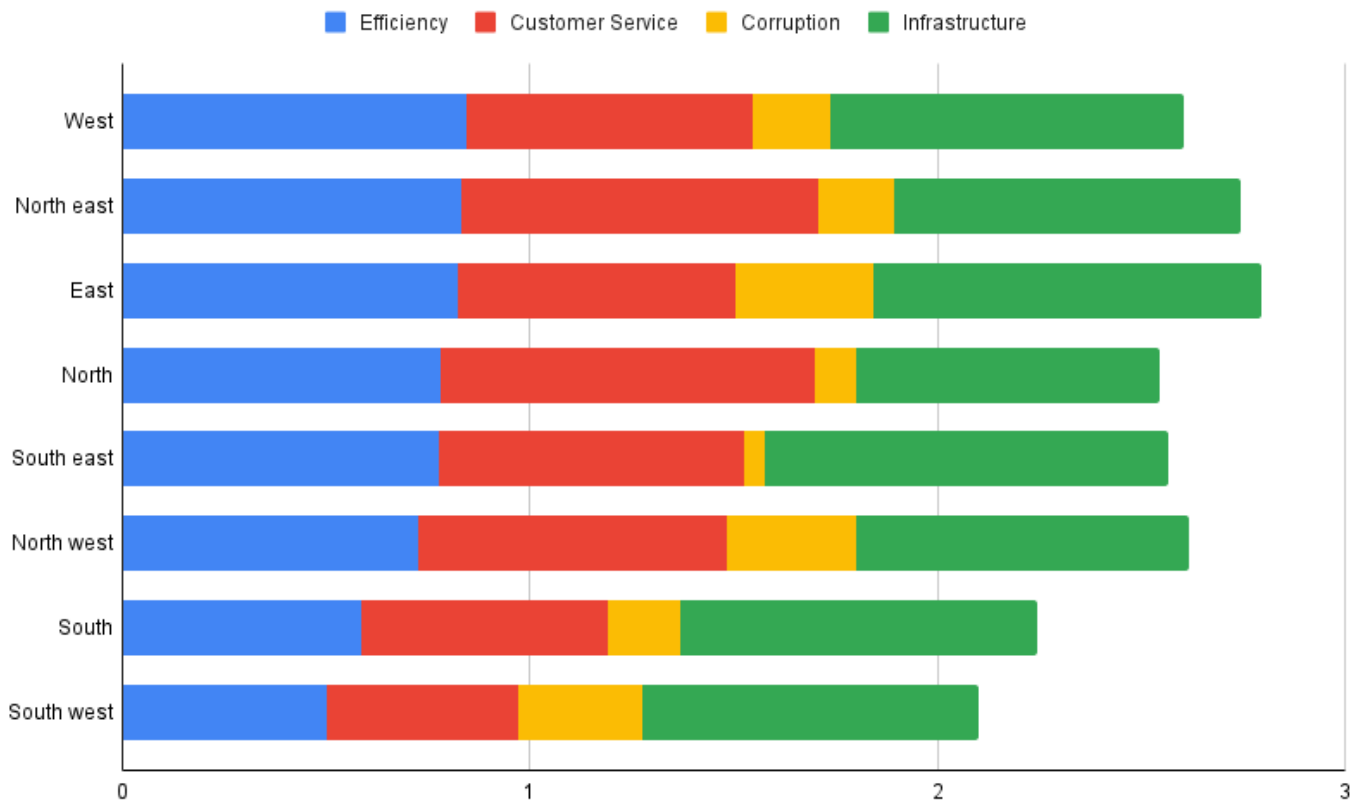
Indicator	North	North-East	East	South-East	South	South-West	West	North-West	Weights
Physical Infrastructure	7	2	1	3	4	8	5	6	0.8
Digitization	8	7	2	1	4	3	5	6	0.2

The fourth basis of inter-zonal comparison is the infrastructure of the PDS system. This was judged on two parameters namely, physical infrastructure and the state of digitization, as rated by the respondents. The measure is to account for the overall infrastructure of the system. The two said measures were given their respective weights and a weighted arithmetic mean was calculated thereafter. It was inferred that both the physical and digital infrastructure is lacking, especially in North Delhi and that there is a need for tangible changes to be brought in this regard. The South-East Zone leads here with the North Zone ranking last. The rankings below are indicative of the performance of each zone based on the two indicators and their respective weights.

RANKINGS ON THE BASIS OF 'INFRASTRUCTURE'



OVERALL RANKING



The graph provided above and the overall rankings based on the four broad indicators show that the East Zone is ranking first overall and the South West Zone is ranking eighth. The four broad heads were given equal weights and the zones were accordingly ranked thereafter. The same can be inferred from the stacked bar graph presented above wherein the length of the bar clearly indicate the performance of each Zone in the four categories. The Zonal Analysis has been helpful in evaluating which zones perform better in which regard and what are the respective areas of improvement elsewhere.

COMPARATIVE ANALYSIS

In order to further understand the degree of effectiveness and efficiency of the Public Distribution System, we studied their performance by taking into consideration the quintessential policies as prescribed by the Government of Delhi. We studied their working under 7 main indicators, weighted as per their importance in making the Public Distribution System, an effective public good. These 7 indicators were further categorized under the following 4 heads:

Availability and Convenience

- a) Access & Awareness
- b) Efficiency

Safety & Satisfaction

- a) Producer Vigilance
- b) Customer Service
- c) Element of Corruption

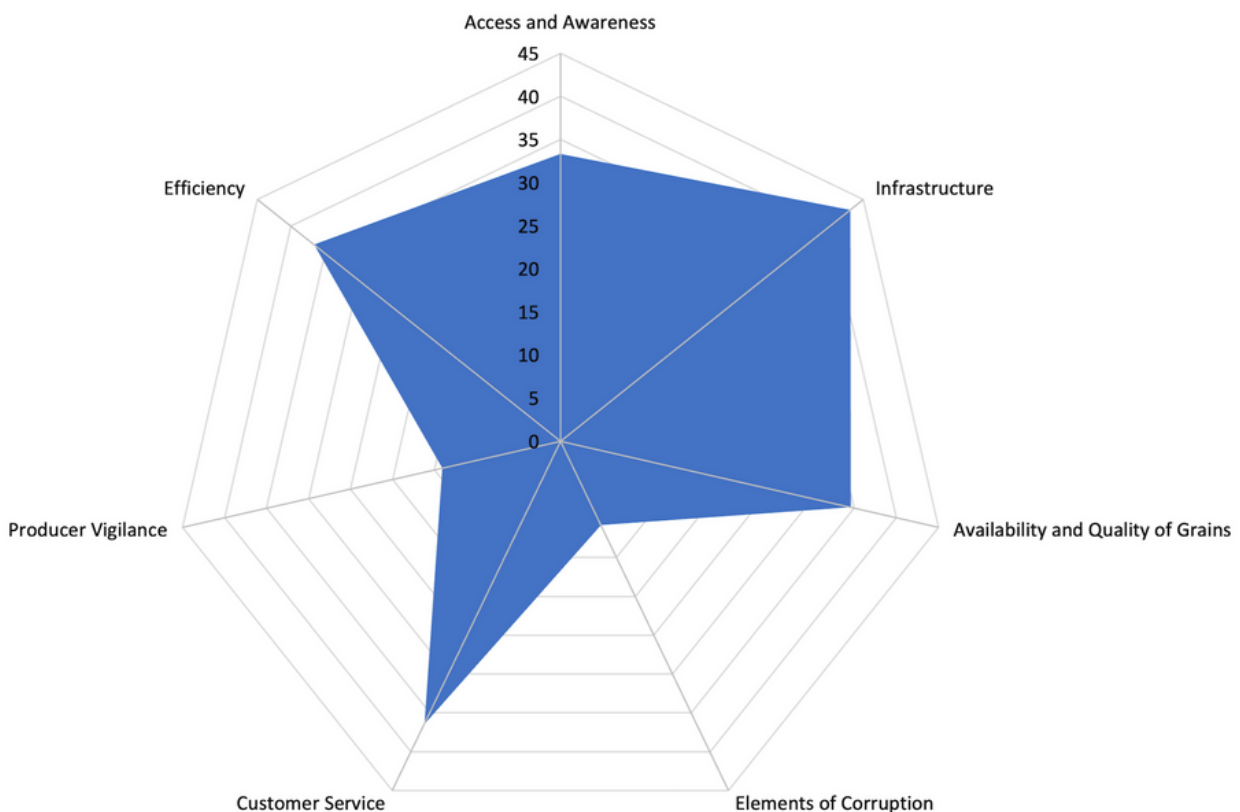
Infrastructure

- a) Infrastructure of the PDS shops

Input Quality

- a) Availability and Quality of food grains

The following spider chart illustrates the weighted score (out of 50) of 7 performance metrics highlighting the metric-wise performance of Delhi's Public Distribution System, as per data provided by respondents:





RECOMMENDATIONS

1. DIVERSIFICATION OF SUPPLIES
2. IMPROVEMENT IN INFRASTRUCTURE
3. DIGITISATION
4. EFFICIENT IMPLEMENTATION OF E-POS
5. GRIEVANCE REDRESSAL
6. ISSUE OF RATION CARDS
7. RATION WASTAGE & SPOILAGE
8. MMGGRY

Diversification of Supplies

PROBLEM

The public distribution system includes only a few essential food items, such as wheat and rice, but it does not fulfil the nutritional requirements of an individual. Some States/UTs also distribute additional items of mass consumption through the PDS outlets such as pulses, edible oils, iodized salt, spices, etc. The PDS in Delhi is providing food grains to the masses, but it has not been able to provide nutritional security.

The food basket comprises mainly food grains like rice and wheat, which provide calories to beneficiaries but have not been able to address protein and micronutrient deficiencies, which are indicative of malnutrition in India. Without balanced nutrition, the body is prone to disease, infection, fatigue, and low productivity. Children who are deprived of access to healthy foods may become victims of stunted growth (both physical and intellectual), poor academic performance, and frequent infections, due to lowered immunity.

There is a need to enlarge the basket of PDS commodities to enhance its utility and also to improve the economic viability of FPSs. The Public distribution system in Delhi seeks to provide its beneficiaries with two kinds of cereal; rice and wheat and further, three essential commodities, viz. sugar, edible oil, and kerosene oil. However, through the survey conducted, it was understood that only wheat and rice were distributed amongst the masses. Only a select few admitted that they were being provided with sugar. Kerosene oil finds no place in the fair-price shops that were surveyed.

This is highlighted by the fact that out of all those surveyed, only 21.06% answered in the affirmative when asked if all the necessary commodities were available while a staggering 40.41% denied such availability. The lack of availability of essential and fundamental good grains such as pulses, edible oil, and salt has led people to resort to buying them from the open markets which have accentuated food insecurity and vulnerability amongst them. This essentially invalidates the primary objective of the existence of Fair Price Shops.

Diversification of Supplies

SOLUTION

There is a need to increase the variety of grains and other food supplies in PDS shops to meet the nutritional requirements of children and adults. This can be done with the help of existing channels of distribution of PDS. The Central and State governments need to work in tandem to effectively implement this scheme. As of now, there is no such proposal to include more items for supply through a network of FPSs in the future.

However, as per Clause 9(9) of the Control Order, 2015, the State/ UT Governments can allow the sale of commodities other than the food-grains distributed under TPDS at the FPSs to improve the financial viability of their operations. All the PDS shops, and not just a select few, should supply other important commodities besides wheat and rice, such as pulses, sugar, kerosene and iodized salt amongst others.

To enhance the nutritional level of the masses, bio-fortified foods need to be distributed through the PDS, making it more relevant in the backdrop of prevalent malnutrition in India. It can be further strengthened by increased public participation through social audits. For this, the Delhi government can utilize the existing supply chain after identifying strategies to improve the existing supply chain and make it more efficient and cost-effective. Streamlining the supply chain by the construction of small intermediary godowns between FCI's base godown and FPSs in the interior is a prerequisite.

A number of other state governments have set up Civil Supplies or Essential Commodities Corporations to buy such additional items directly from the manufacturers and use the existing structure of PDS to arrange for the sale at lower than market rates. The same can be implemented in Delhi's Public Distribution System.

Diversification of Supplies

FEASIBILITY

Implementing this will entail a high cost for the government in the short run due to increased purchases of other food items and setting up a value chain. But, in the long run, it will benefit both the government and the general public. The Ration Card Holders will have access to more food items helping them meet the nutritional requirements necessary for maintaining a healthy diet.

Considering that we already have an extensive distribution system for the distribution of major food grains under the PDS system, we need not worry about additional costs in setting up a supply chain system from scratch. Some states/UTs already distribute additional items of mass consumption through the PDS outlets, such as pulses, edible oils, iodized salt, spices, etc.

Their model can be used as a basis for implementation in Delhi. Extending the subsidies to protein-rich items, which are typically costlier, will put a bigger burden on the already large food subsidy bill — pegged at Rs 1.84 lakh crore for 2019-20 — and, therefore, changes may be required in the current format. Some amount of rationalization will be needed.

In the medium and long run, the number of people admitted to public and private hospitals due to malnutrition-related problems will plummet, leading to massive cost savings, which will offset the increased costs in the food subsidy bill. Implementing this will widen the scope of the PDS system as the range of essential items available at Fair Price Shops will increase which will eventually lead to the fulfillment of the primary purpose of fair price shops, ie; to supplement the basic requirements of low-income people., whilst simultaneously improving their health status

Improvement in Infrastructure

PROBLEM

There is a clear linkage of dissatisfaction amongst consumers and poor infrastructural facilities. 67% of the respondents, who gave a rating of $3/5$ for satisfaction from PDS shops also gave a poor $3/5$ rating to the infrastructure of the said shops. Moreover, such poor facilities cannot handle supply shocks or store stock for the future.

SOLUTION

The goal is to maximize consumer satisfaction, by revamping and improving the infrastructural facilities. The Zonal Assistant Commissioners, in line with the regulators, should put a “standard model FPS” and declare such status to select FPS to give them government grants, greater subsidies etc. This will incentivise regulators to push for better infrastructure. This can be in the form of;

1. Steel silo storage units can be used, which take only $\frac{1}{3}$ land compared to conventional sources.
2. Intermediate storage capacities must be built to withstand shocks.
3. Adequate lighting and ventilation must be ensured to retain the quality of ration.
4. Internet connectivity should be provided based on Public Access Internet Programs and the PM-WANI scheme.

FEASIBILITY

The Government is now providing FPS dealers with priority sector lending status in a bid to encourage better infrastructure. The shopkeepers can avail this to improve the infrastructure in the aforementioned ways. This scheme is primarily aimed at small-scale and semi-urban ration owners since they have a lot of customers but are constrained with poor facilities. This capital investment will also ensure greater satisfaction for customers. Credit for infrastructure is very easy to obtain, and better facilities will also attract more consumers, thus generating economies of scale.

Digitisation

PROBLEM

In view of covid and recent innovations of technology in the money and labour markets, the process of digitization was introduced to ease the processes concerned.

In accordance with similar logic, the central government made it mandatory for the beneficiaries to submit their Aadhaar biometric cards. This was done to ease as well as fasten the process of obtaining ration, including benefits such as security and accountability accruing to the government.

In our surveys however, it was found that 37.45% of respondents believed any efforts of digitization in the process of obtaining ration did not lead to an increase of efficiency in the process. While 5.32% believed that it sometimes helped ease the process, 7.23% of respondents were unsure.

Furthermore, a qualitative analysis during our survey found that there is still no proper digital mechanism for newly married women to have their names removed from their previous family's ration card to the new family's ration card; the same is true for adding the name of children (either from adoption or guardianship etc). The problem can be especially severe for divorced women and widows who belong to economically unstable social groups.

Conduction of secondary research in a similar arena found that the digitization process of linking ration cards with Aadhaar biometric cards would've made the issue of portability of ration for migrant workers easier, however migrant women have not received any such benefit of the same, exposing vulnerabilities of the system furthermore.

Further conduction of research also found that many researchers claim three critical factors are essential to be considered while fixing the lags in the system and before bringing any new policy for the same. The three factors are storage and distribution infrastructure, updation of data systems, and inter-state coordination.

Digitisation

SOLUTION

The central government made it mandatory for the beneficiaries to submit their Aadhaar biometric cards in 2017. However, The supreme court ruled in 2018 that the beneficiaries should **not** be denied their entitlements on grounds of non-possession of the Aadhaar or failure of biometric authentication. In view of the same, the executive branch of the government should work in tandem with the judiciary's orders to allow the distribution of ration to eligible beneficiaries despite the inability to produce Aadhar cards. A certain grace period should be given, equivalent to the amount of time it takes to procure a change of address/legitimate identity proof.

A standard operating system should be released that lucidly details that beneficiaries whose Aadhar addresses don't match should be allowed to avail subsidised ration for at least some period of time. The system can instead take note of other biometric sensors for the time being to avoid multiple claims on ration, as well as proper documentation of beneficiaries must be maintained. To avoid black marketing, and ensure the legitimacy of the process, this standard operating system should work in tandem with proofs of addresses and identity registration authorities.

If the above seems temporary and costs more than what is required, a complete overhaul of the current database should be performed and a new system that works on live reporting should be enforced where one may be allowed to hold only one ration card at a given time but are allowed to change its address on producing a simple residential proof (which for married women could also be their husband's ration card or Aadhar card or an employee's guarantee etc).

Digitisation

The problem of footloose labour still remains, who may simply not possess any valid residential proof, to begin with. In such a case the footloose labour should be allowed to buy only 15 days of ration from a given place and the last transaction should be recorded, so that they are not buying multiple rations in a span of two weeks, the same process would adjust for the fact that they don't have a permanent address proof while also addressing the issue of them going hungry without ration.

Another solution could be the successful and focussed implementation of the One Nation One Ration Card Scheme, wherein all the beneficiaries from one state can get their share of rations in other states where the ration card was originally issued. Any recipient can use their ration cards at any PDS shop across the country. This can be done through the creation of a common ration credit that is the same for all beneficiaries which they may avail of through a ration debit card at their closest local PDS shop, based on their individual need, an amount of ration would be decided for every month, and the beneficiary may debit from that amount from anywhere in India until their stock doesn't end. This solves the problem of portability for migrant workers and migrant women. If the stock is left till the last day of the month in that case it would be adjusted to the next month's stock so as to reach an optimum stock level that matches the initial value of the previous month.



Digitisation

FEASIBILITY

The challenge of feasibility includes multiple red tapes and institutional costs (costs incurred in interdepartmental functioning) as well as the challenge to acquire new IT softwares that may successfully perform these tasks while also retraining the local staff at regional PDS centres to work with this technology so that there is a recorded flow of transactions. The feasibility challenge also involves incorporating both technology and cost incurred in creating in the initial database, maintaining it to ensure cross state implementation. These costs however will decrease as the system becomes more efficient with time.



Efficient Implementation of E-PoS

PROBLEM

Around 25% of the consumers reported that their quotas were sold in the open market by the shop-owners so that the owners could reap illegal benefits of the government subsidies. Such mismanagement of stock stems from an inefficient implementation of the E-PoS system. The digital literacy levels persist to be low among the middle and low-income groups, the same groups to which maximum employees of the PDS shops belong, which regardless of the digitisation schemes, furthers the leniency in adherence to terminal-based stock management. However, the integration of ePoS devices with electronic weighing scales is necessary as it will ensure the right quantity to beneficiaries in the distribution of subsidised food grains under the National Food Security Act (NFSA), 2013 as per their entitlement. It will also ensure greater transparency in the Public distribution system (PDS) regime and reduce food grain leakages. The distribution through ePoS devices ensures that subsidised food grains are provided to the rightful beneficiary through biometric authentication.

SOLUTION

1. RESEARCH AND DEVELOPMENT: Market research and analysis should be undertaken at regular time intervals to update the market demand at fair price shops, and the supply should be proportionate to the data thus collected.
2. PENALTY: Shop Regulators shall be penalized for an inactive E-PoS system for more than 30 days, and such penalty shall be dependent on the number of days in default. This will lead to a cessation of red tapism and due compliance with the statute.
3. AWARENESS: Extensive Awareness Campaigns should be undertaken by the respective state governments to educate the ration card holders about the relief mechanism available to them, for reporting poor stock management, unjust behaviour of the regulator and seeking due restitution against such grievances.

Efficient Implementation of E-PoS

FEASIBILITY

1. The penalty can be INR 500 per day of default, unless the dysfunctional E-PoS Machine had already been reported.
2. Primary data collection to provide for assessment of market demand can be interpreted by the following computation: Use primary data to optimize the amount of ration being delivered to the ration shop = No of visitors(counted once) x Frequency of visit x Avg per customer purchase= Demand per shop
3. On reporting of an open market activity, accounts shall be verified followed by a decision about the retribution.
4. Unless a penal policy is adapted for actions countering public welfare, adherence to legal provisions will persist to have loopholes.



Grievance Redressal

PROBLEM

Of the people who rated the efficiency as low as 1 out of 5, 57% also said that they had no complaints from these ration shops. Of those who gave a rating of 2 out of 5 to the shops' efficiency, 60% didn't share any concerns either. The observation that people don't complain despite giving lower ratings in performance indicators implies the dearth of a proper grievance redressal mechanism in place for the public distribution system.

SOLUTION

No administration can claim to be accountable, responsive and user-friendly unless it has established an efficient and effective grievance redress mechanism.

As per the Santhanam Committee Report 1963, the major points that highlight the need for structural reforms in the grievance redressal mechanism in states are: providing a single platform for registering grievances, keeping track of each grievance coming from the customers, providing status of a grievance immediately to the citizen, follow up to the concerned person until the issue is resolved, making the communication process between the government and citizen easier, and providing solutions for easy monitoring of grievance.

The government of Delhi can study some innovative schemes adopted by the government of Kerala in light of the Public Distribution System, and apply a feasible adaptation of the same to itself. Some of the measures that can be taken are as follows:

Grievance Redressal

- CM's Online Registration of Grievances- On lines of what is being done in Kerala, such an arrangement shall enable the Director of Grievances to immediately place the details of grievances received in a database as well as record whether he intends to monitor its progress, identify the section/division where it is being sent, etc., generate the time taken in dealing with the grievance, enable review of pending grievances in the organisation or across the organisations, generate acknowledgements to complainants, conduct analysis etc.
- The Chief Ministers Jana Samparka Paripadi Karuthal 2015- The Govt. Of Delhi can devise its own such scheme whose underlying objective is to meet people directly, to hear their grievances and to take all possible action to redress those grievances. The success of such a programme will depend on prior homework done in the form of receiving applications, forwarding them to the concerned officers and following up on them to get as many redressed as possible. Petitions can be invited from the public and received through the Online Web Portal at the latest by 30 days before the meeting. The option to attach supporting documents along with the petition should also be available.
- Citizen Call Center- Such centres can be established as done in Kerala to provide information to citizens in a user friendly manner, especially in the context of increased focus on e-governance and also to promote transparency in all government related activities. They will provide opportunities to citizens to interact with the government effectively. There can also be a provision in place to enable quick delivery of critical information which is otherwise inaccessible or difficult for citizens to trace.

Grievance Redressal

- In early 2011, the Municipal Corporation of Delhi (MCD) set up a Facebook page where people could submit photographs or videos of poor sanitation facilities, such as unclean garbage sites and overflowing drains. The public Facebook page was a transparent way to raise complaints and impose pressure on MCD to close the complaints. In the section where we have analysed the feasibility of the solutions proposed, we shall further observe how effective launching a public grievance campaign through mobile phones is.
- Citizen-based monitoring of public services- The idea is for stakeholders like the PDS shop owners to upload monthly progress from their end on an online system, with the consumers having access to these reports and the ability to raise a dispute if the status reported by the shop owners does not tally with the actual situation on the ground. The statistics generated from the system can be used to generate performance report cards for the concerned political representatives and government departments.
- Anonymity- The channels for redressing grievances should be made more anonymous. Invoking article 21 of the constitution, the government should come up with a policy wherein the petitioner's name should not be revealed under any circumstances whatsoever. This will incentivise petitioners to share honest concerns and display candour, sans fear of shop owners or government officials.
- There is a need to convey to individuals that even though the public distribution system is a free welfare programme, it should be of reasonable quality and level. It is their right as citizens to expect decent experiences and grains from these stores.

Grievance Redressal

FEASIBILITY

We have first analyzed the efficacy of the schemes from the Kerala model:

1. The effectiveness of the departmental redress machinery is obviously circumscribed by the general quality of administration. Such machinery cannot succeed beyond a certain point unless the administration is capable of meeting the citizen's claims in a prompt, fair and judicious manner and rendering effective services.
2. The JSP programme is structured in such a way that petitions are invited 30 days before its schedule in each district and each one of them is sent to the district administration for screening and making recommendations. The identified petitioners are then invited to attend the JSP giving them fixed time slots. A bottom-up planning approach like this one ensures that direct participation of the general public with the head of the state (CM in this case) is as feasible as possible.
3. Citizen call centres act as a guidance and information helpline for the common public based on the FAQs furnished by the concerned departments. Calls can be attended by specially trained executives and answered bilingually, to ensure effective communication of concerns as well as quick resolution.

Let's discuss the use of social media applications and mobile phones in driving public grievance campaigns. According to a study, a simple voice-based IVR system was set up where people could call and record a complaint message giving details about the problem and its location. A widely attended press release was made, and a deluge of 1100+ calls was received on the first day itself. The government organization at fault could not cope up, and was bashed on its Facebook page and also in a follow-up media story after a week.

MAJOR RECOMMENDATION 5

Grievance Redressal

This was taken up to the police commissioner, and he personally instructed his staff to attend to complaint redressal. Detailed statistics of where most complaints were coming from, and redressal rates in different wards, further helped him put pressure on his subordinates to handle the problems. This clearly depicts that soliciting mass feedback from people over mobile phones is indeed feasible, and operating in such a binge campaign-oriented mode in affiliation with newspapers and social media channels can impose pressure on public authorities to improve their functioning.

There is significant anecdotal evidence to suggest that citizen monitoring has improved the cleanliness status of different garbage sites in Delhi, and the system is now being expanded all across the union territory. Monthly reports generated by the system are reviewed in weekly meetings by the MCD commissioner. So the plan to extend the initiative to citizen-driven monitoring of other public services such as the public distribution system definitely clears the feasibility check.



Issue of Ration Cards

PROBLEM

The steps in obtaining ration cards at present include an online application where it is necessary for the person obtaining the same to have an Aadhar card. Alongside this, people who do not have permanent homes, do not have the freedom of mobility in availing their quota of ration, at different ration shops which to a certain extent is being addressed by the One Nation One Ration Shop Scheme, but still, there is coverage gap to the extent of 1.6 crore across India, which creates an issue of inequitable access.

In order to ensure equitable access of foodgrains under the PDS system to the people who do not have any permanent place of residence as well as the people who frequently migrate from one city or state to another, there is a need to ensure easy access of Ration cards to them.

SOLUTION

Migratory population such as the destitute, maids, security guards etc. and the homeless people who do not have any permanent place of residence and keep on moving from one place to another be it intra-state or inter-state migration, face multiple problems in obtaining a ration card some of which are the absence of an identity proof particularly Aadhar Card (which is a compulsory Identity Card), lack of permanent residence, lack of technological knowledge and bureaucratic complexities.

This makes their quota of ration unavailable to them at randomly situated places, a challenge that impedes equality in food distribution and the main purpose of achieving food security for the entire population.

Issue of Ration Cards

To remedy this problem, it is crucial to increase the penetration of the Common registration facility.

A common registration facility is a web-based facility that will enable these States/UTs to collect data on persons desirous of registering for inclusion under NFSA, including migrants residing in other states.

Under this scheme, the vulnerable can seek help from any individual who can collect their data and apply for the ration card on their behalf.

The people who would help them apply would be Ration Mitras who are primarily employers, NGOs, individuals, municipal or panchayat representatives who assist such vulnerable people who either might not be aware of the common registration facility or if they are, they might not be able to register themselves online under this facility since they are technologically handicapped. There is a need to push for the speedy implementation of the facility throughout the country.

Once the data is fed into the system, the same will be shared with UTs and the states for further verification. This is how beneficiaries can avail the benefits of the facility.

But a problem that arises here is that every state is assigned a fixed quota of ration cards which they can issue to the people of that particular state. This quota is determined on the basis of the last 10 years of consumption in that state and 14 states have already exhausted the number of people eligible to get subsidised food grains under NFSA.

Due to the cap on the number of ration cards that a state can issue, these homeless and migratory people are not able to avail the benefits of facilities like the Common registration facility. Currently, this loophole is taken care of by adjusting the excess applicants as and when fake or duplicate ration cards are weeded out of the system. So, new cards are issued against them.

Issue of Ration Cards

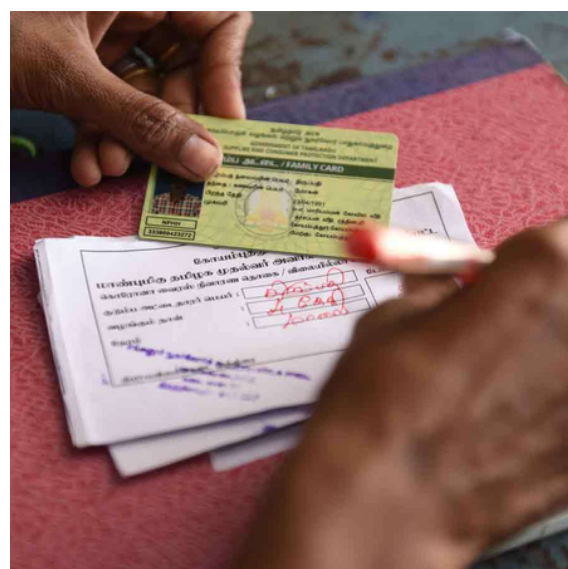
Additionally, there are two alternatives to take care of this loophole.

Firstly, the quota should be rationalised on the basis of migratory patterns and population data.

Secondly, a new quota which will be specifically earmarked for the beneficiaries i.e. the homeless and migratory population under the scheme 'Common registration facility' needs to be introduced in addition to the already existing quota of the states, so that even if the state has exhausted its capacity to issue new cards, these people will have the option of applying under the new specified quota.

This will ensure that no homeless person is denied the opportunity of availing a ration card just because the concerned state has exhausted its permitted quota of ration cards that can be issued.

Thus, the scheme of Common registration facility, Ration Mitras and the special quota for the homeless will ensure that the homeless are not able to access the benefits of PDS system because of lack of Aadhar card.



Ration Wastage & Spoilage

PROBLEM

Two major problems that result in the wastage of foodgrains at ration shops are-

there are inadequate storage facilities at ration shops, which makes it difficult to maintain the entire food stock. Further, since the excess ration that is carried forward from the last month is not adjusted by the government in the next month's quota, it leads the shop to store both the excess and the new allocation of the particular month in the same storage constraint.

The second major issue of wastage takes place because of insects developing in the food grains when kept in non-airtight environments. Rice loses moisture which degrades its quality, insects and mites destroy the wheat grains.

In 2015-16, the government bought 62.3 million tonnes of rice and wheat, of which 3,116 tonnes of grains were wasted, which is just 0.005 per cent of the total purchase. In 2016-17, of the total purchase of 61 million tonnes, wastage was just 0.014 per cent. For 2017-18 and 2018-19, it was 0.003 per cent and 0.006 per cent respectively. In 2019-20, the government purchased 75.17 million tonnes of food grains, of which 1,930 tonnes were wasted, which is 0.002 per cent of the total procurement. The report also highlighted that the loss of foodgrains led to an estimated ₹1,109.82 crore in the past four years, till October 2020, and subsidised commodities were enough to feed 82.3 million people if distributed properly.

SOLUTION

One of the ways in which both of the above mentioned problems can be resolved would be to institute storage steel silos at district levels.



Ration Wastage & Spoilage

Steel silo storage with a bulk handling facility is a highly mechanized and scientific way of bulk storage of foodgrains which brings in efficiency and flexibility of operations and prevents losses during storage and transportation. If foodgrains are stored in silos and transported in bulk, losses due to theft, pilferage and transportation would be negligible compared to foodgrains storage in bags in conventional warehouses. The requirement of land for silos is approximately 1/3rd of that required by conventional storage warehouses of the same capacity, which is an added advantage. Moreover, silos can be operated round the clock which would bring flexibility and would improve overall efficiency besides contributing to improving the efficiency of railways and also creating an efficient Food Supply Chain Management System.

One more added that the government can take is to maintain two kinds of quota, one with respect to the fixed ration allocation quota for all the fair price shops in the district and the second to cater to the excessive demand for food grains by migratory, homeless and the incremental population. To ease up the difficulty in the storage of food rains, the government can ensure adjustment of last month's quota to maintain a fixed amount of food grain at all the FPS at the start of every month, and for any excess requirement of food grains, the FPS could put in a request for delivery of the excess demand, which could be easily catered in a short period of time given the proximity of district storage for grains.

Steps for calculation of the extra allocation component of the Ration quota

Step 1: Gather and analyse data related to the homeless and migrating population of India. Such data can be accessed through Census conducted every 10 years, government websites, and housing & land rights networks.

Ration Wastage & Spoilage

Step 2: Incorporating a quota system for such categories of people in all the ration shops of the country. All the ration shops that are covered under the PDS system of the government will be given a fixed quota of the total ration they receive every month which will be exclusively dedicated for distribution among the homeless and migratory segment of the population. This proportion will be decided based on the data collected in Step 1.

Step 3: To ensure that the initiative actually reaches the target population, awareness about this allocation and a new system will be created through campaigns run by the government through announcements in public spaces, issuing a public notice, and conducting area-specific visits. Roping in local police stations could also be done for creating awareness about this particular service for homeless and migratory people in that area. The purpose is to apprise the people of the new quota allocated for them and acquaint them with the actual process of availing these benefits.

FEASIBILITY

The primary problem for FPS shops is storage as discussed above, to overcome which we recommend installation of steel storage silo at district level which numbers 9 districts in Delhi.

The capacity of each silo would range from 1000 to 2000 tones, based on the allocation quota of each district, costing on a cumulative basis some Rs. 15 Crores for their installation. Added to it is the employee cost and transportation cost for maintaining these silos as dispatch units of ration delivery requests from FPS shops and home delivery, making the total annual cost of Rs. 16.2 Crores.

Comparing this to a wastage of foodgrains that takes place to the tune of Rs. 170 crores on an annual basis because of storage constraints of closing balance of foodgrains at these FPS, the initial and the recurring expenditure seem more than justified.

Mukhya Mantri Ghar Ghar Ration Yojana

PROBLEM

Mukhya Mantri Ghar Ghar Ration Yojana is a scheme planned to be implemented by the Delhi government for the home delivery of ration quotas. This “new scheme is designed to ensure that the entitled quantity of quality food at affordable prices is being distributed at the doorstep of genuine beneficiaries. The scheme involves the distribution of packaged Wheat Flour Atta (WFA) instead of Wheat. Also, the Rice will be cleaned and packaged before distribution to the beneficiaries.”

Some major problems that have come to the limelight ignoring the whole central and state government fight fiasco over the name of the scheme include-

- Ensuring uniformity and acceptable quality of food grains across shops
- Bringing an end to Black marketing, extortion, theft & loss in transit
- Non-availability of medium for the request of re-delivery (in case of dissatisfaction with the quality of food grains delivered, people not present at home at the time of delivery, biometric authentication failure, etc)

SOLUTION

Before we can move ahead and address the shortcomings of MMGGRY scheme it is imperative for us to understand the present flow of events in the final delivery of foodgrains to the beneficiaries. A brief rundown of the process includes:



Mukhya Mantri Ghar Ghar Ration Yojana

Step 1: Foodgrains to be lifted from FCI godowns by millers empanelled by DSCSC through a tendering process and transported to the milling units

Step 2: Processing of foodgrains by millers after proper cleaning and final packaging in packets of requisite weights

Step 3: Delivery by millers to the designated FPS shops

Step 4: Final dispatch to the beneficiary's doorstep by delivery agents after biometric authentication

To tackle the problem of ensuring uniformity and consumable standards of food grains, ration quality testing centres could be set up to regularly monitor the flour and rice packages being produced by millers. These centres could be set up for clusters(zonal-division) of the district in Delhi, to minimize the cost of setting them up and maximize the radius of vigilance on quality. Samples would regularly be requested from different FPS shops of the ration that has been delivered to them by the millers. Surprise visits of officials could also be scheduled at milling units which have been empanelled to ensure that no cheating by millers is possible in the processing stage.

The second problem arises out of the fallibility of the human element in the supply chain. The government released proforma of this scheme already envisions “the entire operation from the lifting of food grains from FCI, milling, packaging till the delivery of packaged commodities to the beneficiary shall be carried out under CCTV monitoring, and the transportation of commodities shall be done in GPS fitted vehicles.”

To build on this vigilance element and to have an additional layer of security, some steps which can be taken by the government would include-

- Ensuring proper background checks of people hired for delivery of foodgrains, while giving preference to local people

Mukhya Mantri Ghar Ghar Ration Yojana

- Sharing the details (Name & Phone No.) of delivery agent with the beneficiary in SMS along with the time slot of delivery to ensure minimum failure of deliveries.
- Establishing a system of code authentication alongside biometric authentication to ensure that the delivery agent cannot manipulate the beneficiaries. Beneficiaries would be made informed to share the code with the delivery agent on successful receipt of their quota of ration at their doorsteps.

FEASIBILITY

The solution offered is feasible as setting up of ration quality testing centres would not require a huge investment in terms of cost and manpower, as common testing centres will be established for multiple districts. While the employees appointed here would conduct quality testing at these centres, meanwhile they will also be responsible for conducting surprise visits to random milling units, thus leading to efficient utilization of the officials employed.

Sharing the details of the delivery agent and a unique code would not require any additional logistical support since the beneficiaries are currently informed about the time of delivery of their ration through SMS. Adding an additional feature of providing the name and phone number of the agent through SMS, location sharing through GPS will enable the beneficiary to keep a track of the agent and thus, minimize loss by theft.

The unique code shared with the beneficiary via SMS will have to be compulsorily shared with the agent, who only after the receipt of the code can mark the status of the delivery to be updated. This will enable the government to keep a track of the genuineness of the delivery made by the agent. This would also serve as a proof in case of non-delivery and would support the beneficiaries request for re-delivery in any of the circumstances.

CONCLUSION

This research project has been an attempt to use methods of primary data-based evidence to understand and appraise the performance of the Public Distribution System (PDS) provided by the Government of the National Capital Territory of Delhi. The mechanism followed to arrive at inferences was in-person surveying of various locations in the National Capital Territory covered by PDS/Fair Price/Ration Shops and involved interviews of both Owners/Managers as well as Customers/ Users of the PDS facility.

The analysis of the data began with the quantification of responses. The variables under study were then compared and contrasted through single-variable, multivariate and inter-head analyses. The zonal disparity in the PDS system was observed through Zonal Analysis while the performance of the entire process was analysed through Comparative Analysis. The recommendations have been given from what was understood to be missing and lacking from the existing system of ration distribution services. The results and inferences from the survey have led us to offer a few, but relevant recommendations.

When all sources of revenue had entirely dried up during the lockdown, the PDS developed as a powerful defence against starvation and deprivation. Since many of the government's actions were aimed at bolstering the PDS, it was at the centre of the government's reaction to the looming food security issues. The PDS is governed by the current National Food Security Act, 2013, and it aims to give food grains at significant discounts to 67% of the Indian population. A individual who qualifies is entitled to 5 kg of foodgrains per month, divided equally between rice and wheat at the rates of 2 and 3, respectively. The Indian government released an additional five kg of free foodgrains due to the pandemic, bringing the total amount of free food per person per month to 10 kg.

We suggest policy solutions corresponding to those specific issues, including the use of contemporary and emerging technologies, the development of new cadre for oversight, and an upward revision of the allocation, based on the empirical analysis of the particular issues faced by the poor on the ground.

The first set of recommendations hover around digitization. In lieu of Covid and recent technological innovations, the process of digitization was introduced to ease the processes concerned. We propose that the executive branch of the government should work in tandem with the judiciary's orders to allow distribution of ration to eligible beneficiaries despite the inability to produce Aadhar cards. Another solution could be the successful and focussed implementation of the One Nation One Ration Card Scheme, wherein all the beneficiaries from one state can get their share of rations in other states where the ration card was originally issued

To address the issue of greater transparency in the Public distribution system (PDS) regime via reduced food grain leakages, the government can adopt methods to integrate ePoS devices with electronic weighing scales so as to ensure the right quantity to beneficiaries in the distribution of subsidised food grains under the National Food Security Act (NFSA), 2013 as per their entitlement.

The food basket comprises mainly food grains like rice and wheat, which provide calories to beneficiaries but have not been able to address protein and micronutrient deficiencies, which are indicative of malnutrition in India. To tackle the problem of malnutrition in tandem with food insecurity, we recommend the diversification of food supplies, such as pulses, edible oils, iodized salt, spices, etc. This is in line with Niti Aayog's proposal aimed at improving India's low nutrition ranking and centered on the idea that the government subsidizes protein-rich food possibly through its public distribution system.

It was empirically observed that people don't complain despite giving lower ratings in performance indicators which implies the dearth of a proper grievance redressal mechanism in place for the PDS. We recommend the implementation of schemes in line with Kerela's Model of PDS, which includes but are not limited to the following; CM's Online Registration of Grievances which will enable the Director of Grievances to keep a real time track of all grievances, or the introduction of Citizen Call Centers, to promote e-governance and transparency in all government related activities. This will allow effective interactions between citizens & the government.

Another broad domain of recommendations includes means to bolster and revamp the existing scheme of MMGGRY or the Mukhya Mantri Ghar Ghar Ration Yojana. A major problem under this problem arises out of fallibility of the human element in the supply chain. This could be counteracted by sharing the details (Name & Phone No.) of delivery agent with the beneficiary in SMS along with the time slot of delivery to ensure minimum failure of deliveries. Another plausible solution could be the Establishment of a system of code authentication alongside biometric authentication to ensure that the delivery agent cannot manipulate the beneficiaries.

Other plans for systemic infrastructural changes to increase consumer satisfaction, introduction of steel silo storage to reduce wastage, pilferage and spoilage have also been identified and recommended.

All in all, this primary data inference based project fulfilled its aim of analysing the role played by the Public Distribution System in creating Food Security in Delhi. While the overall opinion revealed was in favour of the system, there is further scope for improvement in a plethora of ways. The PDS already impacts a large proportion of the general populace in Delhi and has the potential to socio-economically uplift people and create a state devoid of food insecurity.



TIMELINE



QUESTIONNAIRE

The questionnaire was divided into two main parts:

Visitors/Consumers

The questions asked to the visitors and consumers comprised the following heads:

1. Personal
2. Demand Side
3. Supply Side

Owners/Regulators

The questions asked to the owners & regulators comprised the following heads:

1. Personal
2. Demand Side
3. Supply Side

Questionnaire Link:

<https://forms.gle/9muRBBVtvHDTYnsA8>



REFERENCES

- Application of Mobile Phones and Social Media to Improve Grievance Redressal in Public Services. (n.d.). Gramvaani. <https://gramvaani.org/wp-content/uploads/2013/05/m4d-position-paper.pdf>
- Das, S. (2022, February 20). Now, get financial services along with ration at shops. Financial Express. <https://www.financialexpress.com/economy/now-get-financial-services-along-with-ration-at-shops/2438727/>
- Economic Survey of Delhi, 2021-22. (n.d.). Delhi Planning. http://delhiplanning.nic.in/sites/default/files/E18_PD.pdf
- History. (n.d.). Retrieved October 28, 2022, from <https://dfpd.gov.in/pds-History.htm>
- Indian experience on household food and nutrition security. (n.d.). Retrieved October 28, 2022, from <https://www.fao.org/3/x0172e/x0172e06.htm>
- Junofy Anto Rozarina. N. (n.d.). A Study on Poverty and Hunger in India. Mcser. <https://www.mcser.org/journal/index.php/mjss/article/viewFile/1793/1797>
- Kunduri, E. S. N. R. A. S. S. (n.d.-a). Delhi's Ongoing Food Security Challenge: What Went Wrong and How Can It Be Fixed? The Wire. Retrieved October 28, 2022, from <https://thewire.in/government/delhi-food-security-challenge-what-went-wrong-and-how-can-it-be-fixed>
- Kunduri, E. S. N. R. A. S. S. (n.d.-b). Widening the Food Security Net: Lessons From Delhi's 2020 Lockdown. The Wire. Retrieved October 28, 2022, from <https://thewire.in/rights/delhi-covid-19-lockdown-food-security-migrants>
- Mishra, A. K. N. (2022, April 11). Delhi sees over 1 mn transactions using ration cards issued from other states. Hindustan Times. <https://www.hindustantimes.com/cities/delhi-news/delhi-sees-over-1-mn-transactions-using-ration-cards-issued-from-other-states-101649290664969.html>

- Nair, G. R. (2016, May 1). An Analysis on the Functioning Of Grievance Redressal Mechanism of Public Distribution of Kerala with Special Reference to Wayanad District. <https://www.airitilibrary.com/Publication/alDetailedMesh?docid=P20160719003-201605-201607280026-201607280026-358-372>
- NFSA. (n.d.-a). Retrieved October 28, 2022, from <https://nfsa.gov.in/portal/nfsa-act>
- NFSA. (n.d.-b). Retrieved October 28, 2022, from https://nfsa.gov.in/portal/PDS_page
- Public Distribution System | Planning Department |. (n.d.). Retrieved October 28, 2022, from <http://delhiplanning.nic.in/content/public-distribution-system-1>
- Public Distribution System & Food Security. (n.d.). Niti Aayog. <https://niti.gov.in/planningcommission.gov.in/docs/plans/mta/mta-9702/mta-ch8.pdf>
- Sharma, Y. (2019, December 18). Protein push: Niti Aayog mulls PDS supply of eggs, fish & meat. The Economic Times. <https://economictimes.indiatimes.com/news/economy/policy/protein-push-niti-aayog-mulls-pds-supply-of-eggs-fish-meat/articleshow/72861907.cms?from=mdr>
- Staff, T. W. (n.d.). Out of Work, Poor Not Getting Rations, Information on Schemes: Food Rights Activists. The Wire. Retrieved October 28, 2022, from <https://thewire.in/government/delhi-lockdown-food-ration-schemes-activists>
- VU Digital Repository: Invalid Identifier. (n.d.). Retrieved October 28, 2022, from <http://inet.vidyasagar.ac.in:8080/jspui/bitstream/123456789/1858/1/9+Evolution+of+Public+Distribution+System.pdf>



**ABHIRAM
LOKANATHAN**
DataLab Director



**HARDIK
KAPOOR**
DataLab Director

NEEYATI FITKARIWALA

President
+91-96018-12006

SRISHTI JAIN

Secretary
+91-78375-90832

LITERATURE REVIEW & QUESTIONNAIRE

Chhavi Agrawal
Pratul Malthumkar
Sahil Vadhera
Mehak Goyal

Sanya Tiwari
Satakshi Gupta
Arshita Jain
Imnasangla Jamir

ON-GROUND SURVEY

Pratul Malthumkar
Sehar Bhat
Paranjay Bohra
Mehak Goyal
Latika Agarwal
Pallavi K R
Manav Singh
Aditi Singla
Sparsh Akar
Arshita Jain
Nihla A

Chhavi Agrawal
Satakshi Gupta
Aayush Poddar
Raghav Kant
Pakhi Vats
Keshav Khemka
Imnasangla Jamir
Shreyashi Mandal
Harsh Yadav
Jatin Gulati
Om Marwaha

Huzaif Ahmed
Risha Saini
Sanya Durga
Amit Naganyal
Suhani Jain
Yuvraj Sehrawat
Sanya Tiwari
Nihira Verma
Kavya Aggarwal
Roshni Kumar
Ruchi Gupta

DATA ANALYSIS

Aayush Poddar
Afrah Mundewadi
Chhavi Agrawal
Kavya Aggarwal
Keshav Khemka
Kriti Panwar
Latika Agarwal
Mehak Goyal
Pakhi Vats
Raghav Kant
Ruchi Gupta
Suhani Jain

RECOMMENDATIONS

Risha Saini
Roshni Kumari
Ruchi Gupta
Sanya Durga
Sara Bapna
Satakshi Gupta
Udyan Negi
Vansh Choudhury
Yuvraj Sehrawat
Amit Naganyal
Imnasangla Jamir
Jatin Gulati
Nihira Verma
Om Marwaha
Pakhi Vats
Pratul Malthumkar
Priyanshu
Raghav Kant
Keshav Khemka
Chhavi Agrawal
Mehak Goyal

**REPORT
FORMULATION**

Raghav Kant
Ruchi Gupta

DESIGN

Sanya Tiwari
Afrah Mundewadi

TEAM 2021-22