Datafication of the Public Distribution System in India

A CASE STUDY OF CHHATTISGARH & JHARKHAND

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ABSTRACT

In this study, we look into the datafication of social protection schemes with a special focus on the Public Distribution System in India. Proponents of datafication claim that the benefits will reach the right person and curb leakages through the automation and digitisation of all PDS processes. Aadhaar is the most important link in the datafication; supporters claim that it makes technology people-centric. This study looks at the status of PDS datafication and its impact on the delivery of the scheme in Chhattisgarh and Jharkhand. We also try to understand to what extent the stated objective of portability has been met and how far the challenges faced by the rights holders of the PDS have been resolved.

ABBREVIATIONS

AAY:	Antyodaya Anna Yojana
ASHA:	Accredited Social Health Activists
AWW:	Anganwadi Worker
ATM:	Automated Teller Machine
AEPS:	Aadhaar-Enabled Payment System
ABBA:	Aadhaar-Based Biometric Authentication
BC:	Business Correspondents
BPL:	Below Poverty Line
CORE:	Centralised Online Real-Time Electronic
CBS:	Core Banking Service
CCEA:	Cabinet Committee On Economic Affairs
CT:	Cash Transfer
CSP:	Consumer Service Point
CSO:	Civil Society Organisation
DBT:	Direct Bank Transfer
DSPP:	Datafication Of Social Protection Programmes
EPOS:	Electronic Point Of Sale
FCI:	Food Corporation Of India
FHH:	Female Household Head
FPS:	Fair Price Shop
FGD:	Focus Group Discussion
HH:	Household
JAM:	Jan Dhan-Aadhaar-Mobile
MEITY:	Ministry Of Electronics And Information & Technology
NFSA:	National Food Security Act
NIC:	National Informatics Centre
ONORC:	One Nation One Ration Card
OTP:	One Time Password
PDS:	Public Distribution System
PMGKAY:	Pradhan Mantri Garib Kalyan Anna Yojana
RPDS:	Revamped Public Distribution System
SSP:	Social Security Pension
SMS:	Short Message Service
TPDS:	Targeted Public Distribution System
UIDAI:	Unique Identification Authority Of India

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1 Introduction

The COVID-19 pandemic brought death, disparity, and poverty across the globe and had particularly devastating effects in India. It laid bare pre-existing economic and social inequalities (Mahler et.al 2020) for all to see. With the onslaught of the pandemic, extreme poverty (Wakamo, 2022) grew globally for the first time in decades.

According to the World Bank open data estimates (Kapoor & Duggal, 2022), around 9.7 crore people were pushed into extreme poverty. Another analysis by Pew Research Center estimates (Kochhar, 2021) that the number of people living below the global poverty line (and earning USD 2 per day) has increased to 7.5 crore in India because of the COVID-19-induced recession. India accounts for more than 60% of the increase in global poverty. A report by Azim Premji University suggests (Nahata, 2021) that around 23 crore (230 million) people in India fell below the threshold of INR 375 per day (Malik, 2021), which is the national minimum wage as recommended by the Anoop Satpathy Committee (Ministry of Labour & Employment, PIB-2019).

One does not even need the aforementioned statistics to understand the growing disparity and helplessness in the country. The woes of migrants were etched into the conscience of the nation when lakhs of migrants started walking hundreds of kilometres from cities to reach their villages during the first lockdown imposed to curb the spread of the virus.

The lockdown was particularly harsh for migrants (Rather, 2020), as they lost their jobs and did not have enough money to buy food for themselves and their families. Many

of them were forced to skip meals (Tandon 2020) and eat less to cope during this hard time (Singh et.al 2021).

The Public Distribution System (PDS) (Department of food and Public Distribution 2022) played a central role (Khera,& Somanchi, 2020) in the Indian state's response to the economic hardship and food scarcity caused by the COVID-19 pandemic (Ngullie, & Ansari, 2020). The PDS, under the National Food Security Act - 2013, covers 67% of the Census 2011 population in the country, supplying subsidised food grain to approximately 80 crore (800 million) beneficiaries (National Food Security Act-2013), which amounts to 60% of the current population in 2022. After the lockdown was imposed in March 2020, the Government of India announced the provision of additional food grains of 5 kg

per beneficiary along with 1 kg of dal free of cost to all ration card holding (Singh, 2020) families under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY). The ration card is a document given to each household entitled to subsidised food grain under the PDS; it carries the name(s) of the persons entitled to the PDS scheme in that particular household (Khankhoje & Karde 2013). Each individual is entitled to a minimum of 5 kg of food grain under the NFSA, except for Antyodaya Anna Yojana (AAY) (National Food Security Act-2013) card holders, who are entitled to 35 kg of food grain irrespective of the number of family members. However, in a few states like Chhattisgarh each individual under the PDS is provided more than the 5 kg of food grain that one beneficiary is entitled to; the state government takes care of the additional allocation (Krishnamurthy et.al, 2014).

↑ *These recently married women from Jentalbed Village of the Padampur Panchayat in the Chakradharpur Block have been deprived of their entitlement due to non-linkage of Aadhaar in PDS system. Photo Credit: Sonalimayee Sahu*

Meanwhile, the additional allocation under PMGKAY is over and above existing entitlements under the PDS and is provided by the Government of India. But not every needy person has a ration card, and it is primarily the migrant population that has faced major challenges in acquiring ration cards at their destination of work (Department of Food & Public Distribution 2021).

An analysis by Jean Dreze, Reetika Khera, and others suggests (Indiaspend team, 2020) that more than 10 crore (100 million) individuals are left out of the PDS, as the government uses the 2011 Census to calculate the coverage under the scheme. The next population census was due in 2021, but it is nowhere in sight (Jebaraj, 2021), because of which crores of people are excluded from the PDS.

The other major issue with the PDS is the mandatory seeding of Aadhaar (Menon, 2017 and the Wikipedia report 2018) with ration cards.

Despite ample evidence that mandatory Aadhaar seeding leads to the exclusion of a large number of beneficiaries (Dash, 2020), the government has not retracted mandatory biometric authentication (Tribune News Service, 2021) even during the pandemic.

In a public interest litigation filed in the Supreme Court of India, a petitioner claimed that around 3 crore ration cards were cancelled (Rajagopal, 2021) for a lack of seeding of Aadhaar with the ration card. This is close to 13% of the total number of ration cards in the country. This data was placed before the apex court in a petition filed by Kohli Devi because her 11-year-old daughter, Santosh Kumari, died due to starvation (Bhatnagar, 2017), as the family's ration card was cancelled due to non-seeding with Aadhaar. Cases of death due to starvation were reported not only in Jharkhand but also in Uttar Pradesh, Odisha, Karnataka, Madhya Pradesh, Maharashtra, Bihar, Chhattisgarh, West Bengal, and Andhra Pradesh (Bhatnagar, 2018). We must keep in mind that though starvation deaths are extreme cases, the cancellation of ration cards can put many families in precarious situations and prolonged conditions of hunger.

In addition to the seeding of Aadhaar that has been made mandatory with the PDS, the government has also been working over the years towards linking mobile numbers and bank accounts of beneficiaries with the PDS in some states. Mobile numbers and bank account numbers are regularly populated in the PDS portal (Totapally.et.al 2019). Further, for each transaction under the PDS, Aadhaar-based biometric authentication (ABBA) has been made mandatory.

This report assesses the role of the data system and the mandatory nature of Aadhaar and other components of the Jan Dhan-Aadhaar-Mobile (JAM) trinity in the delivery of the PDS, with a particular focus on Chhattisgarh and Jharkhand.

The objective of this study is to understand the challenges beneficiaries face in accessing the PDS as a result of digitisation processes. This includes failures in direct benefit transfers (DBT) and the exclusion of several households from databases, particularly during the COVID-19 pandemic (Panda 2021).

We focus on gender as a key component shaping the impact of digitisation on beneficiaries. The sample includes both men and women beneficiaries so that we can identify gendered differences.

We also identify infrastructural constraints in the sample states that impact the implementation of digital systems in welfare. Further, we analyse policy frameworks at the central and state levels to compare their discourse with the impact on the ground.

The report discusses datafication and the objectives of datafication and highlights the datafication of various social protection programmes in India.

The study narrates the evolution of the PDS in India and discusses the intricacies of datafication in relation to the PDS. It then delves into the One Nation One Ration

↑*This woman's biometric impressions were not getting captured by the Epos machine. Photo Credit: Sonalimayee Sahu*

Card scheme and discusses how it is a work in progress in furthering the datafication of schemes and its implications in the two field states of Chhattisgarh and Jharkhand.

The report concludes by discussing various aspects of datafication and its implications for rights holders in the future, and offers recommendations for policymakers and other stakeholders.

2 Datafication of Social Protection Programmes

Over the last decade, the government has begun digitising social protection programmes in India, such as the PDS, social security pensions, and maternity entitlements.

Different records, including the identity of beneficiaries of social protection programmes, bank account numbers, and the entitlements of beneficiaries, are being digitised. For example, in the case of social security pensions, records on beneficiaries such as identity, location, and entitlements under the scheme were maintained at the panchayat and block office levels; now such information is being computerised/digitised and maintained on a centralised web portal.

The stated objective of digitising all data points relating to the pension programme is establishing the authentication of documents and the beneficiary. This digitisation is done through end-to-end computerisation. This ongoing phenomenon of computerisation of the process, or turning information into data points, is called datafication (Mejias & Couldry, 2019).

Social protection programmes generally suffer from leakages and wrongful selection or exclusion of entitled persons (Muralidharan et.al 2020, Dreze et.al 2020). Major objectives of datafication are to address inclusion and exclusion errors (Masiero & Bailur, 2021), ensure that the entitlement reaches the right person, and curb leakages and corruption. The datafication of any programme is meant to ensure user identification and help assign benefits to the respective rights

holders. Programmes like the PDS were previously paper-based or had records in semi-digitised form (Masiero 2020). Theoretically, the datafication of social protection sounds fool proof if ineligible persons are indeed weeded out and eligible persons receive the right entitlement with no or minimum human interference, making the programme leakage- and corruption-free Masiero & Bailur, 2021).

However, such a process contains a large volume of data points, all of which need to be captured correctly, and a mistake in one data point can lead to exclusion (Masiero, & Shakthi, 2020).

Problems can arise at any point; for example, the name of the eligible person is entered into the system incorrectly, there is an error in the account details, the identity number is incorrect, various details are not seeded with each other, or the machine is unable to read finger impressions (Masiero, & Shakthi, 2020).

Such problems can mean the difference between life or death for a poor person.

It is essential that we study the datafication of social protection programmes carefully and thoroughly and understand what does and does not work, and why.

→ *Jema Purti, who has been a resident of Amarai Village in Uliraja-basa panchayat since 2018, received neither the state ration card nor rations under NFSA. Photo Credit: Sonalimayee Sahu.*

3 Methodology

In this study, we delve into the datafication of the PDS in Chhattisgarh and Jharkhand and document the experiences of different stakeholders, primarily beneficiaries of the programme.

This study is an extension of study (Panda, 2021), conducted last year (2021) which we undertook in Odisha, where we looked into the effect of the JAM trinity on the PDS and social security pensions.

In the present study, we focus on the PDS across two states, namely Chhattisgarh and Jharkhand. In our original plan, Madhya Pradesh was another sample state, but field work could not be undertaken there due to the resurgence in COVID-19 cases during the Omicron wave.

- We primarily used qualitative methods to gather information.
- We carried out focus group discussions (FGDs) with PDS beneficiaries using guiding questions.
- We used semi-structured interviews to capture the views of ration dealers, panchayat members, and block-level officers responsible for the management of the PDS in each of the two states.
- We also interacted with the members of civil society organisations, especially those associated with the Right to Food campaign in the sample states.

We provide details of these interviews and the FGDs in Table 1.

We conducted fieldwork in Chhattisgarh during 29 September–2 October 2021 and in Jharkhand between 6–10 December 2021.

We selected areas in both states taking into consideration the remoteness of the districts as well as the availability of support from local organisations, without which it would have been difficult to undertake fieldwork. We took the help of organisations working on food issues and with a presence in the surveyed areas.

The FGDs were primarily with women PDS beneficiaries; we used prompts and documented the responses of the participants. We held interviews with ration dealers either at the ration shops or at the homes of the dealers. We undertook interviews with the block officials responsible for the management of the PDS in their respective offices. We conducted five FGDs, three interviews with persons managing ration shops, two interviews with block-level officials, and one interview with a member of the state food commission.

Apart from the fieldwork, we conducted extensive reviews of secondary information and various government data using state and central portals managed by the respective government departments.

We also referred to various government orders and press statements. We corroborated the information we gathered through fieldwork with secondary information.

We took the consent of all participants for various stages of our study. We shared the purpose of the study, its format, and interview guides with the local resource persons who accompanied the primary researcher to ensure that participants were informed of the purpose of the research in an accessible manner and were comfortable at the outset of each interview.

STATE	DISTRICT	TYPE OF SURVEY
Chhattisgarh	Korba	2 FGDs with women PDS beneficiaries 2 personal interviews with ration dealers 1 interview with a block supply inspector
Jharkhand	West Singhbhum	3 FGDs with women PDS beneficiaries 1 interview with a ration dealer 1 interview with a block-level officer 1 interview with a state food commission member

↑ Table 1: Details of Field Study interviews and FGDs

LIMITATIONS

The ongoing pandemic hindered our fieldwork, which got delayed and had to be rescheduled multiple times.

We could not undertake fieldwork in Madhya Pradesh, as per the original plan, as the Omicron wave occurred during our scheduled field visit. The principal researcher was also infected with COVID-19 twice, which also delayed the fieldwork and completion of the report.

The report primarily looks at datafication from the perspectives of PDS beneficiaries and officials at the block level who led the implementation of the programme.

We were not able to access district- and state-level officials who are responsible for policymaking. The COVID-19-induced restrictions in public offices prevented us from accessing higher-level government officials. This is a limitation of the sample, which we have aimed to address by referring to reports and other secondary sources.

Another limitation of the study is that as a result of datafication of social protection programmes being a relatively recent phenomenon, secondary literature with field data is inadequate. There is a gap in the literature, especially on the datafication of beneficiaries accessing food security programmes.

This study primarily focuses on the perspective of rights holders, and the impact of digitisation processes on them. It would be useful for future research to analyse resource allocation by the government, or the impact on government or private functionaries in the supply chain resulting from these processes. Finally, the technical aspects around cybersecurity and design of data systems are crucial areas of study for future researchers.
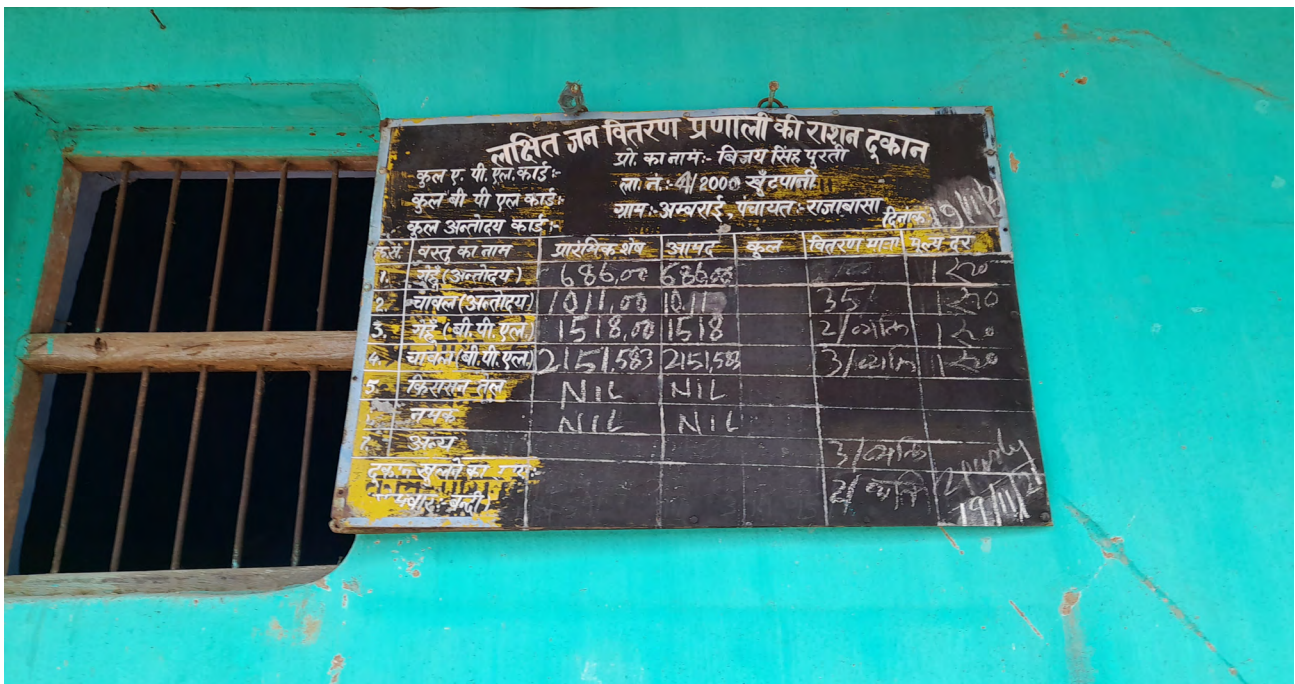
↑ *Vijaysingh Purti in Ulirajbasa Panchayat runs an FPS in Amrari village. Photo from his FPS Centre.*

4 Evolution of the PDS in India

The primary idea behind setting up the PDS was to ensure the availability and supply of essential commodities such as rice, wheat, sugar, kerosene, and oil at subsidised prices.

The PDS started as a system for the distribution of essential commodities during World War II (Das, 2016). However, due to critical food shortages, the PDS' focus shifted to the distribution of food grains, especially in urban areas with high scarcity during the Bengal Famine; in 1942–43 it was extended to other urban locations as well (Bose, 1990).

In the mid-1960s, the PDS was extended to all parts of the country, and the Food Corporation of India (Bhattacharya et.al 2017) was set up for the procurement and storage of food grains. To make the PDS functional, the state developed a massive supply chain that included the procurement of food grains through the establishment of mandis, the construction of large godowns for the storage of food grains and other essential commodities, and numerous fair price shops (FPS) – also known as ration shops – across the length and breadth of the country.

The government instituted major changes to the PDS in 1997, when it launched the Targeted Public Distribution System (TPDS) (Supreme Court Order 2001). The system targeted only below-poverty-line (BPL) families who were identified as eligible based on state-wise poverty estimates by the Planning Commission in 1993–94; they

received ration cards and subsidised food grain from the FPS (Shaw, & Telidevara, 2014).

Additional provisions were made for the poorest of BPL families in 2000 through a scheme known as the Antodaya Anna Yojana (AAY) (Department of Food and Public Distribution). Under the AAY Scheme, each family was entitled to 35 kg of food grain at a highly subsidised price (National Food Security Act 2013). There are presently 2.5 crore (25 million) households that receive food grain under the scheme (Chinnadurai, 2014).

The PDS saw another major change after the enactment of the NFSA in 2013. Under the NFSA, around 67% of India's population (75% of the rural population and 50% of the urban population) became eligible for subsidised rations under the PDS as per the 2011 population census (George & Mckay 2019). This covers around 80 crore (800 million) beneficiaries or around 20 crore (200 million) households in the country (National food security Act 2013).

Eligible households were identified through a set of exclusion and inclusion criteria framed by the respective state governments. Since the advent of the TPDS, the PDS has targeted eligible beneficiaries, dividing the population into eligible and ineligible households – all families were deemed BPL or APL (Above Poverty Line). Families categorised as BPL were covered under the TPDS and provided subsidised food grain; APL families, however, were mostly deprived of food support or provided food grain at higher prices (National Food Security Act 2013).

The targeting of the scheme led to inclusion and exclusion errors, where several ineligible persons were included under the scheme and several eligible persons were excluded (Ray & Ray 2011). The primary reason for this was that since BPL families were entitled to subsidised food grain and a gamut of other services, a large proportion of the population tried to register themselves as BPL or error in the survey, which led to many errors, intentional or otherwise.

Also, the largest distribution system in the world was mired in corruption and leakages of the food grain to non-entitled persons, as the intermediaries and ration shop owners diverted the food grain to the open market (Dreze et.al 2020). The targeting of the PDS also reduced the number of beneficiaries per FPS, leading to a substantial decline in the commission of the FPS dealers (Gaur & Rao, 2020), which pushed them to pilfer rations to increase their profits.

The issue of pilferage and corruption in the system pushed the central and state government to explore various modes to curb the leakages. The leakages and corruption in the scheme were seen as the lower-level implementation bottlenecks, and private players and block-level officials were hand in glove in the same.

To address the issue, the government started digitising beneficiaries' card details, and the transportation of food grain to the ration shops was reformed so that the middlemen in the system were eliminated and it was increasingly handled by state agencies, with the vehicles transporting the food grain painted and movement of the vehicles tracked (Panda 2021).

The governments also took the initiative to digitise ration shops. The increasing use of technology and digitisation led to the process of centralisation of the scheme, initially at the state level and then at the national level (Vaddiraju & Manasi, 2017).

Year		
1940s	**PDS** It was launched as an essential support scheme for all.	
1960s	Food grain was distributed under the PDS, mainly focusing on urban areas to address critical food scarcity.	
1970s	With increases in food production due to the Green Revolution, the PDS was extended to tribal blocks and areas with high incidences of poverty.	
1992	**RPDS** When revamped, the PDS' was extended to far-flung, hilly, remote, and inaccessible areas, covering 1,775 blocks.	
1997	**TPDS** The PDS primarily focused on poor families across the country with a target of 6 crore families. States were required to formulate fool proof mechanisms for the identification of poor people for the delivery of food grains.	
2000	**AAY** A scheme within the PDS that targeted the poorest of the poor.	
2001	**PDS Control Order** Order is a guideline for the management & administration of TPDS in the country.	
2001	**Right to Food Case** The Supreme Court declared PDS and AAY as entitlements, along with other major schemes such as Annapurna Yojana, Integrated Child Development Services, Mid-day Meal, Social Security Pension, National Maternity Benefit Scheme, and National Family Benefit Scheme.	
2013	**National Food Security Act** PDS was guaranteed a legal right.	

5 Datafication of the PDS in India

In 2005, the Planning Commission of India published a performance evaluation of the TPDS, which, for the first time, suggested the computerisation of FPS-wise ration delivery and receipt at the block level for onward transmission (Khera 2011).

The Supreme Court of India, in the Civil Writ Petition 196 of 2001, popularly known as the Right to Food case, set up a high-power committee for PDS reform, popularly known as the Justice DP Wadhwa Committee (Planning Commission Report 2005).

In its report, the committee recommended the computerisation of the TPDS from beneficiaries to different layers and processes of the PDS for transparency and reduction of pilferage. Based on the report, the apex court directed the state governments to undertake (Wadhwa Committee Report 2005) and computerise the process.

Under the 12th Five-Year Plan (Masiero & Prakash, 2015), the Department of Food and Public Distribution proposed a plan for end-to-end computerisation of TPDS operations on a cost-sharing basis between the central government and the states and UTs. In October 2012, the Cabinet Committee on Economic Affairs (CCEA) approved the funding requirement for the digitisation process – an amount of INR 884.07 crore (INR 8,840.7 million) – during 2012–17, which included the central government's share of INR 489.37 crore (4893.7 million) and the state and UTs' share of INR 394.70 crore (3947 million) (Report of food security 2012, Government of Kerala).

Section 12 of the NFSA, 2013 mandates that the state and central government ensure end-to-end computerisation of PDS records for transparency and the prevention of diversion, and that they leverage Aadhaar for unique identification and the proper targeting of benefits (National Food Security Act 2013).

Aadhaar is a unique 12-digit number that can be obtained voluntarily by any citizen of India or by a foreign national who spends more than 182 days in India in a year (Unique Identification Authority of India). Each enrolee is issued with a 12 digit random number by Unique Identity Authority of India after satisfying verification process. The process primarily captures biometric details – the impressions of 10 fingers and iris scans – along with details of their address (Gopichandran et.al 2020). Aadhaar started as the Unique Identity Project in 2009 under the aegis of the Unique Identification Authority of India, which was established in 2009 by the Government of India under the jurisdiction of the Ministry of Electronics and Information and Technology (Naved & Kaushal, 2019).

The Aadhaar project received legislative backing after the enactment of the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act (Aadhaar Act 2016), 2016. It got strong support after the NDA government (The Aadhaar Gazatte of India 2016) came to power in 2014, with Aadhaar enrolment centres set up all across the country.

After the rollout of the NFSA in 2014, in which new criteria were used to select PDS beneficiaries, the state governments asked

(Singh, 2016) beneficiaries to provide their Aadhaar numbers.

The Ministry of Consumer Affairs, Food and Public Distribution issued a notification on 8 February 2017 in which it outlined the need for seeding Aadhaar numbers of PDS beneficiaries and mandated that those eligible for food grain under the PDS furnish copies of their Aadhaar or apply for Aadhaar enrolment by 30 June 2017. It also directed state governments and UTs to offer Aadhaar enrolment facilities at the block and taluka levels. Additionally, it directed the state governments and UTs to link Aadhaar with ration cards within 30 days of receiving the Aadhaar from beneficiaries (Department of Food and public distribution 2017). However, the Ministry of Consumer Affairs and Food and Public Distribution issued a letter that directed states not to delete individuals or households from the NFSA list or deny them food rations for non-possession of Aadhaar without proper verification (Department of Food and public distribution, 2021).

It further stated that in cases of biometric failure or technical glitches, beneficiaries should be provided with rations after the physical production of Aadhaar and ration cards. It also gave them the option to register names of beneficiaries and provide rations in exceptional cases.

In the Puttaswamy judgement on Aadhaar in 2017, the Supreme Court allowed for the use of Aadhaar to avail the benefits of welfare programmes supported by the consolidated fund of India (Justice, Puttaswamy vs Union of India 2018). Based on the judgement, the Ministry issued another letter on 8

November 2018, informing states and UTs that the possession of Aadhaar was mandatory for PDS beneficiaries. It further stated that beneficiaries need to undergo mandatory biometric or iris authentication when they receive food grain. It also reiterated the requirement of the states to facilitate Aadhaar enrolment and not to deny any beneficiary food on the grounds of a failure of biometric authentication (Press Information Bureau 2020).

After the June 2017 order by the Ministry of Consumer Affairs, Food and Public Distribution, state governments made the submission of Aadhaar and its seeding with the PDS mandatory for beneficiaries to receive food grain.

The mandatory requirement of Aadhaar in the PDS led to the exclusion of rights holders in many states. When the Odisha government made Aadhaar seeding mandatory for individual PDS beneficiaries from 15 September 2019, it led around 19 lakh (1.9 million) PDS beneficiaries – 7% of the total PDS beneficiaries in the state

– to lose their entitlement (Ghosh, 2019). Similarly, in Rajasthan (Government of Rajasthan), between September 2016 and July 2017, more than 25 lakh (2.5 million) families lost their rations after Aadhaar was made mandatory for the PDS. This move affected 11 lakh ration cards in Jharkhand (Government of Jharkhand) and a population of more than 25 lakh people. As already mentioned, the total number of ration cards cancelled in the country for non-seeding of Aadhaar with ration cards is close to 3 crore (30 million). It is also worrisome that there is no way of knowing how many of those cancelled ration cards belonged to genuine beneficiaries and how many were fraudulent.

A quick survey by the Odisha Right to Food Campaign, after Aadhaar seeding was made mandatory in the state, found that 33% of those denied rations for non-seeding were children and of those denied, 19.8% had actually submitted their Aadhaar; however, the seeding process failed for reasons not known to them (Odisha Right to Food Campaign 2021).
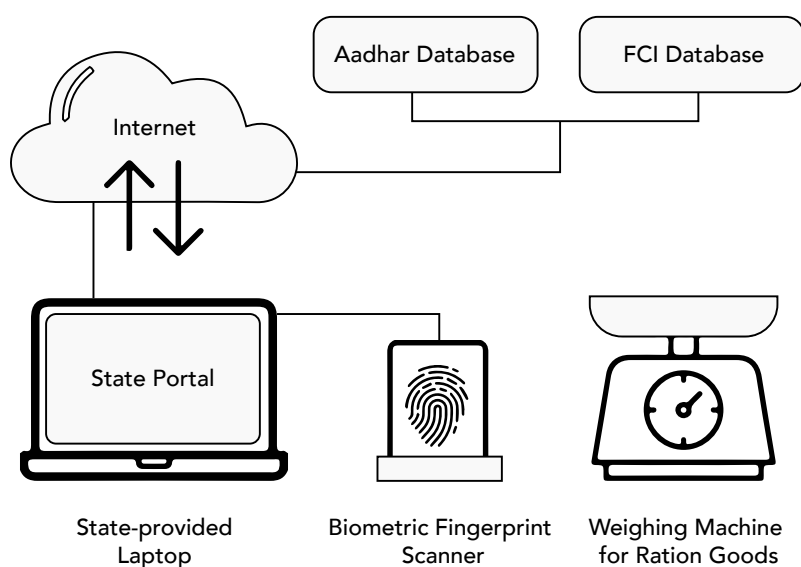
↑ *Pictorial depiction of PDS transactions. Source: Masiero and Das, 2019*

6 How PDS Datafication Works

In the present Aadhaar-enabled PDS, the process of buying food grain from the ration shop is as follows: when a beneficiary goes to the ration shop, they have to undergo Aadhaar-based biometric authentication or iris scans using the electronic point of sale machine (EPOS).

The EPOS is connected to the server of the concerned state food department, which authenticates the beneficiary and their entitlement. Then, based on the authentication, the ration dealer provides them with food grain, which is weighed on the electronic weighing machine. The essential requirements for a successful transaction are the seeded Aadhaar numbers of individual beneficiaries of the ration card holding family; EPOS authentication of the biometrics or irises of the beneficiary; EPOS connection to a server; and a functional internet connection.

Aadhaar seeding has become a core infrastructure for the datafication of the PDS (Singh & Jackson 2021). If we look at Aadhaar enrolment (Unique Identification Authority of India) in the population based on the population projection as of 31 January 2022, 93.4% of the population have an Aadhaar number, but for the population below five years of age, it is 32.6%. Of the total population in each of the sample states, 94.2% in Chhattisgarh and 91.6% in Jharkhand have an Aadhaar number.

For 90% of ration card holding households, the Aadhaar number of at least one family member is seeded with their ration card, whereas the Aadhaar numbers of 90.6% of PDS individual beneficiaries is seeded.

Aadhaar seeding in the sample states is lowest in Jharkhand at 87.7%. Also, 37.3% and 19.9% of the ration cards are seeded with mobile numbers and bank accounts, respectively. There are 5,43,579 FPSs in the country, out of which 81% are EPOS-enabled (State wise Aadhaar report 2021). Among the sample states, 90% of the FPSs are EPOS-enabled in Chhattisgarh and 100% in Jharkhand. As of January 2022, Aadhaar-based biometric authentication was at 88% across India. It is at 9% in Chhattisgarh and 90% in Jharkhand.

One of the major reasons for the low rate of biometric authentication in Chhattisgarh in most of the state, primarily rural areas, as per the government guidelines, biometric authentication is not required to receive one's entitled ration. We also found that transactions failed primarily because biometric data did not match and there were other Aadhaar-related failures.

According to the data provided in the Annavitran Portal, which maintains information relating to digitised transactions including biometric authentication, in January 2022, around 1.4% of the total EPOS transactions in the country failed due to Aadhaar-related issues.

The data represents only seven states – Gujarat, Karnataka, Kerala, Rajasthan, Tamil Nadu, Uttarakhand, and West Bengal. In the 7 states which reported, the rate of failed transactions was 4.4%.

Among these states, Gujarat and Kerala accounted for majority of the Aadhaar-related transaction failures. Strangely biometric authentication failure data for other than these seven states is not provided in the portal.

This possibly means that biometric failure–related data is not shared or maintained by other states.

→ *Phulamani Kandeyan, a widow and resident of Jentalbed Village of Padampur Panchayat in Chakradharpur Block, was denied her ration due to mismatch of finger prints. Photo Credit: Sameet Panda*

	CHHATTISGARH	JHARKHAND	INDIA
Ration Cards Seeded with Aadhaar	100.0	98.2	90.0
Beneficiaries Seeded with Aadhaar	99.7	87.7	90.6
Ration Cards Seeded with *Mobile Number*	51.5	53.1	76.2
Ration Cards Seeded with *Bank Accounts*	99.2	76.2	19.9

↑ Table 3: Percentage of Aadhaar Seeding with PDS as of 31 January 2022 (as Per UIDAI Data)

	CHHATTISGARH	JHARKHAND	INDIA
Total *PDS Beneficiaries (NFSA)*	2,00,77,000	2,64,25,000	81,34,95,000
Total *ONORC Beneficiaries*	85	309	1,21,935
Percentage of PDS Beneficiaries to ONORC	0.0004	0.0012	0.0150

↑ Table 4: Total Failed Transactions in January 2022 as Per the Annavitran Portal. Source: annavitaran.nic.in

STATE	TOTAL FAILED TRANSACTIONS	TOTAL EPOS-BASED TRANSACTIONS	%
Gujarat	22,79,097	67,07,229	34
Karnataka	0	1,05,25,157	0
Kerala	2,10,731	40,09,655	5.6
Rajasthan	80	98,12,623	0.008
Tamil Nadu	0	1,01,95,215	0
Uttarakhand	0	9,67,328	0
West Bengal	0	1,45,66,870	9
Total	**24,89,908**	**5,67,84,077**	**4.4**

↑ Table 5: Percentage of ONORC Beneficiaries to Total PDS Beneficiaries as of January 2022
Source: https://impds.nic.in/porta data

7 One Nation One Ration Card Scheme: Enabling portability or furthering datafication?

The One Nation One Ration Card (ONORC) (Press Information Bureau Report 2021) scheme was launched in June 2019 to reform the PDS. Through this scheme, a ration card holder can procure food grain from any designated FPS in the country and not be limited to the shop where their ration card is listed.

Theoretically, ONORC makes the entire PDS system portable so that any migrant with a ration card that is seeded with Aadhaar can pick up their entitled ration from anywhere in the country through biometric authentication (Press Information Bureau Report 2021).

For the maintenance of records and operation portability of PDS entitlements, there are two centralised portals – the Integrated Management of Public Distribution System (IM-PDS) and the Annavitran Portal. These portals record all the relevant data about interstate and intrastate transactions of food grain accessed by beneficiaries. After the direction of the Supreme Court of India, ONORC was enabled in all states and UTs across India, covering all PDS beneficiaries under the NFSA, 2013.

In response to the crisis of the pandemic, the apex court took cognizance of the plights of migrants, and initiated a suo moto hearing on the matter and issued its judgement on 29 June 2021 (Supreme Judgment 2021). The apex court directed the Government of India to develop a database of unorganised sector workers,

allocate dry ration as per the demand in the states, implement the ONORC Scheme in all states by 31 July 2021, re-examine population coverage under the PDS, and encourage community kitchens (Supreme Judgment 2021). On the matter of ONROC, the apex court underscored that portability would be particularly beneficial to migrants and ordered that no state could deny PDS entitlement to a beneficiary with a ration card merely on the grounds that the ration card was not from that particular state (Supreme Judgment 2021).

Originally, ONORC was slated to be completed by March 2020. However, after multiple extensions, the latest deadline was extended beyond March 2021 (Boss et.al 2021). Between July 2020 and July 2021, 16 states and UTs joined the ONORC Scheme. This was possible only after the union government made joining the scheme a precondition for relaxing the borrowing limit by 0.5% for state governments under the Fiscal Responsibility Budget Management Act, 2003 (Panda & Sahu 2021). This appears to be the primary reason for the increase in transactions under the scheme, rather than any direct correlation with the rate of migration between states. For instance, the data on interstate transactions of food grain at 37,000 transactions in July 2021 is almost negligible compared to the rate of migration in the country.

After the apex court order for the mandatory national implementation of the ONORC in July 2021, the number of ration cards used to access the PDS saw a small increase from 34,106 to 2,35,403 – these were for interstate transactions. The number of cards used under ONORC forms 0.1% of the total number of cards in the country. In January 2022, the number of migrants in Chhattisgarh and Jharkhand who had access to rations through the ONORC were 85, 309, and 11,281, respectively; in Chhattisgarh and Jharkhand, this is lower than the national average and negligible in comparison to the total number of PDS beneficiaries in the state.

In previous sections, we discussed the issues with Aadhaar seeding, EPOS, and the failure of transactions due to mandatory Aadhaar seeding. The beneficiaries who are supposed to access ONORC are wage workers, among whom the possibility of biometric failure is high for migrant workers mostly being manual labourers tend to lose their thumb impressions faster (Khera 2019). Under the ONORC Scheme, the central government pushed the states to use the single authentication infrastructure maintained by the NIC (National Informatic Centre) rather than their own independent authentication infrastructure (Srikanth 2021).

The centralisation of consumption data of migrant workers would heighten the central government's role in decision-making on the PDS and reduce the role of state governments (Srikanth 2021).

In this process, data relating to PDS transactions are centralised at the NIC, which has access to device information, IP addresses, location, and the purpose of authentication when a migrant worker obtains their rations from the FPS. This data can easily be used to profile migrant workers and surveill beneficiaries.

Datafication of the PDS in the Sample States

In this section, we discuss the progress of datafication processes in Chhattisgarh and Jharkhand. Chhattisgarh was one of the first states to opt for major reforms: the digitisation of the ration card system, geo-tracking of ration-carrying vehicles, and use of electronic weighing machines. The majority of initiatives were undertaken by the state prior to the enactment of NFSA, 2013. In Jharkhand, these processes began after its enactment.

CHHATTISGARH

The state government issued the Chhattisgarh PDS (Control) Order 2004, under which the management of ration shops was shifted from private dealers to community-based organisations, such as gram panchayats, self-help groups, and Van Suraksha Samiti.

The objective of the shift was to curb leakages and offer more transparency in the functioning of the PDS in the state. The order also mandated that the state government ensure the delivery of the rations at the FPS level every month in a yellow truck to reduce the corruption among local dealers. As the public became aware of the yellow truck as the PDS ration-carrying vehicle, trucks offloading grains other than at the PDS godowns or FPS created suspicion among the public and drivers and suppliers became very careful about sticking to their routes. After that, in the second phase, the state government implemented an ICT (Inform and Communications Technology)-based reform (Chhattisgarh PDS (Control) Order 2004).

The initial years of ICT reforms focused on improving accountability and transparency in the delivery chain: computerising the entire procurement process; issuing bar-

coded ration cards to reduce fraud and duplication; developing a web-based management information system (MIS) to track the supply chain; using short message service (SMS) technologies to strengthen community-based monitoring (by sending alerts of the date, time, and quantities of food grains supplied to specific FPSs); using call centre hotlines to deal with grievances; making public listings of entitlements on the internet and on public buildings, which provide SMS alerts to report the movement of food grain to citizens who are registered to receive them; using electronic weighing machines at rations shop to reduce quantity fraud; and displaying all names of ration card holders in the FPS (Krishnamurthy et al 2014).

During 2000–11, a similar PDS reform continued. In 2012, the Chhattisgarh state government adopted the digitisation process to reform the TPDS to include more transparency and accountability. The state implemented the Centralised Online Real-time Electronics (CORE) PDS, whose purpose was to empower beneficiaries, decrease the diversion of commodities, and provide better service to beneficiaries (Joshi, Sinha, and Patnaik 2016). Prior to the implementation of COREPDS, every beneficiary household was linked to a particular FPS. COREPDS was intended to upgrade the current framework by giving beneficiaries the choice of portability. Each ration card holding household was provided a smart ration card under the COREPDS. The FPS dealer authenticated beneficiaries by using the smart ration card and rations were issued to the right holders. The state government maintained the execution of various managerial and mechanical

changes to enable recipients, expansion of the PDS, etc. (Krishnamurthy, Pathania, and Tandon 2014). A major technological advance introduced in Chhattisgarh was the overall computerisation of the PDS supply chain in 2007–08 (Sreenivas, 2012). Based on the planning, in 2015, the Chhattisgarh government started supplying tablets to the FPSs of rural Chhattisgarh and then extended their supply to the urban areas as well. The effectiveness of tablets in mitigating the challenges of point-of-sale devices requires a deeper understanding of factors that facilitate as well as impede the adoption of new technology (Chhabra 2017).

JHARKHAND

In 2017, the state government of Jharkhand digitised the PDS system as per the NFSA, 2013 (Jharkhand State's Food and Public Distribution Rule, 2017). With the purpose of ending corruption and the monopoly of dealers and maintaining transparency and accountability, the state's food and public distribution department launched e-PDS, which initially focused on eight villages each in the Ranchi, Hazaribagh, Chatra, Jamtara, Garhwa, and Seraikela districts (Dey 2016).

But the government later changed its decision and rolled out e-PDS with Aadhaar seeding as a pilot study in the Nagri block in Ranchi district; it then extended the project to the whole state (Sen 2018). After the end-to-end computerisation, the state government focused on the implementation of digital weighing machines in the different FPS centres for more efficient food distribution on 21 January 2021.

9 Findings

In this section, we highlight our findings from field visits to Chhattisgarh and Jharkhand, which reveal how the datafication of the PDS plays out on the ground, the benefits of datafication, and its challenges. We compare the findings from the field study with the claims of datafication.

IS DATAFICATION OF THE PDS CURBING LEAKAGE?

One of the original claims in support of the datafication of the PDS was that the end-to-end computerisation of all records and Aadhaar seeding and authentication would reduce leakages through the better targeting of beneficiaries. This would ensure that the food grain was given to the right person in the right quantity, because of biometric authentication, and would not be siphoned off by the ration card dealer.

Inclusion and exclusion errors
The PDS is a targeted programme that covers a certain percentage of the population. Eligible households are selected through a set of criteria. The ration card is given to a household, but since the implementation of the NFSA from 2014, the PDS has been primarily an individual entitlement, where each individual beneficiary in a ration card holding household – except AAY households – is entitled to 5 kg of food grain.

The eligible household has to submit details of its members, which include name, age, sex, relationship to the female head of

Jitendra Bodra, a resident of Ulidi village in Chakradharpur block of Jharkhand, lives with his wife and son, Ganesh Bodra, who is three years old. They receive their rations regularly since they have submitted their Aadhaar details. They asked the dealer for their child's name to be included on their ration card. They were asked to submit the child's Aadhaar, for which they have not been able to register. Jitendra said, "If Aadhaar had not been forced on us, my son would have been able to get his share of rice also – [this] was possible before this Mandatory Aadhaar seeding."

household, the Aadhaar numbers, mobile numbers, and bank account which is updated on the PDS portals in the state. The selection process is mostly done by local officials, who then provide details to the data entry team to upload.

During our fieldwork, we found that the mismatch between the names entered on the portal and those in the Aadhaar database can lead to the exclusion of people. In the Aadhaar document, errors in age, spelling, name, and date of birth become crucial reasons for the denial of access to the PDS.

During the field investigation in Jharkhand, we found that if the Aadhaar has some kind of error, such as a wrong spelling of the name or error in the date of birth, sex, address, or phone number, it significantly affects access to the PDS. To rectify these errors, the eligible beneficiaries have to go to the common service centre (CSC) or a Pragya Kendra.

The Pragya Kendras are usually based in the block headquarters. After having their Aadhaar cards corrected, people have to submit them at the block office again. Rectifying each field of the Aadhaar card costs INR 200. We visited one Pragya Kendra in the Kuthpani block and found a huge rush during the afternoon, with many people awaiting their turn. They reported that it often takes more than a day to get their turn. Along with the fee, they also spend money on travel and food and forego their wages for that day. In many cases, more than one family member travels to the centre, thus increasing the cost further.

Under NFSA, there is no age limit for beneficiaries, which means that all members of the ration card holding household, including children, are entitled to food grain right from birth. However, we have discussed in Section 4 of the report that Aadhaar enrolment among children below five years is just 32% nationally and 42% and 26% in Chhattisgarh and Jharkhand, respectively. Since no person is entitled

to receive rations without submitting their Aadhaar details, 66% of children under five are automatically excluded from the PDS. The exclusion of children means the loss of entitlement for the family. This is contrary to the notification issued by the Department of Food and Public Distribution, Government of India, which states that no person should be denied their entitlement for not having Aadhaar.

We have already mentioned in previous sections that there is a standing instruction to the state government that they should take steps to ensure that everyone is enrolled under Aadhaar. When we asked the participants in the FGDs, both in Chhattisgarh and Jharkhand, why they were not able to procure Aadhaar for their children, they shared multiple stories. The primary reason was the distance of the Aadhaar enrolment centres from their villages. The enrolment centres are based in block and district headquarters only in our sample districts. They mentioned the cost of travel and enrolment as another major factor since parents often have to visit the crowded centres multiple times to enrol.

WHAT HAPPENS AT THE FPS?

As we have discussed, one member of the ration card holding family goes to the FPS to get their entitled ration. Once they reach the FPS, they mention the ration card number or hand over the ration card to the FPS dealer. The FPS dealer enters the ration card number in the system, which connects with the server and gives options for biometric authentication. The beneficiary then gives their finger impression, and if it is accepted, they are given their share of the entitled ration.

Biometric authentication is mandatory in Jharkhand, but in the sample district in Chhattisgarh at the time of our fieldwork, EPOS machines were not in use and biometric authentication was not done at the FPS. Therefore, our observations from both these states vary. There are three major observations in Jharkhand: biometric authentication failure, delay in authentication, and pilferage by the FPS dealers.

CASE STUDY 2

Willium Purti is a widower living with his son, who is five years old, in Amari Village in the panchayat of Ulirajabasa. He takes all the responsibility for his son and fetches rations from the FPS using Aadhaar-based biometric authentication. In the months Purti is unavailable, his son is unable to receive rations, as the EPOS does not read his son's biometrics, and they lose out on their entitlement. (The biometrics of children below five years are not captured while registering for Aadhaar, as the child's card is made based on the Aadhaar of their parents. So families like Purti's lose out their entitled rations if the parent is not available or fails to authenticate.)

Saril Gagarai, husband of Jeyanti Gagarai, and their son, Amit Gagarai, are residents of Jentalbed, which falls under Padampur Panchayat. They last received rations in August 2021. The ration dealer told them that due to a 'fingerprint mismatch', they could no longer receive their rationed food grain. The dealer warned the family that if their fingerprint was continuously misread by the EPOS machine, their ration card would be cancelled.

Biometric authentication failure

All the beneficiaries we spoke with claimed to have faced biometric failures at an FPS more than once. In case a beneficiary experiences failure three or four times, they are asked to step aside from the queue and the next person in the queue is given the chance to authenticate.

In most cases, FPS dealers ask them to come again with clean fingers or to put some oil on their fingers so that the EPOS can capture their biometric data. Respondents also told us that if their fingerprint did not match the records in the EPOS machine, the dealer tried all 10 fingers.

If their mobile number is linked, the beneficiary can avail benefits via a one-time password (OTP); otherwise, the FPS asks the person to have another member of the family authenticate them or to avail their ration in the next month. However, the ration quota in one month is not carried forward to the next.

If the family is unable to authenticate in any particular month, they lose their entitlement for that particular month.

During the FGDs, respondents shared that in most cases, more than one family member visits the FPS so that they can step in in case of an authentication failure.

Many beneficiaries were worried that their ration cards would be blocked when their families were unable to collect their ration for three consecutive months. However, we could not substantiate this issue in discussion with local authorities. In case a ration card is cancelled or blocked, the dealer informs the card holding families that their ration cards have been cancelled and that they are ineligible to receive rations. They are asked to contact the block-level officials to sort out the issue.

Authentication delay

In the previous section, we discussed biometric failure and that many beneficiaries have to try multiple times to ensure that they are authenticated to receive their entitled rations. Authentication is sometimes delayed due to either multiple authentication failures or patchy internet connectivity.

We spoke to ration dealers in Chhattisgarh and Jharkhand about this issue.

In Chhattisgarh, there is no biometric authentication, but ration dealers have to enter the details of the beneficiaries into the state portal. In place of biometric authentication, they take a picture of each beneficiary and upload it to the portal.

However, in places where there is no mobile connectivity, they distribute rations offline and update the data later, in an area with better connectivity.

The ration dealers we spoke to were of the view that since the mandatory portal-based updating was started, the ration distribution time has more than doubled from before the datafication of the PDS. Dealers in both states shared that this has increased their cost of running the FPS and that many beneficiaries have to show up more than once, as in many cases, due to delays, few people receive rations in a day.

In Jharkhand, everyone has to go through the biometric authentication process before they receive their rations. Many ration card holders have to give their finger impressions multiple times. During the FGDs, PDS beneficiaries shared that since the failure rate of biometric authentication is high, more than one beneficiary per family goes to the shop for food grain. This means a loss of wages for the family.

DOES AUTHENTICATION ADDRESS QUANTITY FRAUD?

One of the objectives of datafication was to address quantity fraud in the PDS. Quantity fraud happens when FPS dealers provide less food grain to the individual than they are entitled to. This has long been a major

source of pilferage by dealers. Through the datafication process, the government claimed that the pilferage of rations by dealers can be stopped as food grain cannot be collected without the biometric authentication of the right holders. Once they authenticate, they are given a receipt which makes clear their entitlement and the food grain issued to them by the ration dealer. Technically, dealers can't lift rations without biometric authentication from the right holders. After each authentication, right holders are given receipts which show how much grain they got. In case they are given less than their entitlement they can challenge the dealer.

In our fieldwork, we found a few technical and situational issues that affect the achievement of this objective of addressing quantity fraud. An FPS dealer in Chhattisgarh reported that there was an internet connectivity issue in their village. Once the beneficiaries come to the ration shop, the dealer first enters their details into the portal. After they finish updating the data of a sizable number of people, they start distributing the food grain. Clearly, there is a time lag between registration and the delivery of food grain. The same ration dealer also told us that during some months, in addition to entering the details of beneficiaries, they take their photographs before distributing the food grain.

Similarly, in Jharkhand, where biometric authentication is mandatory, many ration dealers first authenticate a large number of beneficiaries and then distribute grain. During the FGDs, respondents also told us that these dealers do not provide receipts to beneficiaries.

In these scenarios, there are variations between what the records show and the actual distribution. After authentication, the software record shows the successful distribution of rations, but in actual practice, it happens later; the delay could last a few hours or stretch on for a few days. Since the electronic weighing machine is not connected to the EPOS, the delivery and weighing of rations is not automated.

In this case, if an FPS dealer denies rations to a particular beneficiary or gives them less than their entitlement, the beneficiary has no evidence to substantiate their claim. This allows for malpractice by the dealer.

There is a high possibility that marginalised families receive less than their entitled claim. With the record showing that the food grain is already distributed, the FPS has the upper hand in case of disagreements. This refutes the claim that datafication addresses quantity fraud. The problem remains the same, but before datafication,

documentation did not favour the FPS dealer; now, the FPS dealer can easily win an argument by showing the records.

In the pre-ABBA period, each ration card holding family was provided a ration booklet in which transactions were recorded; this included the quantity of rations, price, and month of the transaction.

After the ABBA became mandatory, the system was shifted online. Since then, transactions have not been recorded in a booklet. Instead, dealers are supposed to provide sale receipts to the right holders. However, the sale receipt is not given to the beneficiaries. So even if ration card holding families collect their full entitlement, they have no way of knowing what the dealer records. We do not claim that quantity fraud is rampant in these states, but rather than diminishing, the scope for this sort of fraud has increased with datafication. This majorly contradicts the claims that datafication curbs leakages.

CASE STUDY 4

Raju Jagat Sarpanch of Siopur Panchayat, who also manages the ration distribution in the FPS of the panchayat, said, "Earlier, we could finish the ration distribution in three to four days. Now it takes more than 10 days and sometimes even more when there is poor connectivity. Many beneficiaries have to come to the ration shop multiple times. It increases our cost of running the ration shop, as we have to hire workers for more days. Even the beneficiaries lose their daily wages". (FPS dealers are mandated to keep their shops open throughout the month so that right holders can avail rations as per their convenience. However, this practice has not been consistent.)

Vijaysingh Purti in Ulirajbasa Panchayat runs an FPS in Amari village. He noted that the time taken in the current online mode is more than four times that of the offline mode. He said, "We have to keep our shop open for almost two weeks. This has led to a reduction in our profit margin, as we have to spend more on workers and the internet; even repairing the machine adds to our costs now. We were given a sim card by the government for the management of the FPS, but it is not working anymore. I had to buy one and have to pay the internet charges myself."

DATAFICATION AND TRANSPARENCY

Chhattisgarh and Jharkhand have developed elaborate portals for the PDS. The portals have detailed information about beneficiaries, ration cards, FPS-wise transactions, allotment of food grain, authentication, portability, and even the time taken for authentication.

The information uploaded on both the websites is exhaustive. This is very useful for those with access to the internet and knowledge of how to manoeuvre the portals.

In our discussion with beneficiaries, we found that all of them are now asked to apply online for new ration cards or for the addition of new family members or deletion of ration cards or members. In most cases, families that want to make changes depend on the local common service centres to update their details for a fee. They also submit all necessary documents to the block-level officials.

The beneficiaries we interacted with in both Chhattisgarh and Jharkhand claimed that they do not receive any information from the food department or concerned local authorities when they add or remove details of family members from their ration cards or cancel their ration cards altogether.

FPS dealers are the single source of information for most beneficiaries. We spoke to the FPS dealers in both states, who corroborated this information. Also, neither state had updated lists of household-wise beneficiaries in the panchayat office or at the FPS that could be verified by beneficiaries.

The information available on the portal is detailed, and most of it is open for public viewing. However, the technology needs to be people centric and to take into account how a person without internet access or a smartphone can access the data they need.

DATAFICATION AND GRIEVANCE REDRESSAL

The datafication of the PDS has created provisions for lodging grievances online. The online grievance option on the Chhattisgarh government PDS portal is not functional, but it is operational in Jharkhand.

We spoke to the block-level officers responsible for the PDS in both states. The food inspector of Silli block in Chhattisgarh, Surendra Kumar Lami, told us that he keeps receiving grievances from people who applied to add new members to their existing cards or for new ration cards, but their requests have still not been met. He noted that he can only send their applications to district-level officers.

The portal for the addition of new cards or members is not open all the time. When there is an adequate number of vacancies or ration card targets, state government open it. He told us that the present system is centralised, with block-level officials having little to no say in the ration card management system. Indeed, block-level officials do not have the necessary access to make changes based on the complaints and enquiries. They just escalate the issue to the higher officials, resulting in unnecessary delays in grievance redressal. Block-level officials have primarily become application-receiving and verifying authorities, who only check whether the applicant is eligible as per the criteria.

The situation in Jharkhand is similar to that in Chhattisgarh. Datafication makes the process centralised; local officers have little say in the system. Their role is mostly to

ensure that the food grain reaches the FPS on time and to manage the FPS dealers. They do not have the authority to add or delete ration cards or to add new members.

DATAFICATION AND PORTABILITY

The idea behind datafication was to make technology public-centric and social protection programmes accessible. All processes of the PDS have been digitised, from the collection of beneficiaries' details to seeding them with Aadhaar; the distribution of food grain happens mainly through biometric authentication. All these processes are linked to a centralised server.

With all this digitisation, the government claims that the PDS is completely portable, which is essential under the ONORC Scheme. Indeed, the government asserted that with complete digitisation, it would be easier for beneficiaries to change seamlessly from one card to another, or from one ration shop to another. Its outcome could have been similar to that of the core banking process, wherein a customer can request for their account to be changed from one branch to another as per their preference.

Over the course of our fieldwork, we came across an issue that the datafication of the PDS has not been able to address: transferring names of beneficiaries from one ration card to another with a change of household, such as after marriage. Marriage is the biggest reason for migration in India. According to the 2011 Census, among the population that moves out of their homes, 97% are women, and marriage is their primary reason. An estimate suggests

that around 1.4 crore marriages take place in India every year. With marriage, the majority of women shift households. If we extrapolate, as 67% of the families have ration cards under the NFSA, this suggests that more than 0.9 core women from one ration card holding family move to another. Since the PDS works primarily with individual entitlement, the names of the women should be shifted from the ration card of their origin family to that of their spouse's family.

During our field visits to both states, this emerged as a major concern for newly married women. After marriage, when a woman wants to add her name to her marital family's ration card, she is first asked to delete her name from her parents' card.

In Jharkhand, some women told us that they are asked by the block-level officials – who do not have the authority to delete names – to visit the district supply office to have their names deleted from the ration card. Once her name is deleted, she has to ask for it to be added to the ration card of her spouse's family. According to many of the women in the FGD, this process takes more than a year. Their names can only be added when a vacancy arises in the concerned panchayat. In Chhattisgarh, they have to submit the deletion request at the block office where

their names are already listed. The block-level officers in Chhattisgarh and Jharkhand reported that there is no standard protocol to address the issue, but they felt that with digitisation, it should be possible with just one application.

We came across multiple cases of families struggling to add the names of their children who were born after the issuance of their ration cards. As in the case of Monisha Bodra, it was not only her name that was not added, but also her son's. Parents are asked to submit the Aadhaar numbers of their children but even after submitting Aadhaar, their names do not get added. There is no communication from the responsible department and parents are made to go to different authorities to get their children's names added. We are not sure whether this is a technological problem that states are not able to address, or if it is because of a lack of effort by the state to address the challenges associated with their claim that the datafication of the PDS is a people-centric technological solution. The issue affects millions of women.

Indeed, technology should have been used to make the PDS more accessible rather than to create multiple hurdles which some might never be able to cross.

CASE STUDY 6

Monisha Bodra, a resident of the Ulidi village, lives with her husband, Jitendra Bodra, and her son, Ganesh Bodra, who is three years and five months old. She stated that her husband's name is mentioned on the ration card, but her name and her child's name are not. They have been trying for the last three years to add their names but have been unsuccessful.

10 Discussion

Digitisation and datafication are playing increasingly prominent roles in different aspects of policymaking, particularly in social protection programmes. In this study, we have highlighted how datafication has shaped the PDS over the years.

The government introduced Aadhaar seeding and datafication of the PDS with the aim of making food grain delivery efficient and curbing leakages. However, the fallout and exclusion due to datafication have not been properly documented nor steps taken by the authorities to address the root causes.

TRANSFORMING RIGHTS HOLDERS INTO APPLICANTS

We have discussed the eligibility criteria for the PDS, one of which is the submission of one's Aadhaar details and seeding with the PDS. However, for a large number of beneficiaries, this is a continuous struggle, as many people have to reapply for Aadhaar multiple times as their irises or fingerprints are not captured due to disability, blurring from years of manual labour, or malnutrition.

Even if enrolled, many face other challenges: their Aadhaar numbers are not assigned or contain errors. In case there is a mistake in the Aadhaar, the family struggles to correct it; this can involve high costs, as they spend on travel and pay a fee for making the correction.

Then, there is still the challenge of Aadhaar seeding mostly at the official level such as

delay in seeding of Aadhaar with ration cards or non-seeding of few of the members or non-seeding of Aadhaar of member/s all together; even after seeding, when the rights holder goes to collect their rations, biometric authentication sometimes fails, resulting in them being denied their entitlement. In this process it is the rights holder who has to spend money, time, and effort to have the errors of datafication corrected.

Therefore, many rights holders turn into applicants and go through a never-ending struggle to prove their eligibility and receive their entitlement; indeed, some get excluded forever.

THE SHRINKING ROLE OF THE STATE IN ENSURING RIGHTS-BASED ENTITLEMENT

The PDS comes under the NFSA, 2013. The NFSA guarantees persons from eligible households the right to receive food grain at subsidised prices. Chapters VIII and IX of the act make it obligatory for the central and state governments to ensure the availability of rations to all eligible households and the delivery of food grain to all entitled households.

The act makes it quite clear that it is the duty of the state to ensure that not a single eligible household is excluded from the scheme. However, we have seen how beneficiaries are made to run from pillar to post to enter the scheme, remain in it, and receive their grain.

In all the challenges a beneficiary faces, the state appears absent. It does not play

an active role in addressing the issue or creating fiscal investments to make the datafication process people centric. Rather, the state seems happy to remove eligible beneficiaries if they do not provide the necessary documentation.

DATAFICATION OF THE PDS AND PRIVACY

In previous sections, we discussed that to become a beneficiary under the PDS, one has to submit multiple documents and details about themselves and their family members, including, age, sex, names, mobile numbers, bank account numbers, and Aadhaar details. These are the preconditions for accessing subsidised food grains under the datafied PDS.

Since the beneficiaries of the PDS have to submit multiple details, these documents are linked to a centralised database where monthly transactions are tracked to check for possible fraud. This creates an ideal channel in which to profile beneficiaries for political and private interests, since Aadhaar data is also accessible to many corporates (Chaudhuri 2022).

This gives rise to privacy concerns. Data protection policy frameworks and practices are lacking; there is inadequate protection of the right to privacy, which is a fundamental right. It is essential that technology is not seen from a techno-deterministic point of view (Gerbaudo 2017).

Rather, a transparent framework is required; it must be accountable and ensure that algorithmic decision-making does not lead to the exclusion of eligible households.

AADHAR FAILURES	REASONS
ENROLMENT PROBLEM	1. Inability to enrol due to remoteness of the village, restriction of movement dur to chronic illiness, etc. 2. Enrolled, but Aadhar not delivered 3. Aadhar lost due to disaster or some ussue and unable to trace Aadhar.
SEEDING PROBLEM	1. Error in Aadhar in terms of name, age, sex, address, etc, leading to difficulty in seeding. 2. Aadhar number submitted but not seeded by the concerned officials.
BIOMETRIC FAILURE	1. EPOS not capturing biometric dure to technical glitch. 2. Change in biometric due to disability, chane in biometric pattern etc. 3. Internet down at the time of authentication.

↑ *Table 6: Aadhar Failures*

11 Conclusion and Recommendations

In this study, we analysed the datafication of social protection programmes, with the PDS as a case study. We observed that the datafication of the PDS comes with some fundamental claims of promoting transparency, curbing leakages, ensuring that the right person receives the entitlement, and reducing inclusion and exclusion errors.

There are some aspects where the datafication process has achieved its goal to some extent; for example, much of the data relating to the PDS is on the portal, and most of it is accessible to the public, which was never the case before datafication. In this datafication process, the scope for one person possessing multiple ration cards has become a rarity with the Aadhaar seeding process. Also, only a person from an entitled household can collect the ration using biometric authentication, which potentially prevents the FPS dealer from pilfering rations.

The list of challenges that the datafication process is associated with is quite long. The inclusion errors are huge; the requirement of Aadhaar for the PDS also leads to the exclusion of those who cannot be enrolled under Aadhaar. The submission of Aadhaar could get one stuck in the maze of datafication. A beneficiary can lose their entitlement if the EPOS does not recognise their finger impressions or irises. The barriers are several, and once trapped, getting out can be a big challenge for a poor person.

It is essential that datafication address the nuanced challenges that come from the obligations of its system. Adding data to a web portal without making the effort to make it accessible to the beneficiaries – by posting names and other details on the walls or making printed copies of the beneficiaries' details available – only helps administrators and not beneficiaries. The grievance redressal system needs to be quick and conclusive.

The PDS mostly serves the poor – the bottom 80% – but their right to privacy is as fundamental as that of the top 20%. The government must take this seriously when designing the framework and every step of its implementation.

Finally, datafication and data justice need to go hand in hand; justice comes first and data later.

↑ *Image from field visit*

KEY RECOMMENDATIONS

1. The mandatory use of Aadhaar in the name of curbing corruption and weeding out pilferage shows the acceptance of governance failure where the huge government mechanism has not been able to curb corruption. We have discussed in the initial sections that the improvement in the delivery of the PDS is largely due to systemic reform. Further improvements in the scheme cannot come from seeding everything with Aadhaar. A wide systemic reform is required to strengthen the scheme, including ensuring transparency of records both online and offline, instituting community monitoring mechanisms, displacing private dealers with panchayats and other institutions, and strengthening grievance redressal mechanisms.

2. The idea behind the datafication of the PDS was to improve the scheme and making it more accessible to right holders. Our study and many more suggest that the pain for right holders outweighs the gain. It is high time that the Ministry of Consumer Affairs, Food and Public Distribution undertake a detailed evaluation of the datafication of the PDS, in consultation with a wide range of stakeholders, but primarily from the perspective of the right holders.

3. In case of the PDS, which is a legal entitlement and pertains to the poorer echelons of society, right holders have not been given any options other than ABBA. Denial of food grain under the PDS can be a matter of life and death,

as we learnt in Santoshi Kumari's case. Therefore, it is essential that right holders are given multiple options to access their PDS entitlements, such as smart cards, OTP-based authentication, nominee-based authentication, or approval by a designated official.

4. PDS entitlement is the right of beneficiaries mandated under the NFSA, 2013. It is essential that any right holder whose name gets added to or deleted from the portal is duly informed by the department rather than it being left to the dealers. This should be a must when someone gets excluded from the system because of non-seeding with Aadhaar.

5. We found out during the study that there are exemption criteria for right holders who are unable to withdraw rations due to ABBA failure. However, the exemption is not made public, it is complicated, and it takes a long time to get approved. The department must make the process simpler, vesting authority with block-level officials for approval, and the list be made transparently available both at the panchayat and FPS levels.

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