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Decentralized Evaluation

End-line Evaluation of the Target Public Distribution Reforms Project in
Bhubaneswar (Odisha)

2014-2019

End-line Activity Evaluation Report

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WFP India

Prepared by

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EXECUTIVE SUMMARY

Evaluation Context

The Targeted Public Distribution System (TPDS) in India provides highly subsidized food grains to more than 800 million beneficiaries covering more than 500,000 FPS across all States and Union Territories (UTs) in India (PIB G. o., 2011). Given the scale of operations and annual increase in the number of beneficiaries (PRS, 2017), the TPDS is also prone to leakages, targeting errors and inefficiencies in the supply chain. Secondary literature reports that for every INR 3.65 spent by the Government of India (GoI), only Rs. 1 reaches households Below Poverty Line (BPL) (NCAER, 2015).

The National Food Security Act (NFSA) passed in 2013 marked a paradigm shift in the existing TPDS structure, moving from the delivery of subsidized food grains to a rights-based approach. NFSA also encouraged all States to formulate and implement solutions to reduce leakages and targeting errors in the TPDS. For Odisha, the TPDS reforms project were supported by the World Food Programme (WFP), India by formulating and implementing a plan for identification of right beneficiaries for delivery of food grains and for its distribution in a transparent and accountable manner at the Fair Price Shops (FPS), using technology and automation as the means to improve the overall efficiency and performance of the TPDS. WFP's assistance to states is in the form of; (a) identifying system requirements for End-to-End (EtE) computerization; (b) support review and drafting of policies for implementation of key systems and supported project implementation and capacity strengthening of government stakeholders; (c) identify new areas of improvement in existing systems; (d) support mainstreaming of solutions through pilot interventions; (d) promote awareness through information education and communication campaigns; and, (e) disseminate best practices in automation of systems. WFP also provided technical assistance to Government of Odisha (GoO) in improving beneficiary identification/ration card management system; improving supply chain management system; FPS automation and grievance redressal system.

WFP India commissioned Sambodhi Research and Communications Private Limited (Sambodhi), India, to conduct an end-line activity evaluation of the TPDS reforms package in Bhubaneswar block and municipal corporation (MC), Odisha. The end-line activity evaluation covers the period of 2014 to 2019 and compares the results with the baseline evaluation conducted earlier in 2014. The overall purpose of the end-line evaluation is to strengthen accountability by assessing performance and results of the TPDS reforms project and draw actionable learnings to inform operational and strategic decision making. The key measures for the end-line evaluation included assessing beneficiary targeting errors; service satisfaction and convenience among beneficiaries and FPS owners; and perception on the effectiveness of the existing grievance redressal mechanism.

Primary users of the end-line evaluation will be WFP India Country Office (CO), GoO and the local stakeholders including beneficiaries and FPS owners. The secondary users of the end-line evaluation are (a) Regional Bureau; (b) WFP headquarters, and; (c) Office of Evaluation, WFP. The end-line evaluation was conducted between the months of November 2018 and February 2019.

Methodology

The end-line activity evaluation, adhering to the recommendations in the Terms of Reference (ToR), employed a mixed-method pre-post longitudinal design along with Development Assistance Criteria (DAC) areas of inquiry. In line with the baseline methodology and agreement on the Terms of Reference, the end-line activity evaluation used the longitudinal design re-visited 110 Primary Sampling Units (PSUs) surveyed during the baseline across Bhubaneswar block and Municipal Cooperation (MC)

in Bhubaneswar, Odisha

to collect qualitative and quantitative data on pre-identified indicators. The design for end-line evaluation also incorporated methods to measure effect of the programme on gender, in line with the Gender Equality and Empowerment of Women (GEEW) principles. Quantitative structured interviews were conducted with 3300 randomly selected households (including both beneficiaries and non-beneficiaries) and 80 FPS owners to assess indicators such as – inclusion and exclusion errors, satisfaction of beneficiaries and FPS owners with the TPDS reforms and present challenges in the system from an end-user's perspective. The quantitative interviews were conducted with female head of the household who, as per NFSA mandate, are the owner of ration card at a household level. Qualitative In-Depth Interviews (IDIs) were conducted with purposively sampled FPS owners, female members of the household/female beneficiaries, local government representatives and officials involved in the TPDS supply chain at Bhubaneswar block and MC to understand their insights on the reforms. Qualitative Focus Group Discussions (FGDs) were conducted with female beneficiaries in purposively sampled areas to understand the effect of reforms on gender. The quantitative indicators were assessed using probability weights. Weights were calculated using Census 2011 data and further normalized to be used during analyses.

Key Findings

The end-line activity evaluation identifies the following key findings/trends as effects of the TPDS reforms in Odisha:

Relevance

1. Findings from the end-line evaluation conclude that the TPDS reforms programme is highly relevant for the settings it has been initiated. It has come across widely that the programme has led to increase in TPDS efficiency, reduced leakages of food grains and fostered transparency and public accountability in the system. The EtE computerization approach and its sub-components have provided a holistic package of solutions in response to the challenges faced by GoO. WFP India's approach towards supporting GoO in formulating and implementing the reforms package has been collaborative, building on GoO's institutional experience and learnings from neighbouring states. The programme has also strengthened capacity of GoO and FS&CW, to implement and sustain reforms at a large scale. Overall, the programme has been found to be aligned with national and local priorities.

Effectiveness

2. **Increase in ration card ownership:** The policy mandate set by the NFSA for Odisha aimed at providing 82.2% of the total rural and 55.8% of the total urban population with ration cards (Satpathy, 2017). Against this backdrop, the reforms plan was able to meet the targets set for urban areas (64.6% households in urban areas owned a ration card) but fell short in rural areas (68% of the total households owned a ration card). The overall prevalence of ration cards increased from 59.2% in the baseline (2014) to 66.1% in the end-line (2019), suggesting an overall expansion of the State's food security net in the last 5 years. **Note:** District-level targets are required to comprehensively comment on ration card ownership over time.
3. **Beneficiary convenience and satisfaction:** Overall, 97.1% of ration card beneficiaries (96.3% urban and 98.8% rural) reported their satisfaction with the functioning of their respective FPS. However, beneficiaries also observed an increase in the overall time taken to purchase ration from the FPS. A key reason for this increase, as reported by beneficiaries, is due to the narrowing of the number of days for purchasing ration. As per the mandate under NFSA, the ration must be purchased between 1st and 25th of every month, failing which the beneficiary's

quota for the month expires. GoO distributes ration bi-monthly (once every two months). Qualitative fieldnotes suggest that beneficiaries prefer visiting the FPS during the initial (between 1st to 3rd) or later days (between 10th-13th), which leads to overcrowding. In addition, GoO's policy of distributing food grains bimonthly also increases the quantity of food grains to be bought by beneficiaries, however reducing the total number of transactions in a year by half.

4. **FPS owner convenience and satisfaction:** Approximately 97.5% of the surveyed FPS had a functional PoS device installed within the shop premises and 92.5% of FPS owners self-reported the introduction of PoS as useful. Almost all FPS owners perceived that use of PoS for ration related transactions had increased quality of service and helped improve overall transparency and accountability. Positive trends also include – FPSs receiving food grains before the present stock got over, and reduction in the average number of stock-outs (from 2.4 times per month in baseline to zero in end-line).
5. **Awareness of beneficiaries on TPDS:** Surveyed beneficiaries were asked to mention specific eligibility criteria for a household to get a ration card. Findings observe an increase in awareness among beneficiary households on eligibility criteria for TPDS, with 69.4% (66.0% urban; 77.0% rural) being aware of at least one criterion in the end-line compared to 16.9% in the baseline. Only 36.1% (38.4% urban; 31.5% rural) of beneficiaries had registered their mobile numbers with ration cards to receive text alerts. In addition, 3.6% of beneficiaries reported not being able to purchase ration from the FPS due to non-availability of stocks since the TPDS reforms, but none of them received food security allowance as mandated under the NFSA (PIB, 2015).
6. **Grievance redressal and community oversight on FPS:** Findings from beneficiary responses suggest that only 2.0% (2.5% urban and 0.9% rural) beneficiaries had registered their complaint regarding their FPS at any point in time. Majority of the beneficiaries who registered their complaint, did that directly to the FPS owner or local community leaders and were either not aware or chose not to use the official mechanisms. The trends suggest that beneficiaries either chose not to report their grievance or report it through unofficial channels. In addition, only 11.1% (8.4% urban and 16.7% rural) beneficiaries were aware of the role of local vigilance committees operating in their community and none of the areas/FPS under assessment had undergone social audit from the time of implementation of the TPDS reforms. Social audit is a mandatory provision made under NFSA to ensure transparency and accountability under TPDS.

Impact

7. **Decrease in exclusion error:** The exclusion error (eligible households under NFSA, defined by the state government criteria of eligibility not receiving ration cards and excluded from food security net) decreased from 27.0% in baseline to 13.9% in the end-line, indicating that a greater number of vulnerable households have been included in the PDS. In absence of time-specific targets, the end-line evaluation is not be able to comment on whether the quantum of decrease in exclusion error is adequate. However, the overall trend suggests that the reforms programme is on the right track towards eliminating exclusion errors in the TPDS.
8. **Stagnant inclusion error:** The overall inclusion error (ineligible households under NFSA, defined by the state government criteria of eligibility owning a valid ration card) almost remained stagnant during the same period, with urban inclusion error as a major contributor to this trend (overall 12.3% inclusion errors in baseline and 16.1% in end-line; within end-line, 16.9% in urban

and 14.1% in rural areas). The TPDS reforms plan designed for Odisha had initially proposed for measures to regularly update the digitized list of ration card beneficiaries to ensure that ineligible households are continuously and automatically removed from the TPDS network. However, the persisting rate of overall inclusion error highlights the need to further strengthen this process.

9. **Increase in FPS Profitability:** Profitability of an FPS was measured by subtracting commissions earned by the FPS with their expenses. Findings suggest that the overall proportion of profitable FPS has increased from 14.0% in baseline to 76.4% in the end-line. This trend can be attributed to revisions made under NFSA by the state government, wherein FPS commissions were increased from Indian Rupees (INR) 20 per quintal (DFPD, n.d.) of food grain sold to INR 70 per quintal (PIB, n.d.). However, a deeper assessment of FPS profitability reveals that only 16.3% of the FPS earn a profit of more than INR 10,000 (USD 143¹) or more per month, which can be considered as a benchmark for viability. Additionally, it was found that FPS with less than or equal to 820 ration cards did not make any profit.

Sustainability

10. **Perception of supply chain officers on the reforms:** Qualitative analyses of supply chain officers' response on the reforms point towards two emerging themes; *reduction in leakages* and, *enhancement in transparency and public accountability*. Supply chain officers perceived that the reforms had led to a reduction in leakages in food grain, *"One major change I have seen in TPDS that beneficiaries are gets their actual quantity that they were allotted. No leakage seen in the distribution system"*. Officers also believe that the reforms had increased transparency and public accountability in the overall system, *"Some time ago we [Government officials] had some FPS dealers who were trying to operate the PoS in the night for some transactions... they were caught as monitoring has become very easy after automation"*.
11. **Effect on empowering women:** Under the NFSA, the female member of the household aged 18 years and above were identified as the household head for issuing of ration cards. The baseline observed most ration cards being owned by male members of the household before the reforms. However, the ownership pattern underwent a drastic change from baseline to the end-line, with all the ration cards surveyed during the end-line verified to be owned by female members of the household. Qualitative insights suggest that most women found the reforms beneficial and changed household gender dynamics positively, giving them more power on ration related decisions. Quoting a female household head and ration card owner, *"It [NFSA mandate on ration card ownership] is beneficial for the female members. Many women get tortured. Everybody's husband is not good. Many of them drink alcohol, beat their wives and don't love their kids and wives. That is why it's good decision of the government to give ration card in the name of the women member."* However, women remain excluded from the TPDS information network, as only 26.9% (31.2% urban; 16.1% rural) report registering their mobile numbers with the ration card (out of total beneficiaries registering their mobile). Qualitative insights observe that majority of beneficiary households prefer providing the mobile number of male members and several female beneficiaries do not own a mobile phone.

¹ USD as on March 2019 (1 USD = 70 INR)

Overall Conclusions

The TPDS reforms programme is highly relevant for the settings it has been initiated. It has come across widely that the programme has led to increase in TPDS efficiency, reduced leakages of food grains and fostered transparency and public accountability in the system. Overall, the goals envisaged for the reforms programme have been achieved such as; reducing targeting errors; automation of supply chain operations; automation of FPS; enhancing consumer satisfaction and convenience etc. The reforms have gathered institutional sustainability, components such as Supply Chain Management System (SCMS), digitization of beneficiary database, automatic allocation of food grains, door-step delivery of grains and Point of Sale (PoS) automation at FPS level have already been carried out, and currently a core part of Food Supply and Consumer Welfare (FS&CW) department's operation. The reforms have also attempted to empower women by identifying them as the focal point/household head, giving female members of the household more power on ration utilization of food subsidies.

Building on the successes of the reforms programme, the end-line activity evaluation also highlights key areas/opportunities to further strengthen the effectiveness of TPDS. While the evaluation appreciates state's efforts and investment in identification of the beneficiaries on a well thought-through criterion, there is further scope of reducing these errors through dynamic updation/revision of criterion itself and periodic matching with the databases such as Income tax, vehicle registration etc. Data suggests that beneficiaries often refrain from reporting their grievances – regular social audits, supervisory visits and well functional vigilance committees will strengthen community participation and oversight in the post reform TPDS setup- which was found to be weak.

Recommendations for GoO and FS&CW

In line with the key findings, the end-line evaluation suggests the following recommendations for improving effectiveness of TPDS in Bhubaneswar, Odisha.

- 1. Update the existing beneficiary list to remove ineligible beneficiaries:** Activities such as de-duplication of the beneficiary list and creation of a dynamic ration card database has led to elimination of bogus cards, duplicate cards and fake cards. However, the rate of inclusion errors (ineligible households owing ration cards) has persisted between 15%-16% in the last five years. While the evaluation appreciates state's efforts and investment in identification of the beneficiaries on a well thought-through criterion, there is further scope of reducing these errors through dynamic updation/revision of criterion itself and periodic matching with the databases such as Income tax, vehicle registration etc.
- 2. Rejuvenate social audit and augment grievance redressal mechanism to improve community's participation and ownership of the TPDS:** Grievance redressal mechanism, one of the core principles and components of the TPDS reform plan, is a welcome step towards increasing transparency and public accountability of the TPDS administration. It is recommended that GoO and concerned department of FS&CW utilize the mechanism to its full extent by rejuvenating practices such as social audit and regular inspection by local vigilance committees, as mandated under the NFSA, to increase community participation and ownership. In addition, visibility of the present grievance redressal mechanism can also be augmented to ensure that beneficiaries register their complaints regarding FPS and their entitlements officially using the system.

- 3. Augment service at FPS:** Findings from the end-line suggest that a small proportion of beneficiaries, since the implementation of TPDS reforms, have been denied their entitlements due to stock-outs at FPS. While the findings suggest that stock-outs have decreased drastically since implementation of reforms, it is suggested that in event of stock-outs, the beneficiaries can be given fixed-allowances, as mandated under the NFSA. In addition, findings also note that the amount of time spent by beneficiaries waiting in the queue to collect ration has increased. Solutions such as ensuring that FPS runs for the 20 days as mandated by the government and other steps to a similar extent can be explored as a mitigation measure.
- 4. Further augment the transparency portal:** The transparency portal hosted by FS&CW is a welcome step towards increasing transparency of the overall system. While the portal contains key data points on TPDS in Odisha, the evaluation also suggests further augmenting the reliability of the transparency portal by increasing the frequency and timeliness for updating database (for example; food allocation records are only available till the year 2017; list of FPS includes shops that have either shifted or closed).
- 5. Periodic research on factors affecting TPDS performance:** Further implementation research and process evaluations are suggested to keep a continuous track on issues such as inclusion errors (and its underlying factors), potential leakages across the supply chain operations, PER values, opportunity to refine technology to plug operational gaps within the mandate of NFSA etc. In addition to long-term quantitative assessments, qualitative case studies and field reports can be leveraged to document current or expected challenges and success stories.
- 6. Conduct independent research on potential food grain leakages:** As the evaluation finding suggests, literature available on food grain leakages throughout the supply chain operations is limited and out-dated. The present activity evaluation provides information on leakages only at a household-level and does not include leakages that might be occurring at various points in supply chain (for instance; between depots and FPS). It is suggested that GoO, with the support of WFP, should carry out independent studies to estimate the amount of leakages occurring throughout the TPDS network, if any.

Recommendations for WFP

Based on the evaluation findings, the following recommendations are suggested to help augment WFP's assistance to GoO –

- 1. Support and guide GoO in decreasing targeting errors:** The persisting rate of inclusion error despite the TPDS reforms plan suggests that the dynamic database of beneficiaries envisaged by WFP has not been utilized to its full potential. The evaluation recommends the WFP to support and guide GoO in adhering to the reforms plan envisaged initially and ensuring that the beneficiary database can identify ineligible beneficiaries and taking them out of the TPDS network at regular intervals.
- 2. Independent evaluation of TPDS reforms in distant and resource poor areas:** The current evaluation focused on Bhubaneswar, the Capital city of Odisha and with high rate of income and literacy compared to other areas in the State. Bhubaneswar's geographical terrain and connectivity has played an important role in sustaining the TPDS reforms. As a comparative diagnosis of the reforms, independent evaluations can be conducted across distant, vulnerable

and resource poor areas. The comparative assessment holds the potential to comment on issues which might be caused due to poor connectivity, difficult terrain or other socio-economic factors.

3. INTRODUCTION

12. The TPDS in India currently provides highly subsidized food grains to more than 800 million beneficiaries through more than 500,000 FPS across all States and Union Territories (UTs) in India (PIB G. o., 2011). Along with TPDS, national schemes such as Integrated Child Development Services (ICDS) providing supplementary nutrition to children aged 0-6 years and their mothers², and the Mid-Day Meal Scheme (MDMS) providing meals to children in public schools³, form one of the largest social food security and safety nets in the world.
13. Given the scale of operations and annual increase in the number of beneficiaries (PRS, 2017), the TPDS is also prone to leakages, targeting errors and inefficiencies in the supply chain. Secondary literature reports that for every INR 3.65 spent by the Government of India (GoI), only Rs. 1 reaches households Below Poverty Line (BPL) (NCAER, 2015). Arora (2013), using National Sample Survey (NSS) data points that the system failed to reach the poor in most States except Andhra Pradesh, Tamil Nadu and Kerala (NCAER, 2015).
14. The scope and mandate of TPDS expanded significantly through the passage of the NFSA in 2013. Under the NFSA, Central and State governments were encouraged to undertake necessary reforms to reduce leakages in the TPDS. Under the ambit of NFSA, several promising technological solutions were also suggested such as beneficiary digitization, FPS automation and digitization of the entire TPDS supply chain operations, to improve transparency and public accountability of the system.
15. Against this backdrop, WFP India supported GoO in formulating and implementing its TPDS reforms plan in the year 2013-14. The key objectives of the proposed TPDS reforms were to; (a) achieve proper targeting of the subsidy; (b) reduce leakage and pilferage of PDS items; (c) improve stakeholder convenience, and; (d) improve transparency, accountability and efficiency. Based on WFP's findings documented in a Best Practice Solution presented to the GoO, key features of the solution package formulated by WFP and GoO included – enhancing beneficiary identification and enrolment process; automation of supply chain operations; automation of FPS transactions and; improving grievance redressal mechanisms (WFP, 2013).
16. WFP India commissioned Sambodhi to conduct the baseline and end-line activity evaluation to evaluate whether the reforms have been able to achieve the intended goals. The end-line activity evaluation was based out of Bhubaneswar block and MC, where the all the TPDS reform components were implemented. The baseline assessment within the activity evaluation was conducted in 2014. Following up with the baseline, an end-line assessment was commissioned in 2018 by WFP India Country Office (CO) and covers the project period from 2014 to 2019. The evaluation was conducted between the months of November 2018 and February 2019.

3.1. Context

17. The concept of Public Distribution System (PDS) in India was developed as a major policy instrument to; (a) reach essential commodities to the people, particularly the weaker sections of the society, on an assured and regular basis at reasonable prices; (b) work as an effective anti-

² <https://icds-wcd.nic.in/icds.aspx>

³ <http://mdm.nic.in/>

inflationary measure, and; (c) make significant contribution in raising the nutritional standard of the poor (Kavita, 2014). Over the years right to food has been recognized as a fundamental right in India and has witnessed several shifts in its overall goals and design, from a welfare to rights-based approach.

18. In 1997 the PDS was revamped to narrow its coverage to a focused group of beneficiaries, with the aim to provide food grains to a targeted population BPL. Subsequently, the TPDS carried out identification of BPL families across India and food grains were sold to this group at half the economic cost, while the APL families were offered food grains at economic cost (NCAER, 2015). The scope and mandate of TPDS was further expanded under the NFSA in 2013, which entitled 50% urban and 75% rural population to receive food benefits. During the same period, food subsidy as a proportion of Gross Domestic Product (GDP) increased from 0.85% (2006-07) to 1.87% (2014-15) (Puri, 2017).
19. The TPDS is operated under the joint responsibility of Central and State governments, with the former responsible for procurement, storage and transportation and bulk allocation of food grains. In Odisha, the TPDS is managed by FS&CW, under which the Gram Panchayats (GPs), Self-Help Groups (SHGs) and private parties manage the FPSs. Additionally, the GoO procures paddy from farmers at minimum support price through network of Primary Agricultural Cooperative Societies (PACS) under the Odisha State Civil Supplies Corporation Limited (OSCSC) and other state agencies. The State governments are responsible for distributing these food grains to consumer through a network of FPS. However, Odisha is a decentralized procurement state for paddy and is responsible for procurement of paddy, milling it into rice, storing and distributing rice to beneficiaries through TPDS.
20. However, the sheer scale of TPDS also leads to several operational challenges such as; (a) targeting errors; (b) bogus/duplicate/invalid ration cards; (c) shadow ownership of cards; (d) inadequate warehousing facility to stock food grains; (e) manual weighing of food grains; (f) unviability of FPS. Secondary studies suggest that very high proportion of landless and near landless households did not possess BPL cards (86% in Sikkim; 80% in Goa; 79% in Uttar Pradesh; 76% in Haryana; 75% in Jharkhand; 74% in Uttarakhand) and were excluded from TPDS (Kavita, 2014). Studies also pointed out that 44% of TPDS grain was diverted at all India level in 2007-08 (Khera, 2011). The Planning Commission of India (now National Institution for Transforming India – NITI Aayog) in 2005 reported figures on exclusion (eligible households excluded from TPDS) and inclusion error (ineligible households included in the TPDS), with the highest exclusion error reported in Assam (47%) and inclusion error reported in Tamil Nadu (50%) (GOI, 2005).
21. Intersectionality between poverty and exclusion from social safety nets such as TPDS is also reported to further exacerbate malnutrition among vulnerable beneficiaries. Roughly 38% of children less than 5 years of age are stunted (have less height for age), 21% are wasted (less weight for height) and 36% are underweight (less weight for age). Similarly, more than 23% women and 20% men in the age group of 15-49 years in India were observed having Body Mass Index (BMI) below normal (NFHS, 2015). Studies have also pointed that prevalence of malnutrition was more than twice in poorer households vis-à-vis wealthier households and indicate that poverty and education are likely to cause higher incidences of malnutrition (Svedberg, 2008).

22. To reduce the inefficiencies and leakages in the TPDS, Gol undertook and several reform measures. The EtE computerization was envisaged as a method for delivering several interventions such as; (a) digitization of beneficiary database to enable correct identification of beneficiaries, removal of bogus cards and better targeting of food subsidies; (b) online system generated allocation of food grains to bring transparency in allocation of food grains up to the FPS level; (c) computerization of supply chain management to ensure timely availability of food grains to beneficiaries at FPS and improve checks on leakage and diversion, and; (d) grievance redressal mechanism and transparency portals to improve transparency and public accountability (Gol, 2014).
23. Another key feature introduced by the NFSA for the TPDS reforms recognized eldest woman (18 years and above) to be the head of the household for the purpose of issuing of ration cards. The rationale behind recognizing women members as household heads for ration card comes from several national reports highlighting the need to safeguard women identity and rights in the household, especially migrant women who are more vulnerable to contextual factors. Together with the EtE solutions, the TPDS in recent years has been mapped as a key indicator by Gol to achieve the Sustainable Development Goal (SDG) 2 – End hunger, achieve food security and improved nutrition and promote sustainable agriculture (NITI, n.d.).
24. In line with the national recommendations, the State of Odisha engaged with WFP India to formulate and implement its TPDS reforms package. Situated on the east coast of the country, Odisha, covering 155,707 square kilometres with a population of 42 million people, is also home to the highest proportion of disadvantaged inhabitants from the Scheduled Tribe (ST) and Scheduled Caste (SC) category (39% compared to 24% nationally) (WFP, 2013). The State reports a high level of people below poverty line (32.6%, 2011) and was ranked 17 out of 19 States in the Human Development Index (HDI) in 2011, 32 out of 35 States in the Gender Development Index (GDI) and 12 out of 17 States in the Global Hunger Index (GHI) (UNDP, n.d.).
25. The TPDS in Odisha consists of 13,306 FPS distributing more than 2.6 million metric tonnes (MT) of food grains (rice and wheat) across the state in 2018 (PIB, n.d.). The FS&CW is the nodal department, in charge of TPDS operations. The evaluation reported that Odisha State, in 2011-12, reported a commodity leakage figure of 36.9% (difference between allocation and actual off-take), which was lower than the national figure of 46.7%, but higher than neighbouring States of Andhra Pradesh (11.3%) and Chhattisgarh (0.0%) (PRS, Demand for Grants 2017-18 Analysis, 2017). Some of the key challenges to the functioning of the TPDS in the pre-EtE phase were; (a) high inclusion and exclusion errors where non entitled beneficiaries are incorrectly given BPL cards and deserving beneficiaries are excluded; (b) leakage in supply chain operations due to poor tracking of stock; (c) manual weighting of commodities which leads to leakages/diversions; (d) unviability of FPS whereby FPS dealers don't make sufficient returns thereby leading to lower incentives etc.
26. Against this backdrop, WFP's assistance to GoO was in form of; (a) identifying system requirements for End-to-End (EtE) computerization; (b) support review and drafting of policies for implementation of key systems and supported project implementation and capacity strengthening of government stakeholders; (c) identify new areas of improvement in existing systems; (d) support mainstreaming of solutions through pilot interventions; (d) promote

awareness through information education and communication campaigns; and, (e) disseminate best practices in automation of systems..

27. Bhubaneswar block and MC were selected as the initial universe for implementation (and evaluation). Bhubaneswar block and MC together account for roughly 33% of beneficiaries and ration cards within the entire district of Khurda (2019). Bhubaneswar, also the capital city of Odisha, is a largely urban area with high rate of literacy (91.89%), lesser rate of people living below poverty line (4.7%) and unemployed (4.27%) (Gol, n.d.). Ease of accessibility, infrastructure, socio-economic conditions and many beneficiaries made Bhubaneswar favourable for rolling out the TPDS reforms programme.

Table 1: Number of ration card beneficiaries in Bhubaneswar and Khurda

State	Number of Beneficiaries under TPDS
Bhubaneswar block, Odisha ⁴	95,045
Bhubaneswar MC, Odisha	3,71,684
Khurda district, Odisha	14,12,884

28. A list of processes and activities carried out by the programme team is encapsulated in the Theory of Change (TOC) (Annexure 7), along with key stakeholders' engagement in the implementation of project activities along with key foundational results. The TOC laid out a linear logic summarized as; **activities** which were a specific set of interventions conducted by project partners to address the existing barriers. The list of intervention includes studying the on-ground status, preparation of project implementation plan, conducting an FPS viability study, constitution of PMU, support GoO in formulating and operationalizing the food security rules as mandated under NFSA, in setting up e-PoS, and training, minimization of targeting errors through digitization of cards and de-identification of bogus and duplicate cards.

29. **Immediate output** envisaged after implementation of the activities were; SCMS automation, PoS enabled transactions and doorstep delivery, complete digitization, deidentification of bogus cards and grievance redressal. Similarly, **intermediate (or medium term) outcomes** expected from the reforms were; improved supply chain management, improved beneficiary identification; reduction in inclusion and exclusion error; improved FPS viability and stakeholder convenience.

3.2. Purpose of the evaluation

30. An activity evaluation was commissioned to track the performance of reforms in Bhubaneswar block and MC. The baseline assessment within the activity evaluation was conducted in 2014. As a follow-up to the baseline, an end-line assessment was commissioned in 2018 by WFP India Country Office (CO) and covers the project period from 2014 to 2019. The end-line activity evaluation was conducted between the months of November 2018 and February 2019.

3.3. Objectives of the evaluation

31. The overall objective of the evaluation was to assess whether the TPDS reforms were able to achieve the programme objectives of; (a) improved supply chain management; (b) improved beneficiary identification, and; (c) improved beneficiary satisfaction. Supplementary objectives

⁴ <http://www.pdsodisha.gov.in/TPDS/Reports/RationCardListReport.aspx>

also include whether; (a) the reforms were able to change inclusion and exclusion among the existing group of beneficiaries across rural and urban areas; (b) reforms were able to improve the receipt of services through FPS, and; (c) reforms were able to improve accountability and transparency in the system.

3.4. Users of the evaluation

32. The primary users of this end-line activity evaluation would be – (a) WFP India CO and its partners such as GoO in decision making, notably related to programme implementation and/or design, country strategy and partnerships; (b) Regional Bureau to use the evaluation findings to provide strategic guidance, programme support and oversight; (c) WFP headquarters for wider organizational learning and accountability; (d) Office of Evaluation to feed learning synthesis as well as for annual reporting to the Executive Board of WFP.

3.5. Evaluation Approach

33. The evaluation employed the Development Assistance Criteria (DAC) as the overall approach to design, collect data, analyse and highlight key findings. The DAC consisted of dimensions such as *relevance, effectiveness, efficiency, impact and sustainability*. The following table summarizes the evaluation questions under DAC criteria –

Table 2: Evaluation questions under DAC criteria

Criteria	Evaluation Questions
Relevance	Is the intervention in line with the needs of the most vulnerable groups (men and women, boys and girls)? Was the intervention based on a sound gender analysis? Was the design and implementation of the intervention gender-sensitive?
Effectiveness	To what extent were (are) the outputs and outcomes of the intervention achieved (likely to be) achieved; and what were the major factors influencing the achievement or nonachievement of the outcomes? Did the intervention deliver results for men and women, boys and girls?
Efficiency	Was the intervention cost-efficient? Was the intervention implemented in a timely way? Was the intervention implemented in the most efficient way compared to alternatives? Did the targeting of the intervention mean that resources were allocated efficiently?
Impact	What were the effects of the intervention on recipients' lives? Did a specific part of the intervention achieve greater impact than another? Were there unintended (positive or negative) effects for recipients and non-recipients of assistance? What were the gender-specific impacts? Did the intervention influence the gender context? Impacts on institutions. Contribution of an intervention to long-term intended results.
Sustainability	To what extent did the intervention implementation arrangements include considerations for sustainability, such as capacity building of national and local government institutions, communities and other partners? How much of the overall strengthening of the TPDS supply side system has increased the social participation of the poor/those entitled under NFSA to benefit from TPDS in

Criteria	Evaluation Questions
	accessing the system; as a result of the improvement their food security level? Has the intervention made any difference to gender relations in the medium or longer term?

3.6. Evaluation Design

34. The evaluation team adopted a mixed-method pre-post longitudinal design to carry out the end-line evaluation. Mixed-methods were deemed appropriate for the end-line activity evaluation since seek to integrate quantitative and qualitative approaches to theory, data collection, data interpretation and analysis. When used in isolation, both quantitative and qualitative evaluation methods have strengths and weaknesses. The purpose of mixed methods evaluation is to draw on the strengths of both qualitative and quantitative approaches and integrate them to overcome their weaknesses (Bamberger, 2012).
35. The rationale behind using a longitudinal design for the end-line activity evaluation was to ensure that the design could attribute the changes in the universe of evaluation directly to the intervention, in absence of a comparison group. In the present situation, the scale-up of reforms across the entire State of Odisha limited the evaluation's scope for using experimental or quasi-experimental designs. Against this backdrop, a longitudinal design was considered more appropriate over cross-sectional design, as they are less prone to potential problems of confounding arising from inadequate matching of cases and controls (or cases with cases in present situation) (Sage, n.d.). Using the longitudinal design, the evaluation measured changes in terms of targeting errors, quality of services received by the beneficiaries, systems towards enhanced accountability and transparency, grievance redressal etc.

3.6.1. Evaluation area

36. A follow-up to the baseline evaluation in 2014, the end-line evaluation was conducted in Bhubaneswar block and MC of Khurda district in Odisha, where all the TPDS reform components were implemented. Bhubaneswar MC reports most of the urban population, with 77.6% of its population living in urban wards/local bodies. The block also reports one of the highest literacy rates (91.9%) and lowest unemployment rates (4.3%). A brief view of the economic profile suggests that 71.3% of workers are engaged in tertiary services, 21.9% engaged in secondary sector and only 0.8% engaged in agriculture or allied activities under the primary sector (Gol, n.d.). Under the TPDS, Bhubaneswar MC has roughly 375 FPS operating catering to approximately 87% of all households and 69% of its population as per 2011 Census. Bhubaneswar was also chosen as the universe for the end-line evaluation as the baseline in 2014 had been conducted in the same geography.

3.6.2. Evaluation methods

37. Following the longitudinal design, all the primary sampling units (PSUs)/clusters surveyed during baseline were revisited during the end-line evaluation. Within the PSUs, households were selected using a simple random sampling technique. Additionally, FPS were assessed within a sub-sample of PSUs. The list of PSUs has been provided in Annex 9, and the following table provides a detail of the target respondents visited.

Table 3: Sample size for quantitative assessment

SI. No.	Respondent Category/ Cluster	Sample (n)
1	Rural PSUs	34
2	Rural households	1020 (34 x 30)
3	Urban PSUs	76
4	Urban households	2280 (76 x 30)
5	Rural FPS	20
6	Urban FPS	60

38. The evaluation also conducted qualitative IDIs with female members of the household, FPS owners, depot holders for food commodities, grievance redressal officials, handling and transport contractors, panchayat (local self-governance) members, rice millers and supply chain officers such as Assistant Civil Supplies Officer (ACSO), Marketing Officer, Quality Inspector and senior officials of NFSA division. Additionally, FGDs were conducted with female members in the community around gender-related issues.
39. The quantitative and qualitative tools proposed for the end-line activity evaluation were in line with the overall evaluation objectives. Quantitative structured tools were used to capture insights on outcome indicators such as inclusion/exclusion rates, FPS viability etc. Structured tools are commonly used for collecting numerical data, which can then be used to derive descriptive results, predict future results through data modelling or investigate causal relationships. In addition, qualitative IDIs and FGDs were conducted with various stakeholders to capture descriptive insights. Qualitative tools such as IDIs and FGDs are considered appropriate to gauge information from identified stakeholders/ key informants on their knowledge and understanding on the nature of problems and their recommendation for solutions.

Note on protocol for house listing

The end-line evaluation used house listing process to create a sampling frame for household interviews. Following the baseline process, electoral booth records were used to demarcate enumeration areas (EAs). Subsequently within each EA, 100 households were house listed. The house listing exercise provided evaluation team with a list of households that possessed or did not possess ration cards. Subsequently, a sub-sample of households across both the groups (ration card holders and non-holders) were selected from the house listed sampling frame.

Note on embedding gender within key areas of inquiry

The end-line evaluation increased its focus assessing the effect of reforms on gender by gendering the key areas of inquiry. The evaluation sought to assess the convenience or challenges to the female members of a household caused by the TPDS reforms using both quantitative and qualitative areas of inquiry.

40. The key areas of inquiry in the end-line activity evaluation also included questions assessing beneficiary and implementer's convenience and satisfaction with technology. Both members of

the household and FPS were probed on their comfort with changes introduced in the supply chain and ration card systems.

3.6.3. Data analysis

41. Qualitative and quantitative data points were analysed and integrated to comment on each of the dimensions. Quantitative analysis consisted of basic descriptive statistics (mean, frequencies, standard deviations) followed by cross-tabulation between key indicators and socio-economic covariates. The quantitative estimates were also adjusted using probability weights, by dividing the number of units selected by total number of units in the universe for each of the stratum and normalizing them subsequently. Qualitative analysis consisted to transcription and reporting of key verbatim supplementing the quantitative findings. Additionally, qualitative analysis has been used to capture insights from the officials involved in supply chain on the sustainability of the TPDS reforms.

3.6.4. Validity and reliability of data

42. Several measures were undertaken by the evaluation team to ensure highest quality of data. The evaluation team, in regular consultation with WFP, revised baseline tools using an indicator mapping exercise, conducted extensive pre-tests to finalize the tool and undertook digitization of the tools for laptop-based data collection. Digitization of the tool allowed evaluators to maintain a near real-time oversight on data quality. Analysis of data was conducted in parallel to the data collection activity to check for emerging trends, outliers and any missing values. All activities undertaken before and during data collection ensured validity and reliability of data for the end-line activity evaluation.

3.6.5. Ethical protocols

43. The end-line evaluation adhered to ethical protocols set by the United Nations Ethical Guidelines (UNEG) Norms and Standards for Evaluations and UNEG guidance principles on integrating human right and gender equality perspectives in evaluations. The core tenets underscoring the evaluation were;

- a. **Utility:** The evaluation was designed to help WFP India and GoO address and effectively serve the needs of the full range of participants;
- b. **Independence:** The evaluators engaged exercised independent judgement while designing and analysing data and were not influenced by views or statements of any party;
- c. **Credibility:** The evaluation used reliable sources for collecting data and making observations. The evaluators ensured that the evaluation findings were accurate, relevant, timely and provided a clear, concise and balanced presentation of the evidence.
- d. **Conflict of interest:** The evaluators ensured that there no conflict of interest to strengthen the credibility of the evaluation design and findings;
- e. **Respect for dignity and diversity:** During data collection, the evaluators ensured that maximum notice was provided to individuals/institutions, their willingness to engage in the evaluation was noted and that the respondents had their right to privacy.
- f. **Rights:** The respondents were treated as autonomous agents and were given time and information to decide whether they wish to participate and allowed to make an independent decision without any pressure or fear of penalty for not participating. The

stakeholders received enough information to know how to seek redress for any perceived disadvantage suffered from the evaluation.

- g. **Confidentiality:** The respondent's right to privacy and sharing information in confidence was ensured. Evaluators ensured that sensitive information was de-identified and cannot be traced back to the relevant individuals.
- h. **Avoidance of harm:** The evaluators ensured that there was minimum risk to the respondents and aimed at maximizing benefits and reduce any unnecessary harms that might occur from negative or critical evaluation, without compromising the integrity of the evaluation.

44. The evaluation team also procured ethical approvals from established independent Institutional Review Boards (IRB) for the end-line activity evaluation. All related documents pertaining to the end-line evaluation, including evaluation protocols, tools for data collection and consent forms were shared with the IRB for discussion and approvals. The evaluation team also sought necessary permissions from respective administrative offices before initiating data collection activities. The approvals received from IRB and GoO have been shared in Annex 10.

3.6.6. Limitations

45. The end-line activity evaluation adopted a descriptive pre-post longitudinal design. The evaluation design has the limitation of being a non-experimental design, as the TPDS reforms were scaled-up across the entire State of Odisha soon after the baseline assessment. This limits the evaluation findings to be compared across a control group.

46. The end-line evaluation attempted to follow-up on the FPS surveyed during the baseline. However, several FPS sampled during baseline had stopped operations due to various external factors and could not be followed-up. To mitigate this challenge, replacement FPS were taken from the PSUs.

47. The timelines for data collection during the end-line evaluation coincided with several holidays and festive seasons. This caused a delay in data collection exercise and influenced the food consumption pattern of the households. Therefore, the findings around the Food Consumption Score (FCS) reported in the findings should be interpreted more carefully.

48. The end-line evaluation does not comprehensively cover cost-effectiveness of the TPDS reforms or changes in the quantum of food grain leakage due to the reforms, in absence of a comparison group.

49. Due to lack of data, the end-line evaluation does not cover analysis on the financial contribution of WFP towards the technical assistance provided to TPDS reforms programme or GoO's total budget outlay for the same.

50. The end-line evaluation does not provide insights around the leakage of commodities that may be occurring at various junctures of the supply chain (for instance; between depots and FPS) as the design was not suited to estimate leakages.

4. EVALUATION FINDINGS

51. The objectives of the end-line activity evaluation was to assess whether the TPDS reforms package in Bhubaneswar block and MC (Odisha) was able to reduce beneficiary targeting errors, improve FPS viability and improve beneficiary convenience and satisfaction by introducing technology. The evaluation findings have been presented using the DAC dimensions of *relevance, efficiency, effectiveness, impact and sustainability*. The estimates and figures presented are based on weighted calculations. The list of all key indicators, weighted and unweighted, have been presented in Annex 11.

4.1. Relevance: How appropriate was the TPDS reforms solution?

52. The appropriateness of the TPDS reforms solution package in Bhubaneswar block and MC was assessed by, **first**, taking stock of the programme relevance and consistency with the needs of the most vulnerable groups, overall country/state's needs, organisational priorities and partners' policies and practice. **Second**, by commenting on programme adequacy – as to what extent has the programme been adequate to meet the needs of the beneficiaries corresponding to the programme relevance.

53. Despite a sustained economic growth over the last decade and a significant reduction in poverty, India still reports 21.2% or roughly 270 million of its population living below the poverty line (2011 estimates) (WB, n.d.). Approximately 26% of the population is illiterate, with literacy rates for men significantly higher (82.1%, 2011) than women (65.5%, 2011) (NITI, n.d.). More than one-third of children under five years are stunted (38.4%) and underweight (35.8%) and infant mortality rate stands at 41 per 1000 births (NFHS, 2015). Despite concerted efforts and progress in several areas, India was not able to achieve the Millennium Development Goals (MDGs) for reducing extreme hunger (MDG 1), child (MDG 4) and maternal mortality (MDG 5) (Gol, 2017).

54. Intersectionality between poverty, lack of education or access to adequate healthcare/nutrition poses severe challenges to individual wellbeing and alleviation of poverty. Research studies have found that prevalence of malnutrition was more than twice in poorer households vis-à-vis wealthier households and indicate that poverty and education are likely to cause higher incidences of malnutrition (Svedberg, 2008). One of the key areas of concern, that the current programme aims to improve is nutrition and food security for households. The GHI ranks India 103rd out of 119 qualifying countries, with a score of 31.1 indicating that hunger is a serious concern in the region (GHI, n.d.).

55. To improve the food safety net for vulnerable population, the Gol implements TPDS, one of the largest subsidised food distribution networks in the world. Under NFSA 2013, the TPDS provides up to 75% of rural and 50% of urban population with subsidized food grains (rice, wheat and coarse grains), thus covering two-thirds of the population. Over the years TPDS has been identified as a key policy instrument to meet the SDG 2 (Zero Hunger) by Gol (NITI, n.d.). However, the sheer size of TPDS coverage, manual systems of administration, lack of transparency and accountability also leads to leakages, targeting errors and diversions at several stages. Studies have pointed out that 44% of TPDS grain was diverted at all India level in 2007-08 (Khera, 2011).

56. Diversion and leakages in the TPDS have been found to be skewed against vulnerable households, with studies suggesting that very high proportion of landless and near landless households did not possess BPL cards (86% in Sikkim; 80% in Goa; 79% in Uttar Pradesh; 76% in Haryana; 75% in Jharkhand; 74% in Uttarakhand) and thus excluded from TPDS (Kavita, 2014). To reduce the leakages and increase transparency/public accountability, national and state governments implemented several measures recommended under the Supreme Court of India Ruling 2007 (PRS, 2007). Several promising technology and automation-centric solutions were also implemented to support the overall goal of improving TPDS network performance.

57. The TPDS reforms programme introduced in Bhubaneswar block and MC, Odisha had similar objectives of improving supply chain management, beneficiary identification and beneficiary satisfaction. In the pre-TPDS reforms phase, the State of Odisha faced similar issues with a commodity leakage figure of 36.9% (difference between allocation and actual off-take), which was lower than the national figure of 46.7%, but higher than neighbouring States of Andhra Pradesh (11.3%) and Chhattisgarh (0.0%) (PRS, Demand for Grants 2017-18 Analysis, 2017). Some of the key challenges were; (a) high inclusion and exclusion errors where non-entitled beneficiaries are incorrectly given BPL cards and deserving beneficiaries are excluded; (b) leakage in supply chain operations due to poor tracking of stock; (c) manual weighting of commodities which leads to leakages/diversions; (d) unviability of FPS whereby FPS dealers don't make sufficient returns thereby leading to lower incentives etc.

58. Against this backdrop, the TPDS reforms programme were found to be **relevant** to the country and state's context and local needs. WFP, supporting GoO in formulating the reforms package, developed a "Best Practice Solution" using findings from a pilot test in Rayagada district in Odisha; benchmarking exercise of TPDS reforms in eight states across the country including Andhra Pradesh, Chandigarh, Chhattisgarh, Gujarat, Karnataka, Haryana, Tamil Nadu and Odisha; and national consultations. The model received endorsement from GoO and was further modified considering on-the-ground infrastructure available in Odisha to provide a customized reforms solution. The key features of the solution, mapped across the key areas of concern are as follows⁵ –

Table 4: Mapping of key concern areas and TPDS reform solutions

Sl. No.	TPDS challenges	Reform solutions
1	High inclusion and exclusion errors where non-entitled beneficiaries are incorrectly given BPL cards and deserving beneficiaries are excluded	Re-enrolment of beneficiaries; mapping of beneficiaries with other government databases using National Population Registry (NPR) and Aadhaar; Application of inclusion and exclusion criteria followed by field verifications; Creation of de-duplicated beneficiary and provisions to keep ration card database updated and accurate
2	Bogus cards in the names of non-existent persons	
3	Duplicate cards where more than one card is issued to same household	
4	Shadow ownership of cards where the genuine cards are in hands of wrong persons	Use of point-of-sale device and biometric authentication at FPS to ensure rightful beneficiaries receive commodities
5	Manual weighing of commodities which leaves the system vulnerable to malpractices	Automated allocation of food grains based on previous off-take by tracking food grain stock levels

⁵ Sourced from the detailed project report by WFP for GoO

Sl. No.	TPDS challenges	Reform solutions
6	Lack of transparency, poor accountability and inadequate monitoring	Door-step delivery of food grains to FPS with automated text message notifications at dispatch; PoS enabled electronic transactions at FPS
7	Unviability of the FPS, as FPS dealers do not make enough returns and divert commodities to open market to benefit from price difference	Improved FPS incentivization to improve FPS viability
8	Lack of public awareness about their entitlement	Public campaigns at each stage of the implementation; Easily accessible and effective grievance redressal system including online grievance redressal, toll-free numbers, constitution of the State Food Commission and District Grievance Redressal Officers
9	Insufficient means of grievance redressal leading to beneficiary disempowerment	

59. In terms of implementation and coverage, the reforms adequately covered and addressed the needs of socially marginalized groups such as Scheduled Castes (SCs), Scheduled Tribes (STs) and Other Backward Castes (OBCs)⁶. Primary data finds that 76.0% of SC, 62.0% of ST, 65% of OBC and 62% of General category households owned a ration card. However, in the overall distribution of ration cards, general households were observed to have the highest proportion of ration cards (36.0%), followed by OBC (32.0%), SC (26.0%) and ST (4.9.0%).

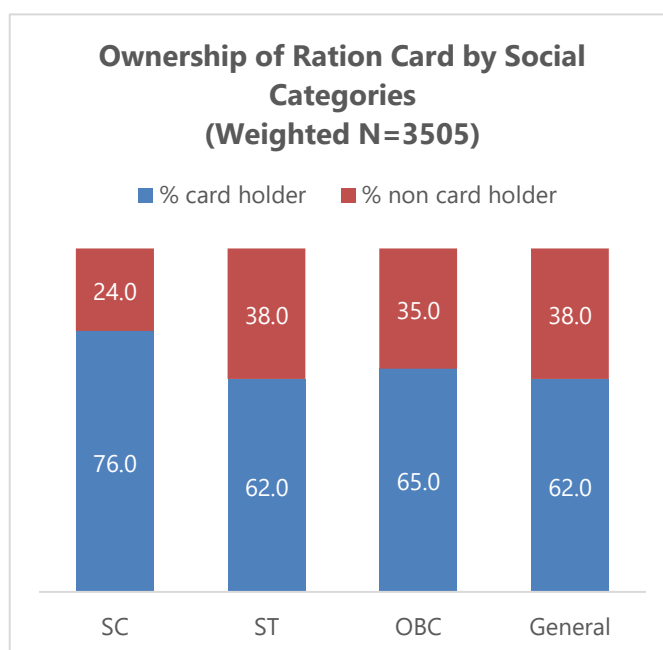


Figure 1: Social categories and ownership of ration cards

60. Majority of the households had at least one educated member (97.4%), while 2.6% households did not have any literate member. Additionally, 13.4% of the households lived in temporary dwellings, and 37.3% lived in semi-structured houses. On an average, the households in the rural blocks earned INR 12,032 (SD 424.5, USD 172⁷) per month, compared to INR 12,788 (SD 278.8, USD 183) in urban blocks. Most of the households reported having access to electricity (98.1%) and bank accounts (94.4%), while 10% possessed Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) cards which ensures 100 days of state-funded employment to the cardholder per year. The demographic characteristics, especially income levels, in the survey area suggest that the households were insulated from severe food insecurity, but inadequate in case of shocks such as loss in job or other contingencies.

⁶ Government of India identifies and categorizes vulnerable social groups into SCs, STs and OBCs

⁷ USD as on March 2019 (1 USD = 70 INR)

61. Ration card ownership of households was assessed using the Standard of Living Index (SLI). SLI is a composite index developed and used by the National Family Health Survey (NFHS) in India to assess household poverty based on their asset ownership (BRIS, n.d.). Findings from using the SLI observe that the ownership of ration cards remains above 60% in households with lowest, low and middle asset ranking. For households with high and highest asset index ranking, the proportion of ration card ownership stood at 56.0% and 8.2%.

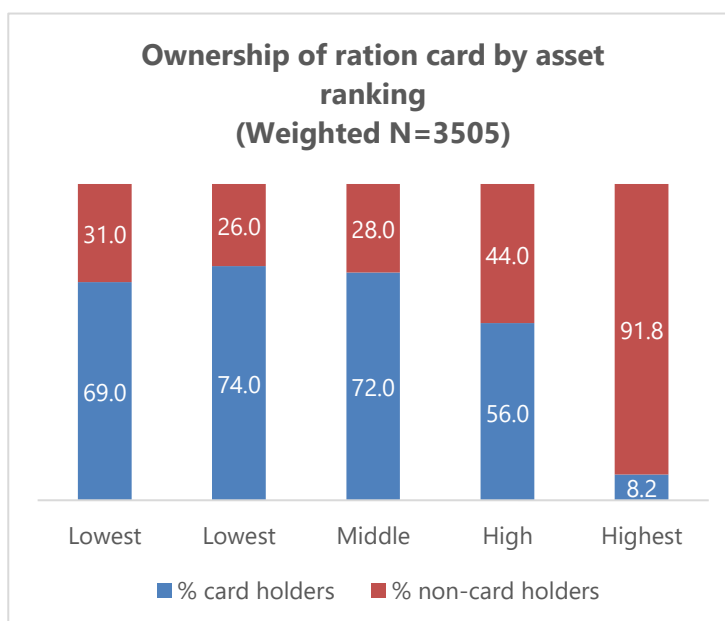


Figure 2: Asset and ration card ownership

62. The TPDS reforms in Bhubaneswar block and MC, following the NFSA guidelines, mandated that female members above 18 years of age to be identified as the household head for ration cards. The evaluation found the reforms programme gender empowering and well appreciated by female members of the household. Findings from primary data suggests that most of the female household members could respond to questions on ration card related information such as card ownership and eligibility criteria (92.0%), PDS utilization and experience at FPS (94.0%) and accessing grievance redressal mechanisms (94.7%).

[Has the new ration card system been beneficial for female members of the household]

“Yes, it is beneficial for the female members. Government made this for the development of the women. Everywhere women are given first chance. Men get the salary and spend on unnecessary expenses. That’s why women were made the head of the household and given card in their names.” – Female IDI respondent

4.2. Effectiveness and Impact: What are the outputs, outcomes and impact achieved by TPDS reforms?

63. This sub-section deep-dives into the achievement of goals laid down during the baseline assessment. Effectiveness and impact have been integrated together, since the end-line activity evaluation assesses the *actual* achievement of outputs, outcomes and impact envisaged for the TPDS reforms programme. The information presented here is derived from primary sources, including quantitative and qualitative data points collected during the end-line data collection exercise. Findings have been presented across the multiple programme components such as; *beneficiary identification and enrolment; supply chain operations; automation of FPS transactions and; grievance redressal.*

64. **[Beneficiary identification and enrolment]** One of the key goals of the TPDS reforms package was to reduce the targeting errors in the State. In the pre-reforms phase, presence of duplicate/ shadow/ bogus cards posed a challenge to the smooth functioning of the TPDS. Additionally,

studies suggested that a significant proportion of the beneficiary households owning a ration card were ineligible (inclusion error), and often households eligible for owning a ration card were found to be excluded from the TPDS (exclusion error). The inclusion error in 2005 for Odisha stood at 16.8% and exclusion error at 26.6% (GOI, 2005). Findings from the baseline assessment in 2014 noted that the inclusion error was at 15.5% (12.3% urban and 20.6% rural) and exclusion error at 27.0% (31.8% urban and 16.4% rural) for Bhubaneswar block and MC.

65. At first, adhering to the NFSA guidelines, the state dropped the APL/BPL demarcation and replaced it with Priority Households (PHH) eligible for 5 kilograms (kgs) per household member per month, and Antodaya Anna Yojana (AAY) households representing the poorest of the poor, eligible for 35 kgs of food grains per household per month. Next, under the TPDS reforms, citizens were given the opportunity to re-enrol in the TPDS beneficiary list and/or to make changes to their existing details. The beneficiary list was matched against exclusion and inclusion criteria defined by a specially constituted GoO task force, followed by physical verification. The database was also mapped to external government databases pertaining to the criteria, to identify PHH and AAY households. An RCMS, as a module within SCMS, was introduced to keep digital records and ensure that the database was updated regularly. Looking through a gender-lens, the TPDS reforms took steps to enhance participation and inclusion of women in the TPDS. Under the TPDS reforms policy, female members of the household above 18 years of age were identified as the household head for ration cards.

66. Findings from the end-line activity evaluation suggests that steps taken for improving beneficiary identification and enrolment has led to an overall increase in ownership of ration cards, from 59.2% (50.0% urban and 72.0% rural) in the baseline to 66.1% (64.9% urban and 68.7% rural) in the end-line assessment. The policy mandate set by the NFSA for Odisha aimed at providing 82.2% of rural and 55.8% of the urban population with ration cards (Satpathy, 2017). Against this backdrop, the reforms plan was able to meet the targets set for urban areas but fell short in rural areas.

67. A majority of household across all caste groups reported owning ration cards and the largest proportion of ration card ownership was reported by SC category. The type of cards has also undergone as a result of the reforms package. Findings from the end-line report that 90% of the household having a ration card, owned a PHH card. Roughly 9% of households owned an AAY

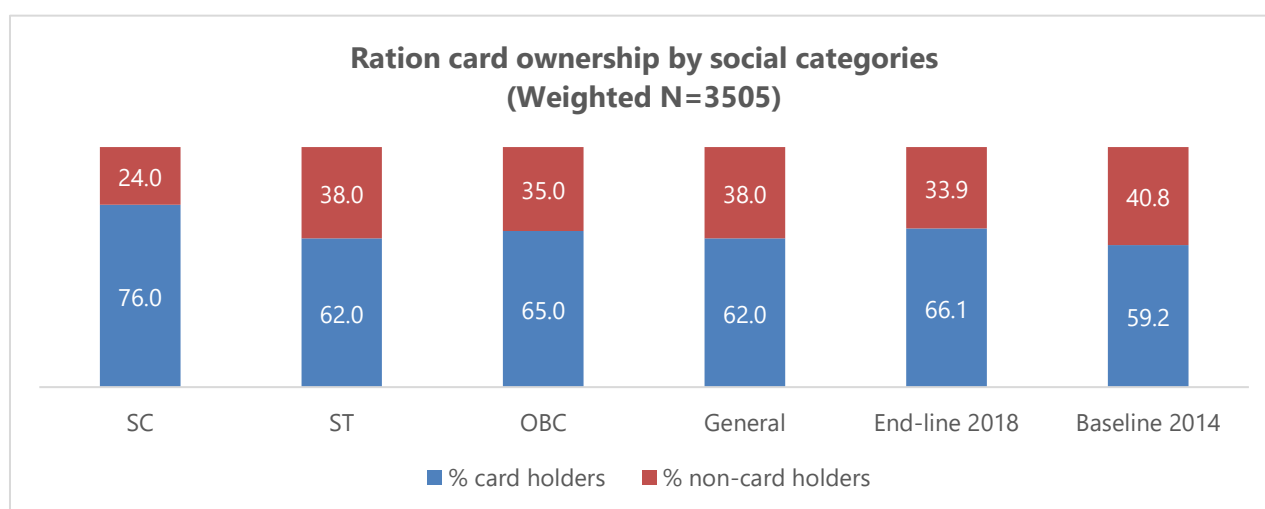


Figure 3: Ration Card (RC) holder by Caste

card, while only 0.5% owned an Annapurna and 0.9% owned an Odisha State Food Security Scheme (OSFSS) card. **In all the households surveyed, 100% of cards were owned by female members above 18 years of age.**

68. The end-line evaluation measured inclusion and exclusion errors using primary data collected from the household. The criteria for auto-inclusion set by the GoO task force identifies the following conditions and households fulfilling anyone of them are automatically eligible for owning a ration card –

- a. Household without shelter;
- b. Household with destitute living on alms;
- c. Household belonging to the primitive tribal group;
- d. Household having a widow pension holder (central or state government);
- e. Individuals having disability of 40% or more;
- f. Transgender applicants;
- g. Household with widows or single woman with no regular support;
- h. Households with old persons (aged 60 years or above) with no sure means of subsistence;
- i. Households where due to old age, lack of physical or mental fitness, social customs, need for caring of disabled persons, no adult member is available to engage in gainful employment outside the house;
- j. Households dependent on daily wages;
- k. Internally displaced persons;
- l. Households having a person suffering from leprosy/HIV/any other critical diseases.

69. The criteria for exclusion set by the GoO task force identifies the following conditions and households fulfilling anyone of them are automatically excluded for owning a ration card –

- a. Household owning more than two three/four-wheelers or heavy vehicle or fishing boat;
- b. Households having a salaried employee;
- c. Household with a registered enterprise;
- d. Household with income more than INR 10,000 in rural and INR 15,000 in urban area per month;
- e. Household paying taxes;
- f. Household with more than 2 kilovolt electric meter and more than 300 units of consumption;
- g. Household with more than three rooms excluding kitchen

[How were the inclusion and exclusion decided?]

“The task force set up Government of Odisha set the inclusion and exclusion criteria after much deliberation and several rounds of discussions with experts, civil society organizations etc.... Some criteria were added such as auto-inclusion for transgenders as result of these discussions. It was also decided that if a household met both auto-inclusion and auto-exclusion criteria, the auto-inclusion criteria would override.” – WFP Official

70. Findings from the end-line suggest that **the TPDS reforms have led to a decline in exclusion error with more beneficiaries being included in the TPDS**. The exclusion error in end-line stood at 13.9% (C.I. 11.9-16.3, 15.0% urban; 11.3% rural), roughly 14% decrease from the baseline in 2014 (27.0% overall; 31.8% urban; 16.4% rural). Meanwhile, the reforms had a limited effect on the inclusion error. Inclusion error in the end-line stood at 16.0% (C.I. 14.4-17.7; 16.9% urban; 14.1% rural) compared to 15.5% (12.3% urban; 20.6% rural) in the baseline. Rural and urban areas surveyed during the end-line showed a similar trend, with no significant differences. Formula used for calculating inclusion and exclusion error has been provided in Annex 12.

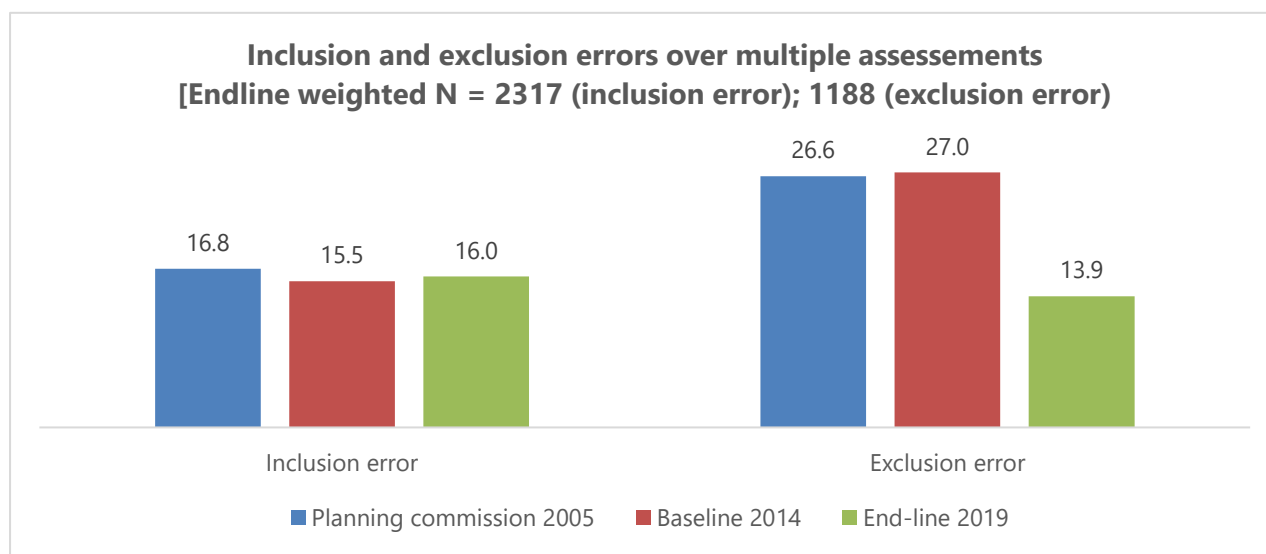


Figure 4: Inclusion and exclusion errors

71. Changing inclusion error also depends on self-surrendering of ration card by households who might have been eligible while receiving the card, but over the years have moved into the exclusion criteria. Inclusion error is also more dynamic in nature than exclusion error, since the estimates are more likely to change at any given point in time due to the RCMS database. For instance; majority of beneficiaries surveyed reported receiving their ration cards in the year 2015-16. Some portion of beneficiaries from this cohort could have crossed the threshold of exclusion criteria with time and improvement in socio-economic conditions. The end-line evaluation did not have access to the RCMS database to ascertain how frequently are such households identified and taken out of the TPDS network.

72. **[Supply chain operations]** Supply chain operations include automated allocation of food grains based on the previous month's off-take by tracking food grain stock levels. The operationalize this under the reforms package, allocations were (and currently are) made based on the sales report from FPS which tracks off-take as well as stock levels, rather than by using the manual balance declarations made by FPS dealers at the end of every month. The PoS installed at FPS provides the information on sales and stock levels. Allocations of food grains are made based on the number of beneficiary households tagged to an FPS and the closing balance reported by the FPS owner at the end of the month. GoO also employs quality and marketing inspectors to verify the stock levels through manual checks at the FPS.

73. Once the allocation quantity is determined, the SCMS automatically triggers an SMS to FPS dealers providing information on allocation quantity and requesting them to submit the payment.

In parallel, the SCMS also notifies other stakeholders such as the depot holders and handling/transport contracts for the FPS-wise allocation order details. The process runs on electronic verification of delivery via e-acceptance note. Finally, the FPS owner e-authenticates correct delivery of food grains after delivery, completing the loop.

74. Findings from the end-line evaluation suggest that only 2.5% of the FPS owners were unaware of the process for raising a request for commodities. **The supply chain automation under TPDS has been able to reduce the lag in delivery of food grains at FPS.** Roughly 86.3% of FPS in the end-line reported receiving the stock of food grains before the present stock was over, compared to 56.2% in the baseline. Additionally, none of the surveyed FPS was out of stock in the past in the last 6 months in the end-line, compared to baseline where the stock-out the average stock-out every 6 months stood at 2.4 times.
75. All the surveyed FPS also reported door-step delivery of food grains and used electronic weighing machine to weigh commodities. Roughly 48.8% of FPS owners reported always receiving text messages from the SCMS on release of commodities, while 13.8% reported receiving the text, but irregularly. It should be noted that 37.5% of the FPS owners reported not receiving any text from SCMS. In terms of quality, 80% reported having no issues with the quality of food grains in the end-line, compared to 73.7% in the baseline.

[How has the automation of

“Before TPDS all the records were maintained manually. For distribution for a month he had to submit the records. Now they are now automatic and less time consuming.”

76. **[FPS transactions]** PoS devices were setup within each FPS to enable electronic transaction after biometric authentication of beneficiary using Aadhaar. PoS devices, as a regulation by GoI, was considered the ideal technological solution to records sales and verify identity of beneficiary with minimal manual intervention and reduces avenues for leakages. The PoS devices also aimed at allowing beneficiaries to purchase ration at any FPS (portability). The FPS were also incentivized to use PoS and improve their financial performance/ profits under the reforms package.



Figure 5: PoS device for biometric authentication at FPS

77. The end-line findings note that 97.5% of the FPS had a functional PoS device and 73.8% of households reported collecting their entitlements from FPS using PoS device. Roughly 25% of households reported using one-time-passwords (OTP) to collect their entitlements, due to technical problems in PoS machine. Almost half the surveyed beneficiaries (49%) believe that introducing PoS at FPS has led to a decline in time taken by them to collect ration from the FPS, while 8.4% of the surveyed households reported facing issues in collecting their ration due to technical failures in PoS. More than 90% of FPS owners report finding the introduction of PoS useful, but 48.8% also report facing technical issues with PoS (slow internet) which majorly gets resolved within the same day.

78. Introduction of PoS and incentivization plan by GoO under the TPDS reforms has led to an increase in FPS viability. Proportion of profitable FPS has increased from 14% during the baseline, to 76.4% in the end-line (methodology provided in Annex 12). However, a deeper analysis into the amount of profit earned by FPS in the end-line notes that 38.8% of the FPS earned a profit under INR 5000 (USD⁸ 71) per month, 21.3% earned INR 5000-1000 (USD 71 – 143) per month and only 16.3% earned a profit of INR 10000 (USD 143) or more every month. The increase in FPS viability is due to revisions made under NFSA, wherein (a) FPS commissions were increased from Indian Rupees (INR) 20 per quintal (DFPD, n.d.) of food grain sold to INR 70 per quintal (PIB, n.d.); (b) FPS were paid an additional INR 17 per quintal for sale through Point of Sale (PoS) device provided at the FPS. While preliminary analysis notes an increase in FPS viability, a deeper assessment reveals that only 16.3% of the FPS earn a profit of more than INR 10,000 (USD 143⁹) or more per month. Additionally, primary data suggests that FPS with less than or equal to 820 ration cards did not make any profit. FPS owners observed that renting of shop space and payment to storekeepers/shop-managers were the major expenses incurred during a month.

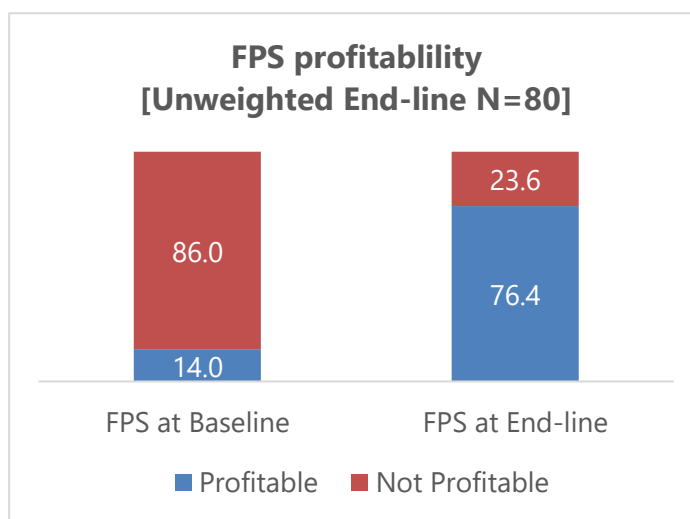


Figure 6: FPS viability

79. **[Grievance redressal]** Grievance redressal is a core component of the reforms package to improve transparency and public accountability in the TPDS. The grievance redressal system installed under the reforms was envisaged to have several components including; (a) grievance redressal system for beneficiaries; (b) transparency portal; (c) toll-free helpline number; (d) Establishment of the State Food Commission and district grievance redressal officers. The first enables beneficiaries to lodge complaints about the performance of the TPDS, while the second enables widespread dissemination of information on the TPDS and key indicators.

80. Findings from the end-line evaluation found that the **grievance redressal mechanism rarely accessed by beneficiaries to lodge complaints**. Primary survey suggests that 98% of the beneficiaries did not use the grievance redressal mechanism to register a complaint, and a

⁸ USD as on March 2019 (1 USD = 70 INR)

⁹ USD as on March 2019 (1 USD = 70 INR)

majority still resorted to manual methods of complaint, such as raising issues directly with the FPS owner (79.8), panchayat member (2.7%), marketing officers/other supply chain officers (9.2%) etc. Only 11.1% of beneficiaries were aware about the Vigilance Committees working in their respective areas as an oversight on FPS. The evaluation found the second component of the grievance redressal mechanism, **transparency portal, useful and effective in presenting key indicators on TPDS**. The end-line evaluation also made use of data from the portal for desk review. The transparency portal (<http://www.foododisha.in>) includes information on key indicators such as list of FPS, list of beneficiaries, type of cards, information on services, circulars and officer orders etc. A snapshot of the transparency portal has been provided as follows –

[What has been your experience working in the grievance unit?]

“There are no complains about quality. Quality has improved a lot over the year. There were some complains about the behaviour of the dealer. At that time, all people wanted to take ration at a time and felt bit curious about the new system. But after some time, they were habituated with the system.” – Grievance Redressal Officer, Bhubaneswar

[How are complaints handled at the community level?]

“The Ward Level Advisory Committee members generally don’t complain. If they have any complains then they tell over phone. There is no written complain.....There is no social audit now. There used to be social audit as ordered by the government. There is no government instruction now for social audit.” – ACSO, Bhubaneswar Municipality

81. **[Reform's effect on women empowerment]** The TPDS reforms package has a strong focus on women empowerment and identifies women above 18 years of age as the household head for issue of ration cards. The baseline observed most ration cards being owned by male members of the household before the reforms. However, the ownership pattern underwent a drastic change from base to the end-line, with all the ration cards surveyed during the end-line verified to be owned by female members of the household. Several other insights gathered during the end-line evaluation are provided as follows –

a. **Women's access to ration related information –**

Evaluation findings suggest that while women members of the household were identified under the reforms as head of the household, 36.1% reported anyone in the household registering their mobile number with ration card for PDS related alerts (38.4% urban and 31.5% rural). Among them, only 26.9% of women members reported registering their mobile numbers (31.2% urban, 16.1% rural). The finding suggests most women are excluded from directly receiving ration related



Figure 7: Reforms' effect on women empowerment

information by the fact that either they don't own a separate mobile or they don't have a say in who receives the ration related information, or they themselves prefer other members to receive this information.

b. **Awareness on NFSA and TPDS –** Majority of women members of the beneficiary household reported awareness around NFSA guidelines, access to FPS and other TPDS components, suggesting that the reforms have had an incremental effect on awareness. Roughly 93% of female members correctly responded to questions on NFSA eligibility criteria (overall awareness for a household was 77% for end-line, compared to 17% in baseline). Similarly, 94% women answered questions on access and experience at FPS.

c. **Service quality for women –** Findings from the end-line suggest that female beneficiaries might be receiving poorer service at FPS compared to male beneficiaries. A small proportion of women respondents (5.8%) believe that the FPS owner behaves differently with male and female beneficiaries. Among them, 86% of women perceive that the FPS owner behaves better with men, but 76.9% among them perceive the same for women. Findings also suggest that majority of complaints by women on service at FPS goes unreported (only 32.9% cases in rural and 14.3% in urban reported).

- d. **Access to FPS** – Findings from qualitative interviews suggest that both male and female members of the household visit the FPS to collect food grains. Majority of female members interviewed perceived that they were the primary decision makers for fetching ration from FPS. However, male members usually decide on the dates for visits.

[Who usually fetches food grains from the household?]

“Both of us fetch ration from FPS. But my husband gets the ration. I tell him what to get from the shop. We are entitled to get 8 kg of wheat and 12 kg of rice.” – Female IDI respondent

[Do you think the new ration card system is beneficial for you?]

Women generally felt that having ration cards in their names was a good decision –
“It is beneficial for the female members. Many women get tortured. Everybody’s husband is not good. Many of them drink alcohol, beat their wives and don’t love their kids and wives. That is why it’s good decision of the government to give ration card in the name of the women member.” – Female IDI respondent

- e. **Awareness on rights** – The reforms have fostered women’s rights and access to their entitlements. Findings from qualitative interviews indicate that women members previously had limited access to FPS and decision-making authority on entitlements. Post the reforms, women members of the household report a subtle change in gender relations, giving them more autonomy to visit the FPS under the purview of TPDS, as well as decide on the type/proportion of commodities to procure at a household level (outside the TPDS network).
- f. **Household workload** – Women respondents were probed on whether the household workload has increased due to the TPDS reforms. While early indications from the qualitative interviews suggested an increase in the workload for women, the findings are inadequate to bifurcate between the existing workload of women and the contribution to the workload caused under the reforms (for example; the additional burden of fetching ration from the FPS).

4.3. Efficiency: Was the TPDS reforms package cost-efficient?

82. For the current activity evaluation, cost-benefit and efficiency has not been captured using conventional methods. The absence of a comparison group, nature of intervention and availability of data, both primary and secondary, limits the scope of measuring efficiency. However, a proxy measure of programme efficiency has been attempted, primarily using two components; (a) estimation of food grain losses caused due to targeting (inclusion) errors; (b) estimation of **losses** using PER. Both the components are assessed separately to comment on commodity losses on two dimensions.
83. The first component measured losses due to targeting errors. The end-line assessment aimed at measuring losses in food grain using the inclusion error rates reported in the primary survey.

Losses, using inclusion error as a construct, refers to the food grains which has been provided to ineligible households due to faulty targeting of the TPDS. Both Bhubaneswar Municipal Corporation (MC) and block received 24,126.15 quintals of food grains (both rice and wheat) every month in 2017 calendar year (data unavailable for 2018) (FS&CW, n.d.). **Using the overall inclusion error rate of 16.0% (\pm 1.6%), roughly 3,860.18 (\pm 386) quintals of food grains were supplied to ineligible households per month, considered as a systemic loss.** In absence of secondary data from the State, end-line evaluation will not be able to comment losses which may occur during transportation or other forms of food grain diversion.

84. The second component measured losses at a household level using PER as the key indicator. PER refers to the proportion of full entitlement that is purchased by the beneficiary household (Puri, 2017). PER in percentage is calculated by dividing average purchase (kg/month) by average entitlement (kilograms-kg/month) for the beneficiary. **The PER for evaluation area stood at 99.4% (20.56 kg average entitlement/per month; 20.45 kg average purchase/per month), which means beneficiary households received 99.4% of their entitlement every month.** The PER for end-line was roughly 76% higher than PER for baseline, which had stood at 56.4% (17.44 kg average entitlement/per month; 9.84 kg average purchase/per month).
85. A case study carried out independently by WFP comparison Odisha's TDPS reforms with another State observes that the cost of technological solutions (procurement of PoS devices, warranty, servicing costs etc) for Odisha (INR 32 crores) was less than half compared to the other State (INR 66.4 crores). While the figures provided by WFP's study and the present end-line are not comparable, insights from WFP's report can be referred as a benchmark for future assessments.
86. However, in absence of readily available public data on similar lines for other states, the findings on efficiency limit itself to estimation of losses due to inclusion error and PER. Further comparative analysis on whether Odisha's TPDS reforms model was a viable alternative could be undertaken after procuring cost-related information from Gol or neighbouring states.

4.4. Sustainability: To what extent is the programme sustainable?

87. The assessment of programme sustainability pivots around; (a) the extent to which the TPDS reforms included considerations for sustainability such as capacity building of national and local government institutions, communities and other partners; (b) whether social participation has increased as a result of the TPDS reforms; (c) whether food security levels have improved; (d) whether the intervention has made any difference on gender relations. Adding to this, the end-line evaluation also comments on stakeholder's comfort and convenience with the new system, contributing to the overall programme sustainability.
88. WFP's assistance to GoO in formulating and implementing the TPDS reforms operated within the landscape of pre-NFSA period and leveraged on a national momentum for change. Following a period of high leakages and diversions reported by several government and independent studies, the Gol in consultation with states passed the NFSA in 2013, which encapsulated several recommendations on technological and administrative reforms. Using the NFSA guidelines as the platform, WFP India carried out studies on best practices around TPDS reforms, which was later contextualized, endorsed and implemented by the state government.

The support provided by WFP India was closely aligned to the government's needs and thus ensured sustainability.

89. Certain activities, such as constitution of PMU to support GoO in implementing and adhering the TPDS reforms, were examples of sustainable practices which led to further institutionalization of the programme. The PMU supported GoO in various capacities, from forming the food security rules to training and handholding of government officials in implementing the reforms. Officials from GoO, PMU and WFP India provided training at state and smaller administrative levels to strengthen capacity. Trainings on the process of beneficiary identification, de-duplication of RCMS database, setting up of the RCMS database, setting up and operationalization of the supply chain operations and PoS devices are some of the several engagements carried out by GoO, PMU and WFP India officials during the reforms period.
90. While in the initial phase, the PMU was funded by both WFP and GoO, presently the PMU is funded, and staffed entirely by GoO indicating ownership of the programme. Presently, the entire package of the reforms, including SCMS, RCMS, grievance redressal cell and other supply chain operations is also anchored and operated by GoO.
91. The second component of assessment includes social participation and increased accessibility of the TPDS for beneficiaries. While social participation was one of the key areas of focus in the reforms, findings from the end-line evaluation suggest thinning of social participation and oversight. Primary data at the FPS level notes that none of the FPS owners report being monitored by local vigilance committees compared to 5.9% during baseline. Only 18.8% of FPS owners and 11.1% of beneficiary households are aware of the functioning of local vigilance committees. Qualitative insights note that social audit, a process recommended under NFSA, is yet to be initiated in Bhubaneswar block and MC.
92. Findings from the end-line evaluation report that beneficiary household often resort to conventional methods for registering complaint with FPS owners and supply chain officials rather than using the designated grievance redressal mechanism. Majority of beneficiaries (98.0%) reported registering a complaint with their local FPS, though 47.6% beneficiaries observed that they were not completely satisfied with the amount of food grains they received every month at their FPS. Additionally, 11% of women respondents who had previously observed that FPS owners treat male and female customers differently, reported poor treatment at the FPS but majority of the complaints went unreported.

93. Strengthening of the TPDS through reforms may have also led to strengthening of food security levels across beneficiary households. The Food Consumption Scores (FCS) for baseline assessment noted that 91.3% of households were above “Acceptable” threshold, which increased to 93.8% in the end-line (no significant difference across rural and urban households). Consumption of main staple (rice/wheat) increased to 100% in end-line compared to roughly 97% in the baseline. Findings from the end-line are also indicative of diversification of the food basket for households, with increase in consumption of pulses and vegetables from roughly 60% and 70% in the baseline to almost 100% in the end-line. However, in absence of a comparison group, the end-line findings are unable to comment on the contribution of reforms on the change in FCS.

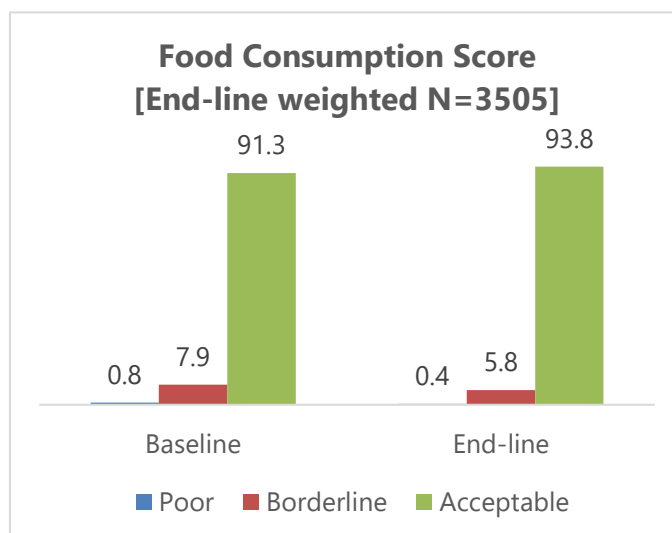


Figure 8: Food consumption scores

94. Findings from the end-line evaluation suggest that the reforms have had a positive effect on local gender dynamics at a household level. A more detailed assessment of the gender dynamics has been provided in section 2.2 (Effectiveness and Impact).

95. Another dimension explored in the end-line activity evaluation was stakeholder’s convenience and satisfaction with the post-reform phase. Findings suggest that the complete overhaul of the TPDS in Bhubaneswar block and MC has received general appreciation across all stakeholders, including beneficiary households, FPS owners and supply chain officials. The overall satisfaction level among beneficiary households with their FPS has sustained, from 95.5% in the baseline to 97.1% in the end-line. More than 70% of the beneficiaries report an improvement in the quality of ration post-reforms, while 90.1% of them find the digitization process useful. Less than 10% of the beneficiaries’ report facing problems in collecting ration due to technical issues with the PoS. Further, the technical issues get resolved within the same or next day, as reported by majority of the beneficiaries. Additionally, the time taken to purchase ration has reduced, as 68.5% of beneficiaries took less than 30 minutes to collect ration during the end-line, compared to 59.9% in the baseline.

96. Similar findings were reported by FPS owners, with 96.3% noting that the use of technology for transactions has increased the efficiency of TPDS. Most of the FPS owners (97.5%) agreed that automation of FPS has helped improve the transparency and improve accountability. More than 90% of the FPS owners reported being trained since automation and 68.8% felt confident using the PoS and did not require any further training.

[Do you need any further training on PoS device?]

“We were given trainings by government officials when the PoS machine was given to us for the first time. We are used to the PoS now. It is like a mobile phone [smartphone], we can operate it like a mobile phone...” – FPS Owner IDI

97. Findings from the qualitative interviews suggest that officials in the supply chain perceived the reforms positively. The following table summarizes responses shared by various supply chain actors–

Table 5: Qualitative verbatim of supply chain officials on performance of the new TPDS

	Reduction in leakages	Enhancing transparency and public accountability
ACSO (IDI)	<i>“The PoS machine has been very beneficial...The system has made allocation of food grains automatic... Everyone is getting monthly entitlements, there is no chance of any leakage at the FPS point”</i>	<i>“The new system has helped in reducing fake ration cards... Complain is free for all... one person can complain against other cardholder and FPS dealer can also register a complain. Mostly people are afraid [to fake ration cards]”</i>
Depot holder (IDI)	<i>“The issue of PDS stock to the designated FPS is totally online process, that depends on the cards linkage with the POS machine. The allotment order is generated through the PoS, so there is no manual process”</i>	<i>“We weight the PDS commodities in computerised weighing bridge during receiving the food grains... If there are any doubts about the quantity present in a bag, then we weigh 20% of the total commodities present in a vehicle”</i> <i>“I feel the leakage in the system have decreased due to digitization... All the process is done online, the monitoring process has changed. Government can now monitor all the process very easily”</i>
Rice millers (IDI)	<i>“One major change I have seen in TPDS that beneficiaries are gets their actual quantity that they were allotted. No leakage seen in the distribution system”</i>	<i>“There is no change in the [rice milling] process after automation... May be the process is very simple, but it involves a lot of unnecessary paperwork. It’s very difficult to maintain all the records”</i>
Handling and transport contractors (IDI)	<i>“After automation there is no chance of leakage in the whole process. All the commodities are delivered to the dealer point in trucks or mini trucks, depending on the communication facility and the quantity to be delivered to that dealer”</i>	<i>“All the [handling and transport] process from RRC cum DSC point to the FPS is monitored by the official staff of ACSO office, depot officials.... They regularly monitor the whole process from the beginning while the truck is being loaded and to the last when the truck is unloaded at the FPS point”</i>

	Reduction in leakages	Enhancing transparency and public accountability
Marketing inspectors (Field notes)	<i>“The [TPDS] process has become very simple... FPS dealer gets the allocation directly and beneficiaries also get their allocated commodities....if FPS dealer is left with balance stock, it gets deducted from his next month’s allocation quota”</i>	<i>“Some time ago we had some FPS dealers who were trying to operate the PoS in the night for some transactions... they were caught as monitoring has become very easy after automation”</i>

5. CONCLUSION AND RECOMMENDATIONS

98. Based on the findings presented in the previous section, an overall assessment that responds to the evaluation questions is provided below. This is followed by recommendations of how action can be taken to build on the lessons learned.

5.1. Relevance of the programme

99. In response to the first evaluation criteria, “how appropriate the programme is”, the findings conclude that the TPDS reforms programme is highly relevant for the settings it has been initiated. It has come across widely that the programme has led to increase in TPDS efficiency, reduced leakages of food grains and fostered transparency and public accountability in the system.

100. The EtE computerization approach and its sub-components have provided a holistic package of solutions in response to the challenges faced by GoO. WFP India’s approach towards supporting GoO in formulating and implementing the reforms package has been collaborative, building on GoO’s institutional experience and learnings from neighbouring states. The programme has also strengthened capacity of GoO and FS&CW, to implement and sustain reforms at a large scale. Overall, the programme has been found to be aligned with national and local priorities.

101. While the programme is relevant in terms of its design and coverage, there is a dearth of data to assess its effect on the rural and distant districts of Odisha. The present evaluation has been situated in Bhubaneswar block and MC, which already reports high levels of literacy and employment in the state. More assessments are recommended to comprehensively understand programme’s relevance in vulnerable/resource poor areas.

Table 6: Evaluation response to DAC questions on relevance

SI. No.	DAC Question (Relevance)	Evaluation Response
1	Is the intervention in line with the needs of the most vulnerable groups (men and women, boys and girls)?	The TPDS programme was found highly relevant and addressed needs of the most vulnerable groups (socio-economically backward households and individuals)
2	Was the intervention based on a sound gender analysis?	The TPDS programme, under the NFSA mandate, identified women as the key target audience. However, the evaluation did not find enough evidence to suggest that the programme was based on a detailed gender analysis and strategy.
3	Was the design and implementation of the intervention gender-sensitive?	Design and implementation of the TPDS programme was gender focused. Activities such as identifying women as the household head for ration card were integral to the programme.

5.2. Effectiveness and Impact of the programme

102. The package of solutions implemented under the TPDS reforms were found to be effective in several areas. One of the first positive effects of the reforms has been an increase in ration cards from 59.2% in baseline to 66.1% in the end-line. Most of the vulnerable social groups/caste categories report owning ration cards which, which suggests that the programme has enhanced inclusiveness in the TPDS.
103. The reforms have led to an increase in coverage of the food security net, covering more eligible households than before. Exclusion errors have declined from 27.0% in the baseline to 13.9%, a decline of almost 14 percentage points. However, inclusion errors have remained stagnant at 16.0% in the end-line compared to 15.5% in the baseline.
104. The proportion of financially profitable FPS has also increased from 14.0% in the baseline to 76.4% in the end-line. Although a deeper analysis into the amount of profit earned suggests that only 16.0% of the FPS earned a profit more than INR 10,000 (USD 143) per month.
105. Beneficiary's access and usage of the grievance redressal system remains one of the key limitations for the reforms programme. A majority of beneficiary's report relying on conventional/verbal methods of registering complaints directly with the FPS owner or any of the supply chain officials. Inconsistent usage of the centralized grievance redressal system increases the likelihood of unregistered complaints on various issues, from poor service quality to leakages at the FPS.
106. The reforms have had a positive effect on women's access to TPDS and food safety nets and decision making in the household around food. Qualitative findings suggest that women members having more say in household decision making such as quantity and type of food grains to be collected from the FPS.
107. Overall, the goals envisaged for the reforms programme have been achieved, with a few exceptions on inclusion errors and grievance redressal mechanism.

Table 7: Evaluation response to DAC questions on effectiveness

Sl. No.	DAC Question (Effectiveness)	Evaluation Response
1	To what extent were (are) the outputs and outcomes of the intervention achieved (likely to be) achieved; and what were the major factors influencing the achievement or non-achievement of the outcomes?	The baseline/results framework did not state specific targets for key indicators covered under the evaluation. Against this backdrop, the end-line evaluation finds the intervention to have made steady progress towards some outcomes such as increasing the reach of the food safety net, improving transparency and public accountability, encouraging women empowerment and improving beneficiary satisfaction. However, the programme shows slow or no results in areas such as targeting errors (inclusion errors) and grievance redressal capacity of the system.
2	Did the intervention deliver results for men and women, boys and girls?	The programme design has benefited vulnerable households by increasing the reach of the food safety

Sl. No.	DAC Question (Effectiveness)	Evaluation Response
		net, encouraging women empowerment and improving beneficiary convenience/satisfaction with the TPDS.

Table 8: Evaluation response to DAC questions on impact

Sl. No.	DAC Question (Impact)	Evaluation Response
1	What were the effects of the intervention on recipients' lives? Did a specific part of the intervention achieve greater impact than another?	The programme has resulted in an overall improvement in the food distribution network. Beneficiary households report improvement in quality of food grains, lesser stock outs and very high PER levels.
2	Were there unintended (positive or negative) effects for recipients and non-recipients of assistance?	Automation of the TPDS has also been accompanied by weakening of community oversight and less community participation/ ownership over the FPS. Fewer local representatives report visiting the FPS for inspection and a smaller number of households are aware of vigilance committees formed in their respective community.
3	What were the gender-specific impacts? Did the intervention influence the gender context?	The programme had a specific focus on gender, enacted by identifying female members as the head of the household, the end-line evaluation did not find conclusive evidence that the programme has made a difference in gender aspects. Qualitative evidence points at women feeling more empowered under the revamped TPDS, but more research efforts are required to establish causality.
4	What were the impacts on institutions?	The programme was co-created by WFP with government institutions (FS&CW) under the NFSA mandates. The government institutions, with the support of WFP, have been able to successfully implement the NFSA mandates as well as sustain the revamped system. The programme has strengthened institutional capacity by introducing digitization and automation.
5	What is the contribution of the intervention to long-term intended results?	The theory of change for the programme limits itself to outcomes such as reduction in targeting errors. Scope of the end-line evaluation does not limit itself to the theory of change.

5.3. Efficiency of the programme

108. Efficiency of the programme was measured in terms of the losses in food grains caused due to inclusion errors and losses at household level measured through PER. The total losses caused due to inclusion error in Bhubaneswar block and MC (measured for year 2017) amounted to roughly 3,884.31 (\pm 386) quintals of food grains, which was 16.0% of the average

monthly allocation for Bhubaneswar bloc and MC in the year 2017. Secondary studies suggest that the proportion of leakage for Odisha stood at 36.9% (PRS, Demand for Grants 2017-18 Analysis, 2017), leading to the inference that the reforms is likely to have caused a reduction in the leakages. PER was found to be 99.4% (20.56 kg average entitlement/per month; 20.45 kg average purchase/per month), which means beneficiary households received 99.4% of their entitlement every month. The PER for Bhubaneswar block and MC has shown improvement from baseline (PER 56.4%) to end-line (almost 100%). However, the construct of leakages is indicative in nature as the evaluation, in absence of available data, is unable to comment on leakages which may occur at various stages of the supply chain (for instance; between depots and FPS).

Table 9: Evaluation response to DAC questions on efficiency

SI. No.	DAC Question (Efficiency)	Evaluation Response
1	Was the intervention cost-efficient?	In absence of a comparison group, the end-line evaluation is unable to comment on cost-efficiency of the programme. However, indicators such as PER indicate that there has been an improvement in households receiving their full entitlement from the baseline to the end-line evaluation period. This contrasts with losses occurring dur to inclusion error, which have remained high during and post the programme period.
2	Was the intervention implemented in a timely way?	Review of secondary documents suggest that the programme was implemented in a timely bound manner.
3	Was the intervention implemented in the most efficient way compared to alternatives?	In absence of readily available public data on alternative models and their respective cost, the end-line evaluation is unable to comment on whether the intervention was the most cost-efficient. However, a report shared by WFP consisting of a comparative analysis between the cost of models implemented by another State and Odisha observes that the total cost of implementing the programme in Odisha was less than half of the other State.
4	Did the targeting of the intervention mean that resources were allocated efficiently?	Overall, the programme, through automation, has improved the efficiency of food grain allocation to more than 450,000 households (all beneficiaries) in Bhubaneswar. After factoring for potential inclusion error, the number of total beneficiaries who might have benefited from the automation number approximately ~378,000 households.

5.4. Sustainability of the programme

109. The TPDS reforms plan has been laid out clearly and taken up by FS&CW department of GoO. The reforms have gathered institutional sustainability, components such as SCMS,

digital beneficiary database, automatic allocation of food grains, door-step delivery of grains and PoS automation at FPS level have already been carried out, and currently a core part of FS&CW's operation.

110. The reforms also entailed capacity strengthening activities of GoO, FS&CW and other officials. Qualitative findings suggest that the officials were trained at district, block and lower administrative levels on (but not limited to) process of beneficiary identification, de-duplication beneficiary, setting up and operationalization of the supply chain operations and PoS devices are some of the several engagements carried out by GoO, PMU and WFP officials during the reforms period.

111. Findings suggest that the reforms have been received positively by all stakeholders, including beneficiaries, FPS owners and officials in the supply chain operations. Stakeholders, especially officials in the supply chain operations perceive the reforms to have contributed in reducing leakages and enhancing transparency and accountability. However, findings highlight the weakening of social participation and community oversight over the TPDS. Only a small proportion of respondents were reported registering their complaint using the grievance redressal system. Smaller proportions of FPS owners and beneficiaries were aware about the functioning of vigilance committees in their area. Qualitative findings suggest that none of the areas in Bhubaneswar block and MC had undergone social audit since the reform implementation.

Table 10: Evaluation response to DAC questions on sustainability

Sl. No.	DAC Question (Sustainability)	Evaluation Response
1	To what extent did the intervention implementation arrangements include considerations for sustainability, such as capacity building of national and local government institutions, communities and other partners?	The programme was co-created by WFP in consultation and coordination with GoO under NFSA mandates. The programme was led by the government machinery and comprised of several capacity building exercises to ensure sustainability. As a result, the programme has achieved sustainability at an administrative and policy level. Efforts by WFP and GoO have also received recognition from several platforms.
2	How much of the overall strengthening of the TPDS supply side system has increased the social participation of the poor/those entitled under NFSA to benefit from TPDS in accessing the system; as a result of the improvement their food security level?	The programme has led to an expansion of the State's food safety net, with a greater number of people owning ration cards and marked reduction in exclusion errors. Though falling short of the targets set under NFSA, the programme is on the right track to achieve sustainable State-subsidised food security for poor and vulnerable households. However, the end-line data did collect evidence on whether the TPDS had led to improvement in food security levels and will not be able to comment on this aspect.
3	Has the intervention made any difference to gender relations in the medium or longer term?	The end-line evaluation did not find any conclusive evidence to suggest that the programme may have had long-term effects on gender relations.

5.5. Recommendations for GoO and FS&CW

112. The findings of this end-line activity evaluation led to the evaluation team making the following recommendations:
113. **Updating the existing beneficiary list to remove ineligible beneficiaries:** Activities such as de-duplication of the beneficiary list and creation of a dynamic ration card database has led to elimination of bogus cards, duplicate cards and fake cards. However, the rate of inclusion errors (ineligible households owing ration cards) has persisted between 15%-16% between baseline and end-line assessments. While the evaluation appreciates state's efforts and investment in identification of the beneficiaries on a well thought-through criterion, there is further scope of reducing these errors through dynamic updation/revision of criterion itself and periodic matching with the databases such as Income tax, vehicle registration etc.
114. **Rejuvenate and augment grievance redressal mechanism:** Grievance redressal mechanism, one of the core principles and components of the TPDS reform plan, is a welcome step towards increasing transparency and public accountability of the TPDS administration. It is recommended that GoO and concerned department of FS&CW utilize the mechanism to its full extent by rejuvenating practices such as social audit, a mandated under the NFSA, to increase community participation and ownership. In addition, visibility of the present grievance redressal mechanism can also be augmented to ensure that beneficiaries register their complaints regarding FPS and their entitlements officially using the system.
115. **Focus on beneficiary convenience:** Findings from the end-line suggest that a small proportion of beneficiaries, since the implementation of TPDS reforms, have been denied their entitlements due to stock-outs at FPS. While the findings suggest that stock-outs have decreased drastically since implementation of reforms, it is suggested that in event of stock-outs, the beneficiaries can be given fixed-allowances, as mandated under the NFSA. In addition, findings also note that the amount of time spent by beneficiaries waiting in the queue to collect ration has increased. Solutions such as increasing the number of days when ration can be collection from FPS or increasing the number of PoS devices in an FPS can be explored as a mitigation measure.
116. **Augment the transparency portal:** The transparency portal hosted by FS&CW is a welcome step towards increasing transparency of the overall system. While the portal contains key data points on TPDS in Odisha, the evaluation also suggests further augmenting the reliability of the transparency portal by increasing the frequency and timeliness for updating database (for example; food allocation records are only available till the year 2017; list of FPS includes shops that have either shifted or shut shop).
117. **Periodic research on factors affecting TPDS performance:** Further implementation research and process evaluations are suggested to keep a continuous track on issues such as inclusion errors (and its underlying factors), potential leakages across the supply chain operations, PER values, opportunity to refine technology to plug operational gaps within the mandate of NFSA etc. In addition to long-term quantitative assessments, qualitative case studies and field reports can be leveraged to document current or expected challenges and success stories.

118. **Conduct independent research on potential food grain leakages:** As the evaluation finding suggests, literature available on food grain leakages throughout the supply chain operations is limited and out-dated. The present activity evaluation provides information on leakages only at a household-level and does not include leakages that might be occurring at various points in supply chain (for instance; between depots and FPS). It is suggested that GoO, with the support of WFP, should carry out independent studies to estimate the amount of leakages occurring throughout the TPDS network, if any.

5.6. Recommendations for WFP

119. **Support and guide GoO in decreasing targeting errors:** The persisting rate of inclusion error despite the TPDS reforms plan suggests that the dynamic database of beneficiaries envisaged by WFP has not been utilized to its full potential. The evaluation recommends the WFP to support and guide GoO in adhering to the reforms plan envisaged initially and ensuring that the beneficiary database can identify ineligible beneficiaries and taking them out of the TPDS network at regular intervals.
120. **Independent evaluation of TPDS reforms in distant and resource poor areas:** The current evaluation focused on Bhubaneswar, the Capital city of Odisha and with high rate of income and literacy compared to other areas in the State. Bhubaneswar's geographical terrain and connectivity has played an important role in supporting the TPDS reforms. As a comparative diagnosis of the reforms, independent evaluations can be conducted across distant, vulnerable and resource poor areas. The comparative assessment holds the potential to comment on issues which might be caused due to poor connectivity, difficult terrain or other socio-economic factors.

ANNEXES

Annex 1: Terms of Reference

Shared as separate document

Annex 2: Evaluation Matrix

Key Question	Sub-Question	Areas of Enquiry	Data Collection Tools	Target Group
Relevance				
How appropriate is the operation?	<ul style="list-style-type: none"> - Is the intervention in line with the needs of the most vulnerable groups (men and women, boys and girls)? - Was the project based on a sound gender analysis? - Was the design and implementation of the intervention gender-sensitive? 	<ul style="list-style-type: none"> - Assess the alignment of project activities to project objectives vis-à-vis needs of target population at design stage and currently - Assess any change in the project design and activities over the project duration - Assess the coverage of project activities in terms of: Gender disaggregation; Socio-economic characteristics 	<ul style="list-style-type: none"> - Desk review of project documents - IDIs - Project monitoring reports 	Project stakeholder; Government of Odisha officials; FPS owners; Beneficiary households;

Effectiveness				
<p>What are the results of the intervention? What are the outputs and outcomes?</p>	<ul style="list-style-type: none"> - To what extent were (are) the outputs and outcomes of the intervention achieved (likely to be) achieved; and what were the major factors influencing the achievement or nonachievement of the outcomes? - Did the intervention deliver results for men and women, boys and girls? 	<ul style="list-style-type: none"> - Assess the completeness of end-to-end digitization of ration card - Assess if Aadhaar seeding has been carried out as per targets - Assess if proper identification of beneficiaries through exclusion and inclusion criteria achieved - Assess if there is reduction of duplication and errors - Assess if the automated supply chain management system is functioning properly - Assess the improvements in beneficiary identification - Assess if there are reduced leakages from the system - Assess if the system has decreased hassle for beneficiaries and increased satisfaction 	<ul style="list-style-type: none"> - Structured interviews - Desk review of WFP project monitoring database - IDIs 	<ul style="list-style-type: none"> - Household - FPS owners - Stakeholders involved in SCMS - Government of Odisha stakeholders

Efficiency				
<p>What is the cost benefit of the programmes implemented?</p>	<ul style="list-style-type: none"> - Were the intervention cost-efficient? - Was the intervention implemented in a timely way? - Was the intervention implemented in the most efficient way compared to alternatives? - Did the targeting of the intervention mean that resources were allocated efficiently? 	<ul style="list-style-type: none"> - Cost-efficiency in terms of: <ol style="list-style-type: none"> 1. Devices installed, and other operating systems put in place 2. Manpower needed - Assess the efficiency resources deployment and utilization for the current intervention - Assess the efficiency achieved in terms of reduction of time and effort - Assess if there were delays in the processes, impacting the effectiveness of the project 	<ul style="list-style-type: none"> - IDIs 	<ul style="list-style-type: none"> - Government of Odisha stakeholders - WFP programme team

Impact

<p>What is the impact of the programme?</p>	<ul style="list-style-type: none"> - What were the effects of the intervention on recipients' lives? - Did a specific part of the intervention achieve greater impact than another? - Were there unintended (positive or negative) effects for recipients and non-recipients of assistance? - What were the gender-specific impacts? - Did the intervention influence the gender context? - Impacts on institutions. Contribution of an intervention to long-term intended results. 	<ul style="list-style-type: none"> - Assess if leakages have reduced to increase savings due to technological intervention - Assess if the programme has increased access to entitlements - Assess if the programme has increased the viability of FP shops - Assess the capacity of Government Institutions - Assess the improvement Policy or Regulatory Framework for TPDS - Increased Government Support - Assess stakeholder feedback on all the components of the programme, i.e, SCMS, beneficiary identification, GRS, FPS automation - Assess if the programme improved women's agency and autonomy 	<ul style="list-style-type: none"> - Structured interviews - Desk Review - IDIs 	<ul style="list-style-type: none"> - Government of Odisha - Government of Odisha - FPS owners - Implementing stakeholders - Household beneficiaries
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Sustainability

<p>To what extent does the intervention's implementation strategy include considerations for sustainability?</p>	<ul style="list-style-type: none"> - To what extent did the intervention implementation arrangements include considerations for sustainability, such as capacity building of national and local government institutions, communities and other partners? - How much of the overall strengthening of the TPDS supply side system has increased the social participation of the poor/those entitled under NFSA to benefit from TPDS in accessing the system; as a result of the improvement their food security level? - Has the intervention made any difference to gender relations in the medium or longer term? 	<ul style="list-style-type: none"> - Assess the challenges and lessons learnt during <ol style="list-style-type: none"> 1. Project Design 2. Implementation - Assess challenges and lessons learnt while working around <ol style="list-style-type: none"> 1. Institutional structures 2. Funding sources 3. Beneficiaries 4. Policy level implications - Provide recommendations based on the challenges and lessons learnt - Assess the stakeholder's views/needs on programme take over in terms of: <ol style="list-style-type: none"> 1. Funding 2. Interest of the DPs 3. Political environment 4. Social/cultural context 5. Collaborations and partnerships 	<ul style="list-style-type: none"> - Desk Review - Semi-structured interviews 	<ul style="list-style-type: none"> - Government stakeholders - WFP CO - Government stakeholders - WFP CO
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Annex 3: Documents Reviewed

Document Type	Titles	Date Received
Best Practice Solution Report	Report on TPDS Best Practice Solution	6 November 2018
Detailed Project Report	Detailed Project Report for Transformation of the TPDS in Odisha	6 November 2018
Detailed Project Report	Detailed Project Report for Transformation of Mid-Day Meal Supply Chain in Odisha – Integration with PDS Supply Chain	6 November 2018
Technical Note	FPS Automation in Odisha – Component II of End-to-End computerization of TPDS (Modality and Process of Implementation)	6 November 2018
Summary Report	FPS Automation in Pilot in TPDS, Odisha	6 November 2018
Detailed Project Report	Monitoring and Evaluation: Tracking the results in TPDS	6 November 2018
Summary Note	WFP's engagement with the National and State Governments on PDS reforms (2015-17)	6 November 2018
Summary Note	WFP's engagement with the National and State Governments on PDS reforms (2015-18)	6 November 2018
Technical Note	Mechanisms for Aadhaar Seeding and RCMS Data Clean-up	6 November 2018
Technical Note	Exclusion criteria for identification of NFSA beneficiaries in Odisha	6 November 2018
Concept Note	Building efficient paddy procurement and supply chain systems for the TPDS in Odisha	6 November 2018
Concept Note	Proposed Modification to the Sanjog Helpline – Grievance Redressal System for TPDS in Odisha	6 November 2018
Presentation on Key Findings	FPS Consolidation Analysis – Strategies for improving FPS viability	6 November 2018
Recommendation Paper	Transportation of rice for MDM scheme through PDS network in Odisha	6 November 2018
Recommendation Paper	Odisha – Grievance Redressal System for TPDS	6 November 2018
Factsheet	TPDS Transformation through GoO and WFP	6 November 2018
Baseline Report	Baseline Evaluation of the Proposed TPDS reforms in Bhubaneswar, Odisha	6 November 2018
Policy Order	FSCW-15232 Draft Notification at Odisha Food Security Rules 2017	6 November 2018
Case Study	Case Study: Cost Savings through WFP interventions in PDS	10 May 2019
Award Email	CSI Nihilent eGovernance Award to TPDS Transformation Initiatives in Odisha	9 May 2019

Annex 4: Stakeholders Interviewed

S.no	Respondents	Research Instrument	Area of Information
1.	Household Head	Structured Questionnaire	HH structured assessment (HH within the catchment of the FPS cluster)
2.	FPS owner	Structured Questionnaire; IDIs	Beneficiary satisfaction, grievance redressal, supplies and stocks Challenges in implementation, best practices
3.	District Manager OSCSC (Odisha State Civil Supplies Corporation)	IDIs	Beneficiary satisfaction, grievance redressal, supplies and stocks Challenges in implementation, best practices
4.	Grievance Redressal Officer	IDIs	Challenges in implementation, best practices, sustainability strategy, vision, suggestions
5.	Depot Holder	IDIs	Challenges in implementation, best practices, sustainability strategy, vision, suggestions
6.	Handling and Transport contractors	IDIs	Understanding of the programme, changes it has brought forth, beneficiary satisfaction
7.	Panchayat Members and Vigilance Committee Members	IDIs	Challenges in implementation, best practices, sustainability strategy, vision, suggestions
8.	Marketing Officer	IDIs	Understanding of the processes, implementation plan, challenges
9.	Procurement Officer	IDIs	Understanding of the processes, implementation plan, challenges
10.	Quality Inspector	IDIs	Understanding of the processes, implementation plan, challenges
11.	Rice Miller	IDIs	Understanding of the processes, implementation plan, challenges
12.	Women Members in the Household	IDIs	Beneficiary satisfaction

Annex 5: Data Collection Tools

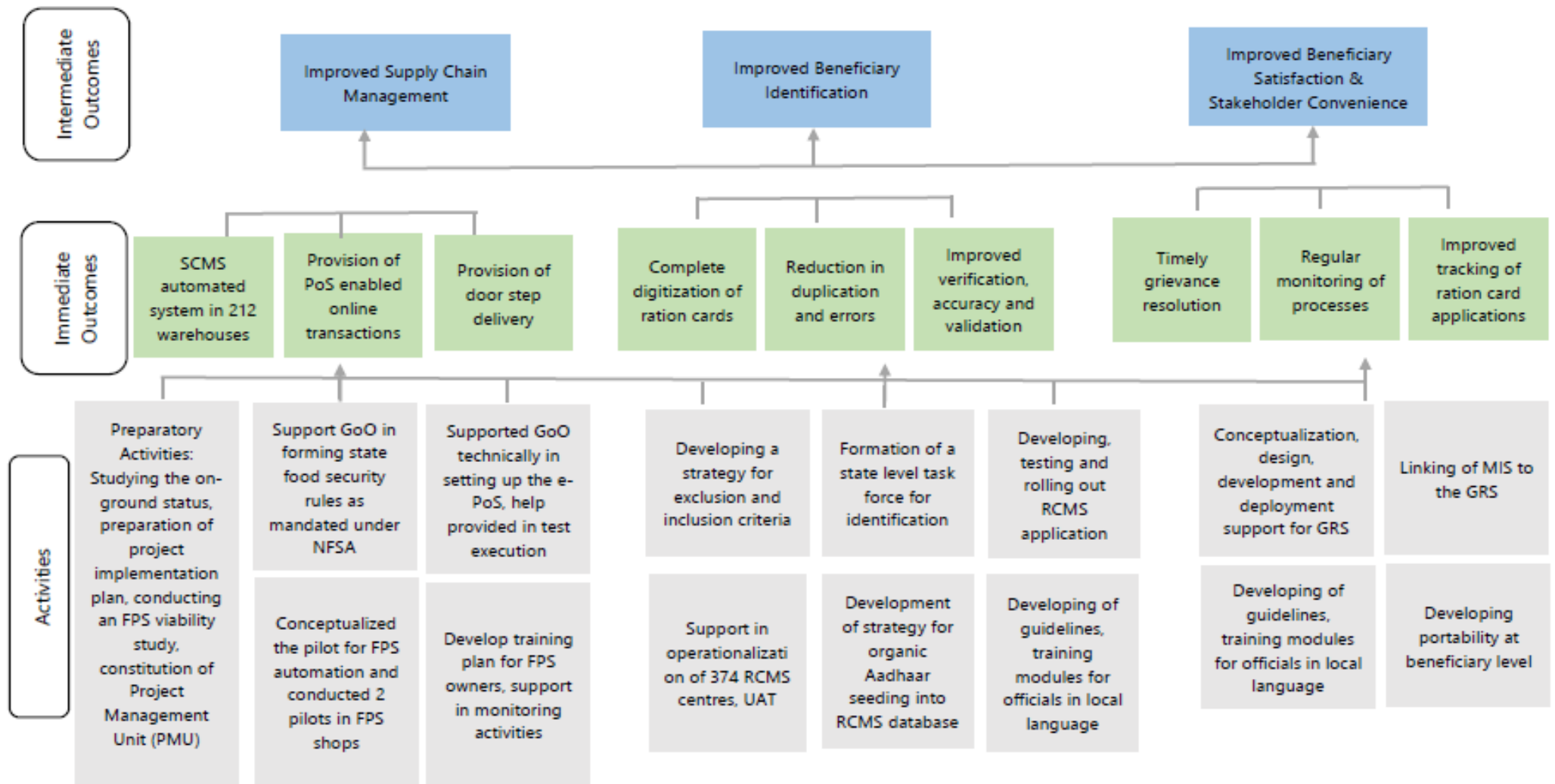
Shared as separate documents

Annex 6: Bibliography

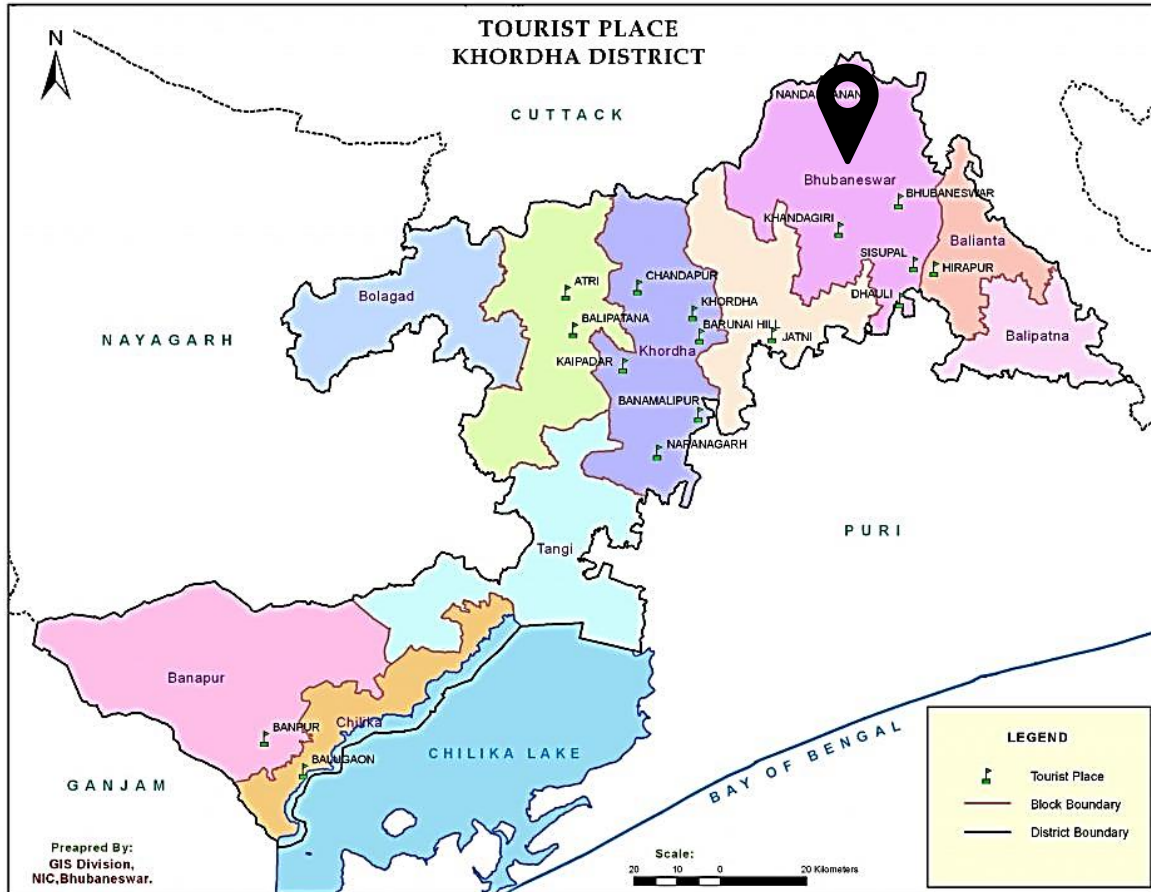
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Annex 7: Theory of Change



Annex 8: Map of the Evaluation Area



Annex 9: List of PSUs

Sl. No.	PSU Name	District	State
1	Aiginia 3	Khurda	Odisha
2	Aiginia 4	Khurda	Odisha
3	B.J.B. Nagar 2	Khurda	Odisha
4	Baragada 4	Khurda	Odisha
5	Vanivihar 2	Khurda	Odisha
6	Baramunda 15	Khurda	Odisha
7	Baramunda 7	Khurda	Odisha
8	Baragada 11	Khurda	Odisha
9	Bharatapur 1	Khurda	Odisha
10	Madhusudan Nagar 2	Khurda	Odisha
11	Siripur 5	Khurda	Odisha
12	Bhoinagar-1	Khurda	Odisha
13	Rangamatia 3	Khurda	Odisha
14	Sasanpadia-3	Khurda	Odisha
15	Sasanpadia-4	Khurda	Odisha
16	B.J.B. Nagar 8	Khurda	Odisha
17	Bramheswarpatna 6	Khurda	Odisha
18	Chintamaniswar 6	Khurda	Odisha
19	Chandrasekharpur H.B.Ph.-1	Khurda	Odisha
20	Chandrasekharpur H.B.Ph.-8	Khurda	Odisha
21	Damana-1	Khurda	Odisha
22	Dumuduma 1	Khurda	Odisha
23	Dumuduma 2	Khurda	Odisha
24	Dumuduma 4	Khurda	Odisha
25	Gadakana 1	Khurda	Odisha
26	Gadakana 3	Khurda	Odisha
27	Gandamunda 1	Khurda	Odisha
28	Gautam Nagar 1	Khurda	Odisha
29	Gautam Nagar 12	Khurda	Odisha
30	Gautam Nagar 6	Khurda	Odisha
31	Unit 8-4	Khurda	Odisha
32	Laxmisagar -1	Khurda	Odisha
33	Chandrasekharpur 8	Khurda	Odisha
34	IRC Village 12	Khurda	Odisha
35	IRC Village 2	Khurda	Odisha
36	Jayadeb Bihar 17	Khurda	Odisha
37	Jeypore	Khurda	Odisha
38	Jharapada 5	Khurda	Odisha
39	Jokalandi 3	Khurda	Odisha
40	Gautam Nagar 13	Khurda	Odisha
41	Kapilaprasad 5	Khurda	Odisha
42	Bhimatangi-2	Khurda	Odisha
43	Old Bhubaneshwar 4	Khurda	Odisha
44	Sasanpadia-2	Khurda	Odisha

Sl. No.	PSU Name	District	State
45	Kharavel Nagar - 9	Khurda	Odisha
46	Kharavel Nagar-11	Khurda	Odisha
47	Lingipur 2	Khurda	Odisha
48	Mancheswar 1	Khurda	Odisha
49	Nayapalli 3	Khurda	Odisha
50	Nayapalli 1	Khurda	Odisha
51	Nayapalli-11	Khurda	Odisha
52	Nayapalli-13	Khurda	Odisha
53	Nayapalli-12	Khurda	Odisha
54	Nuapatana	Khurda	Odisha
55	Siripur 6	Khurda	Odisha
56	V.S.S.Nagar 12	Khurda	Odisha
57	Patia 4	Khurda	Odisha
58	Patia 7	Khurda	Odisha
59	Pokhariput-1	Khurda	Odisha
60	Raghunath Nagar 2	Khurda	Odisha
61	Raghunath Nagar 3	Khurda	Odisha
62	Raghunathapur 3	Khurda	Odisha
63	Rasulgada-4	Khurda	Odisha
64	Rental Colony 7	Khurda	Odisha
65	Rental Colony 4	Khurda	Odisha
66	Satya Nagar 3	Khurda	Odisha
67	V.S.S.Nagar 10	Khurda	Odisha
68	Sahid Nagar 8	Khurda	Odisha
69	Sikharachandi-1	Khurda	Odisha
70	Siripur 4	Khurda	Odisha
71	Siripur 2	Khurda	Odisha
72	Sisupal 1	Khurda	Odisha
73	Kapilprasad 3	Khurda	Odisha
74	Bramheswarpatna 4	Khurda	Odisha
75	Unit-9-5	Khurda	Odisha
76	V.S.S.Nagar 1	Khurda	Odisha
77	Andharua	Khurda	Odisha
78	Bachhara Patana	Khurda	Odisha
79	Badanuagan	Khurda	Odisha
80	Balichhak Sahi	Khurda	Odisha
81	Barimunda (Part)	Khurda	Odisha
82	Daruthenga	Khurda	Odisha
83	Giringaput	Khurda	Odisha
84	Hatasahi	Khurda	Odisha
85	Jagannath Prasad	Khurda	Odisha
86	Kalyanapur Sasan	Khurda	Odisha
87	Kantabad	Khurda	Odisha
88	Khasamahal	Khurda	Odisha
89	Kudiari	Khurda	Odisha
90	Kudiari Bajar	Khurda	Odisha
91	Lingipur	Khurda	Odisha
92	Loko Settlement	Khurda	Odisha

Sl. No.	PSU Name	District	State
93	Malipada	Khurda	Odisha
94	Naragoda	Khurda	Odisha
95	Nathapur	Khurda	Odisha
96	Padasahi (Part)	Khurda	Odisha
97	Palashapur Sasan	Khurda	Odisha
98	Patrapada	Khurda	Odisha
99	Raghunathapur (Part)	Khurda	Odisha
100	Raja Bajar	Khurda	Odisha
101	Ramachandrapur	Khurda	Odisha
102	Ramachandrapur Bajar	Khurda	Odisha
103	Ranasinhapur	Khurda	Odisha
104	Railway Settlement	Khurda	Odisha
105	Retanga Colony	Khurda	Odisha
106	Shandhapur	Khurda	Odisha
107	Sisupal	Khurda	Odisha
108	Suango	Khurda	Odisha
109	Tamando	Khurda	Odisha
110	Durgapurpatana	Khurda	Odisha

**Household interviews will be conducted within all the 110 PSUs. But interviews with FPS will only be conducted within 80 PSUs.*

Annex 10: Approvals Received for the End-line Activity Evaluation

BY-FAX/E-MAIL

GOVERNMENT OF ODISHA
FOOD SUPPLIES & CONSUMER WELFARE DEPARTMENT

No 14158 / Bhubaneswar, Date 19/7/2018
OSWAS-NFSA-09681900492017

From
M.Q. Haque, OAS
Joint Secretary to Government

To
Mr. Jan Delbaere,
Deputy Country Director,
World Food Programme,
2 Poorvi Marg, Vasant Vihar,
New Delhi, 110057.

Sub: Endline evaluation of TPDS reforms project in Bhubaneswar-Urban and Rural.

Ref: Your letter No WFP/M&E/GoO/CO-163 dated 9th July 2018.

Sir,

With reference to the letter on the subject cited above I am directed to inform you that WFP can go ahead with the end line evaluation corresponding to the baseline evaluation of TPDS reforms project undertaken in Khordha district in consultation with this Department.

Further, as agreed upon, WFP is also requested to take up the process documentation of NFSA implementation in the State.

Yours faithfully

[Signature]
19-7-18
Joint Secretary to Government

Memo No 14159 Date 19/7/2018
Copy forwarded to the Collector, Khordha for information and necessary action.

[Signature]
19-7-18
Joint Secretary to Government

Memo No 14160 Date 19/7/2018
Copy forwarded to the State Project Coordinator, World Food Programme, Odisha, Bhubaneswar for information and necessary action.

[Signature]
19-7-18
Joint Secretary to Government

Memo No 14161 Date 19/7/2018
Copy forwarded to the Civil Supplies Officer, Khordha for information and necessary action. He is requested to provide necessary support to the WFP team during the evaluation process in BMC and Bhubaneswar Block.

[Signature]
19-7-18
Joint Secretary to Government



17th December 2018

To

Mr. Vijay Avinandan
Principal Investigator
Sambodhi Research and Communications Pvt. Ltd.
D-61, First Floor, South Extension Part -1
New Delhi - 110049

Dear Mr. Avinandan,

PHS-SRB has reviewed and discussed your application for the study titled "Evaluation of the Target Public Distribution Reforms Project in Bhubaneswar" in the meeting dated 16th December 2018. Enclosed please find the approval letter for your reference.

As communicated, we understand that you have the required approvals to undertake the study from the Sponsor as well as applicable authorities in India.

You are also advised to follow all the instructions mentioned in the approval letter and submit the progress report on completion/termination of study or at least once per year whichever is earlier.

If you have any queries, you can revert the same to the PHS-SRB office.

Warm Regards,

A handwritten signature in black ink, appearing to read 'Gaurav Goel', with a horizontal line underneath it.

Gaurav Goel
Member Secretary
PHS-SRB

PHS-SRB operates as per the SOP that is in compliance with the ICH-GCP and applicable regulatory requirements.

Approval Letter

The PHS-SRB decision on your study proposal/documents is as follows:

- Approval (valid from 16th December 2018 until next amendment):
- Conditional Approval _____
- Disapproval
- Modification before approval _____
- Discontinuation of previously approved project

The following members of the PHS-SRB were present at the meeting held on 16th December 2018 at 03:00 PM in the registered office of PHS, 45/1, Pocket D-12, Sector-7, Rohini, New Delhi.

S. No.	Name	Designation	Functional Role
1	Dr. N. C. Sehgal	Chairperson	Clinician
2	Mr. Gaurav Goel	Member-Secretary	Research Scientist
3	Dr. Dinesh Singh Chauhan	Member	Research Scientist/ Basic Medical Scientist
4	Mr. Vimal Dubey	Member	Legal Expert
5	Ms. Yashoda Rawat	Member	Social Scientist
6	Ms. Archana Negi	Member	Lay Person

We approve the study to be conducted in its presented form.

You are required to obtain the PHS-SRB approved Informed Consent Document (duly stamped) in the relevant vernacular language from each study subject prior to any study procedures.

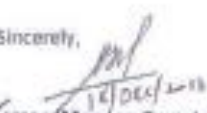
The PHS-SRB expects to be informed about the following:

- Deviations from, or changes of, the protocol to eliminate immediate hazards to the study subjects;
- Changes increasing the risk to subjects and/or affecting significantly the conduct of the study;
- Safety issues (if any);
- New information that may affect adversely the safety of the subjects or the conduct of the study.

You are also advised to submit the progress report (at least annually) and study report on completion/termination of the study.

In case you have any queries, you can revert the same to PHS-SRB.

Yours Sincerely,


Chairperson/Member Secretary
PHS-SRB
45/1, Pocket D-12, Sector-7
Rohini, Delhi - 110085



Name: Dr. N. C. Sehgal

PHS-SRB operates as per the SOP that is in compliance with the ICH-GCP and applicable regulatory requirements

**OFFICE OF THE ADDITIONAL DISTRICT MAGISTRATE, BHUBANESWAR
(CIVIL SUPPLIES SECTION)**

No. 700 / Dt. 21.12.18

OFFICE ORDER

In pursuance to the Memo No.14161dtd.19/07/2018 of Govt. of Odisha in FS & CW Dept., BBSR and letter No.WFP/262dtd.18/12/2018 of World Food Programme, BBSR, M/S Sambodhi Research & Communication Private Limited has been assigned by World Food Programme for the endline evaluation of TPDS reforms project in Bhubaneswar Urban. The field work for data collection for the enumerators from the selected FPS's at Annexure "A" will start from 21.12.2018. The FPS owners are instructed to extend necessary support to the enumerators in discharge of their responsibilities for collection of data as per the scheduled date.

Arbela
21/12/18
**Addl. District Magistrate,
Bhubaneswar.**

Memo No. 701 Dt. 21.12.18
Copy to the Concerned FPS owners for information.

Arbela
21/12/18
**Addl. District Magistrate,
Bhubaneswar.**

Memo No. 702 Dt. 21.12.18
Copy to M/S Sambodhi Research & Communications Private Ltd, New Delhi for information and necessary action.

Arbela
21/12/18
**Addl. District Magistrate,
Bhubaneswar**

Memo No. 703 Dt. 21.12.18
Copy forwarded to State Project Coordinator World Food Programme, Bhubaneswar/ C.S.O., Khurdha for information & necessary action.

Arbela
21/12/18
**Addl. District Magistrate,
Bhubaneswar**

Memo No. 704 Dt. 21.12.18
Copy submitted to Joint Secretary to Govt., FS & CW Dept. wrt the memo no.14161/Dtd.19.07.2018 for information & necessary action.

Arbela
21/12/18
**Addl. District Magistrate,
Bhubaneswar**

Ravi

OFFICE OF THE SUB-COLLECTOR, BHUBANESWAR
(Civil Supplies Section)

Letter No 06/1 Date 05.1.2019

To,

The BDO, Bhubaneswar/ Executive Officer, Jatni Municipality

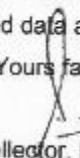
Sub:- End line evaluation of TPDS reforms project in Bhubaneswar Block and Jatni Municipality area.

Ref:-Letter No 107 dtd 04.01.2019 of CSO, Khordha

Sir,

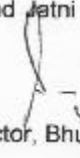
With reference to the subject cited above, I am to inform that the World Food Programme(WFP) will take up the end line evaluation of TPDS reform projects in selected FPSs of Bhubaneswar Block and Jatni Municipality area as annexed at Annexure-A. M/S Sambodhi Research and communication Private Limited has been assigned with the work by the WFP and they will start the work as per the dateline communicated by them. Hence you are requested to issue necessary instructions to the selected retailers to extend their necessary support to the enumerators and supervisors of the agency to discharge their duties for collection of required data as per the dateline.

Yours faithfully


Sub-Collector, Bhubaneswar

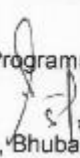
Memo No 07 Date 05.1.2019

Copy forwarded to Marketing Inspector, Bhubaneswar Block and Jatni Municipality for information and necessary action.


Sub-Collector, Bhubaneswar

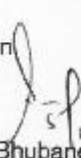
Memo No 08 Date 05.1.2019

Copy forwarded to the State Project Coordinator, World Food Programme, Odisha, Bhubaneswar for information and necessary action.


Sub-Collector, Bhubaneswar

Memo No 09 Date 05.1.2019

Copy forwarded to CSO, Khordha for information and necessary action


Sub-Collector, Bhubaneswar

Annex 11: List of Indicators

Annex 11.1: Household Weighted Factsheet

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation		
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
Background characteristics															
Religion															
Hindu	96.3	[95.3,97.1]	95.5	[94.0,96.7]	96.0	[95.2,96.7]	2397	1109	3505	2285	1020	3305	96.3	95.5	
Non-Hindu	3.7	[2.9,4.7]	4.5	[3.3,6.0]	4.0	[3.3,4.8]	2397	1109	3505	2285	1020	3305	3.5	4.3	
Caste															
Scheduled Caste (SC)	20.7	[19.0,22.6]	26.8	[24.1,29.7]	22.6	[21.2,24.2]	2397	1109	3505	2285	1020	3305	15.1	18.7	
Scheduled Tribe (ST)	6.9	[5.8,8.2]	1.5	[0.9,2.5]	5.2	[4.4,6.1]	2397	1109	3505	2285	1020	3305	9.9	4.9	
Other Backward Classes (OBC)	34.0	[31.9,36.1]	29.6	[26.8,32.5]	32.6	[30.9,34.3]	2397	1109	3505	2285	1020	3305	19.3	20.4	
General	38.0	[35.8,40.1]	41.3	[38.2,44.4]	39.0	[37.3,40.8]	2397	1109	3505	2285	1020	3305	54.9	55.5	
Others	0.5	[0.2,0.9]	0.8	[0.4,1.7]	0.6	[0.4,0.9]	2397	1109	3505	2285	1020	3305	0.1	0.1	
Type of Family															
Nuclear	85.8	[84.2,87.2]	80.4	[77.8,82.7]	84.1	[82.7,85.3]	2397	1109	3505	2285	1020	3305	51.8	41.4	
Joint	14.2	[12.8,15.8]	19.6	[17.3,22.2]	15.9	[14.7,17.3]	2397	1109	3505	2285	1020	3305	48.0	58.5	
Electricity															
Yes	98.5	[97.9,99.0]	97.2	[95.9,98.1]	98.1	[97.5,98.5]	2397	1109	3505	2285	1020	3305	91.0	89.7	90.9
No	1.5	[1.0,2.1]	2.8	[1.9,4.1]	1.9	[1.5,2.5]	2397	1109	3505	2285	1020	3305	9.0	10.3	9.1
Any member disable/ chronic	5.0	[4.1,6.1]	8.1	[6.5,10.0]	6.0	[5.2,6.9]	2397	1109	3505	2285	1020	3305			
Any member having Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) Card	9.3	[8.1,10.6]	11.5	[9.7,13.7]	10.0	[8.9,11.1]	2397	1109	3505	2285	1020	3305			

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation			
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted			
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %	
Aware about inclusion criteria under National Food Security Act (NFSA)																
No knowledge about NFSA	34.0	[31.9,36.1]	23.0	[20.5,25.7]	30.5	[28.9,32.2]	2397	1109	3505	2285	1020	3305	83.1	84.6	82.4	
Know all criteria	27.5	[25.6,29.5]	47.9	[44.8,51.0]	33.9	[32.3,35.7]	2397	1109	3505	2285	1020	3305	17.6	15.4	16.9	
Know some criteria	38.5	[36.3,40.7]	29.1	[26.4,32.0]	35.5	[33.8,37.3]	2397	1109	3505	2285	1020	3305				
Ration card																
Household (HH) with ration card	64.9	[62.8,67.0]	68.7	[65.7,71.5]	66.1	[64.4,67.8]	2397	1109	3505	2285	1020	3305	50.0	72.0	59.2	
HH without ration card	35.1	[33.0,37.2]	31.3	[28.5,34.3]	33.9	[32.2,35.6]	2397	1109	3505	2285	1020	3305	50.0	28.0	40.8	
Type of card																
Antodaya Anna Yojana (AAY)	7.4	[6.1,9.0]	10.9	[8.8,13.5]	8.6	[7.4,9.9]	1555	762	2317	1477	694	2171	8.0	13.0		
Annapurna PHH (Priority Households)	0.6	[0.3,1.3]	0.3	[0.1,1.2]	0.5	[0.3,1.0]	1555	762	2317	1477	694	2171	2.0	0.0		
SFSS (State Food Security Scheme)	91.1	[89.4,92.5]	87.8	[85.1,90.1]	90.0	[88.6,91.3]	1555	762	2317	1477	694	2171	NA	NA		
Above Poverty Line (APL)	0.9	[0.5,1.6]	0.9	[0.4,2.0]	0.9	[0.5,1.4]	1555	762	2317	1477	694	2171	NA	NA		
BPL (Below Poverty Line)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44.0	20.0		
RDP (Differently abled persons)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46.0	67.0		
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0		
Improved targeting through minimizing inclusion & exclusion errors																
Household (HH) with ration card linked to Aadhar	99.3	[98.6,99.6]	99.8	[98.9,100.0]	99.4	[99.0,99.7]	1555	762	2317	1477	694	2171				
HH with cards but no auto inclusion criteria	83.9	[81.8,85.9]	81.9	[78.8,84.6]	83.3	[81.5,84.9]	1555	762	2317	1477	694	2171				

End-line Activity Evaluation													Baseline Activity Evaluation		
Indicators	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
HH without cards but no exclusion criteria	68.7	[65.1,72.0]	59.5	[54.0,64.8]	66.0	[63.0,68.8]	841	347	1188	808	326	1,134			
HH with cards but at least one exclusion criteria (Inclusion error)	16.9	[14.9,19.2]	14.1	[11.7,16.9]	16.0	[14.4,17.7]	1555	762	2317	1477	694	2171	12.3	20.6	15.5
HH without cards but with one auto inclusion criteria (Exclusion error)	15.0	[12.5,17.9]	11.3	[8.2,15.4]	13.9	[11.9,16.3]	841	347	1188	808	326	1,134	31.8	16.4	27.0
Reduction of leakages in commodities															
What are the means of digital authentication															
Biometric/ fingerprint	73.8	[71.2,76.2]	80.3	[77.1,83.1]	75.9	[73.9,77.8]	1555	762	2317	1477	694	2171			
One Time Password (OTP) on mobile	25.5	[23.1,28.0]	19.4	[16.6,22.6]	23.5	[21.6,25.4]	1555	762	2317	1477	694	2171			
Offline/manual	0.4	[0.2,0.9]	0.3	[0.1,1.3]	0.4	[0.2,0.8]	1555	762	2317	1477	694	2171			
Others (specify)	0.4	[0.1,1.0]	0.0		0.3	[0.1,0.7]	1555	762	2317	1477	694	2171			
In the past 6 months, have you used lifted ration from the FPS using offline/manual identification															
Yes	3.4	[2.5,4.6]	1.5	[0.8,2.7]	2.7	[2.1,3.6]	1555	762	2317	1477	694	2171			
No	96.6	[95.4,97.5]	98.5	[97.3,99.2]	97.3	[96.4,97.9]	1555	762	2317	1477	694	2171			
Has it ever happened, or you have heard in the past 6 months that quota for a particular month was sold in the open market or appropriated by someone else															

End-line Activity Evaluation													Baseline Activity Evaluation		
Indicators	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
Several times	1.9	[1.3,2.9]	1.9	[1.1,3.3]	1.9	[1.4,2.6]	1555	762	2317	1477	694	2171	0.5	3.4	1.6
Yes	3.3	[2.5,4.4]	3.7	[2.5,5.5]	3.5	[2.7,4.4]	1555	762	2317	1477	694	2171	3.8	7.9	5.4
No	75.7	[73.3,78.0]	77.0	[73.7,80.1]	76.2	[74.2,78.0]	1555	762	2317	1477	694	2171	73.3	75.6	74.2
Don't Know / Can't Say	19	[16.9,21.3]	17.3	[14.6,20.4]	18.5	[16.8,20.3]	1555	762	2317	1477	694	2171	22.4	13.1	18.8
Improved stakeholder convenience															
How has the time taken for getting ration from Fair Prices Shop (FPS) to house has changed after introduction of Point of Sale (POS) device in the FPS															
Yes, the time has declined	49.0	[46.2,51.8]	54.0	[50.3,57.8]	50.7	[48.4,52.9]	1555	762	2317	1477	694	2171			
Same time	33.7	[31.1,36.4]	27.6	[24.4,31.1]	31.7	[29.7,33.8]	1555	762	2317	1477	694	2171			
No, the time has increased	15.2	[13.3,17.3]	17.4	[14.7,20.4]	15.9	[14.4,17.6]	1555	762	2317	1477	694	2171			
Don't know / can't say	2.1	[1.4,3.1]	1.0	[0.5,2.0]	1.7	[1.2,2.4]	1555	762	2317	1477	694	2171			
Are you satisfied with the functioning of the local Public Distribution System (PDS) outlet															
Highly satisfied	71.9	[69.3,74.3]	74.5	[71.1,77.6]	72.7	[70.7,74.7]	1555	762	2317	1477	694	2171	82.3	74.6	79.2
Somewhat satisfied	24.4	[22.1,26.8]	24.3	[21.2,27.7]	24.4	[22.5,26.3]	1555	762	2317	1477	694	2171	14.0	19.9	16.3
Somewhat dissatisfied	2.2	[1.5,3.3]	0.5	[0.2,1.4]	1.7	[1.2,2.4]	1555	762	2317	1477	694	2171	1.8	2.3	2
Highly dissatisfied	1.0	[0.6,1.8]	0.5	[0.2,1.2]	0.8	[0.5,1.3]	1555	762	2317	1477	694	2171	1.4	2.7	1.9
Don't know / can't say	0.5	[0.2,1.1]	0.2	[0.1,1.0]	0.4	[0.2,0.8]	1555	762	2317	1477	694	2171	0.3	0.5	0.4
NA	0.0	[0.0,0.3]	0.0		0.0	[0.0,0.2]	1555	762	2317	1477	694	2171	0.2	0.0	0.1

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation			
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted			
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %	
How would you describe the attitude of the PDS dealer: helpful, indifferent or unhelpful																
Helpful	51.2	[48.4,53.9]	52.4	[48.6,56.2]	51.6	[49.3,53.8]	1555	762	2317	1477	694	2171	62.4	61.6	62.0	
Indifferent	45.1	[42.3,47.9]	46.3	[42.5,50.1]	45.5	[43.3,47.7]	1555	762	2317	1477	694	2171	33.7	32.2	33.1	
Unhelpful	2.9	[2.1,4.1]	1.1	[0.5,2.3]	2.3	[1.7,3.1]	1555	762	2317	1477	694	2171	3.2	5.7	4.2	
Don't know / can't say	0.7	[0.4,1.4]	0.2	[0.1,1.0]	0.6	[0.3,1.0]	1555	762	2317	1477	694	2171	0.6	0.5	0.6	
NA	0.1	[0.0,0.3]	0.0		0.1	[0.0,0.2]	1555	762	2317	1477	694	2171	0.2	0.0	0.1	
Do you think the FPS owner behaves differently with female and male beneficiaries																
Yes	6.6	[5.3,8.1]	4.2	[2.9,6.0]	5.8	[4.8,7.0]	1555	762	2317	1477	694	2171				
No	93.4	[91.9,94.7]	95.8	[94.0,97.1]	94.2	[93.0,95.2]	1555	762	2317	1477	694	2171				
How does the FPS owner behave with male members																
Behave well with male members	86.7	[77.8,92.4]	94.5	[78.8,98.7]	88.6	[81.4,93.2]	103	32	135	93	28	121				
Indifferent behaviour	1.2	[0.3,4.7]	1.9	[0.3,13.0]	1.4	[0.4,4.2]	103	32	135	93	28	121				
Behave badly with male member	8.2	[3.8,16.5]	3.6	[0.5,22.1]	7.1	[3.5,13.8]	103	32	135	93	28	121				
Don't Know / Can't Say	3.4	[1.1,9.9]	0.0		2.6	[0.8,7.6]	103	32	135	93	28	121				
NA	0.6	[0.1,4.2]	0.0		0.5	[0.1,3.2]	103	32	135	93	28	121				
How does the FPS owner behave with female members																
Behave well with female members	74.8	[64.2,83.2]	90.8	[73.8,97.2]	78.6	[69.8,85.4]	103	32	135	93	28	121				
Indifferent behaviour	7.7	[3.3,16.6]	5.6	[1.3,21.3]	7.2	[3.4,14.3]	103	32	135	93	28	121				

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation		
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
Behave badly with female member	16.3	[9.8,26.0]	3.6	[0.5,22.1]	13.3	[8.1,21.1]	103	32	135	93	28	121			
Don't Know / Can't Say	1.2	[0.3,4.7]	0.0		0.9	[0.2,3.6]	103	32	135	93	28	121			
Did the FPS owner behave badly with you in last one year															
Yes	13.0	[7.1,22.4]	11.0	[3.5,29.4]	12.5	[7.4,20.4]	103	32	135	93	28	121			
No	87.0	[77.6,92.9]	89.0	[70.6,96.5]	87.5	[79.6,92.6]	103	32	135	93	28	121			
If yes, have you complained it to anyone															
Yes	14.3	[2.6,51.0]	32.9	[3.1,88.1]	18.2	[4.7,49.9]	13	4	17	12	3	15			
No	85.7	[49.0,97.4]	67.1	[11.9,96.9]	81.8	[50.1,95.3]	13	4	17	12	3	15			
Waiting time															
Improved	59.2	[56.4,61.9]	59.5	[55.8,63.2]	59.3	[57.1,61.5]	1555	762	2317	1477	694	2171			
Unchanged	31.6	[29.1,34.3]	33.3	[29.8,36.9]	32.2	[30.1,34.3]	1555	762	2317	1477	694	2171			
Not improved	7.0	[5.7,8.6]	6.9	[5.2,9.0]	7.0	[5.9,8.2]	1555	762	2317	1477	694	2171			
Others (specify)	0.6	[0.3,1.3]	0.1	[0.0,0.6]	0.4	[0.2,0.9]	1555	762	2317	1477	694	2171			
Don't Know / Can't Say	1.6	[1.0,2.5]	0.2	[0.1,1.0]	1.1	[0.7,1.7]	1555	762	2317	1477	694	2171			
Crowding at FPS															
Improved	50.4	[47.6,53.1]	51.1	[47.3,54.9]	50.6	[48.4,52.9]	1555	762	2317	1477	694	2171			
Unchanged	41.0	[38.3,43.8]	42.9	[39.2,46.6]	41.6	[39.4,43.9]	1555	762	2317	1477	694	2171			
Not improved	6.8	[5.5,8.4]	5.8	[4.3,7.8]	6.5	[5.4,7.7]	1555	762	2317	1477	694	2171			
Others (specify)	0.4	[0.2,1.1]	0.0		0.3	[0.1,0.7]	1555	762	2317	1477	694	2171			
Don't Know / Can't Say	1.4	[0.8,2.2]	0.2	[0.1,1.0]	1.0	[0.6,1.6]	1555	762	2317	1477	694	2171			
Attitude of the shopkeeper															
Improved	56.2	[53.5,59.0]	60.3	[56.5,63.9]	57.6	[55.3,59.8]	1555	762	2317	1477	694	2171			
Unchanged	39.8	[37.1,42.5]	38.4	[34.8,42.1]	39.3	[37.2,41.5]	1555	762	2317	1477	694	2171			
Not improved	2.1	[1.5,3.1]	1.1	[0.5,2.3]	1.8	[1.3,2.5]	1555	762	2317	1477	694	2171			
Others (specify)	0.4	[0.2,1.0]	0.0		0.3	[0.1,0.7]	1555	762	2317	1477	694	2171			

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation		
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
Don't Know / Can't Say Ration Availability	1.4	[0.9,2.3]	0.2	[0.1,1.0]	1.0	[0.7,1.6]	1555	762	2317	1477	694	2171			
Improved	67.6	[65.0,70.2]	64.1	[60.4,67.7]	66.5	[64.3,68.6]	1555	762	2317	1477	694	2171			
Unchanged	29.4	[26.9,32.0]	34.6	[31.1,38.3]	31.1	[29.1,33.2]	1555	762	2317	1477	694	2171			
Not improved	1.2	[0.7,2.0]	1.0	[0.5,2.1]	1.1	[0.7,1.7]	1555	762	2317	1477	694	2171			
Others (specify)	0.3	[0.1,0.9]	0.0		0.2	[0.1,0.6]	1555	762	2317	1477	694	2171			
Don't Know / Can't Say Quality of ration	1.5	[0.9,2.3]	0.2	[0.1,1.0]	1.1	[0.7,1.7]	1555	762	2317	1477	694	2171			
Improved	72.3	[69.7,74.7]	69.3	[65.7,72.7]	71.3	[69.2,73.3]	1555	762	2317	1477	694	2171			
Unchanged	24.9	[22.6,27.4]	29.6	[26.3,33.2]	26.5	[24.6,28.5]	1555	762	2317	1477	694	2171			
Not improved	1.3	[0.8,2.1]	0.9	[0.4,2.0]	1.1	[0.7,1.7]	1555	762	2317	1477	694	2171			
Others (specify)	0.2	[0.1,0.8]	0.0		0.2	[0.1,0.5]	1555	762	2317	1477	694	2171			
Don't Know / Can't Say Ease of transaction for the beneficiaries	1.3	[0.8,2.1]	0.2	[0.0,1.1]	0.9	[0.6,1.5]	1555	762	2317	1477	694	2171			
Improved	61.2	[58.5,63.9]	56.4	[52.6,60.1]	59.7	[57.4,61.8]	1555	762	2317	1477	694	2171			
Unchanged	34.5	[31.9,37.1]	41.1	[37.4,44.8]	36.6	[34.5,38.8]	1555	762	2317	1477	694	2171			
Not improved	2.2	[1.5,3.2]	2.0	[1.2,3.3]	2.2	[1.6,2.9]	1555	762	2317	1477	694	2171			
Others (specify)	0.3	[0.1,0.8]	0.0		0.2	[0.1,0.6]	1555	762	2317	1477	694	2171			
Don't Know / Can't Say Transparency	1.7	[1.1,2.6]	0.5	[0.2,1.5]	1.3	[0.9,2.0]	1555	762	2317	1477	694	2171			
Improved	61.1	[58.3,63.8]	60.7	[56.9,64.3]	60.9	[58.7,63.1]	1555	762	2317	1477	694	2171			
Unchanged	34.7	[32.1,37.4]	38.1	[34.5,41.8]	35.8	[33.7,38.0]	1555	762	2317	1477	694	2171			
Not improved	1.6	[1.0,2.6]	0.7	[0.3,1.8]	1.3	[0.9,2.0]	1555	762	2317	1477	694	2171			
Others (specify)	0.5	[0.2,1.1]	0.0		0.3	[0.1,0.7]	1555	762	2317	1477	694	2171			
Don't Know / Can't Say Do you find the digitization process in the FPS useful	2.1	[1.4,3.1]	0.5	[0.2,1.5]	1.6	[1.1,2.3]	1555	762	2317	1477	694	2171			
Yes	89.0	[87.0,90.6]	92.6	[90.4,94.3]	90.1	[88.7,91.4]	1555	762	2317	1477	694	2171			

End-line Activity Evaluation													Baseline Activity Evaluation		
Indicators	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
No	11.0	[9.4,13.0]	7.4	[5.7,9.6]	9.9	[8.6,11.3]	1555	762	2317	1477	694	2171			
Have you faced any problem in last six month in getting ration from FPS due to technical problem in the POS machine															
Yes	8.4	[6.9,10.0]	6.5	[4.9,8.7]	7.7	[6.6,9.0]	1555	762	2317	1477	694	2171			
No	91.6	[90.0,93.1]	93.5	[91.3,95.1]	92.3	[91.0,93.4]	1555	762	2317	1477	694	2171			
What was the time taken to resolve the problem															
Within the same day	38.7	[29.7,48.6]	61.8	[46.4,75.1]	45.1	[37.1,53.3]	130	50	179	115	43	158			
Next day	54.8	[45.1,64.2]	33.3	[20.8,48.7]	48.9	[40.8,57.0]	130	50	179	115	43	158			
More than 2 days	6.5	[3.2,12.8]	4.9	[1.2,17.9]	6.0	[3.2,11.1]	130	50	179	115	43	158			
Did you receive ration on the same day when you had encountered this problem															
Yes	47.3	[37.8,57.0]	74.1	[59.1,85.0]	54.7	[46.5,62.7]	130	50	179	115	43	158			
No	52.7	[43.0,62.2]	25.9	[15.0,40.9]	45.3	[37.3,53.5]	130	50	179	115	43	158			
Food consumption															
Percentage distribution of respondent households by Food Consumption Score (FCS)															
Poor (0-28)	0.3	[0.1,0.7]	0.6	[0.3,1.4]	0.4	[0.2,0.7]	2397	1109	3505	2285	1020	3305	0.7	1.1	0.8
Borderline (28.5 – 42)	5.8	[4.9,7.0]	5.8	[4.5,7.5]	5.8	[5.0,6.8]	2397	1109	3505	2285	1020	3305	7.5	8.8	7.9
Acceptable (>42)	93.9	[92.7,94.9]	93.6	[91.8,94.9]	93.8	[92.8,94.6]	2397	1109	3505	2285	1020	3305	91.8	90.1	91.3

End-line Activity Evaluation													Baseline Activity Evaluation			
Indicators	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted			
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %	
Percentage distribution of respondent households by food groups consumed in the past seven days																
Main staple							2397	1109	3505	2285	1020	3305	98.7	96.7		
Pulses	99.4	[98.8,99.6]	99.6	[98.9,99.8]	99.4	[99.1,99.7]	2397	1109	3505	2285	1020	3305	63.5	61.6		
Vegetables	99.9	[99.6,100.0]	99.7	[99.1,99.9]	99.8	[99.6,99.9]	2397	1109	3505	2285	1020	3305	77.2	69.7		
Fruit	62.2	[60.0,64.3]	45.9	[42.8,49.0]	57.0	[55.2,58.8]	2397	1109	3505	2285	1020	3305	9.3	5.6		
Meat and fish	94.3	[93.2,95.2]	94.4	[92.8,95.7]	94.3	[93.4,95.1]	2397	1109	3505	2285	1020	3305	1.3	1.5		
Milk	61.1	[58.9,63.2]	55.0	[51.9,58.1]	59.2	[57.4,60.9]	2397	1109	3505	2285	1020	3305	50.0	40.6		
Sugar	97.6	[96.8,98.1]	99.2	[98.4,99.6]	98.1	[97.5,98.5]	2397	1109	3505	2285	1020	3305	90.4	82.7		
Oil	99.7	[99.4,99.9]	99.7	[99.1,99.9]	99.7	[99.4,99.8]	2397	1109	3505	2285	1020	3305	94.6	90.5		
Other indicators																
Whether beneficiary had every transferred the ration card from another district to Khurda																
Yes	2.2	[1.5,3.2]	0.30	[0.1,1.3]	1.6	[1.1,2.3]	1555	762	2317	1477	694	2171	0.9	1.4	1.1	
No	97.8	[96.8,98.5]	99.70	[98.7,99.9]	98.4	[97.7,98.9]	1555	762	2317	1477	694	2171	99.1	98.6	98.9	
Whether money was paid for issuing ration card																
Not Paid	88.4	[86.4,90.1]	88.50	[85.8,90.7]	88.4	[86.9,89.8]	1555	762	2317	1477	694	2171	88.6	82.9	86.3	
Paid	11.6	[9.9,13.6]	11.50	[9.3,14.2]	11.6	[10.2,13.1]	1555	762	2317	1477	694	2171	11.4	17.1	13.7	
Yes, know when does the ration come in the ration shop																
Registered your mobile number for SMS alert	74.9	[72.4,77.2]	80.20	[77.0,83.0]	76.6	[74.7,78.5]	1555	762	2317	1477	694	2171	91.0	88.0	89.4	
													0.8	1.2	0.9	

End-line Activity Evaluation													Baseline Activity Evaluation		
Indicators	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
Yes	38.4	[35.7,41.1]	31.50	[28.1,35.1]	36.1	[34.0,38.3]	1555	762	2317	1477	694	2171			
No	61.6	[58.9,64.3]	68.50	[64.9,71.9]	63.9	[61.7,66.0]	1555	762	2317	1477	694	2171			
Whose mobile number is registered															
Female head of the household	31.2	[27.2,35.5]	16.10	[11.8,21.6]	26.9	[23.7,30.3]	597	240	837	566	217	783			
Male head of the household	53.3	[48.8,57.8]	69.00	[62.4,74.8]	57.8	[54.1,61.5]	597	240	837	566	217	783			
Other female members	4.7	[3.1,7.2]	4.90	[2.6,8.9]	4.8	[3.4,6.7]	597	240	837	566	217	783			
Other male members	7.4	[5.4,10.0]	8.60	[5.5,13.4]	7.7	[6.0,9.9]	597	240	837	566	217	783			
Don't know / can't say	3.3	[2.0,5.4]	1.40	[0.5,3.9]	2.8	[1.8,4.3]	597	240	837	566	217	783			
Receive any SMS alert	21.4	[18.0,25.2]	14.00	[10.0,19.4]	19.3	[16.5,22.4]	597	240	837	566	217	783			
In last three years, was there a time when you did not get the ration from the FPS										1477	694	2171			
Yes	4.1	[3.1,5.4]	2.50	[1.6,4.0]	3.6	[2.8,4.5]	1555	762	2317						
No	86.0	[83.9,87.8]	97.50	[96.0,98.4]	89.8	[88.3,91.1]	1555	762	2317	1477	694	2171			
Do not remember	9.9	[8.4,11.7]	0.00		6.6	[5.6,7.9]	1555	762	2317	1477	694	2171			
Food security allowance (were paid for non-receipt of food items)															
Yes										0	0	0			
No										56	17	73			
Food commodities that are received[1]															
Receive only 1 type	8.6	[7.1,10.3]	5.00	[3.6,6.9]	7.4	[6.3,8.7]	1555	762	2317	1477	694	2171			
Receive 2 types	41.8	[39.1,44.5]	52.90	[49.1,56.7]	45.4	[43.2,47.7]	1555	762	2317	1477	694	2171			
Receive 3 types	49.7	[46.9,52.5]	42.10	[38.4,45.9]	47.2	[45.0,49.4]	1555	762	2317	1477	694	2171			
Distance from FPS															
Less than 1 km	62.0	[59.3,64.7]	59.30	[55.6,63.0]	61.2	[58.9,63.3]	1555	762	2317	1477	694	2171	72.8	76.2	74.2

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation		
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
1-2 km	25.3	[22.9,27.7]	32.40	[29.0,36.1]	27.6	[25.7,29.7]	1555	762	2317	1477	694	2171	17.6	20.6	18.8
2-3 km	7.1	[5.8,8.7]	6.60	[5.0,8.7]	6.9	[5.9,8.2]	1555	762	2317	1477	694	2171	6.0	2.0	4.5
Greater than 3 km	5.6	[4.4,7.1]	1.60	[0.9,2.9]	4.3	[3.5,5.4]	1555	762	2317	1477	694	2171	3.5	1.0	2.5
Time taken to purchase ration															
Less than 30 minutes	67.9	[65.3,70.5]	69.70	[66.1,73.0]	68.5	[66.4,70.5]	1555	762	2317	1477	694	2171	59.9	58.7	59.9
30 minutes to less than 1 hour	22.0	[19.7,24.4]	15.30	[12.8,18.3]	19.8	[18.0,21.7]	1555	762	2317	1477	694	2171	25.6	8.7	24.9
More than 1 hour	10.1	[8.6,11.9]	15.00	[12.5,17.8]	11.7	[10.4,13.2]	1555	762	2317	1477	694	2171	14.4	32.6	15.0
Time taken to stand in queue															
Less than 30 minutes	38.5	[35.9,41.3]	34.00	[30.5,37.7]	37.1	[34.9,39.3]	1555	762	2317	1477	694	2171	75.2	76.0	75.2
30 minutes to less than 1 hour	33.4	[30.8,36.1]	33.80	[30.3,37.5]	33.5	[31.4,35.7]	1555	762	2317	1477	694	2171	13.8	15.2	13.8
More than 1 hour	28.1	[25.6,30.6]	32.20	[28.7,35.8]	29.4	[27.4,31.5]	1555	762	2317	1477	694	2171	10.9	8.7	10.8
Have you ever registered a complaint regarding your area's FPS															
Yes	2.5	[1.7,3.5]	0.90	[0.4,2.0]	2.0	[1.4,2.7]	1555	762	2317	1477	694	2171	2.8	3.4	3.0
No	97.5	[96.5,98.3]	99.10	[98.0,99.6]	98.0	[97.3,98.6]	1555	762	2317	1477	694	2171	97.2	96.6	97.0
How did you register your grievances/complaints related to Public Distribution System (PDS)															
Complained to fair price shop dealer	82.1	[66.4,91.4]	67.50	[26.0,92.4]	79.8	[64.8,89.4]	38	7	45	35	6	41	70.6	38.5	56.7
Complained to panchayat member, ward member/sarpanch/member	3.2	[0.7,12.7]	0.00		2.7	[0.6,10.9]	38	7	45	35	6	41	23.5	38.5	30.0

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation		
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
Complained to inspector of supplies/ block development office	4.9	[1.5,15.1]	32.50	[7.6,74.0]	9.2	[3.5,21.9]	38	7	45	35	6	41	2.9	23.1	11.7
Complained to ration card management system at block	1.6	[0.2,11.4]	0.00		1.3	[0.2,9.7]	38	7	45	35	6	41	0.0	0.0	0.0
Others(specify)	8.3	[2.4,24.9]	0.00		7.0	[2.0,21.5]	38	7	45	35	6	41	2.9	0.0	2.9
Complaint was addressed															
Yes	33.7	[19.3,51.8]	0.00		28.5	[16.3,44.9]	38	7	45	35	6	41	20.6	15.4	18.3
No	54.1	[36.0,71.1]	83.70	[35.4,98.0]	58.7	[41.8,73.7]	38	7	45	35	6	41	76.5	80.8	78.3
Complaint is pending	12.3	[3.9,32.7]	16.30	[2.0,64.6]	12.9	[4.7,30.6]	38	7	45	35	6	41	2.9	3.8	3.3
Days taken to address the complaint															
Within a week	63.6	[35.7,84.6]	100.00		65.8	[38.6,85.5]	18	1	19	17	1	18			
More than a week	36.4	[15.4,64.3]	0.00		34.2	[14.5,61.4]	18	1	19	17	1	18			
Can you go to another FPS to draw ration if required?															
Yes	9.6	[8.1,11.4]	9.30	[7.3,11.8]	9.5	[8.3,10.9]	1555	762	2317	1477	694	2171			
No	80.5	[78.2,82.6]	77.60	[74.3,80.5]	79.5	[77.7,81.3]	1555	762	2317	1477	694	2171			
Don't Know / Can't Say	9.9	[8.3,11.6]	13.10	[10.8,15.8]	10.9	[9.6,12.4]	1555	762	2317	1477	694	2171			
Do you think it would be beneficial, if you are allowed to collect the ration from any FPS in the state															
Yes	47.9	[45.1,50.7]	45.80	[42.1,49.6]	47.2	[45.0,49.5]	1555	762	2317	1477	694	2171	84.0	82.0	83.4
No	52.1	[49.3,54.9]	54.20	[50.4,57.9]	52.8	[50.5,55.0]	1555	762	2317	1477	694	2171	16.0	18.0	16.6
How do you manage your entitlements															

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation			
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted			
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %	
during out migration period																
Family members staying in the village collects entitlements	28.0		30.60		28.8					1477	694	2171				
Household doesn't / unable to collect entitlements during out migration period	20.7		25.70		22.3					1477	694	2171				
Able to collect at the place of out migration	3.7		6.90		4.7					1477	694	2171				
Not applicable (no out migration)	52.2		49.30		51.3					1477	694	2171				
Others	0.7		0.10		0.5					1477	694	2171				
Are you aware about the vigilance committee and ward committee working in your area																
Yes	8.4	[7.0,10.0]	16.70	[14.1,19.8]	11.1	[9.8,12.6]	1555	762	2317	1477	694	2171	2.5	7.6	4.5	
No	63.3	[60.6,66.0]	58.10	[54.3,61.8]	61.6	[59.4,63.8]	1555	762	2317	1477	694	2171	72.2	70.3	71.5	
Don't Know / Can't Say	28.3	[25.8,30.8]	25.20	[22.1,28.6]	27.3	[25.3,29.3]	1555	762	2317	1477	694	2171	25.2	22.0	24.0	
Vigilance committees are important																
Yes	98.5	[93.6,99.7]	87.00	[79.3,92.2]	92.8	[88.6,95.6]	131	127	258	130	113	243				
No	1.5	[0.3,6.4]	13.00	[7.8,20.7]	7.2	[4.4,11.4]	131	127	258	130	113	243				
Aware about Social audit																
Yes	3.1	[2.2,4.3]	1.10	[0.5,2.3]	2.3	[1.7,3.2]	1313	762	2074	1238	694	1932				
No	96.9	[95.7,97.8]	98.90	[97.7,99.5]	97.7	[96.8,98.3]	1313	762	2074	1238	694	1932				

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation			
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted			
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %	
Aware about the National Food Security Act among the cardholders																
Yes	35.1	[32.5,37.7]	40.70	[37.0,44.4]	36.9	[34.8,39.1]	1555	762	2317	1477	694	2171	4.2	3.4	3.9	
No	64.9	[62.3,67.5]	59.30	[55.6,63.0]	63.1	[60.9,65.2]	1555	762	2317	1477	694	2171	95.8	96.6	96.1	
Do you receive the entitled quantity of the food grains every month																
Yes	86.6	[84.6,88.4]	89.20	[86.7,91.4]	87.5	[85.9,88.9]	1555	762	2317	1477	694	2171	94.6	92.2	93.7	
No	13.4	[11.6,15.4]	10.80	[8.6,13.3]	12.5	[11.1,14.1]	1555	762	2317	1477	694	2171	5.4	7.8	6.3	
Do you collect the entire entitled ration in one visit																
Yes	90.7	[88.9,92.2]	91.70	[89.4,93.6]	91.0	[89.6,92.3]	1555	762	2317	1477	694	2171	74.0	47.0	63.4	
No	9.3	[7.8,11.1]	8.30	[6.4,10.6]	9.0	[7.7,10.4]	1555	762	2317	1477	694	2171	26.0	53.0	36.6	
Number of time fps visited (if ration not received at once)																
Uncertain	7.4	[4.0,13.3]	14.70	[7.4,27.0]	9.6	[6.1,14.9]	145	63	208	122	59	181				
Two times	91.0	[84.6,94.9]	83.20	[70.5,91.1]	88.6	[83.0,92.6]	145	63	208	122	59	181				
More than two times	1.6	[0.3,7.2]	2.10	[0.3,13.5]	1.8	[0.5,5.7]	145	63	208	122	59	181				
How is the ration weighed at the FPS																
Manually	2.3	[1.6,3.3]	0.80	[0.4,1.9]	1.8	[1.3,2.5]	1555	762	2317	1477	694	2171	6.0	2.0	4.4	
Electronic weighing machine	96.7	[95.5,97.6]	99.20	[98.1,99.6]	97.5	[96.7,98.1]	1555	762	2317	1477	694	2171	6.0	7.0	6.0	
Both manual and electronic machine used	1.0	[0.6,1.8]	0.00		0.7	[0.4,1.2]	1555	762	2317	1477	694	2171	88.0	91.0	89.5	

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation		
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
Are you satisfied regarding the process of weighing followed at the FPS															
Yes	95.6	[94.2,96.6]	96.90	[95.2,98.0]	96.0	[95.0,96.8]	1555	762	2317	1477	694	2171	73.5	73.8	73.6
No	4.4	[3.4,5.8]	3.10	[2.0,4.8]	4.0	[3.2,5.0]	1555	762	2317	1477	694	2171	26.5	26.2	26.4
Complained against dissatisfaction over quantity or quality															
Yes, for quality	6.9	[2.4,17.8]	7.30	[1.7,27.0]	7.0	[3.0,15.5]	69	24	93	60	21	81	8.9	2.9	6.5
Yes, for quantity	45.7	[32.5,59.5]	52.90	[31.7,73.2]	47.6	[36.1,59.2]	69	24	93	60	21	81	9.5	21.8	14.3
Both	2.4	[0.3,15.9]	20.00	[7.6,43.3]	6.9	[2.8,16.0]	69	24	93	60	21	81	0	11.9	4.6
No	33.3	[21.8,47.3]	5.10	[0.7,29.4]	26.1	[17.1,37.6]	69	24	93	60	21	81	73.1	44	61.8
The need did not arise to lodge complaint	11.7	[5.2,24.1]	14.70	[4.7,37.5]	12.4	[6.5,22.6]	69	24	93	60	21	81	8.5	19.3	12.7
Change in the quantity or in receiving good quality grains after complaining															
Yes	39.8	[23.3,59.0]	0.00		26.5	[15.2,42.0]	38	19	57	30	17	47			
No	60.2	[41.0,76.7]	100.00		73.5	[58.0,84.8]	38	19	57	30	17	47			
Do you agree with the entries for the last three months (for grain) given on the Ration Card															
Yes	73.5	[71.0,75.9]	70.60	[67.0,73.9]	72.5	[70.5,74.5]	1555	762	2317	1477	694	2171	91.3	80.3	87.0
No	23.2	[20.9,25.6]	28.90	[25.6,32.4]	25.1	[23.2,27.0]	1555	762	2317	1477	694	2171	5.6	16.9	10.0
Don't Know / Can't Say	3.3	[2.5,4.5]	0.50	[0.2,1.5]	2.4	[1.8,3.2]	1555	762	2317	1477	694	2171	3.1	2.9	3.0

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation		
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
During the last three months, has it happened that you have not received full monthly quota of commodities															
Yes	3.8	[2.8,5.1]	3.30	[2.2,5.0]	3.6	[2.9,4.6]	1555	762	2317	1477	694	2171	4.0	7.1	5.2
No	96.2	[94.9,97.2]	96.70	[95.0,97.8]	96.4	[95.4,97.1]	1555	762	2317	1477	694	2171	96.0	92.9	97.8
Reason for not receiving full quota															
No household member was present	37.0	[23.8,52.5]	45.90	[26.2,67.0]	39.7	[28.3,52.3]	59	25	84	52	22	74	12.5	16.4	14.6
Could not go to the PDS/FPS shop	11.2	[4.3,26.3]	4.80	[0.6,28.1]	9.3	[3.9,20.6]	59	25	84	52	22	74	8.3	20.0	14.6
The PDS/FPS shop was closed	4.4	[1.1,15.6]	21.50	[8.8,43.7]	9.6	[4.5,19.1]	59	25	84	52	22	74	4.2	5.4	4.8
The PDS/FPS shop did not receive grains	4.0	[0.9,16.6]	5.30	[0.7,30.4]	4.4	[1.3,13.8]	59	25	84	52	22	74	12.5	10.9	11.6
When we went there, the stock was over	10.9	[4.4,24.9]	9.00	[2.2,30.6]	10.4	[4.8,21.0]	59	25	84	52	22	74	14.6	20.0	17.5
Others (specify)	32.3	[19.9,47.8]	13.50	[4.3,35.2]	26.7	[17.1,39.0]	59	25	84	52	22	74	47.9	27.3	36.9
Does your household have a bank or post office															
Yes	93.6	[92.4,94.6]	96.40	[95.1,97.4]	94.5	[93.6,95.3]	2397	1109	3505	2285	1020	3305	80.2	73.0	78.0
No	5.5	[4.5,6.6]	3.10	[2.2,4.3]	4.7	[4.0,5.6]	2397	1109	3505	2285	1020	3305	17.0	25.3	19.6
Don't Know / Can't Say	0.9	[0.6,1.4]	0.50	[0.2,1.2]	0.8	[0.5,1.2]	2397	1109	3505	2285	1020	3305	2.8	1.6	2.4
Do you have a bank or post office account in your name															
Yes	87.4	[85.8,88.8]	86.40	[84.1,88.4]	87.1	[85.8,88.3]	2243	1069	3312	2141	984	3125			
No	12.6	[11.2,14.2]	13.60	[11.6,15.9]	12.9	[11.7,14.2]	2243	1069	3312	2141	984	3125			

Indicators	End-line Activity Evaluation												Baseline Activity Evaluation		
	Weighted Urban		Weighted Rural		Weighted Total		Weighted N			Unweighted N			Unweighted		
	%	CI	%	CI	%	CI	Urban	Rural	Total	Urban	Rural	Total	Urban %	Rural %	Total %
If not, then which member has it? Male members of the household	47.5	[41.2,54.0]	40.10	[32.1,48.6]	45.0	[39.9,50.2]	283	146	428	273	137	410			
Both male and female members of the household	39.9	[33.8,46.3]	53.20	[44.6,61.5]	44.4	[39.4,49.6]	283	146	428	273	137	410			
Other female members of the household	12.6	[8.9,17.4]	6.80	[3.6,12.4]	10.6	[7.8,14.2]	283	146	428	273	137	410			
Who usually operates the bank account? Male members of the household	21.3	[19.5,23.2]	18.50	[16.2,21.1]	20.4	[18.9,21.9]	2243	1069	3312	2141	984	3125			
Both male and female members of the household	57.1	[54.9,59.4]	62.30	[59.1,65.3]	58.8	[56.9,60.6]	2243	1069	3312	2141	984	3125			
Female members of the household	21.6	[19.7,23.5]	19.20	[16.9,21.9]	20.8	[19.3,22.4]	2243	1069	3312	2141	984	3125			

Annex 11.2: Household Unweighted Factsheet

Indicators	End-line (Unweighted)						Baseline					
	Urban %	Urban CI	Rural %	Rural CI	Total %	Total CI	Urban n	Rural n	Total n	Urban %	Rural %	Total %
Background characteristics												
Religion												
Hindu	96.9	[96.1,97.6]	95.8	[94.4,96.9]	96.6	[95.9,97.1]	2285	1020	3305	96.3		95.5
Non-Hindu	3.1	[2.4,3.9]	4.2	[3.1,5.6]	3.4	[2.9,4.1]	2285	1020	3305	3.5		4.3
Caste												
Scheduled Caste	20.7	[19.0,22.4]	26.4	[23.8,29.2]	22.4	[21.0,23.9]	2285	1020	3305	15.1		18.7
Scheduled Tribe	5.7	[4.9,6.8]	1.4	[0.8,2.3]	4.4	[3.7,5.1]	2285	1020	3305	9.9		4.9
Other Backward Classes	34.4	[32.4,36.3]	28.9	[26.2,31.8]	32.7	[31.1,34.3]	2285	1020	3305	19.3		20.4
General	38.8	[36.8,40.8]	42.5	[39.5,45.6]	39.9	[38.3,41.6]	2285	1020	3305	54.9		55.5
Others	0.5	[0.3,0.9]	0.8	[0.4,1.6]	0.6	[0.4,0.9]	2285	1020	3305	0.1		0.1
Type of Family												
Nuclear	84.9	[83.4,86.4]	79.7	[77.1,82.1]	83.3	[82.0,84.6]	2285	1020	3305	51.8		41.4
Joint	15.1	[13.6,16.6]	20.3	[17.9,22.9]	16.7 ¹⁰	[15.4,18.0]	2285	1020	3305	48.0		58.5
Electricity												
Yes	98.5	[97.9,98.9]	97.3	[96.1,98.1]	98.1	[97.6,98.5]	2285	1020	3305	91.0		89.7
No	1.5	[1.1,2.1]	2.7	[1.9,3.9]	1.9	[1.5,2.4]	2285	1020	3305	9.0		10.3
Any member disable/ chronic	5.0	[4.2,6.0]	8.0	[6.5,9.9]	6.0	[5.2,6.8]	2285	1020	3305			
Any member having Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) Card	9.1	[7.9,10.3]	11.5	[9.7,13.6]	9.8	[8.8,10.9]	2285	1020	3305	0.0		13.9
Aware about inclusion criteria under National												

¹⁰ Major differences noted across baseline and end-line in the type of family. The proportion of nuclear family has shown an increase, as larger families during the baseline got divided into smaller families, as a result of the new enrolment process undertaken during the TPDS reforms.

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
Food Security Act (NFSA)												
No knowledge about NFSA	34.7	[32.8,36.7]	24.0	[21.5,26.7]	31.4	[29.8,33.0]	2285	1020	3305	83.1	84.6	82.4
Know all criteria	27.5	[25.7,29.4]	46.3	[43.2,49.3]	33.3	[31.7,34.9]	2285	1020	3305	17.6	15.4	16.9
Know some criteria	37.8	[35.8,39.8]	29.7	[27.0,32.6]	35.3	[33.7,37.0]	2285	1020	3305			
Ration card												
Household (HH) with ration card	64.6	[62.7,66.6]	68.0	[65.1,70.8]	65.7	[64.1,67.3]	2285	1020	3305	50.0	72.0	59.2
HH without ration card	35.4	[33.4,37.3]	32.0	[29.2,34.9]	34.3	[32.7,35.9]	2285	1020	3305	50.0	28.0	40.8
Type of card												
Antodaya Anna Yojana (AAY)	7.6	[6.3,9.0]	10.7	[8.6,13.2]	8.6	[7.5,9.8]	1477	694	2171	8.0	13.0	
Annapurna	0.7	[0.4,1.3]	0.3	[0.1,1.1]	0.6	[0.3,1.0]	1477	694	2171	2.0	0.0	
PHH (Priority Households)	90.9	[89.3,92.2]	88.2	[85.6,90.4]	90.0	[88.7,91.2]	1477	694	2171	NA	NA	
SFSS (State Food Security Scheme)	0.9	[0.5,1.5]	0.9	[0.4,1.9]	0.9	[0.6,1.4]	1477	694	2171	NA	NA	
Above Poverty Line (APL)	NA		NA		NA					44.0	20.0	
BPL (Below Poverty Line)	NA		NA		NA					46.0	67.0	
RDP (Differently abled persons)	NA		NA		NA					0.0	0.0	
Improved targeting through minimizing inclusion & exclusion errors												
Percentage of HH with ration card linked to Aadhar	99.3	[98.7,99.6]	99.9	[99.0,100.0]	99.4	[99.0,99.7]	1477	694	2171			
Percentage of HH with cards but no auto inclusion criteria	85.0	[83.1,86.7]	81.8	[78.8,84.5]	84	[82.4,85.5]	1477	694	2171			
Percentage of HH without cards but no exclusion criteria	31.6	[28.4,34.8]	58.9	[53.5,64.1]	65.7	[62.9,68.4]	808	326	1,134			

Indicators	End-line (Unweighted)									Baseline		
	%	Urban CI	%	Rural CI	%	Total CI	Urban n	Rural n	Total n	Urban %	Rural %	Total %
Percentage of HH with cards but at least one exclusion criteria (Inclusion error)	16.6	[14.8,18.6]	14.1	[11.7,16.9]	15.8	[14.3,17.4]	1477	694	2171	12.3	20.6	15.5
Percentage of HH without cards but with one auto inclusion criteria (Exclusion error)	13.5	[11.3,16.0]	11.0	[8.1,14.9]	12.8	[11.0,14.9]	808	326	1,134	31.8	16.4	27.0
Reduction of leakages in commodities												
What are the means of digital authentication												
Biometric/ fingerprint	75.0	[72.7,77.2]	80.7	[77.6,83.5]	76.8	[75.0,78.6]	1477	694	2171			
One Time Password (OTP) on mobile	24.4	[22.2,26.6]	19.0	[16.3,22.1]	22.7	[20.9,24.5]	1477	694	2171			
Offline/manual	0.3	[0.1,0.8]	0.3	[0.1,1.1]	0.3	[0.2,0.7]	1477	694	2171			
Others (specify)	0.3	[0.1,0.7]	0.0		0.2	[0.1,0.5]	1477	694	2171			
In the past 6 months, have you used lifted ration from the FPS using offline/manual identification												
Yes	2.9	[2.2,3.9]	1.6	[0.9,2.8]	2.5	[1.9,3.2]	1477	694	2171			
No	97.1	[96.1,97.8]	98.4	[97.2,99.1]	97.5	[96.8,98.1]	1477	694	2171			
Has it ever happened, or you have heard in the past 6 months that quota for a particular month was sold in the open market or appropriated by someone else												
Several times	1.8	[1.3,2.7]	1.9	[1.1,3.2]	1.8	[1.4,2.5]	1477	694	2171	0.5	3.4	1.6
Yes	3.5	[2.7,4.6]	3.5	[2.3,5.1]	3.5	[2.8,4.4]	1477	694	2171	3.8	7.9	5.4

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
No	75.2	[73.0,77.4]	77.7	[74.4,80.6]	76.0	[74.2,77.8]	1477	694	2171	73.3	75.6	74.2
Don't Know / Can't Say	19.4	[17.5,21.5]	17.0	[14.4,20.0]	18.7	[17.1,20.4]	1477	694	2171	22.4	13.1	18.8
Improved stakeholder convenience												
How has the time taken for getting ration from Fair Prices Shop (FPS) to house has changed after introduction of Point of Sale (POS) device in the FPS												
Yes, the time has declined	50.6	[48.1,53.2]	53.3	[49.6,57.0]	51.5	[49.4,53.6]	1477	694	2171			
Same time	33.1	[30.8,35.6]	28.0	[24.7,31.4]	31.5	[29.5,33.4]	1477	694	2171			
No, the time has increased	14.5	[12.8,16.4]	17.6	[14.9,20.6]	15.5	[14.0,17.1]	1477	694	2171			
Don't know / can't say	1.8	[1.2,2.6]	1.2	[0.6,2.3]	1.6	[1.1,2.2]	1477	694	2171			
Are you satisfied with the functioning of the local Public Distribution System (PDS) outlet												
Highly satisfied	72.9	[70.6,75.1]	73.2	[69.8,76.4]	73.0	[71.1,74.8]	1477	694	2171	82.3	74.6	79.2
Somewhat satisfied	23.6	[21.5,25.9]	25.2	[22.1,28.6]	24.1	[22.4,26.0]	1477	694	2171	14.0	19.9	16.3
Somewhat dissatisfied	1.9	[1.3,2.7]	0.6	[0.2,1.5]	1.5	[1.0,2.1]	1477	694	2171	1.8	2.3	2.0
Highly dissatisfied	0.9	[0.6,1.6]	0.7	[0.3,1.7]	0.9	[0.6,1.4]	1477	694	2171	1.4	2.7	1.9
Don't know / can't say	0.5	[0.3,1.1]	0.3	[0.1,1.1]	0.5	[0.2,0.9]	1477	694	2171	0.3	0.5	0.4
NA	0.1	[0.0,0.5]	0.0		0.0	[0.0,0.3]	1477	694	2171	0.2	0.0	0.1
How would you describe the attitude of the PDS dealer: helpful, indifferent or unhelpful												
Helpful	50.9	[48.4,53.5]	52.7	[49.0,56.4]	51.5	[49.4,53.6]	1477	694	2171	62.4	61.6	62.0
Indifferent	45.4	[42.9,48.0]	46.0	[42.3,49.7]	45.6	[43.5,47.7]	1477	694	2171	33.7	32.2	33.1

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
Unhelpful	2.7	[2.0,3.7]	1.0	[0.5,2.1]	2.2	[1.6,2.9]	1477	694	2171	3.2	5.7	4.2
Don't know / can't say	0.8	[0.5,1.4]	0.3	[0.1,1.1]	0.6	[0.4,1.1]	1477	694	2171	0.6	0.5	0.6
NA	0.1	[0.0,0.5]	0.0		0.1	[0.0,0.4]	1477	694	2171	0.2	0.0	0.1
Do you think the FPS owner behaves differently with female and male beneficiaries												
Yes	6.3	[5.2,7.7]	4.0	[2.8,5.8]	5.6	[4.7,6.6]	1477	694	2171			
No	93.7	[92.3,94.8]	96.0	[94.2,97.2]	94.4	[93.4,95.3]	1477	694	2171			
How does the FPS owner behave with male members¹¹												
Behave well with male members	83.9	[74.8,90.1]	92.9	[75.1,98.2]	86.0	[78.4,91.1]	93	28	121			
Indifferent behaviour	2.2	[0.5,8.3]	3.6	[0.5,21.9]	2.5	[0.8,7.5]	93	28	121			
Behave badly with male member	8.6	[4.3,16.4]	3.6	[0.5,21.9]	7.4	[3.9,13.8]	93	28	121			
Don't Know / Can't Say	4.3	[1.6,11.0]	0.0		3.3	[1.2,8.6]	93	28	121			
NA	1.1	[0.1,7.4]	0.0		0.8	[0.1,5.8]	93	28	121			
How does the FPS owner behave with female members												
Behave well with female members	73.1	[63.1,81.2]	89.3	[71.2,96.6]	76.9	[68.4,83.6]	93	28	121			
Indifferent behaviour	7.5	[3.6,15.1]	7.1	[1.8,24.9]	7.4	[3.9,13.8]	93	28	121			
Behave badly with female member	17.2	[10.7,26.4]	3.6	[0.5,21.9]	14.0	[8.9,21.6]	93	28	121			
Don't Know / Can't Say	2.2	[0.5,8.3]	0.0		1.7	[0.4,6.5]	93	28	121			

¹¹ Question asked to only those respondents who said "yes" to whether the FPS owner behaves differently with female and male beneficiaries.

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
Did the FPS owner behave badly with you in last one year												
Yes	12.9	[7.4,21.5]	10.7	[3.4,28.8]	12.4	[7.6,19.7]	93	28	121			
No	87.1	[78.5,92.6]	89.3	[71.2,96.6]	87.6	[80.3,92.4]	93	28	121			
If yes, have you complained it to anyone												
Yes	16.7	[3.5,52.8]	33.3	[3.2,88.3]	20.0	[5.6,51.2]	12	3	15			
No	83.3	[47.2,96.5]	66.7	[11.7,96.8]	80.0	[48.8,94.4]	12	3	15			
Waiting time												
Improved	59.3	[56.8,61.8]	59.2	[55.5,62.8]	59.3	[57.2,61.3]	1477	694	2171			
Unchanged	32.2	[29.9,34.7]	33.0	[29.6,36.6]	32.5	[30.5,34.5]	1477	694	2171			
Not improved	6.6	[5.4,8.0]	7.3	[5.6,9.5]	6.8	[5.8,8.0]	1477	694	2171			
Others (specify)	0.6	[0.3,1.2]	0.1	[0.0,1.0]	0.5	[0.2,0.9]	1477	694	2171			
Don't Know / Can't Say	1.3	[0.8,2.0]	0.3	[0.1,1.1]	1.0	[0.6,1.5]	1477	694	2171			
Crowding at FPS												
Improved	50.6	[48.1,53.2]	50.3	[46.6,54.0]	50.5	[48.4,52.6]	1477	694	2171			
Unchanged	41.6	[39.1,44.2]	43.2	[39.6,46.9]	42.1	[40.1,44.2]	1477	694	2171			
Not improved	6.2	[5.0,7.5]	6.2	[4.6,8.3]	6.2	[5.2,7.3]	1477	694	2171			
Others (specify)	0.4	[0.2,0.9]	0.0		0.3	[0.1,0.6]	1477	694	2171			
Don't Know / Can't Say	1.2	[0.7,1.8]	0.3	[0.1,1.1]	0.9	[0.6,1.4]	1477	694	2171			
Attitude of the shopkeeper												
Improved	56.0	[53.4,58.5]	59.8	[56.1,63.4]	57.2	[55.1,59.3]	1477	694	2171			
Unchanged	40.4	[37.9,42.9]	38.8	[35.2,42.4]	39.9	[37.8,42.0]	1477	694	2171			
Not improved	2.0	[1.4,2.8]	1.2	[0.6,2.3]	1.7	[1.2,2.3]	1477	694	2171			
Others (specify)	0.4	[0.2,0.9]	0.0		0.3	[0.1,0.6]	1477	694	2171			
Don't Know / Can't Say	1.2	[0.8,1.9]	0.3	[0.1,1.1]	0.9	[0.6,1.4]	1477	694	2171			

Indicators	End-line (Unweighted)									Baseline		
	Urban %	Urban CI	Rural %	Rural CI	Total %	Total CI	Urban n	Rural n	Total n	Urban %	Rural %	Total %
Ration Availability												
Improved	68.2	[65.8,70.5]	64.1	[60.5,67.6]	66.9	[64.9,68.8]	1477	694	2171			
Unchanged	29.3	[27.0,31.7]	34.6	[31.1,38.2]	31.0	[29.1,33.0]	1477	694	2171			
Not improved	0.9	[0.6,1.6]	1.0	[0.5,2.1]	1.0	[0.6,1.5]	1477	694	2171			
Others (specify)	0.3	[0.1,0.8]	0.0		0.2	[0.1,0.6]	1477	694	2171			
Don't Know / Can't Say	1.2	[0.8,1.9]	0.3	[0.1,1.1]	0.9	[0.6,1.4]	1477	694	2171			
Quality of ration												
Improved	72.3	[70.0,74.5]	69.6	[66.1,72.9]	71.4	[69.5,73.3]	1477	694	2171			
Unchanged	25.3	[23.1,27.5]	29.4	[26.1,32.9]	26.6	[24.8,28.5]	1477	694	2171			
Not improved	1.1	[0.7,1.8]	0.9	[0.4,1.9]	1.0	[0.7,1.5]	1477	694	2171			
Others (specify)	0.3	[0.1,0.7]	0.0		0.2	[0.1,0.5]	1477	694	2171			
Don't Know / Can't Say	1.1	[0.7,1.8]	0.1	[0.0,1.0]	0.8	[0.5,1.3]	1477	694	2171			
Ease of transaction for the beneficiaries												
Improved	61.5	[59.0,63.9]	55.3	[51.6,59.0]	59.5	[57.4,61.6]	1477	694	2171			
Unchanged	34.3	[31.9,36.8]	41.9	[38.3,45.6]	36.8	[34.8,38.8]	1477	694	2171			
Not improved	2.2	[1.5,3.0]	2.2	[1.3,3.6]	2.2	[1.6,2.9]	1477	694	2171			
Others (specify)	0.4	[0.2,0.9]	0.0		0.3	[0.1,0.6]	1477	694	2171			
Don't Know / Can't Say	1.6	[1.1,2.4]	0.6	[0.2,1.5]	1.3	[0.9,1.9]	1477	694	2171			
Transparency												
Improved	61.9	[59.4,64.4]	60.8	[57.1,64.4]	61.6	[59.5,63.6]	1477	694	2171			
Unchanged	34.3	[31.9,36.8]	37.9	[34.4,41.6]	35.5	[33.5,37.5]	1477	694	2171			
Not improved	1.2	[0.8,1.9]	0.7	[0.3,1.7]	1.1	[0.7,1.6]	1477	694	2171			
Others (specify)	0.5	[0.2,1.0]	0.0		0.3	[0.2,0.7]	1477	694	2171			
Don't Know / Can't Say	2.0	[1.4,2.9]	0.6	[0.2,1.5]	1.6	[1.1,2.2]	1477	694	2171			
Do you find the digitization process in the FPS useful												

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
Yes	89.6	[87.9,91.0]	92.4	[90.1,94.1]	90.5	[89.2,91.6]	1477	694	2171			
No	10.4	[9.0,12.1]	7.6	[5.9,9.9]	9.5	[8.4,10.8]	1477	694	2171			
Have you faced any problem in last six month in getting ration from FPS due to technical problem in the POS machine												
Yes	7.8	[6.5,9.3]	6.2	[4.6,8.3]	7.3	[6.3,8.4]	1477	694	2171			
No	92.2	[90.7,93.5]	93.8	[91.7,95.4]	92.7	[91.6,93.7]	1477	694	2171			
What was the time taken to resolve the problem												
Within the same day	37.4	[29.0,46.7]	60.5	[45.2,73.9]	43.7	[36.1,51.6]	115	43	158			
Next day	54.8	[45.5,63.7]	34.9	[22.1,50.2]	49.4	[41.6,57.2]	115	43	158			
More than 2 days	7.8	[4.1,14.5]	4.7	[1.1,17.0]	7.0	[3.9,12.2]	115	43	158			
Did you receive ration on the same day when you had encountered this problem												
Yes	46.1	[37.1,55.3]	72.1	[56.8,83.5]	53.2	[45.3,60.9]	115	43	158			
No	53.9	[44.7,62.9]	27.9	[16.5,43.2]	46.8	[39.1,54.7]	115	43	158			
Food consumption												
Percentage distribution of respondent households by Food Consumption Score (FCS)¹²												
Poor (0-28)	0.3	[0.1,0.6]	0.6	[0.3,1.3]	0.4	[0.2,0.6]	2285	1020	3305	0.7	1.1	0.8
Borderline (28.5 – 42)	5.6	[4.7,6.6]	5.8	[4.5,7.4]	5.7	[4.9,6.5]	2285	1020	3305	7.5	8.8	7.9

¹² The FCS is a composite score based on dietary diversity, food frequency and relative nutritional importance of different food groups.

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
Acceptable (>42) Percentage distribution of respondent households by food groups consumed in the past seven days	94.1	[93.1,95.0]	93.6	[92.0,95.0]	94.0	[93.1,94.7]	2285	1020	3305	91.8	90.1	91.3
Main staple	100.0		100.0		100.0		2285	1020	3305	98.7	96.7	
Pulses	99.5	[99.1,99.7]	99.6	[99.0,99.9]	99.5	[99.2,99.7]	2285	1020	3305	63.5	61.6	
Vegetables	99.9	[99.7,100.0]	99.7	[99.1,99.9]	99.8	[99.6,99.9]	2285	1020	3305	77.2	69.7	
Fruit	62.3	[60.3,64.3]	45.5	[42.5,48.6]	57.1	[55.4,58.8]	2285	1020	3305	9.3	5.6	
Meat and fish	93.9	[92.9,94.8]	94.4	[92.8,95.7]	94.1	[93.2,94.8]	2285	1020	3305	1.3	1.5	
Milk	61.7	[59.6,63.6]	54.8	[51.7,57.8]	59.5	[57.9,61.2]	2285	1020	3305	50.0	40.6	
Sugar	97.5	[96.8,98.1]	99.1	[98.3,99.5]	98.0	[97.5,98.4]	2285	1020	3305	90.4	82.7	
Oil	99.6	[99.3,99.8]	99.7	[99.1,99.9]	99.7	[99.4,99.8]	2285	1020	3305	94.6	90.5	
Other indicators												
Whether beneficiary had every transferred the ration card from another district to Khurda												
Yes	2.2	[1.6,3.1]	0.3	[0.1,1.1]	1.6	[1.2,2.2]	1477	694	2171	0.9	1.4	1.1
No	97.8	[96.9,98.4]	99.7	[98.9,99.9]	98.4	[97.8,98.8]	1477	694	2171	99.1	98.6	98.9
Whether money was paid for issuing ration card												
Not Paid	89.0	[87.3,90.5]	88.8	[86.2,90.9]	88.9	[87.5,90.2]	1477	694	2171	88.6	82.9	86.3
Paid	11.0	[9.5,12.7]	11.2	[9.1,13.8]	11.1	[9.8,12.5]	1477	694	2171	11.4	17.1	13.7
Yes, know when does the ration come in the ration shop	75.0	[72.7,77.2]	79.4	[76.2,82.2]	76.4	[74.6,78.2]	1477	694	2171	91.0	88.0	89.4
Registered your mobile number for SMS alert										0.8	1.2	0.9

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
Yes	38.3	[35.9,40.8]	31.3	[27.9,34.8]	36.1	[34.1,38.1]	1477	694	2171			
No	61.7	[59.2,64.1]	68.7	[65.2,72.1]	63.9	[61.9,65.9]	1477	694	2171			
Whose mobile number is registered												
Female head of the household	30.9	[27.2,34.9]	17.1	[12.6,22.7]	27.1	[24.1,30.3]	566	217	783			
Male head of the household	53.9	[49.8,58.0]	68.2	[61.7,74.1]	57.9	[54.4,61.3]	566	217	783			
Other female members	4.2	[2.9,6.3]	4.6	[2.5,8.4]	4.3	[3.1,6.0]	566	217	783			
Other male members	8.0	[6.0,10.5]	8.3	[5.3,12.8]	8.0	[6.3,10.2]	566	217	783			
Don't know / can't say	3.0	[1.9,4.8]	1.8	[0.7,4.8]	2.7	[1.8,4.1]	566	217	783			
Receive any SMS alert	22.6	[19.3,26.3]	14.3	[10.2,19.6]	20.3	[17.6,23.3]	566	217	783			
In last three years, was there a time when you did not get the ration from the FPS												
Yes	3.8	[2.9,4.9]	2.4	[1.5,3.9]	3.4	[2.7,4.2]	1477	694	2171			
No	85.7	[83.8,87.4]	97.6	[96.1,98.5]	89.5	[88.1,90.7]	1477	694	2171			
Do not remember	10.5	[9.0,12.2]	0.0		7.1	[6.1,8.3]	1477	694	2171			
Food security allowance (were paid for non-receipt of food items)												
Yes	0.0		0.0		0.0		0	0	0			
No	100.0		100.0		100.0		56	17	73			
Food commodities that are received¹³												
Receive only 1 type	8.3	[7.0,9.9]	5.0	[3.6,6.9]	7.3	[6.3,8.4]	1477	694	2171			

¹³ Under NFSA, the beneficiaries are entitled to rice and wheat. Additionally, kerosene is also supplied through FPS.

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban n	Rural n	Total n	Urban %	Rural %	Total %
	%	CI	%	CI	%	CI						
Receive 2 types	43.1	[40.6,45.6]	51.6	[47.9,55.3]	45.8	[43.7,47.9]	1477	694	2171			
Receive 3 types	48.6	[46.1,51.2]	43.4	[39.7,47.1]	46.9	[44.8,49.0]	1477	694	2171			
Distance from FPS												
Less than 1 km	62.9	[60.4,65.3]	58.2	[54.5,61.8]	61.4	[59.3,63.4]	1477	694	2171	72.8	76.2	74.2
1-2 km	25.4	[23.2,27.7]	33.6	[30.2,37.2]	28.0	[26.2,29.9]	1477	694	2171	17.6	20.6	18.8
2-3 km	6.8	[5.6,8.2]	6.5	[4.9,8.6]	6.7	[5.7,7.8]	1477	694	2171	6.0	2.0	4.5
Greater than 3 km	4.9	[3.9,6.2]	1.7	[1.0,3.0]	3.9	[3.2,4.8]	1477	694	2171	3.5	1.0	2.5
Time taken to purchase ration												
Less than 30 minutes	68.0	[65.5,70.3]	68.7	[65.2,72.1]	68.2	[66.2,70.1]	1477	694	2171	59.9	58.7	59.9
30 minutes to less than 1 hour	21.5	[19.4,23.6]	15.1	[12.7,18.0]	19.4	[17.8,21.2]	1477	694	2171	25.6	8.7	24.9
More than 1 hour	10.6	[9.1,12.2]	16.1	[13.6,19.1]	12.3	[11.0,13.8]	1477	694	2171	14.4	32.6	15.0
Time taken to stand in queue												
Less than 30 minutes	38.7	[36.3,41.2]	34.0	[30.6,37.6]	37.2	[35.2,39.3]	1477	694	2171	75.2	76.0	75.2
30 minutes to less than 1 hour	33.5	[31.1,36.0]	32.9	[29.5,36.4]	33.3	[31.3,35.3]	1477	694	2171	13.8	15.2	13.8
More than 1 hour	27.8	[25.5,30.1]	33.1	[29.7,36.7]	29.5	[27.6,31.4]	1477	694	2171	10.9	8.7	10.8
Have you ever registered a complaint regarding your area's FPS												
Yes	2.4	[1.7,3.3]	0.9	[0.4,1.9]	1.9	[1.4,2.6]	1477	694	2171	2.8	3.4	3.0
No	97.6	[96.7,98.3]	99.1	[98.1,99.6]	98.1	[97.4,98.6]	1477	694	2171	97.2	96.6	97.0
How did you register your grievances/complaints related to Public Distribution System (PDS)												
Complained to fair price shop dealer	74.3	[56.7,86.4]	66.7	[25.4,92.2]	73.2	[57.0,84.9]	35	6	41	70.6	38.5	56.7

Indicators	End-line (Unweighted)									Baseline		
	%	Urban CI	%	Rural CI	%	Total CI	Urban n	Rural n	Total n	Urban %	Rural %	Total %
Complained to panchayat member, ward member/sarpanch/member	5.7	[1.3,21.2]	0.0		4.9	[1.1,18.4]	35	6	41	23.5	38.5	30.0
Complained to inspector of supplies/block development office	8.6	[2.7,24.4]	33.3	[7.8,74.6]	12.2	[5.0,26.9]	35	6	41	2.9	23.1	11.7
Complained to ration card management system at block	2.9	[0.4,19.0]	0.0		2.4	[0.3,16.6]	35	6	41	0.0	0.0	0.0
Others(specify)	8.6	[2.7,24.4]	0.0		7.3	[2.3,21.2]	35	6	41	2.9	0.0	2.9
Complaint was addressed												
Yes	40.0	[24.8,57.5]	0.0		34.1	[20.9,50.4]	35	6	41	20.6	15.4	18.3
No	51.4	[34.6,67.9]	83.3	[34.7,97.9]	56.1	[40.2,70.9]	35	6	41	76.5	80.8	78.3
Complaint is pending	8.6	[2.7,24.4]	16.7	[2.1,65.3]	9.8	[3.6,24.1]	35	6	41	2.9	3.8	3.3
Days taken to address the complaint												
Within a week	58.8	[32.9,80.6]	100.0		61.1	[35.5,81.8]	17	1	18			
More than a week	41.2	[19.4,67.1]	0.0		38.9	[18.2,64.5]	17	1	18			
Can you go to another FPS to draw ration if required?												
Yes	9.3	[8.0,10.9]	9.2	[7.3,11.6]	9.3	[8.2,10.6]	1477	694	2171			
No	80.2	[78.0,82.1]	76.4	[73.1,79.4]	78.9	[77.2,80.6]	1477	694	2171			
Don't Know / Can't Say	10.5	[9.0,12.2]	14.4	[12.0,17.2]	11.7	[10.5,13.2]	1477	694	2171			
Do you think it would be beneficial, if you are allowed to collect the ration from any FPS in the state												
Yes	47.5	[44.9,50.0]	45.5	[41.9,49.3]	46.8	[44.8,48.9]	1477	694	2171	84.0	82.0	83.4

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
No	52.5	[50.0,55.1]	54.5	[50.7,58.1]	53.2	[51.1,55.2]	1477	694	2171	16.0	18.0	16.6
How do you manage your entitlements during out migration period												
Family members staying in the village collects entitlements	28.0		30.6		28.8		1477	694	2171			
Household doesn't / unable to collect entitlements during out migration period	20.7		25.7		22.3		1477	694	2171			
Able to collect at the place of out migration	3.7		6.9		4.7		1477	694	2171			
Not applicable (no out migration)	52.2		49.3		51.3		1477	694	2171			
Others	0.7		0.1		0.5		1477	694	2171			
Are you aware about the vigilance committee and ward committee working in your area												
Yes	8.8	[7.5,10.4]	16.3	[13.7,19.2]	11.2	[9.9,12.6]	1477	694	2171	2.5	7.6	4.5
No	62.5	[60.0,64.9]	58.5	[54.8,62.1]	61.2	[59.1,63.2]	1477	694	2171	72.2	70.3	71.5
Don't Know / Can't Say	28.7	[26.5,31.1]	25.2	[22.1,28.6]	27.6	[25.7,29.5]	1477	694	2171	25.2	22.0	24.0
Vigilance committees are important												
Yes	98.5	[94.0,99.6]	86.7	[79.1,91.9]	93.0	[89.0,95.6]	130	113	243			
No	1.5	[0.4,6.0]	13.3	[8.1,20.9]	7.0	[4.4,11.0]	130	113	243			
Aware about Social audit												
Yes	3.0	[2.2,4.1]	1.0	[0.5,2.1]	2.3	[1.7,3.0]	1238	694	1932			
No	97.0	[95.9,97.8]	99.0	[97.9,99.5]	97.7	[97.0,98.3]	1238	694	1932			

Indicators	End-line (Unweighted)									Baseline		
	Urban %	Urban CI	Rural %	Rural CI	Total %	Total CI	Urban n	Rural n	Total n	Urban %	Rural %	Total %
Aware about the National Food Security Act among the cardholders¹⁴												
Yes	35.7	[33.3,38.2]	40.3	[36.8,44.0]	37.2	[35.2,39.2]	1477	694	2171	4.2	3.4	3.9
No	64.3	[61.8,66.7]	59.7	[56.0,63.2]	62.8	[60.8,64.8]	1477	694	2171	95.8	96.6	96.1
Do you receive the entitled quantity of the food grains every month												
Yes	86.5	[84.7,88.2]	89.5	[87.0,91.6]	87.5	[86.0,88.8]	1477	694	2171	94.6	92.2	93.7
No	13.5	[11.8,15.3]	10.5	[8.4,13.0]	12.5	[11.2,14.0]	1477	694	2171	5.4	7.8	6.3
Do you collect the entire entitled ration in one visit												
Yes	91.7	[90.2,93.0]	91.5	[89.2,93.4]	91.7	[90.4,92.8]	1477	694	2171	74.0	47.0	63.4
No	8.3	[7.0,9.8]	8.5	[6.6,10.8]	8.3	[7.2,9.6]	1477	694	2171	26.0	53.0	36.6
Number of time fps visited (if ration not received at once)												
Uncertain	10.7	[6.3,17.6]	13.6	[6.9,25.0]	11.6	[7.7,17.2]	122	59	181			
Two times	87.7	[80.5,92.5]	84.7	[73.1,91.9]	86.7	[80.9,91.0]	122	59	181			
More than two times	1.6	[0.4,6.4]	1.7	[0.2,11.3]	1.7	[0.5,5.1]	122	59	181			
How is the ration weighed at the FPS												
Manually	2.3	[1.6,3.2]	0.9	[0.4,1.9]	1.8	[1.4,2.5]	1477	694	2171	6.0	2.0	4.4
Electronic weighing machine	96.8	[95.8,97.6]	99.1	[98.1,99.6]	97.6	[96.8,98.1]	1477	694	2171	6.0	7.0	6.0
Both manual and electronic machine used	0.9	[0.5,1.5]	0.0		0.6	[0.3,1.0]	1477	694	2171	88.0	91.0	89.5

¹⁴ Note: In the earlier sections, the awareness on NFSA was sought around guidelines on inclusion criteria for owning a ration card. While this question was meant to probe whether the beneficiaries were aware of NFSA per se.

Indicators	End-line (Unweighted)									Baseline		
	Urban		Rural		Total		Urban	Rural	Total	Urban	Rural	Total
	%	CI	%	CI	%	CI	n	n	n	%	%	%
Are you satisfied regarding the process of weighing followed at the FPS												
Yes	95.9	[94.8,96.8]	97.0	[95.4,98.0]	96.3	[95.4,97.0]	1477	694	2171	73.5	73.8	73.6
No	4.1	[3.2,5.2]	3.0	[2.0,4.6]	3.7	[3.0,4.6]	1477	694	2171	26.5	26.2	26.4
Complained against dissatisfaction over quantity or quality												
Yes, for quality	6.7	[2.5,16.8]	9.5	[2.3,31.8]	7.4	[3.3,15.8]	60	21	81	8.9	2.9	6.5
Yes, for quantity	41.7	[29.7,54.7]	52.4	[31.4,72.5]	44.4	[33.8,55.6]	60	21	81	9.5	21.8	14.3
Both	1.7	[0.2,11.3]	19.0	[7.2,41.7]	6.2	[2.5,14.2]	60	21	81	0.0	11.9	4.6
No	38.3	[26.8,51.4]	4.8	[0.6,28.0]	29.6	[20.6,40.7]	60	21	81	73.1	44.0	61.8
The need did not arise to lodge complaint												
Change in the quantity or in receiving good quality grains after complaining												
Yes	40.0	[23.8,58.7]	0.0		25.5	[14.8,40.4]	30	17	47			
No	60.0	[41.3,76.2]	100.0		74.5	[59.6,85.2]	30	17	47			
Do you agree with the entries for the last three months (for grain) given on the Ration Card												
Yes	74.3	[72.0,76.4]	70.3	[66.8,73.6]	73.0	[71.1,74.8]	1477	694	2171	91.3	80.3	87.0
No	22.3	[20.3,24.5]	29.1	[25.8,32.6]	24.5	[22.7,26.4]	1477	694	2171	5.6	16.9	10.0
Don't Know / Can't Say	3.4	[2.6,4.4]	0.6	[0.2,1.5]	2.5	[1.9,3.2]	1477	694	2171	3.1	2.9	3.0
During the last three months, has it happened that you have not												

Indicators	End-line (Unweighted)									Baseline		
	Urban %	Urban CI	Rural %	Rural CI	Total %	Total CI	Urban n	Rural n	Total n	Urban %	Rural %	Total %
received full monthly quota of commodities												
Yes	3.5	[2.7,4.6]	3.2	[2.1,4.8]	3.4	[2.7,4.3]	1477	694	2171	4.0	7.1	5.2
No	96.5	[95.4,97.3]	96.8	[95.2,97.9]	96.6	[95.7,97.3]	1477	694	2171	96.0	92.9	97.8
Reason for not receiving full quota												
No household member was present	40.4	[27.8,54.4]	45.5	[26.1,66.3]	41.9	[31.0,53.6]	52	22	74	12.5	16.4	14.6
Could not go to the PDS/FPS shop	9.6	[4.0,21.5]	4.5	[0.6,27.1]	8.1	[3.6,17.2]	52	22	74	8.3	20.0	14.6
The PDS/FPS shop was closed	5.8	[1.8,16.8]	22.7	[9.6,44.9]	10.8	[5.4,20.4]	52	22	74	4.2	5.4	4.8
The PDS/FPS shop did not receive grains	3.8	[0.9,14.5]	4.5	[0.6,27.1]	4.1	[1.3,12.1]	52	22	74	12.5	10.9	11.6
When we went there, the stock was over	9.6	[4.0,21.5]	9.1	[2.2,30.7]	9.5	[4.5,18.8]	52	22	74	14.6	20.0	17.5
Others (specify)	30.8	[19.6,44.8]	13.6	[4.3,35.5]	25.7	[16.8,37.1]	52	22	74	47.9	27.3	36.9
Does your household have a bank or post office												
Yes	93.7	[92.6,94.6]	96.5	[95.1,97.4]	94.6	[93.7,95.3]	2285	1020	3305	80.2	73.0	78.0
No	5.2	[4.3,6.2]	3.0	[2.1,4.3]	4.5	[3.9,5.3]	2285	1020	3305	17.0	25.3	19.6
Don't Know / Can't Say	1.1	[0.8,1.7]	0.5	[0.2,1.2]	0.9	[0.7,1.3]	2285	1020	3305	2.8	1.6	2.4
Do you have a bank or post office account in your name												
Yes	87.2	[85.8,88.6]	86.1	[83.8,88.1]	86.9	[85.6,88.0]	2141	984	3125			
No	12.8	[11.4,14.2]	13.9	[11.9,16.2]	13.1	[12.0,14.4]	2141	984	3125			
If not, then which member has it?												

Indicators	End-line (Unweighted)									Baseline		
	%	Urban CI	%	Rural CI	%	Total CI	Urban n	Rural n	Total n	Urban %	Rural %	Total %
Male members of the household	46.2	[40.3,52.1]	42.3	[34.3,50.8]	44.9	[40.1,49.7]	273	137	410			
Both male and female members of the household	41.0	[35.3,47.0]	50.4	[42.0,58.7]	44.1	[39.4,49.0]	273	137	410			
Other female members of the household	12.8	[9.3,17.4]	7.3	[4.0,13.1]	11.0	[8.3,14.4]	273	137	410			
Who usually operates the bank account?												
Male members of the household	21.3	[19.6,23.1]	19.3	[17.0,21.9]	20.7	[19.3,22.1]	2141	984	3125			
Both male and female members of the household	57.6	[55.5,59.7]	61.0	[57.9,64.0]	58.7	[57.0,60.4]	2141	984	3125			
Female members of the household	21.1	[19.4,22.8]	19.7	[17.3,22.3]	20.6	[19.3,22.1]	2141	984	3125			

Annex 11.3: FPS Unweighted

Indicators	End-line (Unweighted)			Baseline	
	% or average	CI	n	% or average	n
Sample characteristics					
Location of Fair Price Shop (FPS)					
Rural	25.0	[16.6,35.9]	80	25.0	80
Urban	75.0	[64.1,83.4]	80	75.0	80
Gender					
Male	93.8	[85.6,97.4]	80	96.2	80
Female	6.3	[2.6,14.4]	80	3.8	80
Educational qualification					
Passed 5th standard	3.8	[1.2,11.2]	80	2.5	80
Passed 8th standard	12.5	[6.8,21.9]	80	27.5	80
Matriculation completed	22.5	[14.5,33.2]	80	22.5	80
Higher secondary completed	13.8	[7.7,23.4]	80	20.0	80
Graduation completed	37.5	[27.4,48.8]	80	25.0	80
Post-graduation completed	10.0	[5.0,19.0]	80	2.5	80
Type of FPS					
Co-operative	1.3	[0.2,8.7]	80	0.0	80
Government	2.5	[0.6,9.7]	80	0.0	80
Gram Panchayat	16.3	[9.6,26.3]	80	0.0	80
Private	78.8	[68.2,86.5]	80	98.8	80
Women Self Help Group (WSHG)	1.3	[0.2,8.7]	80	1.3	80
Motivation behind opening the FPS¹⁵					
Earning livelihood	67.5		80	48.0	80
As a secondary earning option	2.5		80	29.0	80
To serve the community	68.8		80	15.0	80

¹⁵ This question was recorded using multiple-response set during the end-line. Therefore, end-line figures will not add up to 100%.

Indicators	End-line (Unweighted)			Baseline	
	% or average	CI	n	% or average	n
Descended from father / mother	15.0		80	4.0	80
Others	1.3		80	4.0	80
FPS Profitability					
Profitability ¹⁶					
Not Profitable	23.8	[15.5,34.5]	80	86.0	80
Indian Rupee (INR) 0-5000 profit per month	38.8	[28.5,50.0]	80	14.0	80
INR 5001-10000 profit per month	21.3	[13.5,31.8]	80		
INR More than 10000 profit per month	16.3	[9.6,26.3]	80		
Reduction of leakages in commodities					
Are there times when the received quantities of commodities are less than allocated quantities					
Yes, and differences are reported	11.3	[5.9,20.5]	80	26.2	80
Yes, and differences are not reported	6.3	[2.6,14.4]	80	3.8	80
No	82.5	[72.3,89.5]	80	70.0	80
Do you face any loss due to wastage of the commodities while transporting or unloading the commodities					
Yes	21.3	[13.5,31.8]	80	45.0	80
No	78.8	[68.2,86.5]	80	55.0	80
Improved stakeholder convenience					
Do you find the digitization process in the FPS useful					
Yes	92.5	[84.1,96.7]	80		
No	7.5	[3.3,15.9]	80		

¹⁶ Profitability = (Expenses – Commission earned from FPS)

Indicators	End-line (Unweighted)			Baseline	
	% or average	CI	n	% or average	n
Have you faced any problem in last six month in distributing ration from FPS due to technical problem in the PoS machine					
Yes	48.8	[37.8,59.8]	80		
No	51.2	[40.2,62.2]	80		
What was the time taken to resolve the problem					
Within the same day	82.1	[66.0,91.5]	39		
Next day	10.3	[3.7,25.2]	39		
Within a month	5.1	[1.2,19.3]	39		
Not resolved till now	2.6	[0.3,17.4]	39		
Do you think that technology used for transactions has increased the efficiency in terms of food grain distribution to beneficiary					
Yes	96.3	[88.8,98.8]	80		
No	2.5	[0.6,9.7]	80		
Don't know / can't say	1.3	[0.2,8.7]	80		
The automation at FPS has helped to improve the transparency and improving accountability					
Agree	97.5	[90.3,99.4]	80		
Neither agree nor disagree	2.5	[0.6,9.7]	80		
Disagree	0.0		80		
HR development					
Have you received any type of training in the since automation					
Yes	90.0	[81.0,95.0]	80		
No	10.0	[5.0,19.0]	80		

Indicators	End-line (Unweighted)			Baseline	
	% or average	CI	n	% or average	n
Do you require or need any kind of training in the future					
Yes	31.3	[21.9,42.4]	80		
No	68.8	[57.6,78.1]	80		
Shop environment					
Shop and its surroundings clean					
Yes	91.3	[82.5,95.8]	80	96.0	80
No	8.8	[4.2,17.5]	80	4.0	80
Shop has adequate space for its operation					
Small	32.5	[23.0,43.7]	80	9.0	80
Adequate	67.5	[56.3,77.0]	80	91.0	80
Shop has separate storage					
Yes	66.3	[55.0,75.9]	80	46.0	80
No	33.8	[24.1,45.0]	80	54.0	80
Structure					
Independent Structure	50.0	[39.0,61.0]	80	69.0	80
Part of another structure	50.0	[39.0,61.0]		31.0	
Shop has a blackboard / information display/ declaration board					
Yes	90.0	[81.0,95.0]	80	96.0	80
No	10.0	[5.0,19.0]	80	4.0	80
If yes, where is it located / displayed?					
Inside FPS	65.3	[53.4,75.6]	72	72.7	77
Outside FPS	34.7	[24.4,46.6]	72	27.3	77
Other (specify)	0.0		72		
Type of information displayed on the blackboard / information display / declaration board.					
Stock details of commodities	93.1	[84.1,97.1]	72	94.8	77

Indicators	End-line (Unweighted)			Baseline	
	% or average	CI	n	% or average	n
Stock receipt details, date, quantities, etc	93.1	[84.1,97.1]	72	90.9	77
FPS timings	95.8	[87.6,98.7]	72	100.0	77
List of various commodities	95.8	[87.6,98.7]	72	93.5	77
Price of various commodities	95.8	[87.6,98.7]	72	98.7	77
Number and type of card details	91.7	[82.4,96.3]	72	55.8	77
Shop identification details, fps code, owner, license number, address, etc	91.7	[82.4,96.3]	72	70.1	77
Average number of records maintained manually by the FPS owner	5.0		80	5.3	80
Average number of records maintained digitally by the FPS owner	3.0		80		
Other Indicators					
Do you inform the beneficiaries in advance that the PDS outlet would be closed					
Yes	92.5	[84.1,96.7]	80	85.0	80
No	7.5	[3.3,15.9]	80	15.0	80
Who usually raises the indent					
FPS Owner	70.0	[58.9,79.2]	80	37.5	80
Marketing Inspector	16.3	[9.6,26.3]	80	56.2	80
Automatically through POS	6.3	[2.6,14.4]	80	1.2	80
Other	5.0	[1.8,12.8]	80	5.0	80
Don't know / can't say	2.5	[0.6,9.7]	80	0.0	80
When are requests for the next indent of commodities raised					
Before the present stock is over	65.0	[53.7,74.8]	80	11.2	80
After the present stock is over	13.8	[7.7,23.4]	80	45.0	80
At the beginning of each month	1.3	[0.2,8.7]	80	16.2	80
Do not raise the indent/ indent is raised automatically	18.8	[11.5,29.1]	80	27.5	80

Indicators	End-line (Unweighted)			Baseline	
	% or average	CI	n	% or average	n
Other, please specify	1.3	[0.2,8.7]	80	0.0	80
Do you receive the delivery of the commodities before or after your present stock is over					
Before the present stock is over	86.3	[76.6,92.3]	80	56.2	80
After the present stock is over	13.8	[7.7,23.4]	80	43.7	80
Average number of times when the stock at the FPS was not available	0.0		80	2.4	80
At the time of receiving grain commodities at FPS; what type of weighing scale do you use for taking weight measurements					
Electronic Weighing Scale	56.3		80		
Weighbridge	2.5		80		
Manual	0.0		80		
Don't weigh the commodities	37.5		80		
Other	6.3		80		
At the time of sale of grain commodities at FPS; what type of weighing scale do you use for taking weight measurement					
Electronic Weighing Scale	100.0		80	100.0	80
Manual Weighing Scale	0.0		80	0.0	80
Type of vehicle in which commodities received					
Trucks	73.8		80		
Mini trucks	67.5		80		
Bus	1.3		80		
Three-wheeler goods carrier	7.5		80		
Do you receive any SMS from the Departmental Storage Centres intimating you about the release of the commodities from the depot					

Indicators	End-line (Unweighted)			Baseline	
	% or average	CI	n	% or average	n
Yes always	48.8	[37.8,59.8]	80		
yes sometimes	13.8	[7.7,23.4]	80		
No	37.5	[27.4,48.8]	80		
FPS accessible by a four-wheeler					
Yes	98.8	[91.3,99.8]	80		
No	1.3	[0.2,8.7]	80		
Is your shop rented or your own property?					
Rented	33.8	[24.1,45.0]	80	32.2	80
own	52.5	[41.4,63.4]	80	63.8	80
Free (community space)	13.8	[7.7,23.4]	80	0.0	80
Have you ever reported on the poor quality of commodities?					
Yes	10.0	[5.0,19.0]	80	12.5	80
No	10.0	[5.0,19.0]	80	13.7	80
No issues with the quality	80.0	[69.6,87.5]	80	73.7	80
Official to whom problem was reported					
Marketing Inspector	75.0		8	50.0	10
Civil Supplies Officer (CSO)/ Assistant Civil Supplies Officer (ACSO)	25.0		8	10.0	10
Depot In-charge	25.0		8	40.0	10
Whether FPS can make sufficient profit to sustain the business					
Yes	37.5	[27.4,48.8]	80		
No	62.5	[51.2,72.6]	80		
Is the digitization of beneficiaries complete in your area¹⁷					
Yes	80.0	[69.6,87.5]	80		

¹⁷ Indicator measures reported/perceived figures by FPS owners

Indicators	End-line (Unweighted)			Baseline	
	% or average	CI	n	% or average	n
No	20.0	[12.5,30.4]	80		
Has a Point of Sale (PoS) installed in your FPS					
Yes	97.5	[90.3,99.4]	80		
No	2.5	[0.6,9.7]	80		
Is the Point of Sale (PoS) device at your FPS linked with Aadhaar					
Yes	100.0		78		
No	0.0		78		
Are you aware about the grievance redressal system unit in place					
Yes	43.8	[33.1,55.0]	80	21.2	80
No	56.3	[45.0,66.9]	80	77.8	80
FPS Vigilance Committee exist in their area					
Yes	18.8	[11.5,29.1]	80	21.2	80
No	77.5	[66.8,85.5]	80	77.8	80
Don't know / can't say	3.8	[1.2,11.2]	80	21.2	80
Percentage of FPS where vigilance committee members are effectively monitoring the PDS performance	0.0		80	5.9	80

Annex 12: List of Indicators

Due to a revision in the State's policy for TPDS, the exclusion and inclusion error calculation methodology as also undergone change during the end-line. Indicators that have been dropped from the baseline methodology are highlighted in red.

EXCLUSION ERROR i.e., the proportion of eligible HHs deprived of their entitlement to subsidised grains from **PDS = (IBNC/HH)**

Where;

- IBNC = Identified BPL (or eligible) HHs not holding ration card (Eligible = Meeting any one of the auto-inclusion criteria)
- HH = Number of HHs without a ration card
- BA = Number of BPL households holding APL cards (there is no APL/BPL demarcation in the State for ration card – indicator dropped from calculation)
- UBNC = Un-identified BPL HHs not holding any cards (no demarcation of APL/BPL for ration card – indicator dropped)

INCLUSION ERROR i.e., the proportion of HHs that have been wrongly given entitlement to subsidised grains in **PDS = (AB/HH)**

Where:

- AB = No. of APL (or ineligible) HHs holding ration cards
- HH = Number of HHs with a ration card
- FB = No. of fictitious BPL cards that could not be verified through survey (no demarcation of APL/BPL cards – indicator dropped)

FPS PROFITABILITY: The first step was to understand the profitability element in the FPS covered. This has been done using the revenue and actual expenses in order to understand whether the FPS is able to do profitable business or not.

Revenue – Expenses = Profit

In calculating the revenue, the aspects that were taken into consideration are as follows:

- Commission earned by FPS through the sale of TPDS commodities based on entitlements as per card type and commission rate.
- Earnings by FPS through sale of empty grain bags
- Other relevant revenue points such as income through sale of non-PDS commodities such as potatoes etc
- Any other subsidies received

In calculating the expenses, the aspects that were taken into consideration are as follows:

- FPS owner's/ operator's monthly salary
- Helper expenses
- Electricity expenses
- Monthly rent
- Interest on procurement of commodities
- Transportation expenses
- Other relevant expense heads - government license fees, fines, etc..., - for calculations to be converted into monthly expenses

List of Acronyms

AAY	Antodaya Anna Yojana
ACSO	Assistant Civil Supplies Officer
APL	Above Poverty Line
BMI	Body Mass Index
BPL	Below Poverty Line
CO	Country Office
DAC	Development Assistance Criteria
DAC	Development Assistance Criteria
FCS	Food Consumption Score
FCS	Food Consumption Score
FGD	Focus Group Discussion
FPS	Fair Price Shop
FS&CW	Food Supplies and Consumer Welfare
FSCW	Food Supplies and Consumer Welfare
GDI	Gender Development Index
GDP	Gross Domestic Product
GEEW	Gender Equality and Empowerment of Women
GHI	Global Hunger Index
GoI	Government of India
GoO	Government of Odisha
GP	Gram Panchayat
GRS	Grievance Redressal System
HDI	Human Development Index
ICDS	Integrated Child Development Services
IDI	In-Depth Interview
INR	Indian Rupee
IRB	Independent Review Board
Kg	Kilograms
MC	Municipal Corporation
MDG	Millennium Development Goals
MDMS	Mid-Day Meal Scheme
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MT	Metric Tonnes
NFSA	National Food Security Act
NITI Aayog	National Institution for Transforming India
NPR	National Population Register
OBC	Other Backward Castes
OSCSC	Odisha State Civil Supplies Corporation Limited
OSFSS	Odisha State Food Security Scheme
OTP	One-Time-Password
PACS	Primary Agricultural Cooperative Society
PDS	Public Distribution System
PER	Purchase-Entitlement Ratio
PHH	Priority Households

PoS	Point of Sale
PSU	Primary Sampling Unit
RCMS	Ration Card Management System
SC	Scheduled Caste
SCMS	Supply Chain Management System
SDG	Sustainable Development Goals
SHG	Self-Help Group
SLI	Standard of Living Index
ST	Scheduled Tribe
TOC	Theory of Change
TPDS	Targeted Public Distribution System
UNEG	United Nations Evaluation Guidelines
UTs	Union Territories
WFP	World Food Programme

World Food Programme, India
<https://www1.wfp.org/countries/india>

