

Technology Driven PDS in AP- A Case Study of Krishna and Guntur Districts

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Abstract

Public Distribution System (PDS) is often termed as means for ensuring food security for the poor and needy. To minimize the poverty level among general public, Government of India promoted Public distribution system for extending basic necessary goods at subsidized rates. But their primary motto has not been fulfilled due to numerous problems prevailing in PDS. The problems of Public Distribution System have not been uniform in the country. In some states the administration is weak and corrupt. The deficiencies regarding huge shortage of stocks, fake supply entries in ration cards, diversion of commodities for sale to open market and bogus ration cards and weighing differences the real benefit is not reaching to the beneficiaries. Globally there is enough food for all and that inequitable access and mismanagement is the main problem for food insecurity. The government should launch technical and policy reforms to make Public Distribution System are more effective.

Information Technology permits governments to bring transparency and pace in all applications without extra expenses. In addition, computerization can help in modernizing the Public Distribution System. A number of states are already innovating in PDS execution, and improved performance can be seen in some cases. Although the introduction of modern tools such as smart cards may not be a panacea for all the evils, it can solve many of the problems particularly that of pilferage and spurious beneficiaries.

Biometric based public distribution system is novel approach in public distribution system (PDS) which replaces manual work. With the involvement of biometric, the system becomes specific, accurate and in whole it increases the security of the system. Distributing the essential commodities using electronic device with biometric authentication of any member of beneficiary in order to restraint the diversion at the FPS level, UIDAI will provide an online service to support this process.

The present paper examines a brief review of recent reforms in Targeted Public Distribution System (TPDS) in Andhra Pradesh. The objective of the paper is to enhance the visibility, accessibility and efficiency of the system which will streamline the process of Public Distribution System. Therefore the purpose of this study reveals technology driven Public Distribution System will bring in transparency.

Keywords: - Public Distribution System (PDS), UID number, e-POS machines, Targeted Public Distribution System (TPDS)

INTRODUCTION

The Public Distribution System (PDS) means distribution of essential commodities to a large number of people through a network of Fair Price Shops on a recurring basis. It facilitates supply of food grains and essential commodities at subsidized prices.

Andhra Pradesh State Public Distribution System is comprised of 3.85 crore beneficiaries (BPL card holders) and 28,599 Fair Price Shops (ration shop) spreading across all the 13 districts. The beneficiaries are issued smart ration card

or Aadhaar-based household card that contains the UID number, demography and biometric details of each family member with a thumbnail photograph of every person in the family. Smart ration cards enable the beneficiaries to make transactions at Fair Price Shops with a hand-held POS machine. Keeping in mind the delivery of food grains to the authentic beneficiaries, the officials to installed iris recognition equipment, and bio-metric and finger print-enabled e-POS machines in all Fair Price Shops (FPS) across the State.

REVIEW OF LITERATURE

Dreze and Sen (2013) make a distinction between old style PDS in operation in most states a few years ago and new style PDS in operation in the better performing states like Chhattisgarh, Tamil Nadu and Kerala etc. While the old style of PDS suffered from a number of problems like large scale diversion and exclusion errors, the new style of PDS has been able to tackle these interrelated problems through various state level initiatives notable among them being expansion of coverage, price reduction and the introduction of modern IT based technology. Most importantly, people now are much more aware of their rights and entitlements and are more willing to defend them.

Planning Commission (2010) concentrated on several measures to strengthen the present structure of TPDS notable among them being the introduction of UIDAI Aadhaar and Technology –based reforms initiated by the states. The government has proposed to link the TPDS with the UID Aadhaar scheme and expects that the scheme would play an important role in addressing inclusion / exclusion errors, checking diversion and leakages, assisting food grain management and ensuring accountability.

Shoshana Amielle Magnet, in her book When Biometrics Fail (2011), argues that biometric systems around the world have largely failed to provide their intended benefits and instead often ended up perpetuating gender, ethnic, cultural, and socio-economic inequalities.

OBJECTIVES

The main objectives of this paper are as follows.

1. This study analyzes the brief review of recent reforms in TPDS in Andhra Pradesh.
2. This study seeks to examine the benefits of Aadhaar Enabled Public Distribution System. (AePDS)

METHODOLOGY

This study has been conducted on the basis of secondary data. The secondary data has been compiled from the Planning Commission, various journals, books, internet sources and other published papers etc.

Recent Reforms in Targeted Public Distribution System

PDS is an important constituent of our food security. Targeted PDS envisages to include the 'really poor' and vulnerable sections of the society and the efficient

distribution and allocation of the subsidized grains. The Recent reforms that took place in the Targeted Public Distribution System include:

Aadhaar Enrollments

In 13 districts of Andhra Pradesh State, the population as per projected, 2017 is 5,25, 78,407. Against the 5.25 crores population, 5.12 crores Aadhaar numbers have already been generated. The status of Aadhaar Enrollments in the state as on date is shown in **table -1**.

Aadhaar Seeding In order to purify the ration cards database, Aadhaar numbers

assre being seeded into ration cards data base. The following is the status of Aadhaar Seeding in the state as on date shown in **table 2**

The success and failure authentication abstract indicates Krishna district has topped the country in the implementation of e-POS in public distribution system (PDS) with 95.84 percent and Guntur with 90.7 percent that aims to bring transparency and efficiency in PDS. The following is the status of success and failure authentication abstract in Krishna and Guntur districts as on date shown in **table 3**

Table -1 Statuses of Aadhaar Enrollments in AP as on November 2017

Population 2017 Projected	Aadhaar Generated	Aadhaar Generated Percentage
5,25,78,407	5,12,50,387	97%

Source: Status notes – Nov.2017 – Civil Supplies Dept. Gollapudi

Table -2 Status of Aadhaar Seeding in AP as on November 2017

Number of Cards	Total number of units in the Cards	Total number of Seeded units	Unseeded units	Rejected	Percentage
1,41,98,662	4,98,52,103	4,02,33,852	956	96,00710	99.94

Source: Status notes – Nov.2017 – Civil Supplies Dept. Gollapudi

Table – 3 Success and Failure Authentication Abstract as on 20th January, 2017

District	Total Authentications	Success %	Failure %
Guntur	28,57,270	90.7	9.29
Krishna	35,48,775	95.84	4.15

Source: www.epos.ap.gov.in

Implementation of e PoS Project: Andhra Pradesh is the first State in the country in implementing Fair Price Shops Automation under plan Scheme “End to End Computerization of TPDS operations. At present 29,503 Fair Price Shops are functioning in Andhra Pradesh State. 28,684 Fair Price Shops are functioning through e-PoS Devices- cum Electronic Weighing machines in the State. Remaining Fair Price Shops are functioning off line mode due to network connectivity problem. Offline module is being developed by National Informatics Centre in order to cover these offline shops transactions online. Distribution of essential commodities through e-PoS Devices- cum Electronic Weighing machines was started from 1.4.2015. 28,448 Iris readers were also integrated to e-PoS devices for authentication whenever biometric authentication is not successful. With the implementation of Fair Price Shops Automation, the savings in essential

commodities noticed up to September, 2017 are shown in **Table -4**

Fair Price Shops Portability: To leverage of technology to the benefit of BPL cardholders, the department has introduced Fair Price Shops Portability system in the state in May, 2015 to facilitate the card holders to draw their essential commodities from any e-PoS enabled Fair Price Shop in the state irrespective of having his/her ration card number in dynamic key register of a particular e-PoS enabled Fair Price Shop.

This system increases the responsibility and accountability of Fair Price Shop dealer in distribution of essential commodities. Since the cardholder has liberty to draw the essential commodities. Every month, desired card holders are receiving essential commodities by utilizing Fair Price Shop Portability.

Table: 4 Savings after Implementation of e-PoS

SI. No.	Commodity	Qty saved (in MTS)	Value of savings noticed (Rs. in crores)
1	Rice	4,78,963.939	1,483.86
2	Sugar	20,176.700	29.29
3	Wheat	8,209.526	12.72
TOTAL SAVINGS : 1,525.87			

Source: Status notes – Nov.2017 – Civil Supplies Dept. Gollapudi

Table:- 5 Portability across District as on (01.1.2017)

District	Total Shops	Total Cards	Transactions	Portability		%
				Other district	Within District	
Guntur	2,739	13,32,926	11,436	249	1,825	0.82
Krishna	2,167	11,88,202	2,440	46	1,358	1.96

Source: www.epos.ap.gov.in

The administration of Krishna district has successfully implementing the fair price shop portability within the district and in other district with 1.96 percent than Guntur. The status of fair price shops portability in Krishna and Guntur districts as on date shown in table – 6

Cashless Transactions: In Andhra Pradesh State, 28,684 Fair Price Shops are functioning through e-PoS Devices - cum –Electronic Weighing Machines and essential commodities are distributing through Aadhaar authentication. As per the instructions of Hon’ble Chief Minister, Aadhaar enabled cashless transactions has been taken up from 1st December, 2016 in all Fair Price shops functioning with e-PoS devices to facilitate the card holders by avoiding hardship for purchase of essential commodities with smaller denominations. Out of 28,684 shops Cashless Aadhaar Enabled Payment System is being implemented in 28,568 Fair Price shops.

No Service charges are being collected by the bankers in the process of cashless transactions.

Krishna district has emerged as a first district in the country having hundred percent digitized public distribution system. Krishna district has got the distinction in the country in implementing the e-PoS in PDS with 100 percent cashless transactions next to Guntur. The following is the status of cashless transactions in Krishna and Guntur districts as on date **shown in table – 6**

Command Control Center: Established Command Control Centers at State level and District level in Collectorates for monitoring all TPDS activities including PDS commodities vehicle tracking and to get real time data online and to resolve the technical issues arise on the spot so as to ensure implementation of real time governance.

Table – 6 Cashless PDS Transactions as on January, 2017

District	Total Shops	Mapped with Bank	Device enabled with cashless	Cashless shops %
Guntur	2,739	2,719	1184	99.26
Krishna	2,262	2,262	1600	100

Source: www.epos.ap.gov.in

Kaizala Application of Microsoft: Implemented mobile phone application (app) called “Kaizala” of Microsoft successfully for day to day administration by Civil Supplies Department officials, fair price shop dealers, etc by using this app one can form groups and sub groups for communication between departments and stakeholders, inter – departmental as well as intra – departmental communication, conduct opinion polls, track location and so on.

Benefits of AePDS: Aadhaar enabled Public Distribution System is a unique attempt piloted in Krishna District in improving the quality of services under the public distribution system. The PDS program in Krishna leverages the Aadhaar platform in delivering the food commodities to the eligible beneficiaries. The Aadhaar enabled Public Distribution System (AePDS) is implemented in entire Krishna district since May 2015 covering 50 mandals (blocks) in 1254 villages through with 2161 Fair Price Shop outlets.

The percentage of population covered the Aadhaar enabled Public Distribution System in Krishna involves 11.9 lakhs ration cards comprising 36.6 lakhs units (beneficiaries), which is 80.4% of the total population of the district - 45,17,398 (as per 2011 census).

Benefits of AePDS: The following are the main benefits derived out of Aadhaar enabled Public Distribution System.

- **Transparency in the flow of PDS:**
The use of Information and Communication Tools in TPDS has facilitated that every citizen can avail the benefits of this scheme without much problems. This action will try to minimize the bureaucratic influence and enhances the transparency in the system. Records are now available on the web portal of this scheme and hence, the transparency involved in this system has increased.

- **Elimination of duplicate and bogus ration cards:** Aadhaar cards have been linked with Ration Cards to ensure, that duplicate and bogus could be completely eliminated. Before the introduction of Aadhaar, ration entitlements of eligible beneficiaries was being diverted to the open market.
 - **Timely and accurate information to beneficiaries:** Timely and accurate information to beneficiaries about the arrival of their entitlements at the Fair Price Shops through SMS. Earlier, beneficiaries had to make repeat visits to the FPS to enquire about the arrival of their entitlements. Many a time, FPS dealers misinformed them about their due entitlement. However, with the introduction of the e-PoS device that reads out the amount of entitlement and generates receipt in the local language (Telugu) this information asymmetry has been eliminated.
 - **Financial savings for the Department:** With the implementation of Fair Price Shops Automation, the savings in essential commodities for Central and State governments increased. These savings can be used to expand the outreach of PDS to a large part of the uncovered population.
 - **Enrolment of beneficiaries that are not covered under PDS:** Aadhaar enabled Ration Card Management System (AERCMS) can support beneficiaries by providing them the facility to register for PDS, update their existing ration cards, receive duplicate cards in case of loss, and transfer or surrender cards on the basis of their Aadhaar number. This would not only expand the PDS to the uncovered population but will also help in simplifying processes for existing card holders.
- WAY AHEAD:** With the successful computerization of all the components linked with Fair Price Shops in Krishna District, Government of Andhra Pradesh has rolled out the Krishna model to remaining 28,000 Fair Price Shops across the State. With this Biometric enabled foolproof system, the government of Andhra Pradesh saves about an amount of Rs.1300 Crores per annum.
- With the AePDS, Krishna District has emerged as first district in the country having 100 percent digitized Public Distribution System. This system helped in saving in subsidy to the government of India and government of Andhra Pradesh

to the extent of 12 to 13 crores every month from Krishna District alone.

CONCLUSION

End-to-end automation of processes, along with digitization of beneficiary data, has made PDS in AP robust and accountable. Real-time information generation provides a clear digital trail for each transaction.

This system was quite expensive and the set up cost of one FPS was approximately 55,000 (USD 808). This totals to 1,556 million (USD 23 mn) for 28,295 FPSs. However, the resultant savings, which in Micro Save's estimate are around 2,250 million (USD 34 mn) per annum, have made it a worthwhile investment.

The best practices adopted by AP make it a case worthy of emulation by other states. Prioritizing both transparency and efficiency, these initiatives ensure that the poor households have access to their entitlements, are not inconvenienced, and save the government huge amounts by controlling the diversion of stocks and plugging leakages in the delivery channel.

REFERENCES

- I. Dreze, J. & Sen, A. (2013) An Uncertain Glory: India and its

Contradictions, New Delhi, India, Allen Lane

- II. Planning Commission (2010). Envisioning a role of Aadhaar in the Public Distribution System. New Delhi, India: Planning Commission.
- III. Magnet, Shoshana Amielle (2011): When Biometrics Fail: Gender, Race, and the Technology of Identity, Duke University Press.
- IV. Aadhaar-Enabled Transparent and Error-Free PDS, Feb-2016, e.gov magazine egov.eletsonline.com.
- V. Prices, wages and Public Distribution, Chapter -4, Andhra Pradesh Socio Economic Survey 2016-17
- VI. Aadhaar-Enabled Public Distribution System – AePDS, <https://dbtbharat.gov.in>.
- VII. Aadhaar Enabled Public Distribution System - A Case Study of East Godavari District, Amir Hamza Syed, Nitish Narain ,February 2013
- VIII. www.insightsonindia.com
- IX. Impact of Information Technology in Public Distribution System of Andhra Pradesh – A case study of Nellore city – Intercontinental Journal of Human Resource Research Review, ISSN: 2320-

9704 – Volume 4, Issue 8, August
2016.

- X. Reddy, P. (2017, March 29).
Aadhaar: Amid the debate about
privacy, the more pressing issue of
exclusion has been forgotten.
Scroll.in. Retrieved from
<https://scroll.in/article/833080/>.
- XI. Well done ABBA- www.epw.in
Vol. 52, Issue No. 7, 18 Feb, 2017.
- XII. Aadhaar enabled PDS System
(AePDS) – electronic Point of Sale
(ePoS) - October 2015,
informatics.nic.in
- XIII. www.epos.ap.gov.in
- XIV. <http://scm.ap.gov.in/ePos/>.
- XV. Status notes – Nov.2017 – Civil
Supplies Dept. Gollapudi