Aadhaar enabled PDS System (AePDS) – electronic Point of Sale (ePoS)

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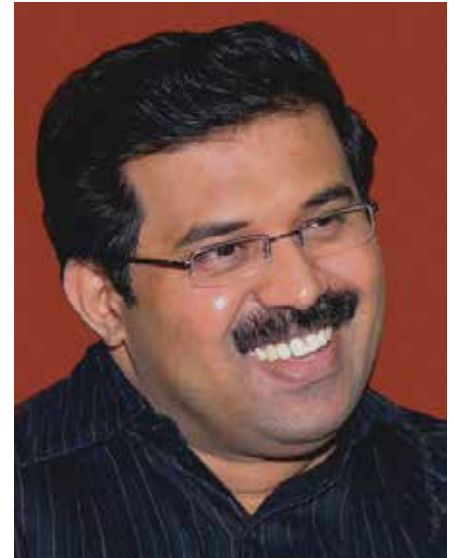apurna@nic.in

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Andhra Pradesh is the first State in the country to implement ePoS in 100% Fair price shops with the integration of FCI & MLS points (Supply Chain Management System) for lifting of Stock and ration portability. The system enables monitoring the Sales & Stock availability at every FPS. All PoS devices are linked with electronic weighing scales.

As per the guidelines issued by Department of Food & Public Distribution regarding the Computerization of TPDS, the State of Andhra Pradesh has developed an end-to-end IT solution (TPDS), which has been successfully implemented with very encouraging results.

It was observed that many of the true beneficiaries of these subsidies suffer due to large-scale pilferage and diversion, retail level issues including duplicates and ghost beneficiaries. Monitoring of the scheme was difficult due to insufficient staff and its complicity.

Online Authentication Services provided by UIDAI (fingerprints, iris and photo for face recognition) are used for the sale of PDS commodities to BPL beneficiaries in all Fair Price Shops (FPS). This has improved efficiency and transparency in the system and enabled on time ration delivery to eligible beneficiaries.

"With the AePDS, Krishna District has emerged as first district in the country having hundred percent digitized Public Distribution System. This system helped in saving in subsidy to the GoI and Government of AP to the extend of 12 to 13 Cr every month from Krishna District alone.

I want to express my sincere appreciation to all the PDS team members of NIC, Andhra Pradesh for providing excellent technical support. All of them have done a commendable job in achieving the results in a short span of time. Keep up the good work."

A. BABU, IAS
Collector & District Magistrate
Krishna District

PROJECT OBJECTIVES

The Department of Food & Public Distribution identified 4 key areas to achieve end-to-end Computerization of TPDS.

CONTENT

1) Creation & Management of digitized Beneficiary Database

2) Supply-Chain Management of TPDS commodities including Procurement from various sources including FCI till movement to FPS

3) Sale of TPDS commodities at Fair Price Shops including Aadhar authentication of beneficiaries and recording of transactions through ePos

4) Transparency and Grievance Redressal Mechanism

END-TO-END COMPUTERIZATION OF PDS WAS TAKEN UP IN THREE PARTS AS FOLLOWS:

1. Component I - Ration Card Management

• The first and the most tedious task was to digitize the beneficiary data and create a centralized database with clear process of data Updation to be put in place in a time bound manner.

District Collector of Krishna, Sri A. Babu at a Fair Price Shop

• A special drive to eliminate fake and bogus ration cards was undertaken. 100% ration card details with the member details are made available.

• The Ration Card application is workflow based, which runs up to the Mandal/ Taluk supply office for creation and modification of cards. Maintenance of digitized Ration Card database is done using web based application software available on http://epdsap.ap.gov.

2. Supply-Chain Management (SCM) - *http://scm.ap.gov.in*

• SCM covers monitoring of foodgrains allocation, storage and movement starting from the base depots till the FPS.

• Generation of delivery order, truck

AePDS enabled activity at a Fair Price Shop

challans, receipts and movement of commodities.

- It is a complete work automation system having dashboards catering to the varying information needs of various stakeholders, reducing diversion.

3. Component II – ePOS (http://epos.ap.gov.in/ePos)

- This component relates to the computerization of operations at the Fair Price Shop.

- Aadhaar is the basis of authentication of the beneficiary at the time of food grains delivery.

- As part of first phase of Krishna district, all FPSs were equipped with PoS terminals for the purpose of authenticating/ verifying beneficiaries before commodity distribution.

- One crucial feature of the process is that the closing balances are updated in database through PoS transaction from FPS on a daily basis.

- The aim is to provide beneficiaries with:

a. Maximum choice of locations and portability allowing the drawal of commodities from any shop across the State

b. Purchase commodities in convenient quantities and in any number of instalments

SALIENT FEATURES:

- Ration Card management including Issuing of new card, Transfer of card, Card type change, Member modification, FP shop change, Split cards, Surrender of Card, Duplicate Card, Member migration, Change energy category, Address change etc. with photo upload and Aadhaar seeding

- Generation of Dynamic Key register (office wise & shop wise). Allocation of commodities based on card strength, Allocation policy and Closing balances.

- Bulk migration of cards from one fair price shop to another, issue and suspension of FPShop licenses

- Stock balances of FPShop, Mandal stock points etc. at any point of time.

- Tracking of food grains movement

- Integration with Meeseva for RC Mutations, eSeva for FPShop dealer payments and ePoS for food grain distribution to beneficiaries

- Complaints tracking

- Approvals, Sanctions, Rejections, Allocation, Receipt of payments etc. are all automatic, online and are completely workflow based.

- Aadhaar authentication ensures that only a genuine cardholder or family member can draw the commodities

- Electronic transactions enabling real time MIS on opening stock, daily sales and closing stock, monthly allotment etc.

- Facilitate monitoring and detection of any fraudulent transactions

- SMS communication on arrival of goods which promotes transparency

- Portability for drawing Ration anywhere

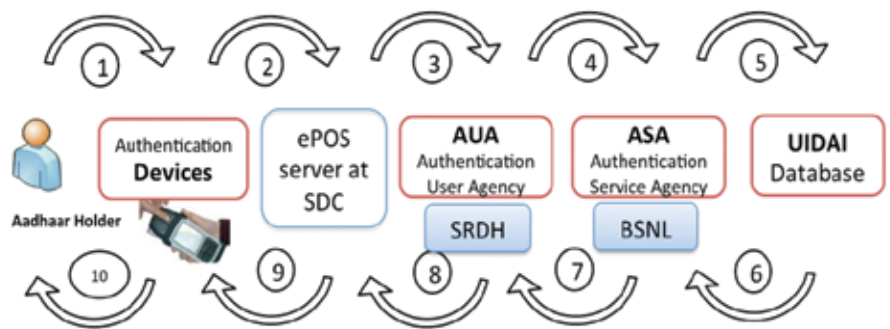- Transparency and accountability in the Public Distribution System

SERVICES IN E-POS APPLICATION

- Delivery of items to the FPS dealer by Authentication of Route Officer & FPShop owner

- Best finger Detection

- Online Aadhaar Authentication of card holders

- Sale of PDS commodities

- Aadhaar seeding

- Complaints registration

BENEFITS

- Creating information visibility of supply chain will reduce diversion.

- Movement of commodities at market price all the way till the sale point.

- Generation of delivery order, truck challans, receipts enabling tracking of stock movement from FCI godowns to MLS points and from MLS points to FPShops

- Obtaining up-to-date statements of stock lifting and stock at various stock points

WORKFLOW OF AADHAAR ONLINE AUTHENTICATION THROUGH EPOS APPLICATION

Organic & Inorganic Seeding ---**

IMPACT & ACHIEVEMENTS:

1. Aadhar Seeding reached 98%, resulting in deduplication and removal of bogus cards.
2. More than 5 Lakh citizens' requests through Meeseva addressed
3. Supply Chain Management with more than 40,000 Release Orders generated all over the State per month and also exact dispatch details of date, Truck no, truck date etc.
4. Savings in subsidy to the GoI and AP Govt.
5. Beneficiary receives SMS about arrival of stock at FPShop
6. Mobile App giving allocation details and closing balances is available at https://apps.mgov.gov.in/descp.do?appid=836&param=app
7. Monitoring of fraud
8. Delivery of ration to all the eligible beneficiaries

SCENARIO BEFORE AePDS

- Manual allotment/ dynamic Key Register
- Route Officer stock deliveries not monitored real-time
- Lack of information to card holders on arrival of stocks resulting in multiple visits
- Difficulty in identifying genuine beneficiaries
- No tracking of stock distribution
- No billing and incomplete manual records/stock details
- Leakages
- Improper calculation of closing balance
- Routine inspections with incomplete data

SCENARIO AFTER AePDS

- Accuracy in closing balance and allotment
- Route officer delivery monitored online
- Information to card holders
- Genuine beneficiaries only
- Savings
- Card holder satisfaction
- Stock visibility
- Complete MIS

CHALLENGES FACED WHILE IMPLEMENTING THE PROJECT

- Training and capacity gaps within civil supplies officers in field and ration shop owners
- Selection of technology partner (PoS Device)
- Seeding of EID/ UID/ Mobile No./ Bank Account of the beneficiaires
- 24X7 Operational and technical Support
- Aadhaar Seeding and cleansing of ration card database
- Removal of duplicate/ bogus ration cards/ members
- Allotment of commodities to the ration shops based on real time closing balances to enable transparency and accountability
- Connectivity achieved with mix of Network Survey and
- GPRS
- Establishing Antenna for GPRS for PoS
- Broadband
- WIMAX
- CDMA

TECHNOLOGY

AePDS was developed using Open Source technologies and the technology components are Java, JBOSS web server, RHEL OS and PostgreSQL Database

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.**

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