

FPS Automation in Madhya Pradesh – A Unique Model

Background

The goal of the FPS Automation is to use the Information and Communication Technology (ICT) tools and management practices to make Targeted Public Distribution System (TPDS) more efficient, effective & transparent and to bring about increased accountability in the system. This is envisaged to be achieved by making the delivery and management system transparent and addressing the current challenges of TPDS.

Following objectives need to be met in order for the successful FPS level automation to be achieved:

- Electronic authentication of delivery and payments at fair price shop level.
- Biometric authentication at the time of delivery of food grain.

To achieve these objectives, the Department of Food, Civil Supplies and Consumer Protection, Government of Madhya Pradesh is launching an initiative wherein the process of delivery of rationed food grains to entitled beneficiaries will be automated in 22,165 Fair Price Shops (FPSs) of the state. All the FPSs will be provided with a Point-of-Sale (PoS) device that will enable the beneficiary to identify themselves using their Aadhaar number (or SAMAGRA Id) in real-time, obtain their entitlement and a receipt of transaction while reducing the diversion of stocks which is a major challenge to be addressed.

The Department, in a phased manner, plans to implement biometric authentication of all beneficiaries while delivering the allocated quota of food grains to them from Fair Price Shops in order to ensure that the leakages and stock diversions are minimized, while also enabling the beneficiary to take their entitlement in part which is also one of the key objectives of the Department.

FPS Automation Modes

There are 3 FPS automation modes that will be followed in the State of Madhya Pradesh to authenticate the beneficiaries and distribute the ration commodities using PoS machines. Following is a brief on all the automation modes:

1. Online ASAR (असर) mode:

Online mode with असर (अपनी सुविधा अपना राशन) mode (Mode 1) will be implemented in the cities of Bhopal, Indore and Khandwa in the first phase. Some more cities/ towns may be added subsequently to this model. In online ASAR mode,

beneficiary is free to get the ration from any of the Fair Price Shop within a particular local body. All the transactions related to the beneficiary at FPS will be fully online. This initiative will introduce biometric authentication of beneficiary at the time of service delivery to check proxy issues and empowering beneficiary with the right to choose FPS by offering portability of FPS, to improve service delivery. All the FPSs will be equipped with a POS device with GPRS connectivity. Each Eligible Household beneficiary family will be authenticated in real-time using Aadhar biometric authentication server. PDS commodities will be delivered to Eligible Household beneficiary families with Aadhaar authentication. Beneficiaries therefore will be able to go to any FPS to claim their entitlements. Portability therefore will not only introduce ease to beneficiary but will also create healthy competition and fear of losing customer among service providers (FPS owners), giving them a reason to improve service delivery, in terms of not only quality and quantity of commodities delivered but in the behavior and treatment of the beneficiaries at FPS. Further, state government perceives this competition will bring down the number of PDS shops in the areas where the ASAR mode is implemented to an optimum level. Finally, the lowering of number of PDS shops will ensure that the higher commission will be generated for the remaining shops as the quantum of food grains lifted from those shops will be higher. Therefore, state government perceives an overall positive impact on the long-term sustainability of the remaining PDS shops in the areas where there the ASAR implementation is conducted. Following are the steps involved in this mode:

- i. PoS device gets connected with the server and registers itself on the server.
- ii. Beneficiary provides the biometrics in PoS device.
- iii. PoS read the biometrics and send it to the Aadhar server through GPRS enabled device to get authentication of beneficiary
- iv. Once the beneficiary gets authenticated, her remaining entitlement for the month is obtained from the central server and displayed.
- v. The ration is given to the beneficiary as per the entitlement and a receipt of the same is generated.
- vi. In case the Aadhaar is not available or Aadhaar is available but not getting authenticated because of some reason, the ration will be distributed on the basis of the eligibility obtained from the central server on the basis of SAMAGRA Family ID/ Individual ID.
- vii. All the sales transactions are recorded with the central server in real-time
- viii. The PoS machine also generates the receipt of material received at the FPS and such receipt is recorded on the central server.

2. Online Non ASAR (असर) Mode:

The beneficiary will be bound to a particular fair price shop (i.e. the beneficiary can obtain their ration only from that particular shop). However, all the transactions under this mode will be online. Under the online non-असर Mode (Mode 2), Aadhaar based authentication will be carried out in the initial phase in rural as well as urban areas of three districts – Hoshangabad, Harda and Burhanpur and in rural areas of Khandwa. In the remaining districts, Fair Price Shops where online connectivity is available, SAMAGRA based authentication (beneficiary will be identified on the basis of their SAMAGRA family/member id, a unique feature used in Madhya Pradesh in which every citizen of the state has been given a unique no & this no features in the ration card database) and commodity distribution will be done. Subsequently, this model will be expanded in all the remaining Fair Price Shops (where offline mode is implemented) as soon as the online connectivity is available. Even in the districts where the beneficiary authentication will be conducted using Aadhaar number, no beneficiary will be denied the ration commodities in its absence. SAMAGRA family/ individual id will be utilized to authenticate the beneficiaries and provide ration in such cases. Following are the steps involved in this mode:

- i. The PoS machine will download the list of eligible families and their eligibility from the central server in the beginning of the month
- ii. PoS device gets connected with the server and registers itself on the server.
- iii. Beneficiary provides the biometrics in PoS device.
- iv. PoS read the biometrics and send it to the Aadhar server through GPRS enabled device to get authentication of beneficiary
- v. Once the beneficiary gets authenticated, her remaining entitlement for the month will be displayed on PoS device.
- vi. The ration is given to the beneficiary as per the entitlement, a receipt of the same is generated and her entitlement is reduced on the machine database as per the actual sale
- vii. In case the Aadhaar is not available or Aadhaar is available but not getting authenticated because of some reason, the ration will be distributed on the basis of SAMAGRA ID.
- viii. All the sales transactions for the day are recorded with the central server at the closing of the day when the machine is connected with the central server
- ix. The PoS machine also generates the receipt of material received at the FPS and such receipt is recorded on the central server at the end of the day.

3. **Offline Mode:**

The beneficiary will be bound to a particular FPS and there will be no connectivity at the FPS. Offline mode is to be adopted in remaining Fair Price Shops where connectivity is not available at present. However the Department intends to discontinue this model in the future as soon as the connectivity is available and replace it with Mode 2 or Mode 1 as the situation necessitates. Following are the steps involved in this mode:

- i. The PoS machine will download the list of eligible families and their eligibility from the central server in the beginning of the month
- ii. Ration will be distributed on the basis of SAMAGRA ID verification.
- iii. The sale transaction and receipt thereof will be generated through the PoS device
- iv. The machine database will be updated as per the sales on real-time basis.
- v. The FPS shopkeeper will come to an area on a designated day once every week with the PoS device where he can connect with the server and the data will be uploaded to the central server.
- vi. The PoS device will also generate the receipt of material received at the Fair Price Shop and such receipt is recorded on central server on the next designated day.

Automation Process

The proposed automation process required Point of Sale (PoS) machines at every PDS outlet. The Govt of India has given a model where it expects the FPS dealer to buy a PoS machine and the state govt to make payment to the FPS dealer on a monthly basis out of the Rs. 17 per quintal commission assigned for this purpose. The model has basic advantage that it can be implemented in quick time and the onus of maintenance of PoS machine lies with the FPS dealer thus ensuring better availability of these machines. However one serious apprehension in the model is limited bargaining capacity of an individual FPS dealer vis-à-vis the PoS supplier. Generally the suppliers are big companies which may not provide timely maintenance services leading to problems in timely distribution of commodities. This will create pressure on the system to deliver without the PoS machine (which the dealer himself will be interested in) and ultimately will lead to failure of the automation process.

Department of Food Civil Supplies & Consumer Protection in Madhya Pradesh sensing this danger has gone for a different model. The model envisages installation of PoS machines through a third party who will also be responsible for its maintenance. The upfront investment in machines will be done by this third party and he will be given a monthly payment (arrived through a transparent bidding process) over the next 5 years based on availability of the machines. The Service Level Agreement (SLA) requires the private partner to repair or change a malfunctioning PoS machine within 48 working hours after the receipt of information. As the PDS dealer has a vested interest in malfunctioning of the PoS machine, SLA has been designed

keeping in mind a balance between the interests of the FPS dealer & the private partner. What has actually been needed is a system where commodity distribution is not affected due to poor maintenance of the machines and also the private partner does not get penalized for a non-scrupulous action on part of the FPS dealer. The availability of the PoS machine will be monitored through a central server with little human interface.

The SLA specifies clearly the formula for payment or penalty. Following decision tree will be in force to check if there are penalties to be levied on the vendor for a given month:

1. Is the machine online (available) for at least 20 days in the month as per the log files available on the central server?
2. If YES to 1, then payment will be made to the vendor
3. If NO to 1, then it will be checked whether the number of unique transactions (transaction conducted using a single ration card will be termed as a single unique transaction no matter how many times the ration card is used in the month) crossed 80% of the ration cards associated with that Fair Price Shop in the month?
4. If YES to 3, then payment will be made to the vendor
5. If NO to 3, then it will be checked whether the FPS shopkeeper lodged a complaint with the Helpdesk regarding malfunctioning of the PoS machine?
6. If NO to 5, then payment will be made to the vendor
7. If YES to 5, then apart from not getting payments for that month for that shop penalty will be levied on the vendor for that month

The State started the bidding process in the month of October 2014. Entire State was divided into 7 groups with approximately 3000 FPSs/ group and a System Integrator to be selected for each group. While the same System Integrator would be able to work for multiple groups, a single System Integrator was not allowed to work in more than 4 groups. The RFP (Request for Proposal) to hire the System Integrator was floated with support from MP State Electronics Development Corporation (MPSEDC). On the basis of original RFP, a pre-bid conference with potential bidders was organized in November 2014. On the basis of queries and feedback received during the pre-bid conference, a corrigendum was issued by MPSEDC and final bid submission date was revised for December 2014. The State required four rounds of bidding as the rates quoted by the vendors initially were very high. But successive bidding brought the price to a lower & more acceptable level well within the limits stipulated by Govt of India. The State has been finally able to select SI for all the seven groups. The SI is right now in the process of preparing the customized software that will work with NIC-designed PDS software and deliver the services. They have been given 16 weeks time to complete the installations at all PDS shops in the State. The State hopes to complete the automation process at all shops in the third quarter of the current financial year.