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**INTEGRATED WEIGHT MANAGEMENT-CUM-MIS SOLUTION
FOR PDS IN GAYA – AN IAP INITIATIVE**

Introduction

The District Administration Gaya, Bihar, under the IAP has developed an IT based solution for the Public Distribution System with the aim to ensure that the right amount of food grains reach the right beneficiaries. The objective of PDS computerization in Gaya is to provide a solution which would automate the Public Distribution System, stop leakages and offer transparency and accountability to the entire process. The components of e-PDS are the Integrated Weight Management System, Management information System, Inventory Management, GPS based Fleet Tracking for Grain transportation, SMS based Information Dissemination & M-Governance and Public Grievance Redressal.

Need for Intervention

The existing TPDS due to inherent weakness in the system was unable to plug in the leakages and pilferages. The interaction with officers, beneficiaries, dealers, public representatives and other stake holders revealed the nature and extent of malpractices. There were many instances of the following major malpractices:

- Trucks carrying food grains from FCI to BSFC were being diverted on the way.
- There were differences in the quantity of food grains which was loaded in the trucks and quantity in official records.
- BSFC allocation to FPS was done manually resulting in manipulation of data.
- The FPS dealers were given less food grain than the actual allocation at BSFC godowns.
- The FPS dealers distributed food grains erratically among the beneficiaries despite the introduction of coupons.

There were also problems of weighing, storage, lack of information dissemination among the beneficiaries and absence of involvement of local panchayat representatives in monitoring of PDS.

Conceptualization

The District Administration undertook a task of examining the existing system, having discussions with stake holders and a study of existing models of computerization of PDS in other parts of the country like Chattisgarh, NIC etc was done. This exercise revealed that a comprehensive IT based solution was needed along with generating

awareness among the beneficiaries to make TPDS responsive to the needs of the people. The aim was to provide complete end-to-end solution that eliminates the chances of manipulation and provides access to the citizen for monitoring. IAP provided an opportunity to make this objective into reality. An EOI seeking consultancy on establishment of Integrated Weight Management-cum- MIS Solution for Public Distribution System in Gaya was published in newspaper in May 2011. Power Point presentation by intended bidders was reviewed by a panel of experts including NIC officials and on merit ground, the product offered by M/s Oglacs Software Pvt. Ltd., New Delhi was selected. The work order was given in September 2011 to M/s Oglacs Software Pvt. Limited on Pilot basis in Sadar Subdivision comprising 07 Blocks and 06 SFC godowns.

The Genesis

- Preparation of the Data Base- The first task was to get the Block/Panchayat wise data base of the beneficiaries of various categories viz. APL, BPL, Annapurna and Antyodaya computerized. Associated informations like distribution of coupons and ration cards too were added to it. Secondly, the data regarding allotment of wheat and rice in the above categories were correlated with the master data base. Particulars of dealers and their individual allotments/quotas too were added. Other data included the details of trucks involved in lifting, the existing food grains in various FCI and SFC godowns etc. We concluded by doing a sample baseline survey among the beneficiaries.
- Training – The training of all personnel involved with this sector was undertaken. The concept and their role and function in the new system was explained to the MOs, Godown managers and other functionaries. The Dealers, truck owners, labourers at FCI and SFC godowns were too taken into confidence.



Training & IEC Activities

- Peoples' Involvement – The officers of District and Sub Division started Apurti (Supply) Jan Adalats and organized Gram Sabhas all over the district in which beneficiaries, public representatives and the dealers were present and had a direct interface with each other. The aim of this was to do concurrent social audit of the schemes under the PDS. The process of strengthening the panchayat level Anushravan and Nigraani Samiti (Monitoring and Viligance Committee) headed by the Mukhiya of the Gram Pachayat was started. The committee had to meet last Friday of the month compulsorily and the proceedings of the meeting were to be sent to Sub Divisional Office. Govt. functionaries were encouraged to attend these meeting to guide and train the Committee.



Jan Adalat at Dumariya Block in Sherghati Sub Division

e-PDS

Public distribution system cum weight management system describe in below components

A-Integrated Weight Management System

The backbone of the process is an Integrated Weight Management System (IWMS). The IWMS is primarily centered on Electronic Weigh Bridges. With Electronic Weigh Bridges in place, vehicles are weighted automatically and the weightment are stored and transmitted to remote servers by the machine itself without any need for manual intervention. This completely eliminates any chances of misappropriation of commodities as the exact weight of arrived commodities is recorded. If there is difference in the weight of the arrived quantities compared to the weight of the dispatched commodities, an SMS based theft alert and a theft report is automatically generated and sent to concerned officials.



Electronic Weighing of Food Grains

B-Management Information System

A Management Information System had been implemented to computerize record keeping and management of data related to PDS. The MIS is hosted on servers located at Gaya DM Office (HO). A supervisor and Tele-call executives are based at the HO to continuously monitor the process and resolve any issues.

The MIS contains data of the godowns, transporters and trucks, movement of grains, electronics, stocks, FPS and consumers. The MIS provides automated generation and exchange of reports related to daily activity in PDS. All orders, sales, banking, transactions and other processes are automated, resulting in a fast and efficient system.



Electronic Weigh Bridge Operator at Belaganj Block

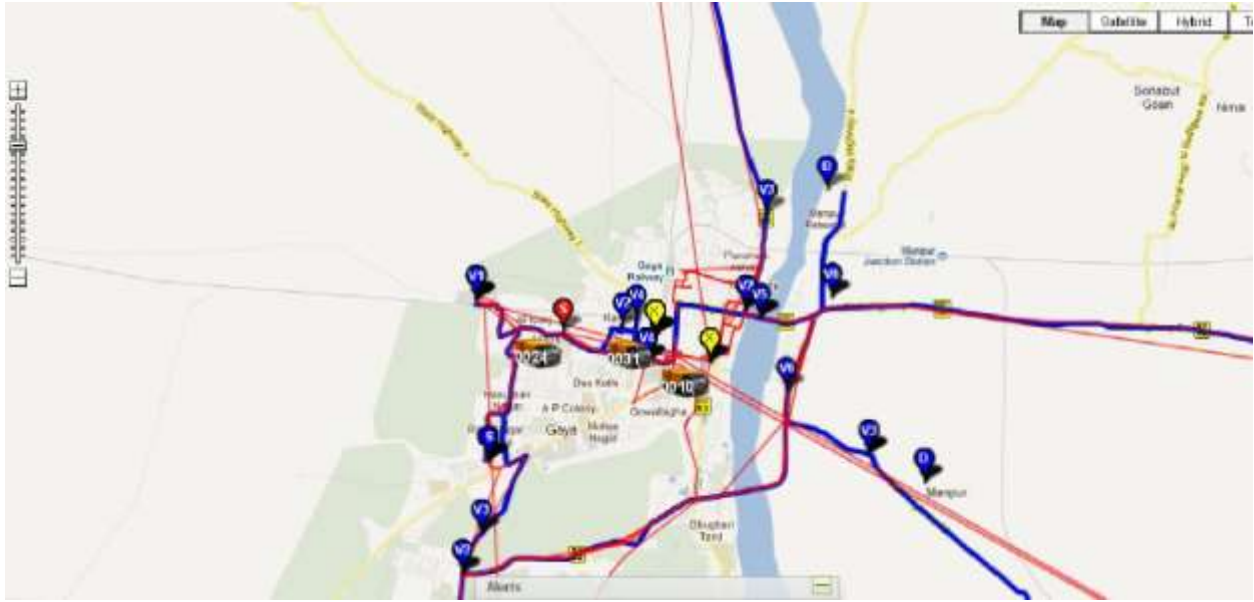
C-Inventory Management

Inventory management allows the warehouse to decide the quantity of grains that need to be buffered for maintenance of an uninterrupted supply chain. This ensures that neither is there a shortage of grains nor is there surplus grain, that may require more storage and hence cause loss due to infestation and rot. Inventory reports are available round the clock on the portal www.pdsonline.in with real-time updates.

D-GPS based Fleet Tracking for Grain Transportation

All trucks transporting foodgrain from FCI to BSFC godowns are to be fitted with **GPS+GPRS** devices which transmit their physical location information in real-time mode. Route charts for these trucks can be planned in advance including their source, via points, stoppage points, speed limits and destination. If a truck diverts from its route in the course of grain movement, SMS based alerts are automatically sent to concerned officials.

The same happens if the truck over-speeds or stops at undesigned stoppages for some time. Alerts are also generated and received when the truck leaves the source or arrives at the destination. All trucks can be tracked online on maps.



GPS Tracking of Trucks Live Screen Shot

E-Sales to Beneficiary

All sales at FPS outlets to consumers are recorded using Point-of-Sale (POS) Terminals. Coupons brought by the consumers are scanned using a barcode scanner attached to the POS terminal. The POS automatically identifies the consumer and sales to the consumer are recorded by the terminal. The terminal has an intelligent application that not only records the date, time, rate and quantity of grains sold against the coupon, it also “speaks out” the quantity and total cost of the commodities so that the consumer can know what transaction has been done by the FPS outlet.



POS Terminal with Barcode Scanner and Printer



Dealer Using the Terminals

All sales are directly uploaded to the main MIS server where FPS sales reports can be generated. If GPRS connectivity is not available, the POS locally stores the transaction and updates the details when connectivity is available.

F-Citizens Interface

e-PDS Gaya offers the most comprehensive citizen's portal till date. Consumers can register with the portal www.pdsonline.in. Inside the portal they can register for various alerts like SMS and email alerts which will be automatically sent to them when their FPS dealer receives grains from BSFC. For lesser privileged public, the MIS automatically sends SMS to all members of the Panchayats/wards level vigilance committee informing them about foodgrain offtake by FPS dealers within their Panchayats/wards.

The best part is the grievance section, as it not only allows the user to register a complaint rather it allows it to follow the complaint and view its status online. Comments made by the administrative officials on a consumer's grievance for resolution can be viewed by the consumer. It also allows the consumer to know whom the complaint is assigned to from time to time and its status, till it is closed. A Toll-Free number is yet another important feature of this application on which complaints can be registered.

G-SMS based Information Distribution and M-Governance

. As an M-governance initiative, all administrative officials can keep track of the system on their mobile phones and for that they need not to be online all the time. e-PDS Gaya provides generic/platform specific mobile phone applications to govt. officials to keep track of the system on their mobile phones, allowing access to the MIS remotely in a simple Graphical User Interface.

Officials can view all reports; receive notifications and alerts on their phones. The same can also be accessed on tablets. In addition to this, GPS tracking of trucks can also be viewed in real-time on the mobile phone and tablets.

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Comparison with Other e-PDS Models of other States

Sl.	Feature	e-PDS, Gaya	Tamil Nadu	Gujarat	Chhattisgarh
1	Integrated Weight Management	Yes	No	No	No
2	GPS Tracking	Yes	No	No	Yes
3	Mobile based Management	Yes	No	No	No
4	POS for Beneficiary Sales	Yes	No	Yes	No
5	MIS & Inventory Management	Yes	Yes	Yes	Yes
6	SIO Automation	Yes	No	No	Yes
7	SMS for Village Vigilance Committees	Yes	Yes	No	No
8	SMS & Toll-free Complaint	Yes	Yes	-	Yes
9	Grievance Redress	Yes	No	-	Yes
10	Reports	Many	Few	Few	Many
11	Coverage of Nodes (FCI, SFC,FPS)	All	SFC Only	FPS Only	FCI & SFC

Outcome

**PARTICULARS OF ACTION TAKEN UNDER THE ESSENTIAL COMMODITIES ACT, 1955
(Relating to Offences under E.C. Act other than violation of stock control orders)**

MONTH/YEAR	COMMODITY		TOTAL QUANTITY SIEZED IN GAYA	TOTAL QUANTITY SIEZED IN SADAR SUBDIVN.
Sep-11	Wheat	Rice	4.5/7.1	4.5/7.1
Oct-11	Wheat	Rice	71/20	46/10
Nov-11	Wheat	Rice	75	Nil
Dec-11	Wheat	Rice	42.94/56	Nil
Jan-11	Wheat	Rice	3.6/71.6	Nil/60

SMS sent related figures to foodgrain offtake

Month	No of Dealer offtake	No of SMS sent
11-Oct	490	3890
11-Nov	500	4200
11-Dec	492	4000
12-Jan	500	4200
12-Feb	250	2000

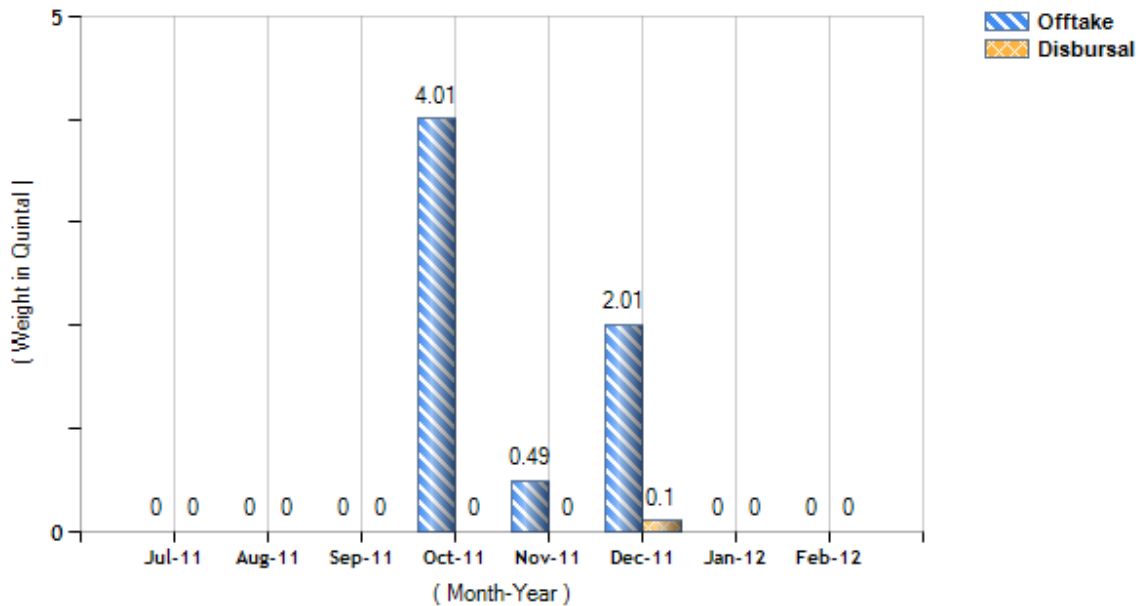
Dealer-wise offtake Vs disbursal report

Period : Jul/01/2011 to Feb/17/2012

Dealer: Oglacs21 Scheme: All

Total Offtake = 6.51 Qtl (Rice = 0.49 Qtl , Wheat = 6.02 Qtl) Total Disbursal = 0.1 Qtl (Rice = 0.1 Qtl , Wheat = 0 Qtl)

LEFT OVER WITH THE DEAL : 6.41 Qtl



Impact

The impact that e-PDS has made on Gaya can only be judged with time. However, very promising results already seem to coming.

The first beneficiary of the system has been the BSFC godowns, who have started receiving the right amount of grains from FCI without any pilferage by transporters as GPS installation in the trucks has eliminated diversion of grains. Electronic weighing has also ensured that arrived grain is weighted without any manual intervention, altogether eliminating any chances of theft and leakages during transit from FCI to BSFC.

Dealers have often complained about getting lesser than allocated amount of grain from the BSFC godowns. By elimination of manual weighing and introduction of electronic weighing, dealers now getting the complete quantity of their grain allocation from BSFC godowns. In fact, dealers have been all praise for the new system.

Consumers have however been the actual gainers. Hundreds of complaints have been received online and on toll-free number about black marketing of grain, malpractices by

dealers and in some cases, even the dealers themselves complaining about errant government officials.

Panchayats/wards Vigilance Committee members are informed through SMS about dealer off-take. This has helped citizens to ask their dealers for their allocation of grains without the dealer being able to deny or make excuse.

POS terminals provide daily sales report by dealers in the district to the consumers. Sales patterns of all dealers are generated and dealers not selling grains to the consumers are being taken to task. This has significantly improved the disbursement of grain to the poor.

The Road Ahead

There has been both resistance and acceptance to this initiative under the IAP. Resistance in implementing the project came from the transporters who initially refused to install GPS on their trucks and middlemen who benefitted from the loopholes. The acceptance and benefits accruing to the consumers and dealers have encouraged us to launch the second phase of this project.

Phase	Time Chain	Phase	No. of Blocks	No. of Godowns	No. of Beneficieries
1	Sept' 2011 – January 2012	Pilot (Sadar Subdivision)	7	6	AAY-36266 BPL-159320
2	February 2012- April 2012	Expansion(Neemchak Bathani & Tekari Subdivision)	8	5	AAY-19932 BPL-82783
3	May'2012- July'2012	Saturation(Sherghatty Subdivision)	9	5	AAY-29218 BPL-143190