

Implementation Guidelines for States & UTs

End-to-end Computerization of TPDS Operations

Component-I

Department of Food & Public Distribution

Ministry of Consumer Affairs, Food & Public
Distribution

National Informatics Centre

Department of Electronics & Information
Technology

Ministry of Communication and
Information Technology

CONTENTS

FOREWORD.....	3
1. SCHEME IMPLEMENTATION	4
1.1 Implementation Model	4
1.2 Implementation Agency	5
1.3 Management Structure	5
1.4 Infrastructure to be leveraged	5
1.5 Monitoring & Governance	6
1.6 Contingency & exception handling	6
2. SCHEME COMPONENTS / ACTIVITIES.....	6
2.1 Data Center Infrastructure (DCI) [A].....	9
2.2 F&CS offices/locations at State HQ, District, Block and Storage Depot Level [B to E]	12
2.3 State Project Management Unit (SPMU) [F].....	13
2.4 Training [G]	14
2.5 Technical Support Staff (TSS) [H]	16
2.6 Application Support [I].....	16
2.7 STQC Audit [J].....	18
2.8 SMS Alerts [K].....	19
2.9 Awareness Cost [L]	20
2.10 Toll free Call Centre [M].....	21
2.11 Portal [N]	22
2.12 Assessment [O].....	24
2.13 Digitization [P]	24
2.14 AMC Component [Q]	26
Annex-I: Management Structure for the Plan Scheme	27
Annex-II: Terms of Reference of various bodies as part of Management Structure	28
Annex-III: Step by step approach for NIC's CAS	32
Annex-IV: Admissible Sub-Components	36
Annex-V: Cost Estimation for providing financial assistance for the period 2012-17.....	38

FOREWORD

Computerization of Targeted Public Distribution (TPDS) operations has been taken up across the country on the priority basis with a view to address various challenges of the current system such as leakages and diversion of foodgrains in the TPDS supply-chain, fake and bogus ration cards, inclusion and exclusion errors, lack of transparency, weak grievance redressal & social audit mechanisms.

The modernization of TPDS including its computerization is the primary responsibility of the States/UTs. With a view to provide technical, financial and infrastructural support to States/UTs, a Plan Scheme on End-to-End Computerisation of TPDS Operations has been launched by the Government of India on cost-sharing basis for implementation during the 12th Five Year Plan (2012-17).

Component-I of the Scheme is to be implemented in the initial phase which comprises following key activities:

1. Digitization of ration cards/ beneficiary and other databases,
2. Computerization of Supply-Chain Management,
3. Setting up of Transparency Portal and
4. Grievance Redressal Mechanisms.

The timelines stipulated for implementation of the scheme are as follows:

- Digitization of beneficiary and other databases by March 2013 and;
- Computerization of supply-chain by October 2013.

For the Scheme on End-to-End Computerisation of TPDS Operations, Implementation Guidelines have been prepared by the Department in consultation with National Informatics Centre (NIC) keeping in view of requests received from States/UTs seeking guidance for principles to be followed, clarifications, etc. for Computerisation of TPDS and provides a way forward for scheme implementation. These guidelines may not cover specific problems being faced by States/UTs, for which they may take up such issues with NIC, who are Centre's technical partner for the scheme. Some States/UTs have also raised issues relating to FPS automation, collection of biometrics, etc. As these issues are not covered under Component-I of the scheme, they are not discussed in these guidelines.

These Guidelines are meant for use of Food & Civil Supplies (F&CS) Departments of States & UTs implementing Component-I of the Scheme and are in continuation of the Administrative Approval dated 10.12.2012 issued by the Department. While few States/UTs may have already undertaken steps for scheme implementation, others may refer to the guidelines while finalizing various aspects of implementation of the scheme.

1. SCHEME IMPLEMENTATION

Following aspects may be kept in view by all States/UTs for implementation of the scheme:

1.1 Implementation Model

The Administrative Approval, dated 10.12.2012, of the Scheme stipulates that the Scheme should not result in mere purchase of hardware without being backed by appropriate application software with required functionality to achieve the outcomes of the scheme. Further, it mentions that NIC will provide the application software(s) for Centre & States/UTs under this Scheme and would carry out the configuration/customization of Common Application Software (CAS) for meeting the requirements of the respective State/UT and also facilitate its roll-out in States/UTs in a time bound manner. NIC will also provide training to trainers of States/UTs.

While some States/UTs are using their own application software for some of the modules, they are mostly not integrated and often lack essential fields that are required for end-to-end Computerisation of TPDS. States/UTs are, therefore advised to utilize NIC's Common Application Software (CAS) to the maximum, including migration of their existing modules to NIC platform.

States/UTs have the option to either undertake implementation of the scheme themselves, or through NIC or hire System Integrators (SIs) for rolling out the technology solution at State level. Such SIs shall be selected through open bid process by the respective States / UTs. The detailed scope of SI's work shall be defined by the States/UTs in consultation with NIC. Well defined Service Level Agreements (SLAs) with clearly identified deliverables and timelines shall be prepared by each State/UT. Indicative scope of work for the System Integrator (SI) which could be hired by State/UT along with terms & conditions would be provided separately. This would help the States/UTs in hiring their SIs.

At the same time, it has to be ensured that all technology solutions developed for end-to-end Computerisation of TPDS operations are integrated, allow seamless data exchange, and should be inter-operable, while being based on open standards. At the national and inter-State levels, NIC will take necessary measures for ensuring inter-operability; prescribe common standards / specifications for data / metadata elements, Point of Sale (PoS) devices, Bio-metrics, Minutiae, Smart Cards, Bar-code, Aadhaar integration, etc. wherever applicable; accessibility of State related data on internet in public domain through a Central portal, executive dashboard for monitoring progress of computerisation, creating and maintaining single unified information system including Management Information System (MIS), etc.

1.2 Implementation Agency

In view of the above, it is recommended that States & UTs may engage a common agency for implementation of activities, namely, (a) supply and installation of IT Infrastructure required for - application software / CAS, State F&CS offices & storage godowns; (b) training to F&CS staff; (c) technical manpower; (d) field level maintenance support during the project term, (d) creation of State PDS portal as per standards and linking the same with National PDS Portal, etc. It would be advantageous for the States & UTs to have a single agency accountable for project implementation on turnkey basis and easier to monitor. Such agency could also be used for TPDS application software purposes, such as its development, operations & maintenance, STQC audit, etc. if they are not opting for CAS.

1.3 Management Structure

For the implementation of the Plan Scheme, this Department has issued Administrative Approval dated 10.12.2012, wherein a management structure was also stipulated. Subsequently, the overall management structure for the Scheme has been strengthened by this Department, which comprises of various bodies at Centre and State/UT levels with well-defined roles. Copy of the schematic representation along with the Terms of Reference of these bodies is at [Annex-I](#) & [Annex-II](#).

1.4 Infrastructure to be leveraged

The Scheme may leverage existing State initiatives, infrastructure / platform created under other Government schemes, etc. Some of these are:

- D/o Electronics and Information Technology's (DeitY's) schemes under National eGovernance Plan (NeGP): Common Services Centers (CSCs), e-District, State Service Delivery Gateway (SSDG), Mobile Services Delivery Gateway (MSDG), National Optical Fiber Network (NOFN), National Data Centers (NDCs) and State Data Centers (SDCs), State Wide Area Network (SWAN), etc. as per feasibility.
- Aadhaar and NPR for biometrics of individuals
- NIC's SIMS, eRCMS, FEAST, etc.
- Infrastructure / platform created with Central Government assistance under pilot schemes in Andhra Pradesh, Assam, Chandigarh, Chhattisgarh, Delhi and Haryana.

1.5 Monitoring & Governance

NIC shall prepare an executive dashboard which would be used for monitoring the State-wise progress of the scheme. States/UTs shall report the status of various activities / sub-component on fortnightly basis through the same. DoF&PD would review progress of each State/UT regularly & at least once in a fortnight, through visits, video-conferencing and meetings.

Once a State/UT reports accomplishing all activities envisaged under the scheme and requests for release of subsequent installments, DoF&PD's Mission Mode Project (MMP) Team would review such requests and provide its recommendation to DoF&PD for further action.

1.6 Contingency & exception handling

It is essential that States/UTs undertake preparatory work for scheme implementation while looking into the various aspects of contingencies & protocols for exception handling. Some of these are briefly mentioned as below:

- System & infrastructure related contingencies – non-availability/failure of electricity, issues of insufficient connectivity/bandwidth at various locations, need for appropriate backup facilities, issues relating to server or machine level failures due to software/hardware, technical support for far flung locations, training of F&CS staff to handle computerized operations, etc.
- Process related contingencies – duplicate and bogus ration cards in the manual list, mechanisms of creating digitized beneficiary records, seeding Aadhaar numbers in beneficiary database, Officers & staff well familiar with TPDS operations, etc.

2. SCHEME COMPONENTS / ACTIVITIES

NIC's Common Application Software (CAS)

NIC has developed a Common Application Software (CAS) which covers the entire spectrum of TPDS operations as per the scheme requirements. CAS comprises of modules for creating Masters, computerised generation of allocation order, movement of commodity from FCI godown till FPSs and sale of commodity to the beneficiary*. A brief summary of various modules as part of NIC's CAS is given at [Annex-III](#). These modules cover various steps (fig-1)

*Automation of FPS is not part of the current mandate under the scheme

which are required to be implemented by States/UTs to achieve end-to-end computerization of TPDS operations.

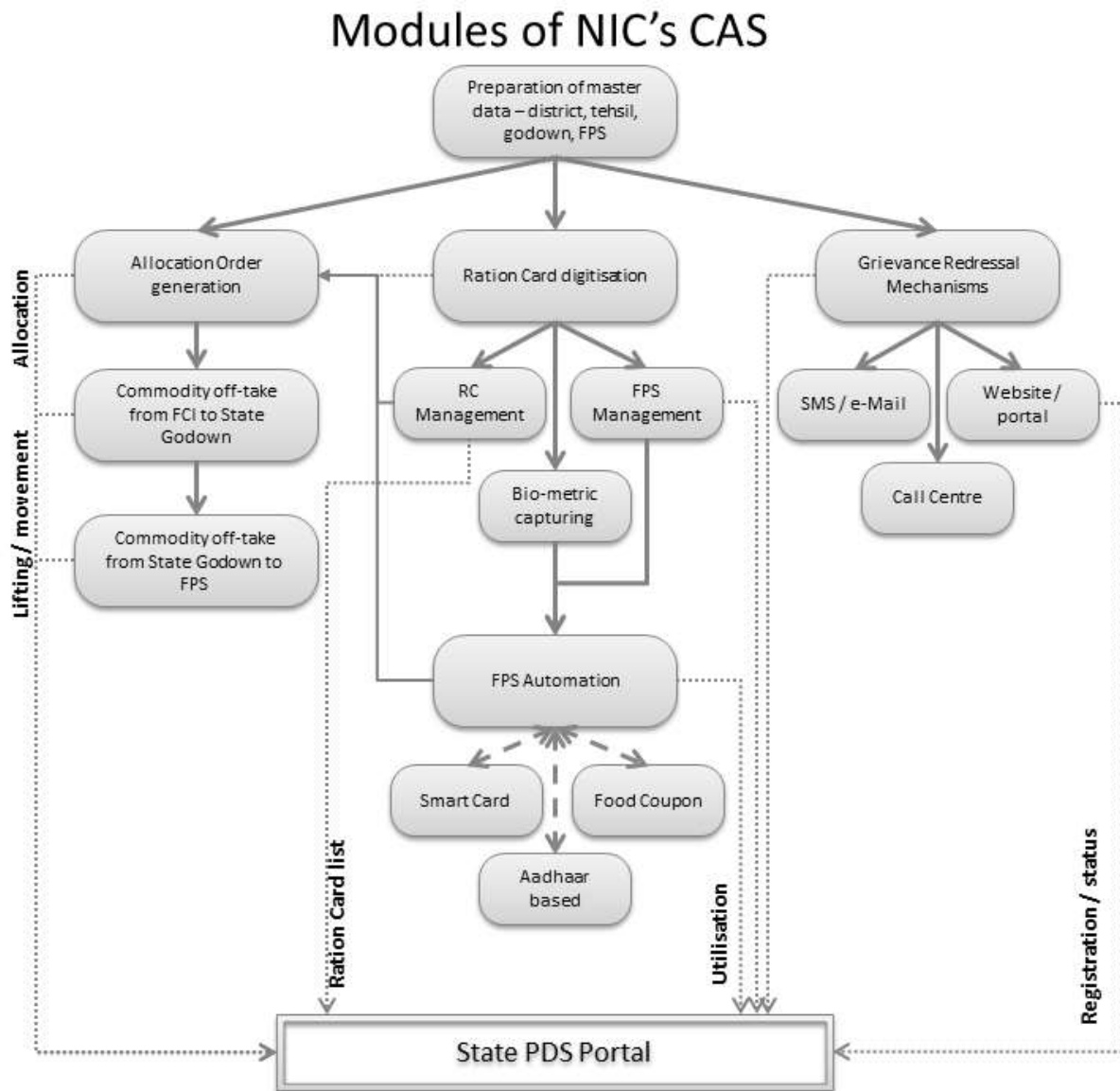


Figure 1

States/UTs opting non-CAS based application software

States / UTs to ensure that all solutions developed under the scheme are integrated, allow seamless data exchange, inter-operable and based on open standards. State specific TPDS operations data would be made available on State PDS Portal as well as National PDS portal. The application software vendors for such States / UTs may work in close coordination with NIC.

Details of various scheme activities envisaged under the scheme

The Administrative Approval dated 10.12.2012 stipulates sub-components admissible under the scheme ([Annex-IV](#)) along with their cost estimation parameters ([Annex-V](#)) for enabling States/UTs to prepare their financials proposals. As these guidelines are in continuation to the above referred administrative approval, a mapping between these two documents is tabulated below for convenience of the States/UTs:

Description / Item	Administrative Approval dated 10.12.2012	Implementation Guidelines
Management Structure for Centre and States/UTs	<ul style="list-style-type: none"> Page 1 Section 6 (page 6) Annexure-II (page 25) Annexure-III (page 26) 	<ul style="list-style-type: none"> Section 2.3 (Page 5) Annex-I (Page 27) Annex-II (Page 28-31)
Details of NIC's CAS incl. hardware requirements	<ul style="list-style-type: none"> Section 3 (page 3) 	<ul style="list-style-type: none"> Section 3 (page 6-7) Sub-section A (page 9) Sub-section I (page 16) Annex-III (page 32)
Implementation Model	<ul style="list-style-type: none"> Section 4 (page 5) 	<ul style="list-style-type: none"> Section 2.1 (page 4) Section 2.2 (page 5) Section 3 (page 6-7) Also reference at Sub-section A, H, I & J
Leveraging of other schemes	<ul style="list-style-type: none"> Section 8 (page 7) 	<ul style="list-style-type: none"> Section 2.4 (page 5)
Data center infrastructure	<ul style="list-style-type: none"> Annexure-V (Page 28) 	<ul style="list-style-type: none"> Sub-section A (pg 9-12)
F&CS Office Infrastructure at HQ, district, block & godown	-do-	<ul style="list-style-type: none"> Sub-section B to E (page 12)
State PMU	-do-	<ul style="list-style-type: none"> Sub-section F (pg 13-14)
Training	-do-	<ul style="list-style-type: none"> Sub-section G (pg 14-15)
Technical Support	-do-	<ul style="list-style-type: none"> Sub-section H (pg 15)
Application Support	-do-	<ul style="list-style-type: none"> Sub-section I (pg 16-18)
STQC audit	-do-	<ul style="list-style-type: none"> Sub-section J (pg 18-19)
SMS alerts	-do-	<ul style="list-style-type: none"> Sub-section K (pg 19)
Awareness	-do-	<ul style="list-style-type: none"> Sub-section L (pg 19)
Toll free call center	-do-	<ul style="list-style-type: none"> Sub-section M (pg 20-21)
Portal	-do-	<ul style="list-style-type: none"> Sub-section N (pg 21-23)
Scheme evaluation / assessment	<ul style="list-style-type: none"> Section 7 (page 3) Annexure-V (Page 28) 	<ul style="list-style-type: none"> Sub-section O (pg 23-24)
Digitization	<ul style="list-style-type: none"> Annexure-V (Page 28) 	<ul style="list-style-type: none"> Sub-section Q (pg 24-25)
AMC	-do-	<ul style="list-style-type: none"> Sub-section R (pg 25-26)
Important aspects which States/UTs need to look into	-	<ul style="list-style-type: none"> Section 2.6 (page 6)
Service availability parameters	-	Defined for IT hardware & software - A, B, C, D, E

States / UTs may follow these guidelines for implementing the required activities/ components under the scheme at their level:

2.1 Data Center Infrastructure (DCI) [A]

Having a strong architecture is akin to having a good foundation. The objective of this section is to define this architecture which would be in-line with the overall vision for TPDS computerization and also define standards and guidelines for IT infrastructure.

Fund provisioned under this head includes cost of servers, storage, system software etc. for hosting modules of End-to-end Computerization of TPDS.

Details

Implementation of DCI would be the most critical amongst all for the States & UTs. Key consideration for States and UTs would be to look into following aspects:

- What type & quantum of IT infrastructure required for running the TPDS application software – servers, storage, software licenses, etc.
- Secondly, where such IT infrastructure would be hosted & located to run smoothly & un-interruptedly through support of competent technical staff/ resources.

Addressing IT Infrastructure needs:

These requirements would be based on application software chosen by States and UTs. As a first step, States and UTs should choose appropriate application software / modules for undertaking Component-I of the Scheme, keeping in view the timelines of the scheme.

Those States & UTs which would use non-CAS based solution would need to obtain IT infrastructure requirements from their software provider.

NIC's Common Application Software (CAS) is readily available for all States and UTs. NIC has undertaken exercise of sizing of application and database server for CAS. The server sizing is based on the estimated number of concurrent users of CAS at State/UT level. Additional buffer @100%, concurrent application user @40% of total user and concurrent database users @25% of later have been considered which would take care of requirement of Large and mid-category States as well as growing users.

The overall deployment architecture of CAS will be similar for all States implementing CAS. It includes load balancer, web server, application server cluster and database server cluster with high availability. This architecture, specifications and quantity is indicative and have been designed based on currently available technology and may vary as per States/UTs requirements. NIC's CAS facilitates application hosting in two different environments i.e. Open Source and other operating system. Both the setups may be powered by either Open

Source or any other operating system depending on need of environment. Exact architecture and hardware/software requirements can be worked out only on basis of specific needs of each State. The indicative IT Infrastructure for CAS is as follows:

Web Server/Application Server/Report Server: 6 Core, 2 GHz, 12 MB Cache or higher processor, 64 GB DDR-3 ECC memory expandable to 512 GB memory, 2 x 300GB HS SAS HDDs (10K or higher).

Database Server: 12 Core, 2 GHz, 12 MB Cache or higher processor, 128 GB DDR-3 ECC memory expandable to 512 GB memory, 4 x 300GB HS SAS HDDs (10K or higher).

Software: Windows Server Enterprise 2008 or higher, Red Hat Enterprise Linux (Version 5.7 or higher), Apache Tomcat/JBoss (Version 5.1 or higher), Backup Agent, Windows SQL Server 2008 Enterprise edition or higher, PostgreSQL 9.2 or higher, Oracle 10g or higher.

Hardware/Software Support: Servers may be procured with five years on-site comprehensive warranty support including system software support.

Consideration for hosting TPDS application software & its infrastructure in a Datacenter:

One of the primary aspects for selecting a Datacenter is to ensure that a dedicated support team should be available in the Datacenter on 24 x7 basis for managing the critical activities of Data Center and application software. This team shall comprise of network engineer, security administrator, database & system administrator, etc. For States and UTs, provision has been made under Application Support Head of the scheme to hire/build the support team at State/UT level.

Data Centre can be chosen by States & UTs, keeping in view availability of following services on 24x7 basis:

- Storage (SAN) along with backup provisions
- Un-interrupted Electricity through UPS system along with backup provisions
- Precision Cooling Systems i.e. HVAC
- Networking & Security infrastructure including Firewall
- Structured cabling (UTP & Fiber)
- Fire & smoke detection system
- Fire suppression System
- Access Control System
- CCTV monitoring
- Rodent Repellent System
- Water Leak Detection System
- Public Address System

- Physical security

Although the Scheme provides for financial assistance to all States/UTs, IT hardware and software for NIC's CAS or/ other application software at respective Data Centre (DC), States/UTs require looking into these key aspects, viz. (i) IT infrastructure (type & quantity) requirements; (ii) hosting in a secured, reliable and scalable platform; (iii) smooth & un-interrupt operations; and (iv) round the clock support of a competent technical team. In regard to IT Infrastructure requirements, States/UTs may contact NIC Hqrs. w.r.t. CAS, while States/UT using non-NIC application software, the requisite details would be given by respective application vendor. Moreover, as the transactions increases in a State/UT, additional server, memory, processing capacity and Storage Area Network (SAN) space in Data Center would be required; such scalability should be factored while deciding where PDS data could be hosted. As the Data Centre operations would be highly critical, the availability of such services should be min. 99.90 % uptime on 24 x 7 basis.

For hosting the TPDS application software or NIC's CAS, States/UTs have the option to choose either their State Data Center (SDC) or National Data Centers (NDCs). Once States/UTs decide and communicate the desired location of Data Center, it is not recommended to shift the same, at least for 4-5 years because NIC/other agencies would need to invest to build up server & storage resources at their Data Center.

States/UTs with lesser number of Ration Cards may like to consider deploying their application modules on NDC or cloud, particularly in case of Union Territories (UTs) and North-Eastern States and which also help in meeting the prescribed timelines. Depending on the requirement, the disaster recovery for States/UTs will also have to be setup in future where the data can be kept at SDCs.

For catering the requirements of ICT based applications of Government Departments at Central, State and District levels, NIC had setup National Data Center (NDC) at Delhi with an area of approx. 23150 sq. ft. NDC is ISO 27001 certified state-of-art facility with a capacity to house more than 1000 servers and supporting a wide range of technologies incl. cloud. NDC at present hosting 435 servers connected with 562 TB of storage capacity in the SAN. Cloud services offered by the Data Centre aim to optimise utilization and management of ICT infrastructure and provide agility, reliability, scalability and elasticity in provisioning of resources. States/UTs who are interested in using the NDC facility may contact NIC Headquarters for further details including one time and recurring charges.

An amount of Rs. 1.25 crore for State/UTs for DCI, shown in Annex VI of the Administrative Approval dated 10.12.2012 is only an indicative average and the actual requirement may differ from State to State depending upon number of beneficiaries, transactions, etc. Infrastructure requirements would be projected/ assessed by NIC for

States/UTs which are opting CAS and hosting the same at NDC or respective SDC. In case of remaining States/UTs, the Infrastructure requirements would be vetted by NIC.

2.2 F&CS offices/locations at State HQ, District, Block and Storage Depot Level [B to E]

Desktops / laptops are provisioned under the scheme for data entry, online allocation, utilization reporting, monitoring of operations of TPDS at State/UT headquarters level.

At District & block level offices, desktops / laptops would be required for data entry, online management of ration card, generating online allocation of foodgrains, utilization reporting and monitoring the operations of TPDS in respective District/UT. Webcams will be required to take photograph of beneficiary for issuing new Ration Card.

At State Godowns, desktops / laptops would be used for data entry through online application software for capturing receipts and issuance of foodgrains, view of MIS reports, etc.

Bandwidth/ connectivity cost is also provisioned to States & UTs under this head. States and UTs require connecting their offices & godowns through options available such as leased lines, State Wide Area Network (SWAN), NICNET, Mobile GPRS, broadband, NOFN, etc. They are advised to conduct due-diligence regarding type of connectivity available for the locations to be covered. The minimum bandwidth for State and district & block offices should be 1-2 Mbps. PMUs of the respective States/UTs may conduct field level survey to evaluate actual the requirement of bandwidth vis-à-vis availability.

As most of the TPDS operations would be conducted between 9 am to 6 pm, the availability levels of these services and offices should be minimum 99% during these timings.

Indicative specifications for the various items are as follows:

Desktop / Laptop	: CPU 2.8GHz , RAM 4GB, Hard disk 500 GB, 16X DVD-ROM Drive, LAN 10/100/1000 Ethernet, 2 USB ports, 15" TFT screen, Operating System; Windows 7 Professional, etc.
Laser Printer	: USB support, Minimum 18 ppm
UPS	: 1KVA line interactive UPS with 30 minutes backup.
LAN All in one printer	: Printing: Up to 30 PPM; Duplex printing, 100-sheet automatic document feeder, 1 x Gigabit Ethernet 10/100/1000 port, 2 USB 2.0 port, etc. Support printing, copying, scanning, fax, easy access USB drive, etc.

The quantities of the various items which are admissible under the scheme are already shared with States and UTs. However, State/UT may procure the latest hardware within the available fund or may supplement the same from their own resources.

2.3 State Project Management Unit (SPMU)

[F]

As the project involves techno-administrative activities from State to block/FPS level, the role of PMU is critical for success of the project.

Details

SPMU would be set up at State F&CS Headquarter level and headed by a Nodal Officer who shall be responsible for overall implementation of the scheme in the State/UT, with a minimum tenure of 3 years. States/UTs have a flexibility to hire resources like consultants, engineers, computer operators, etc. under this head. In case additional capabilities are desired, States/UTs may make supplementary financial provisions from their end. The hiring of these personnel can be done using open process or through agencies empanelled by Centre /State.

As per the scheme provisions, the PMU shall comprise of the following resources:

- Consultant (with qualifications of BE/B Tech and MBA with 4+ years' experience)
- Jr. Consultant (with qualifications of BE/B Tech and MBA with 2+ years' experience)
- Data entry operator to support the Nodal officer

In this regard, States may also consider engaging a Technical Project Manager (with qualifications of MCA/BE/B Tech) in place of the Consultants referred above as per their requirements. Further, resources if felt necessary, may be included by meeting the costs from State budget.

SPMU must include a dedicated officer from State NIC Unit responsible for the TPDS computerization project so as to ensure due coordination through NIC for project implementation.

The desirable roles & responsibilities of the SPMU Team are given as below:

1. Assess the activities accomplished and yet to be undertaken by States / UT, as part of Component-I of the scheme
2. Assess current ICT levels at various State levels
3. Close coordination with all stakeholders including NIC HQ, System Integrators, FCI, etc.
4. Assess training needs of F&CS staff
5. Assess availability of bandwidth for locations covered under the scheme
6. Prepare hardware & software requirements along with technical specifications

7. Prepare RFP for selecting an Implementation Agency for procuring IT Infrastructure and other required services.
8. Prepare draft contract / agreement for engagement of Implementation Agency
9. Support State/UT Government for CAS customization, obtain feedback/ approvals from State Govt. and communicate the same to NIC's software development team.
10. Support for conducting User Acceptance Testing (UAT) of the application software and coordinate with NIC's team for software deployment
11. Support in conducting STQC audit for the TPDS solution.
12. Monitoring of Service levels of Implementation Agency
13. Monitoring status and progress of activities under the scheme, such as Application software / CAS customization & configuration, training of F&CS staff & officers, hardware / software deployment & installation at various locations in the State/UT, data updation by F&CS, etc.
14. Report status of activities to concerned officers on weekly/monthly basis.
15. Identify the issues and risks, provide mechanism to resolve the issues and coordinate with stakeholders for issue resolution.
16. Coordinate with Service Provider to ensure availability of bandwidth across various locations
17. Support F&CS Deptt. in preparing publicity and awareness campaigns.
18. Support States/UTs for undertaking assessment of the project as per the scheme provisions.

2.4 Training [G]

For smoother functioning of the Computerized TPDS System, State F&CS officials & staff at various levels would be imparted training on the use of technology and for day to day operations. This shall be a onetime activity and requires to be planned keeping in mind the training needs.

Details

SPeMT shall assess the training and capacity building requirements of the State F&CS officials & staff. These training would help F&CS staff to operate the computerize TPDS operations.

The application software vendor would provide trainings & training material for the States & UTs opting for non-CAS based solution. Such States / UTs may consult NIC for various training components which would be required by State F&CS staff.

NIC shall provide training material for the States & UTs opting CAS. Various categories of trainings have been envisaged for users/stakeholders, based on their roles and computer awareness. These are explained hereunder:

Training of Trainers

NIC team shall provide trainers' training to the State designated resources/ agency. These designated resources shall provide training to the application users across the State/UT as per details below:

- i. Duration: 4-5 days
- ii. Mode of Training: Classroom
- iii. Target audience: State HQ and District Officers & Trainers

Basic Computer Training

Without preliminary operational knowledge of computers, F&CS Department staff cannot work in a computerized environment. Basic training on computer skills of all departmental personnel would be conducted. This training comprises hands-on training on computers, its basics and accessories, awareness & using internet, web browser, email, etc. as per details below:

- i. Duration: 2-3 days
- ii. Mode of Training: Class room & Lab
- iii. Target audience: State HQ, District and Taluka Supplies Officers & their support staff, Food Inspectors, operators at State Godowns, etc.

TPDS Application Software Training

F&CS officers and staff are to be trained on the appropriate TPDS application module as per the day to day role they are performing in TPDS Operations. e.g. F&CS staff may be performing the role of Ration Card Manager, or Food Supply Officer, etc. The details are:

- i. Duration: 3-4 days
- ii. Mode of Training: Class room and on the job training
- iii. Target audiences: Actual users of application modules shall be trained as per their respective roles.

Training of top & middle management:

Top management and middle level staff of State F&CS Department shall also be trained to generate and use MIS reports of through CAS so as to monitor operations of TPDS, such as, allocation, off-take, stock position, utilization of foodgrains, ration cards, etc. They shall also be trained to use dashboard of e-PDS portal and State level CAS. The details are:

- i. Duration: 1 day
- ii. Mode of Training: Class room and on the job training
- iii. Target audiences: Top and middle management of FCS.

The trainers could be engaged through the implementation agency or agencies empanelled by Centre /State. All training programmes should have a feedback mechanism so as to assess the efficacy of the trainer and training material. State agencies shall prepare training calendar well in advance for conducting the programmes.

2.5 Technical Support Staff (TSS) [H]

For ensuring that State F&CS officials get acquainted to the new computerized system, technical support personnel, for a limited period, would be deputed at State HQ, district & block level F&CS offices and State godowns. These resources would be deputed at the aforesaid location as per the scheme provisions, once these advance conditions are met: (i) the requisite IT infrastructure is delivered and made operational at offices, State Godowns, etc. and (ii) F&CS staff & officials are given hands-on training regarding CAS. State PMU team should plan and coordinate the above-referred activities.

Details

TSS will perform following activities:

- Provide necessary guidance and on job training to F&CS staff for operating TPDS application modules. They shall also demonstrate the operations of CAS by handholding the F&CS staff.
- Coordinate with SPMU and other designated agencies for addressing various issues related to computerized system including hardware, software, bandwidth, CAS, etc.
- Assist in data entry of the legacy master data entry if required.
- Help in transitioning from manual to computerised system
- Monitoring complaints and maintain status report for the same. This report shall be shared with State PMU on weekly basis.
- Monthly attendance sheet along with a copy of monthly progress would be sent to State PMU.

Performance of TSS would be monitored by SPMU & State F&CS functionaries in terms of resource availability at site, quality of support/ handholding provided by them, etc. The resources for TSS could be engaged by States/UTs through an Implementation Agency or agencies empanelled by Centre /State.

2.6 Application Support [I]

Application support activities cover application software customization, its configuration, its deployment at National Data Center (NDC) or State Data Center (SDC) and maintenance. It provides for programmers, system administrator, DBA etc. for running & operating the

application software at NDC/SDC, etc. during the project term i.e. 5 years. For States/UTs opting for NIC's CAS, this team would also comprise dedicated resource(s) from NIC for CAS.

Details

Primary objective of application support team is to ensure smooth operations of TPDS CAS without any failures. This includes implementation & operations support to States/UTs w.r.t. TPDS application software such as, its customization, enhancements, data maintenance, bug fixing, integration, etc. as well as the IT infrastructure management on 24 x 7 basis. This team would also be responsible for applying the application software patches released from time to time. This team shall be reporting to State Nodal officer and working in close coordination with SPMU.

States/UTs opting CAS

NIC shall provide the complete application software, including (a) its customization/configuration and deployment support as per States specific needs; (b) hosting and implementing CAS at Data Center; and (c) integration with National PDS portal. Once the solution is declared 'Go-live' the application support role could be handled through the State level dedicated team. The team shall also deploy patches & upgrades related to CAS as per NIC's instructions / guidance. Following are the roles & responsibilities of Application Support Team (AST):

- i. Conduct gap analysis for the State specific requirements vis-à-vis NIC's CAS
- ii. Operations and Maintenance of TPDS modules after deployment
- iii. Undertake training of trainers
- iv. Modify TPDS CAS as per change requests of the States/UTs as per NIC's guidance & support
- v. Administration of servers, system software, database and applications hosted at respective Data Center
- vi. Management of servers & related infrastructure deployed at Data Center
- vii. Undertake backup of all TPDS data, etc.

States/UTs not opting for-CAS:

State/UT designated software development agency shall develop, implement, operate, maintain & upgrade application software for the scheme. States shall ensure that the application software should be in-line with the scheme mandate & framework. The implementation of the scheme in States/UTs should meet the timelines defined as above. It is also to be noted that as NIC's CAS has been offered to all States/UTs and NIC is also designated as technical partner for the scheme.

Accordingly, scheme provides for funding to NIC by DoF&PD for application software development. States/UTs opting for non-CAS solution may do so on their own provided that funds for application software (incl. development, implementation, audit, support & maintenance) are given from their own resources. Such States /UTs should ensure (i) that the application software developed through an identified agency should run & operated as per State/specific needs during entire project term; (ii) that the source code & IPR of such application software developed is property of State/UT; (iv) should ensure security and government ownership of the data; and (v) exercise strategic control.

Software development agency would be turnkey solution provider and following roles & responsibilities are envisaged:

- i. Preparation of functional and system requirements specifications for application software.
- ii. Development of TPDS application software
- iii. Deployment & installation of application for States/UTs and integration with National PDS portal
- iv. Hosting of TPDS CAS at Central/State Data Centers
- v. Operations and Maintenance of TPDS modules after deployment
- vi. Undertake trainers' training
- vii. Modify application software as per change requests of the States/UTs
- viii. Ensure software is up and running; may also require developing software patches to address future requirements and technical issues which can be faced during the project term.
- ix. Administration of server, system software, database and application software hosted at respective data Centers
- x. Management of servers deployed at Data Centers

In respect of States/UTs not opting NIC's CAS, they may engage application support team as part of turnkey solutions through an implementation agency.

2.7 STQC Audit [J]

States and UTs are to ensure that the application software for TPDS is error free, meets State specific needs and able to operate with higher level of transactions.

Details

States/UTs opting for NIC's CAS shall coordinate with NIC for conducting application software audit before 'go-live'. In this case, relevant funds allocated under STQC head shall be transferred to NIC by respective States/UTs so that State CAS can be STQC

audited/certified. Other States and UTs shall coordinate with STQC or other authorized agencies for undertaking their security audit. Apart from STQC audit, security audit must be conducted on TPDS application modules to unearth application security vulnerabilities, weaknesses and concerns related to authentication, authorization, session management, input/output validation, processing errors, information leakage, denial of service etc. The STQC Audit would comprise of:

- ❖ Review of System & Software Documentation:
 - Requirements Documentation - System Study Report, Gap Analysis Report, SRS, etc.
 - Design & Development Documentation - High level (architecture) design document, Low level (detailed) design document), etc.
 - User Documentation (Installation Guide, User Manual, System Manual, etc.)
- ❖ Review of System & Software Artifacts/ Work Products:
 - Solution Architecture Review
- ❖ Software Application Testing & Evaluation:
 - Software Functional Testing & Evaluation:
 - Software Non-Functional Testing & Evaluation: - The software application to be tested for usability, efficiency, reliability, security, maintainability, portability & documentation requirements and quantitative evaluated of non-functional characteristics.

Detailed guidelines for States / UTs would be provided by NIC in this regard.

2.8 SMS Alerts [K]

Mobile SMS alerts may be sent to pre-registered individuals such as beneficiaries, FPS dealers, etc. to inform regarding lifting of foodgrains at State depot, delivery & availability of foodgrains at the respective FPS, status of ration card, any change in policy of entitlements or rates by State F&CS, etc.

Details

The beneficiaries /other individuals can register their mobile number through State PDS portals for the respective FPS and get SMS alerts. States / UTs will seed the mobile number of beneficiaries in ration card database for sending the SMS alerts. SMS notifications can also be sent to beneficiaries regarding status of their ration card request.

State/UT may implement one way/ two ways SMS service, based on their requirement. NIC shall provide a suitable solution in this regard that would function as follows:

- **One way:** SMS is triggered when an event is recorded through application. E.g. lifting of foodgrains from State Godowns or delivery of foodgrains at FPSs

- **Two ways:** Beneficiary sends a SMS code to central system to get the desired information and in response receives information. E.g. availability of stock at a FPS, ration card status, entitlements, etc.

NIC's CAS solution is having in-built mechanism to send the requisite alerts which can be leveraged by States and UTs. Charge of per SMS will be based on empanelment charges of the Service Provider. States/UTs may setup a separate infrastructure for SMS alerts or they may tie-up with other agencies for SMS service.

Any additional services beyond the Plan scheme mandate, which States / UTs want to provide, may be given based on supplementary financial provisions from their end.

2.9 Awareness Cost [L]

Beneficiaries / citizens would be informed using print, radio, etc. regarding advantages of the new computerized TPDS systems, facilities which can be availed by them including PDS Portals, SMS based alerts, toll free help lines, grievance redressal mechanisms, their rights, etc.

Details

Some of the areas which could be considered for awareness are as follows:

- i. Rights / entitlements of beneficiaries;
- ii. Locations / services provided at F&CS offices, CSCs, service windows, etc.
- iii. Penal provisions in case of violations in TPDS operations;
- iv. Grievance registration mechanisms (toll free call center, portal, SMS, etc.)

There are various awareness mechanisms that may be adopted by States & UTs. An indicative list of such mechanisms is as follows:

- Pamphlets and print advertisements
- Radio jingles
- Awareness weeks/workshops
- Awareness quizzes with rewards and prizes to the winners
- Drawing/painting competitions for children with TPDS as theme
- SMSs to the beneficiaries
- Street plays (Nukkad natak) may be conducted by the SHGs and other social groups.

Though the budgetary support under this head has been estimated on the basis of total number of FPSs, States/UTs will have the flexibility in fund utilisation in terms of medium to be used, location, etc. for awareness generation activities.

2.10 Toll free Call Centre

[M]

Overview

Beneficiaries can avail the facility of toll free helplines for (i) resolution of their grievances, if any; and (ii) getting information related to TPDS operations.

D/o of Consumer Affairs, Government of India is already allocating funds to States/UTs under their scheme on State Consumer Helpline for registration and redressal of grievances of consumers including grievances relating to TPDS. In view of the same, States/UTs are suggested to leverage already running State Consumer help lines for grievance redressal of TPDS. DoF&PD vide letter dated 31.01.2013 has also issued guidelines on the subject to all States/UTs.

Details

States/UTs may look into the following aspects for operating the toll free helpline:

- a. Toll free lines – their termination would be at the designated location; recurring charges i.e. monthly and call charges would be paid to BSNL, etc.
- b. EPABX for distribution of incoming calls to the helpline agents
- c. Personnel i.e. helpline agents
- d. CAS for keying-in the complaints / grievances of beneficiaries / citizens
- e. Computer for agents
- f. Internet connectivity, space, furniture, etc.
- g. Service levels –availability of agents, quality, etc.

The helplines may be kept operational from 9 am to 5 pm under the supervision of officer(s) deputed for redressing the TPDS related grievances. The operators attending the beneficiaries' calls would be closely monitored by State officials and feedback would be obtained for the quality of response provided to beneficiaries, etc. Further, the beneficiaries & citizens may be automatically informed regarding registration of their grievances, its status and response through SMS alerts.

For efficient tracking and timely redressal of complaints/grievances of the beneficiaries, the State/UT grievance redressal mechanism requires to be automated. Under the Scheme, NIC will provide requisite application software incl. software for toll free call center operations as part of CAS for Grievance Redressal purposes to States/UTs.

Under the scheme on End-to-end Computerisation of TPDS operations, financial support has been provisioned States & UTs for setting-up & operating the toll free helplines. It provides for recurring telecom charges, manpower etc. Depending on the requirement, States / UTs may establish the toll free helplines within the State F&CS Department or may outsource the operations through well-defined service levels.

2.11 Portal [N]

There is a need for a single unified information system i.e. State TPDS portal for achieving total transparency in Targeted Public Distribution System (TPDS) by ensuring all information pertaining to the TPDS is made available in the public domain. The portal shall be used to display information related to FPS wise digitized database of ration cards, entitlement of beneficiaries, stock position at godowns, lifting of foodgrains, stock availability at FPS, movement and date of stock/ quantity supplied to FPS every month for all the shops, etc. The portal also enables a beneficiary or citizen to log his/her complaints, contact details of F&CS officers in the vicinity, etc.

Under the portal certain information will be static in nature (circulars, document, etc.) that can be displayed as Static pages. However, most of the TPDS operation related information should be generated by respective application modules & its database and therefore the same shall be linked to output of respective modules. It must be ensured that the information is not developed separately or entered manually on the portal.

Details

Gist of the information which should be available on State portals as follows:

- Hierarchy of departments/offices, Officer's name, designation, contact number and their roles & responsibility
- List of beneficiaries, FPS, godowns, etc.
- Details of monthly allocation, lifting and distribution under TPDS schemes
- Gazette notifications, circulars and proceedings
- Information regarding Public Awareness including ration card application forms, etc.
- Acts & Rules (Consumer Protection Act, Essential Commodities Act, etc.)
- SMS alerts Registration facility for beneficiaries, individuals, etc.
- Frequently asked Questions (FAQs)
- Right to Information
- Public Grievance
 - Details of Officer in-charge of Grievance Cell along with contact and email details
 - Toll free number of call center
 - Escalation Matrix
 - Online grievance reporting and status tracking
- Policy
 - Ration Card related information
 - Policies/processes of new Ration Card Issuance, modification, cancellation and surrender
 - Service Levels/ time limit to process the Ration Cards

- Details regarding eligibility criteria along with supporting documents
 - Details of officers concerned
- Details of State schemes & Allocation Policy
- Rate and eligible quantity of commodity distributed under various schemes.
- Procedure/information related to FPS allotment, inspection, cancellation, suspension, revocation, etc.
- Retailing dates and rules of essential commodity at FPS.
- Dates of Allocation, Lifting and Distribution.
- Duties of beneficiaries.
- MIS reports
 - State-wise Stakeholder Report
 - Details of District Food Supply Officer (DFSO)
 - Details of TSO / Area Food Supply Officer (AFSO)
 - Details of Food Inspector Office
 - Summary Report of Godowns/Warehouses
 - Summary Report of Fair Price Shop
 - Ration Card Report
 - District-wise Ration Card Count– BPL, AAY & APL
 - Taluka/Tehsil/Block/Circle wise Ration Card Count – BPL, AAY & APL
 - FPS-wise Ration Card Count – BPL, AAY & APL
 - Details of Ration Card – BPL, AAY & APL
 - Monthly Ration Card report (BPL, AAY & APL) –created, deleted, modified, surrendered & cancelled
 - Allocation Details
 - District-wise monthly Allocation Orders
 - FPS-wise monthly Allocation Order of the District
 - Godown Report
 - Capacity and stock position of Godowns
 - Godown Off-take reports
 - Stock Movement report
 - From FCI Godowns to State Godowns – quantity, release order, etc.
 - State Godowns to FPSs – quantity, delivery challan, etc.
 - Subsidy Report
 - Subsidy Allocation for District, FPS and up to Beneficiary
 - Subsidy Utilization by District, FPS and Beneficiary
 - Details of Subsidy Payouts
 - Utilization report
 - FPS-wise report for issuance of foodgrains to beneficiaries (BPL, AAY & APL) – monthly
 - District-wise issuance of foodgrains (BPL, AAY & APL) – monthly
 - Monthly report Issuance of foodgrains (BPL, AAY & APL) – monthly

- Statistical Reports
 - Stock position of State Godowns for a given duration
 - Monthly/ yearly Off-take under TPDS and other schemes
 - Monthly/ yearly allocation and consumption report
 - Monthly/ yearly Subsidy allocation and utilization report
 - Comparison of all above reports with preceding years.
- Custom Reports
- State portal shall be available in local as well as Hindi/English language.

2.12 Assessment [O]

Scheme Assessment shall be undertaken to assess the successful and effective implementation of the computerized system with reference to the outcomes/ objectives envisaged under the scheme.

Details

Assessment of scheme should be undertaken as per the Administrative Approval dated 10.12.2012 issued.

The detailed modalities and parameters for assessment shall be finalized and informed by DoF&PD at the appropriate stage.

2.13 Digitization [P]

This involves creating digitized records of ration cards by way of manual data entry / scanning / comparing existing database with other database / leveraging Aadhaar or NPR data as the case may be.

Details

The primary objective is to digitize the ration card data in standard format prescribed by NIC for achieving online ration card management, de-duplications, etc. Availability of a comprehensive and reliable beneficiary database is the most critical issue related to TPDS computerization. It is thus very important for a State to digitize the ration card beneficiary database and use the same as a base towards the computerization of TPDS in State/UT.

Various approaches for digitizing Ration Card data:

States/UTs are currently at different level of maturity in terms of digitization of ration card database, so accordingly States/UTs can be classified in three categories as, Completely Digitised, partially digitized and yet to digitize. States/UTs can be termed as 'partially digitised which had (i) digitized ration cards for a limited area of State/UT or (ii) ration cards

not digitized for all categories or (iii) records of all beneficiaries in a ration card not created; or (iv) few requisite fields (as per the standardized RC format) yet to be included in database. Thus various options are available and the table below described step by step for States which are at varying level of readiness:

Level of computerization	Approach towards digitization
Yet to digitize	<p>Step 1 – Creation of Master data (District, Block tehsil, department, commodity, scheme, card type, FPS, Godown etc.).</p> <p>Step 2 –Collection of fresh data. Application module shall be used to digitize Ration Card data in Standard format suggested by NIC.</p> <p>Step 3 – Digitization of Beneficiary database and verification in the field or on the basis of unique fields like NPR, UID, electricity consumer number, gas consumer number etc. to eliminate bogus/fake ration card.</p> <p>Step 4 - Migration of digitized data into online TPDS system and issue of fresh ration card based on the new database.</p> <p>Possible solutions –</p> <p>For digitization of Ration Card data:</p> <ol style="list-style-type: none"> 1. Use of NIC eRCMS/Standard application towards building up of master and beneficiary database. The application provides for both online and offline data entry facility and is designed in line with the national standards. It also provides facility to upload NPR data in temporary database and search beneficiary data to append/modify remaining fields as per standard format. 2. States can also carry out data digitization independently using third party software/vendor. However states must ensure that the fields and data structure are obtained from NIC 3. Process of leveraging NPR and UIDAI data
Partially Digitized Ration Cards	<p>Step 1 – Identify the existing gaps in the database w.r.t to the Standard data structure approved by DoF&PD and mandatory data required for the generation of ration card.</p> <p>Step 2 - Creation of missing Master data tables</p> <p>Step 3 – Migration of digitized beneficiary data into Standard Database format. This shall streamline the existing database in line with the national standards</p> <p>Step 4 –Standard application shall be used to enter/correct missing fields pertaining to the beneficiary database.</p> <p>Step 5 - Migration of digitized data into online TPDS system and issue of fresh ration card based on the new database.</p> <p>Step6 –Workflow based online ration card management system shall be used to manage Addition, del, mod of Ration Card.</p>

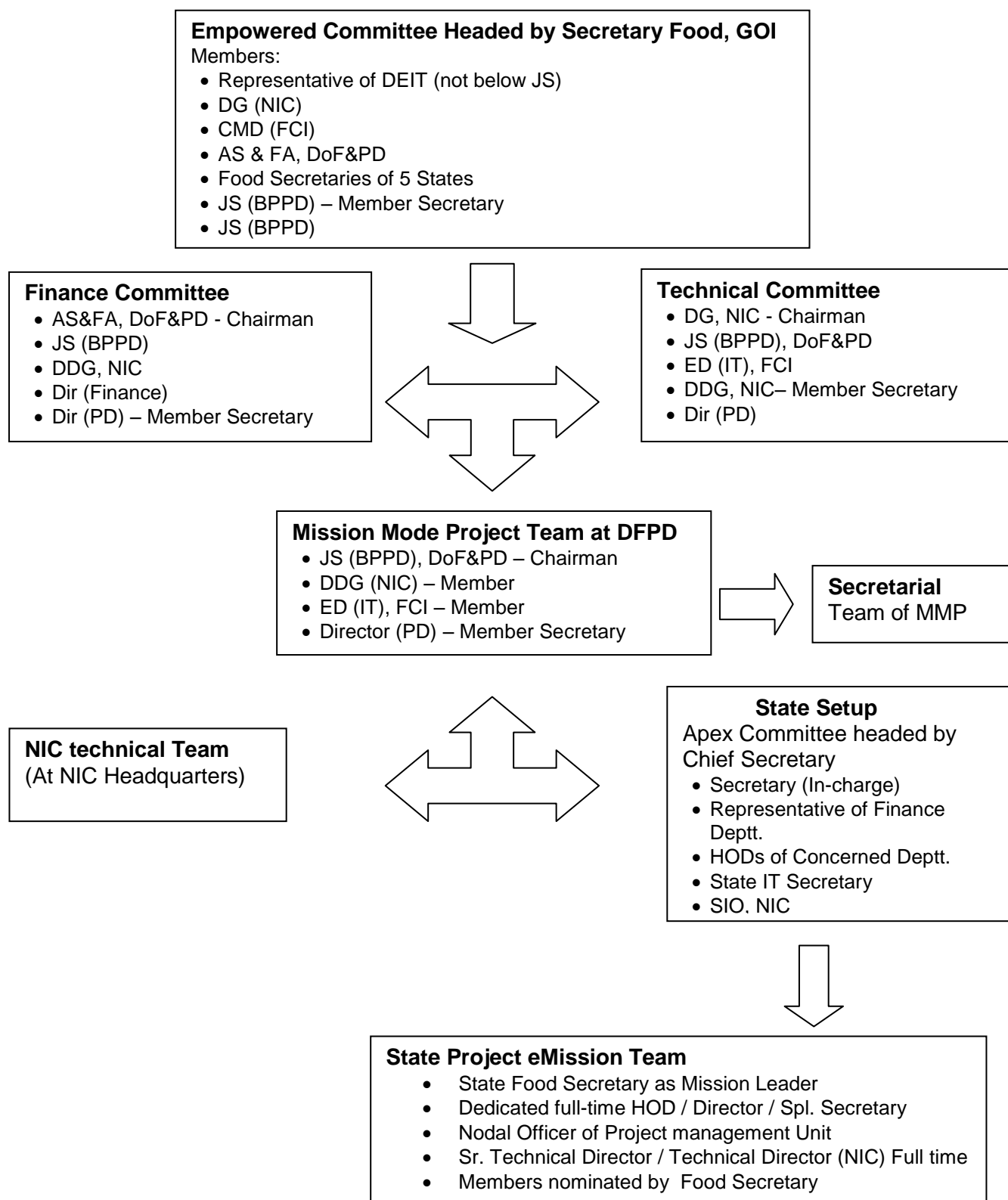
Level of computerization	Approach towards digitization
Completely digitized ration card data	<p>Step 1 – Cleaning of the existing database (based upon de-duplication algorithm)</p> <p>Step 2 – Migration of the clean database to the standard Ration card database.</p> <p>Step 3 - Migration of digitized data into online TPDS system and issue of fresh ration card based on the new database.</p> <p>Migration:</p> <ol style="list-style-type: none"> 1. Migration script shall be developed towards the migration of existing data into the eRCMS/standard database.

2.14 AMC Component [Q]

Overview

Under the scheme, Annual Maintenance Contract (AMC) has been provisioned @10% per annum for all the IT hardware / software procured as part of the scheme. At the time of procuring IT Infrastructure, States & UTs may bundle AMC for entire scheme period of 5 years as part of support purchase for maximum economy, effective services, etc.

Annex-I: Management Structure for the Plan Scheme



Annex-II: Terms of Reference of various bodies as part of Management Structure

- 1. Empowered Committee headed by Secretary (F&PD) – roles and responsibilities**
 - a. Decisions on policy matters
 - b. Overall guidance, review, coordination and monitoring of computerization of TPDS
 - c. Finalize deliverables and timelines relating to TPDS computerization
 - d. Quarterly meeting to review & monitor in order to ensure timely and quality implementation
 - e. Appraise/ approve recommendations of Finance & Technical Committees
 - f. Review and appraise the performance of MMP of DoF&PD, Technical Partner (NIC at Central level) and State level Mission Teams/Technical Partner (NIC or other agencies)
 - g. Review & appraise Special Pilot Projects (Smart Cards, etc.)
 - h. Review & appraise Computerization of FCI operations at Godowns
 - i. Any other issue as may be taken up by EC

- 2. Finance Committee (FC)**
 - a. Recommend proposals after scrutiny for financial assistance received from States/UTs and NIC under the scheme and put up to Competent Authority for approval;
 - b. Assess periodically the progress made by States/UTs and NIC as per milestones and timelines; Recommend release of further installments, recoveries if required, etc.
 - c. Assess fund requirements for Component-II.
 - d. Recommend policy / process related reforms / changes to EC
 - e. Any other issue as may be assigned by the Empowered Committee.

- 3. Technical Committee (TC)**
 - a. Prepare Technology Roadmap for TPDS computerization including special pilot projects and integration with FCI Godown computerization scheme.
 - b. Provide a dedicated National Data Center for TPDS and its linkage with State Data Centers.
 - c. Provide technical guidance and advisories to DoF&PD, States/UTs, and NIC technical team for implementation of the scheme
 - d. Address technical issues for integration of CAS with (i) existing PDS solutions; (ii) non-CAS based solutions in States/UTs; and (iii) other Government scheme
 - e. Monitor the functioning of NIC technical team
 - f. Evaluation and Finalization of specifications, standards, etc. of hardware and software required for implementing Component-I and Component-II
 - g. Assessing & augmenting capacity building needs of NIC
 - h. Any other issue as may be assigned by the Empowered Committee.

4. MMP Team at DoF&PD

- a. Overall responsibility for design and development of Component I & II of the scheme
- b. Examine all technical parameters & standards incl. those relating to architecture, network, data storage, connectivity, hardware, software etc. at Centre & State/UT level; ensure they are in line with the best practices and in synergy with existing initiatives of Central and State/UT Governments.
- c. Ensure integration of various stakeholders such as DoF&PD, FCI, States/UTs, Aadhaar/NPR, etc. and inter-operability across platforms
- d. Assess readiness of common application and State/UT application software modules, their effectiveness as per scheme requirement.
- e. Review application software customization in States/UTs, define user acceptance norms and confirm user acceptance
- f. Identify human resource requirements; recommend appropriate qualifications, sourcing norms, etc.
- g. Identify training requirements; define training programmes of NIC, training calendars, sourcing of trainers, etc.
- h. Assess the proposals received from States/UTs under the scheme as per administrative approval, guidelines issued etc. on the financial and technical angle; decide upon admissibility, deviations permissible, etc.; obtain administrative approvals and financial sanctions from competent authority
- i. Review the scheme progress on weekly basis; track its progress in States/UTs against milestones incl. through MIS tools; take requisite measures to resolve issues affecting scheme implementation
- j. Service EC, FC and TC for timely decision making and updates
- k. Any other issue as may be assigned by the Empowered Committee.

5. Secretarial Team

- a. To render secretarial assistance to the MMP team as above

6. NIC Technical Team

- a. Technical Partner and Implementation Agency for DoF&PD for entire Computerization of TPDS
- b. Technical assessment of State's financial proposals and providing its recommendations to MMP Team at DoF&PD
- c. Maintain a dedicated National Data Centre exclusively for TPDS and its linkages with State Data Centers
- d. Provide standards and specifications for PDS including data / metadata, software protocols and platforms, point of sale (PoS), bio-metrics, minutiae, Smart card, bar code, NPR/Aadhaar integration, etc.
- e. Coordinate with Central & State mission teams and take necessary measures for ensuring inter-operability of various solutions implemented under the scheme;
- f. Ensure accessibility and integration of State/UT related data on National PDS Portal; maintain executive dashboard for monitoring State/UT wise progress of computerization; create and maintain single unified Management Information System (MIS) for Centre and States / UTs, etc.
- g. Provide Common Application Software (CAS) for States/UTs and DoF&PD including related activities viz.

- i. Prepare CAS for Component I & Component II of the scheme on open standards
- ii. Prepare Software Requirement Specifications (SRS) for CAS and conduct gap analysis for States & UT;
- iii. Design, develop and configure/ customize CAS for meeting the State & UT specific requirements
- iv. Assist States & UTs for planning and hosting CAS at State Data Centers / National Data Centre with Business Continuity Plan in secured environment
- v. Support States &UTs for undertaking STQC audit of CAS
- vi. Maintenance of CAS through version control of source codes and scripts, updates and bug fixing
- vii. Integration of existing State application(s) and FCI's IISFM with CAS, incl. migration of existing data, seamless data exchange, handholding support etc. to States/UTs.
- viii. Obtaining User Acceptance Testing
- ix. Set-up module wise development teams comprising of Project Managers, Solution Architects, software designer, database administrators, technical lead, senior developers and developers; assign specific roles & responsibilities to them; review their progress and delivery as per targets.
- x. Train the trainers of States/UTs or their nominees on CAS.
- xi. Provide telephone and online support to end-users through a dedicated helpdesk system; ensure resolution of issues within reasonable time; enable tracking of the status of issues raised; and escalate issues not resolved within reasonable time to the notice of DoF&PD along with proposed solution, etc.
- xii. Documentation - prepare documentation relating to CAS covering its implementation, configuration / customization, operations, backup, maintenance, etc. Make all documents accessible to States/UTs and regularly update the same; ensure that Intellectual Property Rights (IPR) of all software code, data, algorithms, documentation, manuals etc. generated as a part of implementation of this project reside with NIC on behalf of DoF&PD.
- xiii. Portal - ensure TPDS related data captured and generated through CAS and other sources is hosted at State Transparency Portal with linkages to National TPDS Portal.
- xiv. Provide dedicated Portal management services to handle all suggestions/comments received along with management of National PDS Portal.

7. State Apex Committee headed by Chief Secretary

- a. Overall guidance, review, monitoring and coordination
- b. Decisions on Policy matters
- c. Approval of deliverables and timelines by various agencies/groups
- d. Financial Powers as per the delegation

8. State Project eMission Team (SPeMT) headed by Secretary, Food

- a. Preparation of DPR / Financial Proposal for approval from DoF&PD
- b. Set up dedicated State Data Centre for TPDS

- c. Assess training needs at various levels and ensure comprehensive training of staff/officers through appropriate training modules. Finalize training calendar for the year
- d. Overall responsibility of Project implementation at State level
- e. Detailed Functional Requirement at State level
- f. Implementation of BPR and Change management
- g. Communications and Training
- h. Selection of Technical Partner for customization/ development and implementation of TPDS.
- i. Exercise Strategic Control
- j. Ensure certification from Certifying agency before full State level roll-out
- k. Serve as secretariat for State Apex Committee for the Project
- l. Ongoing support and upgrades

Annex-III: Step by step approach for NIC's CAS

Step: Preparation of master data of the states

To initiate the computerization activity in the State, the state has to create various state specific masters like Stakeholder Master, Office Master, Depot Master, Card Type master, Wholesalers, Lead Societies, FPS dealer etc. For this purpose NIC has developed Stakeholder Identity Management Software (SIMS) to capture details and maintain centralized repository of stakeholders. The SIMS application also provides for performing operations like registration, issuance of unique identity code and management of PDS stakeholders (Offices of State F&CS Deptt., Godowns (FCI/SWC/CWC etc.), Wholesalers, Lead Societies, FPS dealer, Caste Category, Scheme etc.). This step will help the state to maintain central repository of all PDS stakeholders which can further be used by other applications. This will also enable State to publish stakeholder details on public portal.

Step: Allocation Order generation

After capturing the State Specific Master data, the states can generate the allocation Order on the basis of scheme wise ration card count and allocation policy of state. State shall use allocation module to generate the scheme wise allocation order of various commodities.

The following data shall be required to generate the District Wise, Tehsil Wise or FPS wise allocation order:

- State Allocation Policy
- FPS wise scheme wise Ration Card Count
- Closing balance of FPS

Once the above information is updated in the system the commodity wise allocation order can be generated through commissioner's dashboard and can be sent to all concerned officers at FCI and districts through Online system as well as email.

Step: Digitization of Ration Card Data

States have to initiate digitization of ration card data in standard format for achieving online ration card management and automation of FPS. For this purpose, state can either use Existing Ration Card Management System (ERCMS) or develop online/offline module to capture details of beneficiary. State has to digitize enormous volume of data. To achieve this task, State may adopt online/offline mode of data digitization.

Following steps shall be followed under the online data digitization:

- Collecting ration card details from registers/forms available at respective taluka or block office.
- Data entry of ration card details in standard format through online application.
- Assigning Unique ID to each ration card
- Verification and approval of ration card details by authorized user.

- Digitized ration card data available for further use.

Following steps shall be followed under the offline data digitization:

- Identifying third party vendor for ration card data digitization
- Third party vendor collects ration card details and other relevant information from State food department
- Vendor digitizes ration card data using their own customized application however the vendor shall follow the National Standards fixed for Ration Card Data Entry or state may provide the standard application developed by NIC.
- Vendor submits softcopy of digitized data to State and State uploads this data in database. Data will be directly available in State owned database as vendor uses application provided by NIC.
- Assigning Unique Id to each ration card.
- Authorized user of State verifies and approves digitized ration card data.
- Digitized ration card data available for further use.

Step: Grievance Redressal

Grievance Redressal process takes care of the grievances filed by the PDS beneficiaries and various private dealers / agents involved in the PDS process. Once data of beneficiary and PDS stakeholders (like Offices, FPS, Depot, Card Type, etc.) gets digitized, States will be able to automate grievance redressal process. State shall adopt grievance redressal mechanism to record, resolve and monitor grievances submitted by beneficiaries or dealers. These complaints shall get auto forwarded to the concerned officials responsible for their redressal. State shall setup call center for recording and monitoring the complaints. They can also establish recording and status tracking system through online website or SMS/email solution.

Step: Commodity off-take from FCI to State Godown

Post automation of allocation order, the process of release of commodity for FCI shall be automated. State shall computerize various operations like receiving payment from State Agency, generation of release-order against allocation, generation of truck challan, gate pass and capturing the information pertaining to the receipt of goods by State Agency. By implementing this module, State will be able to consolidate and track the delivery of various commodities against allocation order/release order. This module shall also send SMS/email notification to concerned state agencies after generation of gate pass at FCI depot. Information related to commodity off-take shall be made available to State agencies through website/ online application.

Step: Commodity off-take from State Godown to FPS

After generation of release order and commodity off take from FCI godowns, State takes care of operations like receiving commodity at State godown and dispatching it to FPS. State shall take the initiative to computerize this entire process by implementing the online solution. This module shall capture operations like receiving commodity from FCI, receiving payment from State agencies/ FPS dealer, issue planning at State depot, generation of delivery order, generation of truck challan & gate pass and recording acknowledgement receipt received from FPS dealer. This module shall also

send SMS notification to FPS dealer & registered beneficiaries attached to that FPS. Information related to commodity off-take shall also be made available on website. NIC has already developed Food & Essential Commodity Assurance and Security Threat (FEAST) application which offers similar functionalities.

This module will help the State to ensure the availability of stock position information at all levels, tracking of food grain movement and reduce the time and effort for data consolidation & sharing.

Step: Online Ration Card management System

After digitization of beneficiaries' data, State shall be able to create and manage ration card related operations. The S/W module supports to perform operations like issuance of new ration card for beneficiary, modification of ration card like Head of Family change, Family member addition, deletion, FPS/KOD Change, Member details modification, Ration Card Transfer, Surrender, ration card activation/deactivation, etc. This module is also capable to generate paper based or smart card based ration card. Paper based ration card may also contain the unique identifier like bar code. NIC has developed e-PDS which enables state to perform ration card related operation through online module.

By implementing this module, State will be able to initiate online management of Ration Card database. The details of ration card will also be available on public portal.

Step: Capturing biometric

Capturing the Biometric of the beneficiary can be done by the State F&CS department or outsourced to the third party vendor. After digitizing the Ration Card of the beneficiary blank application forms shall be distributed to the Cardholder through their attached FPS dealer/ Tehsil Offices. Camps at various locations shall be organized by state department/vendor to capture the biometric data of the beneficiary. Beneficiary shall visit the camp along with the filled application form and other supporting documents and submit to the operator. Operator at the Camp will access the digitized ration card details of the card holder from the database and verify. On the basis of application form, operator shall capture the Biometric (Finger print) of the beneficiary as per the National Standards.

Step: Printing and distribution of Smart Card

After verification and correction of beneficiary data, details shall be forwarded to Card personalization team for printing the smart ration card. Smart Card based ration card shall capture beneficiary and his family member details (including biometric details) along with the transaction details in the smart card. These smart cards shall be made available to food department for distribution.

Step: FPS Management

FPS forms the building block of the public distribution system and plays a critical role for ensuring the delivery of the foodgrains to the intended beneficiary. This module shall offer functionalities like New FPS License Issue, FPS Suspension, FPS Surrender, Linking/Delinking of Ration Cards from one

FPS to other etc. NIC has developed Electronic Public Distribution System e-PDS) which enables state to perform FPS related operation through online module.

This module shall offer sale of commodity using Smart card based biometric verification through point of sale (PoS) terminal or food coupon based. State will be able to achieve following benefits by implementing FPS automation module:

- Issuance of commodity to authentic beneficiary
- Maintenance of stock and sale register
- Ensure disclosure of closing balance and maintain correct allocation based on sale of previous month
- FPS wise Ration card wise details on sale of commodity shall be available in PDS Portal.

Public portal

Information related to stock availability, movement and quantity of stocks supplied to FPS shall be made available in public domain by using latest technological interface like SMSs/website. Following information shall be available on public portal

- State-wise Stakeholder Report
- Ration Card Report
- Allocation Details
- Godown Report
- Stock Movement report
- Utilisation report
- Subsidy Report
- Statistical Report

Annex-IV: Admissible Sub-Components

Components and their sub-Components	Description	Funding type
Digitisation		
Digitization & printing of Ration Cards	Creating digitised records of ration cards by way of manual data entry / scanning / comparing existing database with other database / leveraging Aadhaar or NPR data as the case may be.	One time
Supply-Chain Management		
Data centre Infrastructure	This cost includes cost of servers, storage, application software, etc. for National / State Data Centres, hosting of digitised data of ration cards, FPSs, etc. The cost is common across all States / UTs for end-to-end Computerisation of TPDS Operations.	One time
State Food & Civil Supplies (FCS) Hqtrs	For State HQ, Desktops / laptop (with webcam) provisioned for data entry, online allocation, utilisation reporting, monitoring of operations of TPDS in respective State/UT. Requisite infrastructure / accessories are also provisioned for smoother functioning of day to day operations.	One time
District FCS Office	For District HQ, Desktops / laptop (with webcam) provisioned for data entry, online allocation, utilisation reporting, monitoring of operations of TPDS in respective State/UT. Requisite infrastructure / accessories are also provisioned for smoother functioning of day to day operations. Bandwidth/ connectivity cost has also been provisioned in this head.	One time + bandwidth expenses
Block FCS Office	For Block HQ, Desktops / laptop (with webcam) provisioned for data entry, online allocation, utilisation reporting, monitoring of operations of TPDS in respective State/UT. Requisite infrastructure / accessories are also provisioned for smoother functioning of day to day operations. Bandwidth/ connectivity cost has also been provisioned in this head.	One time + bandwidth expenses
State Godowns	For State Godowns, Desktops / laptop has been provisioned for data entry, online stock reporting, movement and transportations of foodgrains along with accessories for smoother functioning of day to day operations. Bandwidth/ connectivity cost has also been provisioned in this head.	One time + bandwidth expenses
Project Management Unit	PMU have been provisioned for three year which shall help the State FC&S Department for implementation of Scheme, monitoring of progress, reporting, bid-process management, etc.	Three years only
Training	For smoother functioning of the Computerised system, State F&CS officials / staff at various levels and FPS dealers are to be imparted training on the use of technology and day to day operations. This shall be one time activity and to be planned keeping in mind the needs of the State F&CS officers / FPS dealers.	One time for F&CS Officials and staff
Technical Support	In order to ensure that State F&CS officials get acquainted to the new computerised system, there is a provision of putting certain resources at State HQ, District HQ and Block HQ who shall be help in handholding for initial period.	One time (3 Months to 1 Year period)
Application Support	Shall be in regards to the customisation, hosting, support, operations and management of the Application Software. This is based on the suggestions received from NIC.	One time during Project term
STQC	It is also desired to have audit in order to ensure that the application software is error free, relevant with the State specific needs and able to operate during higher level of transactions,	One time

Components and their sub-Components	Description	Funding type
Transparency Portal & Grievance redressal		
SMS Cost	SMS based alerts shall be sent to pre-registered individual with an objective to inform the availability of foodgrains in the respective FPS.	One time infrastructure + Recurring expenses
Awareness Cost	Beneficiaries / Citizens shall be apprised using print, radio, etc. in respect to the advantage of the new computerised TPDS systems and also regarding information available on State PDS Portal, SMS alerts, email, etc.	Year wise - Project term
Toll free Call Centre	Citizens / Beneficiaries can call toll free help lines for (i) resolution of their grievances, if any; and (ii) getting information related to TPDS operations.	One time infrastructure + Recurring expenses
Portal	Dissemination of all TPDS related information to public through State PDS Portal.	One time
Miscellaneous		
Assessment	Scheme Assessment shall be undertaken to assess the efficacy of the computerised system from various aspects.	As per DoF&PD guidelines
AMC Component	Annual Maintenance charges (AMC) shall be @10% per annum for all the IT hardware / software procured as part of the scheme.	Year wise - Project term

Annex-V: Cost Estimation for providing financial assistance for the period 2012-17

S. No.	Activity Description	Cost estimation (all estimates are on one-time basis except where indicated otherwise)																																																							
A.	Data Centre Infrastructure	Rs. 1.25 Crore per State / UT This is based on response received from NIC vide letter dtd 23.11.11. This cost includes servers, storage, application software, etc. for State Data Centres, DR site backup, hosting of digitized data of ration cards, transaction data, etc.																																																							
B.	State FCS Hq	Cost estimates per State / UT <table border="1"> <thead> <tr> <th>Cost Head</th> <th colspan="2">No. of Units</th> <th>Unit Cost</th> <th>Total Cost</th> </tr> <tr> <td></td> <th>Department</th> <th>Civil Supplies Corporation</th> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td colspan="5">PCs & System Software</td> </tr> <tr> <td>Desktop/Laptop with webcam</td> <td>5</td> <td>3</td> <td>30,000</td> <td>240,000</td> </tr> <tr> <td>Laser/Dot Matrix Printer</td> <td>3</td> <td>2</td> <td>7,000</td> <td>35,000</td> </tr> <tr> <td>MS Office License</td> <td>5</td> <td>3</td> <td>12,000</td> <td>96,000</td> </tr> <tr> <td>UPS</td> <td>5</td> <td>3</td> <td>11,500</td> <td>92,000</td> </tr> <tr> <td>LAN All In One Printer</td> <td>1</td> <td>0</td> <td>120,000</td> <td>120,000</td> </tr> <tr> <td colspan="5">Networking</td> </tr> <tr> <td>Cabling and Switches (Per PC)</td> <td>5</td> <td>3</td> <td>5000</td> <td>40,000</td> </tr> <tr> <td colspan="4">Total Expenditure / State</td> <td>623,000</td> </tr> </tbody> </table>	Cost Head	No. of Units		Unit Cost	Total Cost		Department	Civil Supplies Corporation			PCs & System Software					Desktop/Laptop with webcam	5	3	30,000	240,000	Laser/Dot Matrix Printer	3	2	7,000	35,000	MS Office License	5	3	12,000	96,000	UPS	5	3	11,500	92,000	LAN All In One Printer	1	0	120,000	120,000	Networking					Cabling and Switches (Per PC)	5	3	5000	40,000	Total Expenditure / State				623,000
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Implementation Guidelines for States & UTs

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G.	Training	<p>i. Number of Officials / Staff to be trained one times @ Rs. 2500 each: 5 at State Hqrs, 5 at District, 3 at Block and 2 at State Godowns.</p> <p>ii. All FPS dealers to be trained @ Rs. 1000/- each.</p> <p>This shall be based on no. of Districts, blocks, Godowns and FPS shops in a State.</p>																																													
H.	Technical Support in F&CS Offices	<p>This shall be based on no. of Districts, blocks, Godowns and FPS shops in a State. Per person man-month cost for technical support and handholding @Rs. 25,000/-.</p> <p>i. 1 person for 12 months at State HQ</p> <p>ii. 1 person for 6 months at District F&CS office</p> <p>iii. 1 person for 6 months at Block F&CS office</p> <p>iv. 1 person for 3 months at State Godown</p>																																													
I.	Application Support	<p>Based on NIC's email dtd 13.07.12 - cost of application customization, configuration, deployment at National Data Centre (NDC) or State Data Centre (SDC), maintenance, project management and other contingency charges including communication travel etc. for various States. It includes provision of programmers, system administrator for running the application at NDC/SDC, etc.</p> <p>i. Rs. 1,14,00,000/- per Large State * }</p> <p>ii. Rs. 70,00,000/- per Small State }</p>																																													
J.	STQC Audit	Rs. 10 lakh per State / UT																																													
K.	SMS Cost	<p>i. SMS gateway related infrastructure @ Rs. 3.80 lakh per State</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Qty.</th> <th>Unit Cost</th> <th>Total (INR)</th> </tr> </thead> <tbody> <tr> <td>Application Software</td> <td align="center">1</td> <td align="right">150,000.00</td> <td align="right">150,000.00</td> </tr> <tr> <td>Application Server</td> <td align="center">1</td> <td align="right">200,000.00</td> <td align="right">200,000.00</td> </tr> <tr> <td>SMS Modem</td> <td align="center">1</td> <td align="right">30,000.00</td> <td align="right">30,000.00</td> </tr> <tr> <td>Sum Total (Per State)</td> <td></td> <td></td> <td align="right">380,000.00</td> </tr> </tbody> </table> <p>ii. Mobile SMS related costs</p> <ul style="list-style-type: none"> Nos. of SMS sent per Month per FPS → 20 Cost of One SMS → Rs. 0.10 <p>This shall be based on no. of FPS shops in a State. Support under the scheme for 5 years period.</p>	Description	Qty.	Unit Cost	Total (INR)	Application Software	1	150,000.00	150,000.00	Application Server	1	200,000.00	200,000.00	SMS Modem	1	30,000.00	30,000.00	Sum Total (Per State)			380,000.00																									
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L.	Awareness Cost	<p>Support for this activity shall be for 5 years period.</p> <table border="1"> <tr> <td>Awareness Cost per FPS per year</td> <td align="center">Rs. 50</td> </tr> </table>	Awareness Cost per FPS per year	Rs. 50																																											
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M.	Toll free Call Centre	<p>The basis of cost estimates are as:</p> <p>i. 4 Toll free lines per Large State and 2 in case of Small States*</p> <p>ii. All States / UTs categorised into 22 Large States and 13 Small States</p> <p>iii. Per Line Charges = Rs. 46,600/- per month (Manpower Charges @ Rs. 25,000/- p.m.)</p>																																													

Implementation Guidelines for States & UTs

S. No.	Activity Description	Cost estimation (all estimates are on one-time basis except where indicated otherwise)
		per seat + Telecom charges @Rs. 21,600/- per month per line). Support under the scheme for 5 years period. iv. Infrastructure support of Rs. 1.5 Lac per State / UT (one time)
N.	Portal	Rs. 20 lakh per State / UT
O.	Assessment	Rs. 6 lakh per State / UT
P.	Digitization	Support for this activity shall be one time. i. Cost of digitisation per beneficiary record @ Rs. 5/- ii. Cost of printing @ Rs. 3/- per Ration Card
Q.	AMC	Support for this activity shall be for 5 years period. Per year AMC shall be calculated @10% of Infrastructure cost estimates