Dairying through Cooperatives (DTC)

(Referred by JICA as "Project for Dairy Development")

Component B of NPDD

Manual on

Support for ICT Infrastructure

National Dairy Development Board
October 2021

Table of Contents

Abbreviations

AMCS	:	Automatic Milk Collection System
CEO	:	Chief Executive Officer
DCS	:	Dairy Cooperative Society
DMS	:	Distributor Management System
ICT	:	Information & Communication Technology
ITSM	:	Information Technology Services Management
IT	:	Information Technology
MIS	:	Management Information System
NDDB	:	National Dairy Development Board
PC	:	Producer Company
PI	:	Participating Institutions
POI	:	Producers' Owned Institutions
PoS	:	Point of Sale
UPS	:	Uninterruptible Power Supply

1. Introduction

1.1. What is operational manual and why it is needed?

1.1.1. This operational manual is a reference document for all those who are involved in implementing the component "Support for ICT infrastructure" under the scheme "Dairying through Cooperatives – Key to sustainable livelihood". It provides instructions and guidelines related to the key operations of activity. A manual explains as to who would be implementing the activity, what are the processes involved, why they are important, how they are implemented and the support required. It defines roles and responsibilities of all those involved in the implementation of the activity. It also explains as to how to implement the activity fairly and efficiently resulting into an economically viable operation.

1.2. Whom is this manual for?

1.2.1. This manual is primarily for the Participating Institutions (PIs) which are entrusted with the responsibility of implementing this activity and also for those who are associated with the activity directly or indirectly.

1.3. Need of ICT infrastructure for Producers Owned Institutions (POIs)

1.3.1. ICT is an integration of the technologies and the processes to distribute and communicate the desired information to the target group and making the target group more-friendly. ICT can integrate core functions of POIs bringing transparency and efficiency at every stage. Implementation of ICT applications in Producers' Owned Institutions (Milk Cooperatives/Milk Producer Companies) is essential for gaining a competitive edge in the market.

1.3.2. There is a need for integrated IT application to cover the entire Dairy Value Chain of POIs. The entire chain can be serviced with the help of four distinct yet interlinked applications integrated on single analytical layer. This application includes –

a) Automatic Milk Collection System (AMCS)

b) ERP at Milk Union/State Milk Federation/PC

c) Distributor Management System (DMS)

d) Parlour Point of Sale (PoS) System.

1.3.3. Under the project component – "Support for ICT Infrastructure", Support will be provided to POIs for deployment of Automatic Milk Collection System (AMCS) solutions so as to ensure transparency in milk bill payment to its producer members at village level.

2. Component Design

2.1. What is Automatic Milk Collection System (AMCS)?

AMCS is a software to streamline milk collection operations at village level and provide farmers and other stakeholders with latest information on milk procurement transactions on real-time basis. It helps in bringing transparency in its milk collection operations, improve process efficiency and provide real time information to dairy cooperatives. AMCS enables milk bill payment directly to farmers' bank accounts. Farmers get instant SMSs for every transaction and have access to all past transactions with AMCS android application.

2.2. Pre-requisites of AMCS

Followings need to be ensured before taking up the implementation of AMCS software:

a) Automatic milk Collection Unit/ Data Processer Milk Collection Unit (DPMCU) integrated to a computer/netbook.

b) Internet connectivity at DCS/MPP level

c) Server or cloud hosting system at Union / Federation level

d) Technical Manpower to manage the AMCS operation.

3. Support Available under the project

3.1. Item to be funded

PIs can available financial assistance for following items under the project:

a) Internet dongle at DCS/MPP Level
b) Internet charges to DCS/MPP for 3 years
c) Internet charges to Union/PC for 3 years
d) Software implementation support to DCS/MPP for 3 years
e) Annual Maintenance Contact (AMC) for AMCS for 3 years
f) Server hosting support for 3 years
g) SMS charges for 3 years
h) Software training at PI level and DCS/MPP level

3.2. Pattern of funding

This component will be funded as 80% loan (maximum) at concessional rate of interest and rest 20% of the cost has to be borne by PIs.

Item wise unit cost approved by Project Sanctioning Committee (PSC) will be used for calculation of financial outlay of the sub-project plans.

4. Implementation Arrangements

4.1. Selection of PIs

The Organisations eligible to receive assistance under the project are - Milk Unions, Multi-state Milk Cooperatives, State Dairy Federations or Milk Producer Companies.

4.2. Technical eligibility criteria

The PIs will have to satisfy the following criteria for availing assistance for this component:

- Should have its own milk processing facilities or have a forward linkage with an existing milk processing facility.
- Should have competent manpower to manage ICT Infrastructure and applications.

4.3. Sub project Implementation

The roles of NDDB and PI to implement this component is as under:

a) Roles of NDDB:

- NDDB will be responsible for managing AMCS Application development & it enhancement and also manage the National Portal for AMCS. NDDB would take all necessary action to ensure maximum uptime of the servers, however NDDB would not be liable for any losses due to planned / unplanned downtime of ICT Infrastructure required for National Portal.
- NDDB will provide necessary technical support to PIs for implementation of AMCS at field level.
- NDDB will make available required financial assistance to PI for implementation of AMCS as per the norms of the project.
- NDDB would arrange training to the vendor at cost, if required, and arrange L3 support at Cost through vendor.

b) Roles of PI:

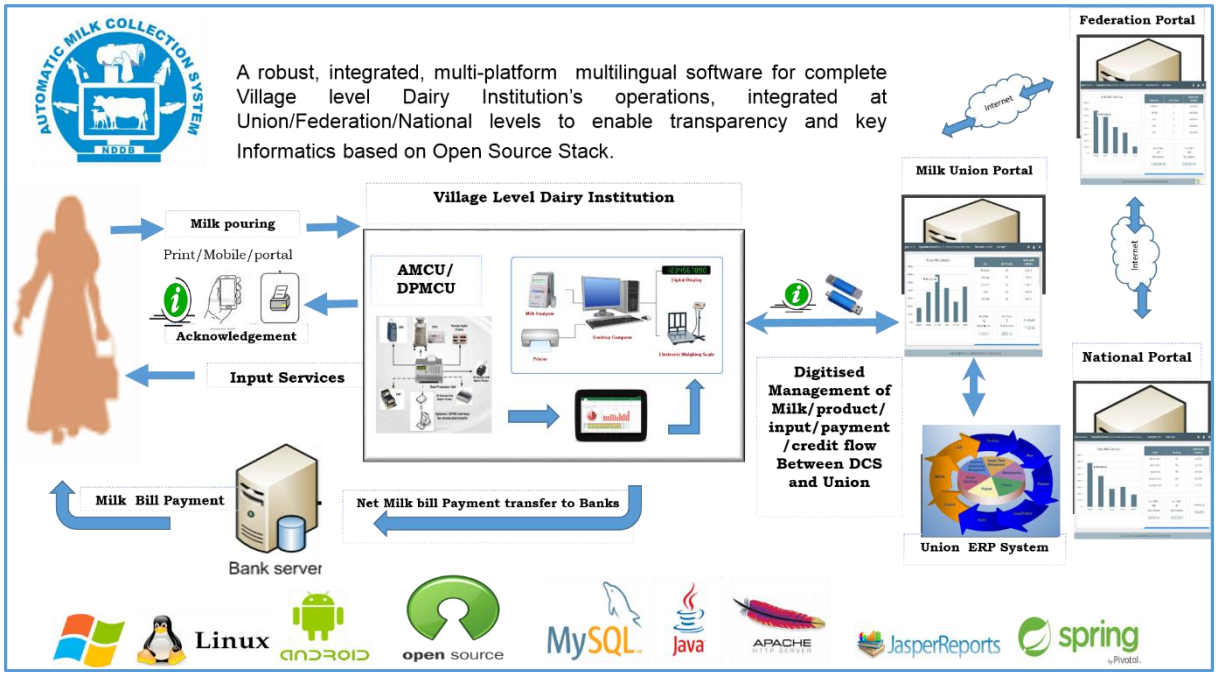
- PI will be responsible for actual field level implementation including Portal installation and maintenance, site survey, application installation, training to DCS, Support to DCS etc. It may be carried by either PI itself or by a vendor appointed by PI as per mutually agreed terms and conditions between PI and Vendor.
- PI will also be responsible for:
  - Execution of Agreement between NDDB & PIs.
  - Identify Local Vendor (if required)
  - Manage Server /SMS Gateway/ Internet Requirements

- Ensure vendors training
- Coordinate field implementation by Vendor

- PI will be responsible for make necessary arrangement at DCS Level hardware like desktops, / Android Devices, Printers, Milk Testing Equipment, Weighing Scales, UPS, etc. and the communication infrastructure like Internet connection, GPRS enabled SIM cards, Wireless Data Cards, etc., Systems software like operating system, etc.
- PI will be responsible for making necessary arrangement at PI level, hardware like Servers, Storage system, Databases, Internet Connectivity, Fixed IP Addresses etc. for hosting the Portal Application and Database Server or alternatively make necessary provision with a Cloud Service Vendor for the appropriate infrastructure availability. Further, they would also make necessary arrangement for Desktop / Notebook computers, Printers etc. for using the portal.

The schematic diagram of the implementation of the component is given below:

Figure 1: Schematic diagram of the implementation arrangement



5. Deployment of AMCS

Under the sub-project, following applications need to be deployed:

a) Common multi-lingual AMCS application
b) Common multi-lingual AMCS portal application
c) Common multi-lingual AMCS mobile application

5.1. Common multi-lingual AMCS application

5.1.1. The multi-lingual AMCS application developed by NDDB can be deployed at DCS/MPP level in either of the following scenarios. The hardware and networking requirement will vary with each of the following scenario, which needs to be provisioned appropriately:

- One Collection Point for both Cow and Buffalo milk for a Single DCS/MPP
- Two Collection Points (separate for Cow and Buffalo Milk) for a single DCS/MPP in a single Premise
- Two or more Collection Points for a single DCS/MPP in a single Premise.
- Two or more Collection Points for a single DCS/MPP in a multiple Premise. (Sub DCS or Collection Centre concept).
- Multiple Bulk Cooler / Storage Tank at a Single DCS/MPP/ location.
- One Collection Point for Both Cow and Buffalo milk for a Multiple DCS/MPP.
- Two Collection Points (separate for Cow and Buffalo Milk) for a Multiple DCS/MPP in a single Premise
- Two or more Collection Points for a multiple DCS in a single Premise.

5.2. Common multi-lingual AMCS portal application

5.2.1. The multi-lingual portal application developed by NDDB can be deployed either as *in Premise Solution or over a Cloud based solution* in any of the following deployment mode. Provision for cloud server hosting has already been made under the project. However if PI wants to use its own server, they make necessary infrastructure arrangement of their own:

- Single Central Server for all locations.
- Single Server at State Federation Level for dairies and societies associated with it along with a server at Central Level for other federations, unions and societies with the provision for updating key data at central level also. This scenario can happen for partial societies as well.
- Single Server at District Union Level for Societies associated with it along with a server at Central Level for other federations, unions and societies with the provision for updating key data at central level also. This scenario can happen for partial societies as well.
- Single Server at District level for societies associated with it and a Server at Federation level for district union/ associated with it along

with server at Central Level for other federations, unions and societies with the provision for updating key data at central level also. This scenario can happen for partial societies as well.

5.3. Common multi-lingual AMCS mobile application

5.3.1. The multi-lingual AMCS mobile application developed by NDDB will be deployed centrally and would be updated from a central location.

6. Sub-Project Management

6.1. Management of the project

6.1.1. The PI would be responsible for overall management of the sub-project activities. PI would identify one of its existing officers as Project Coordinator, who shall be responsible for overall coordination of sub-project implementation.

6.1.2. Under Software implementation support to DCS/MPP, the PI may hire two IT professionals for installation and training on AMCS for a period of three years.

6.2. Sub-Project Management Committee

6.2.1. The Sub Project Management Committee will be constituted at PI level for monitoring and reviewing activities under various components being implemented under the sub project.

6.2.2. The Committee will be headed by MD/GM/CEO of PI. The members of the Committee will be:

i. MD/GM/CEO of PI (Chairperson)
ii. Section Heads/ Department Heads (Purchase, Finance & Accounts, HR & Admin, Procurement& Input Services, Plant, Marketing)
iii. Sub Project Coordinators (all components under project)
iv. Grievance Redressal Officer (GRO)
v. Environment and Social Officer (E&S Officer)
vi. IT/MIS Officer

6.2.3. Sub-Project Implementation Cell

- The Sub-Project Implementation Cell has a key role to play in management and monitoring of the Project. It shall manage implementation of the sub project under the supervision, direction and control of the Sub Project Management Committee formed at the PI level. As the head of the cell, the Sub-Project Coordinator shall monitor it on day-to-day basis and will be accountable for achieving the targets.

- The Sub-Project Implementation Cell shall comprise of:
    i. Sub-Project Coordinator, Head of the cell
    ii. Designated Grievance Redressal Officer (GRO)
    iii. Designated E&S Officer
    iv. Area Officers
    v. MIS / IT Officer
    vi. Finance Officer
    vii. Purchase Officer

7. Sub-Project Monitoring

7.1. Monitoring & Review

7.1.1. Monitoring and review is essential to analyse achievement against targets and to take corrective actions as and when required. Monitoring of project at a regular interval helps in improvement of quality of work and optimal use of available resources.

7.1.2. The PI should set targets under each Key Performance Indicators (KPI) of the sub-project. The annual targets may be phased out into monthly targets and monitored its progress every month by the Sub Project Management Committee. The committee compare target against achievement on monthly basis and modify strategy and action plan accordingly so as to achieve the targets by EOP.

7.1.3. The major targets to be monitored under this component are as under:

a. Number of DCS/MPP where AMCS software has been installed.
b. Number of DCS/MPP where software training has been imparted to DCS/MPP staff.
c. Number of DCS/MPP staff who received the AMCS software training.
d. Number of DCS/MPP where pre-AMCS software installation activities completed.
e. Number of DCS/MPP where AMCS software installed & training imparted to DCS/MPP staff.
f. Number of milk producers covered under AMCS software application.
g. Number of officers of ICT/MIS department of PI trained for usage of AMCS software.
h. Number of DCS/MPP where billing is done through AMCS.

In addition to the above, depending upon the requirement, the PI may design other performance parameters for monitoring of activities under the project.

7.2. Documents required for monitoring

7.2.1. The PI can developed formats for project monitoring and review. Some activity may be required to monitor on daily basis like log of messages

sent to milk producers etc. and some activities may be monitored on monthly basis. The PI has to develop the formats accordingly.

7.2.2. The PI would maintain a stock record of capital items indicating the item wise receipt, issue and stock balance details.

7.2.3. PI may document success stories under this sub project.

7.3. Reporting

7.3.1. The PI has to regularly share the progress report in the format shared by NDDB. PI has to appraise of the NDDB about any import event happen which would affect the sub project implementation.

8. Procurement of goods, works and services

PI shall procure (purchase) goods/works/services under the project as per the Procurement (Purchase) Guidelines.

9. Financial Management

During implementation of the sub project, PI shall follow the Financial Management practices described in Financial Management Manual.

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