

Dairying through Cooperatives (DTC)

(Referred by JICA as “Project for the Dairy Development”)

Component B of NPDD Scheme

Manual on Milk Processing Facilities & manufacturing Facilities (Milk, Milk Products & Cattle feed)

**National Dairy Development Board
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Abbreviations

| | | |
|-------|---|----------------------------------|
| CEO | : | Chief Executive Officer |
| GM | : | General Manager |
| GRO | : | Grievance Redressal Officer |
| HR | : | Human Resource |
| IMC | : | Implementation & Monitoring Cell |
| IT | : | Information Technology |
| KL | : | Kilo Litres |
| KPI | : | Key Performance Indicators |
| MD | : | Managing Director |
| MIS | : | Management Information System |
| NDDDB | : | National Dairy Development Board |
| OEM | : | Original Equipment Manufacturer |
| PI | : | Participating Institution |
| POI | : | Producers' Owned Institution |
| SPIC | : | Sub Project Implementation Cell |
| SPMC | : | Sub Project Management Committee |
| TLPD | : | Thousand litre per day |
| TKgPD | : | Thousand kilogram per day |
| TOR | : | Terms of Reference |
| UHT | : | Ultra High Temperature |
| VAP | : | Value Added Product |

Preface

Guidelines in this manual has been prepared primarily for the Project 'Dairying though Cooperative (DTC) (also known as Project for the Dairy Development in JICA's document) has been prepared by the Implementation and Monitoring Cell (IMC) in NDDB for providing guidance to Participating Institutions (PIs), who would be implementing the Sub Project Plans under Milk Processing Facilities & manufacturing Facilities (Milk, Milk Products & Cattle feed) Component. This would help the project staff with an understanding of how to implement the sub-project activities, and equip them with essential information to complete the project effectively and in a comprehensive manner.

It also describes the objectives, procedures to be followed and guidelines for the activity, management and monitoring mechanism, and institutional arrangements necessary for implementation of the sub project plan.

It is expected that these guidelines will be a useful for the people directly or indirectly involved with the project.

These guidelines may be modified by the IMC as and when required, based upon learnings in the course of project implementation. All Participating Institutions (PIs) in this project are encouraged to share their learning and experiences in project implementation.

1. Introduction

1.1. What is this Manual and why it is needed?

This manual is written to give sound technical guidance to the people implementing the sub project. This Manual is expected to provide relevant guidelines to the key operations of the activity so as to achieve the desired targets with quality output. It explains as to who would be implementing and monitoring the activity, the processes involved, their importance, procedures to be followed and the support required. It defines roles and responsibilities of all those involved in the implementation of the activity.

1.2. Whom is this Manual for?

This Manual is for all those involved in planning, monitoring and implementation of the component B - Milk Processing Facilities & manufacturing Facilities (Milk, Milk Products & Cattle feed). It is primarily for the Participating Institutions (PIs) who have proposed to avail assistance under this component of the project and also for those directly or indirectly associated with the component of the project.

2. Component B-Milk Processing Facilities & manufacturing Facilities (Milk, Milk Products & Cattle feed).

2.1. About the component

The component focuses on modernisation/ expansion of existing processing capacity and creation of new processing facilities for Producers' Owned Institutions (PoIs). Modernisation process may require replacing one or more, existing equipment with latest available technology. In addition, the existing capacities of Value Added Product (VAP) will be expanded and new VAP capacities shall be created such as Fermented milk products, Butter, Ice Cream, Flavoured milk, Indigenous sweets, Cheese/Paneer, Powder Plant and UHT (Ultra High Temperature) treated milk etc. The PI based on the demand of milk & milk products and the project viability would decide the location and capacity of the plants.

Further, the project component will also support creation of compound cattle feed, By-pass protein and Mineral mixture plants, in order to meet the growing demand of compound cattle feed & feed supplements in the project area.

2.2. Objective of the component

To create new and modernise/ expand existing processing & Value Added Products (VAP) manufacturing facilities and cattle feed & feed supplements manufacturing facilities so as to bring efficiency in

business operation and pass on optimum value of milk to producers and quality milk to consumers.

2.3. **Activities under the Component**

The Activities under the component are as under:

2.3.1. **Milk processing infrastructure**

- ◆ Modernisation / expansion of existing milk processing facilities and manufacturing facilities for Value Added Products.
- ◆ Creation of new milk processing facilities and manufacturing facilities for Value Added Products.

2.3.2. **Feed & Feed supplement manufacturing infrastructure**

- ◆ Modernisation / expansion of existing cattle feed plant, by-pass protein feed plant and mineral mixture plant.
- ◆ Creation of new cattle feed plant, by-pass protein feed plant and mineral mixture plant.

2.3.3. **Training & capacity building:**

- ◆ Training of personnel of PI for operation/maintenance would be provided as a part of the work orders on vendors working for plant installation.
- ◆ Training and Capacity development activities will be undertaken by the PI as provided in Part IV: Capacity Development Component of Project Operation Manual (POM).

2.3.4. Creation of new milk processing facilities include altogether new infrastructure in a separate location for milk processing along with value added product manufacturing infrastructure.

2.3.5. Modernisation / expansion of existing milk processing facilities - It includes modernisation / refurbishment, capacity expansion and diversification of milk processing and VAP manufacturing capacity in existing location.

- ◆ **Modernisation / Refurbishment:** Refurbishment comprises replacement existing, old and inefficient processing infrastructure/equipment fully or partially with modern ones to achieve improved efficiency, hygiene, and operational safety.
- ◆ **Capacity expansion:** Capacity expansion comprises of addition of new equipment along with its services in the existing plant so as increase its cumulative processing capacity.
- ◆ **Diversification:** Diversification is expanding product portfolio in the existing plant. Addition of one or more Value Added Product

processing facilities in the existing plant like Fermented milk products, Butter, Ice Cream, Flavoured milk, Indigenous sweets, Cheese/Paneer, Powder Plant and UHT (Ultra High Temperature) treated milk etc.

2.3.6. New cattle feed & feed supplement manufacturing facilities include altogether new infrastructure in a separate location.

2.3.7. Modernisation / expansion of existing cattle feed facilities - It includes modernisation / refurbishment, capacity expansion and diversification of cattle feed product in existing location.

◆ **Modernisation / Refurbishment:** Refurbishment comprises replacement existing, old and inefficient production infrastructure/equipment fully or partially with modern ones to achieve improved efficiency, hygiene, and operational safety.

◆ **Capacity expansion:** Capacity expansion comprises of addition of new equipment along with its services in the existing plant so as increase its cumulative production capacity.

Diversification: Diversification is expanding product portfolio in the existing plant. Addition of Product manufacturing facilities in the existing plant like mineral mixture, bypass protein etc.

2.4. Funding Pattern

Activity and line item wise funding pattern is as given below:

| No. | Particulars | Funding Pattern | | |
|-----------|--|-----------------|-------|----------------------------|
| | | Loan | Grant | PI's /State's Contribution |
| A. | Milk Processing Infrastructure | | | |
| A.1. | - New milk processing facility and VAP facility | 90% | - | 10% |
| A.2. | - Modernisation and expansion/diversification of existing milk processing facility and VAP facility | | | |
| B. | Feed & Feed supplement manufacturing infrastructure | | | |
| B.1. | - Creation of new cattle feed plant, by-pass protein feed plant and mineral mixture plant | 90% | - | 10% |
| B.2. | - Modernisation / expansion/diversification of existing cattle feed plant, by-pass protein plant and mineral mixture plant | | | |

In case, the unit cost of any item is in excess of the provision made under the project, then the funding will be restricted to the approved unit cost.

3. Technical Criteria for the PI

- 3.1. The PI will have to satisfy the following technical criteria in addition to Financial and Institutional/Governance criteria to avail assistance under the project:
- 3.2. PI should have required environmental/ statutory clearances for setting up of plants.
- 3.3. PI should have its own land/ long term lease, free from encumbrances, in case of setting up of new plant or expansion of existing plant. In case of lease, requisite No Objection Certificate from the concerned authority for mortgage to NDDDB would have to be obtained.

4. Condition for selection of activities under the component

4.1. Milk Processing and Value Added Product manufacturing facilities

4.1.1. Creation of new processing facilities

- ◆ PI Should submit detailed technical assessment & feasibility report for proposed new plant capacity based on the projected future milk procurement/milk handling.
- ◆ PI Should have adequate land for setting up of new plant in existing location or in a new location.
- ◆ The PI is willing to contribute its share.
- ◆ PI has required manpower to implement, supervise and monitor the sub-project activities.

4.1.2. Modernisation/refurbishment/Product diversification/ capacity enhancement of existing plant:

- ◆ Should submit technical assessment report whether modernization /refurbishment/product diversification/ capacity enhancement in the existing plant is possible to implement.
- ◆ The PI should have alternate arrangement for processing of its milk during temporary shutdown of plant.
- ◆ The PI is willing to contribute its share.
- ◆ PI has required manpower to implement, supervise and monitor the sub-project activities.

4.2. Cattle Feed & Feed Supplement manufacturing facilities

4.2.1. Creation of new processing facilities

- ◆ PI Should submit detailed technical assessment & feasibility report for proposed new plant capacity based on the projected future milk procurement/milk handling.
- ◆ PI Should have adequate land for setting up of new plant in existing location or in a new location.
- ◆ The PI is willing to contribute its share.
- ◆ PI has required manpower to implement, supervise and monitor the sub-project activities.

4.2.2. Modernisation/refurbishment/Product diversification/ capacity enhancement of existing plant:

- ◆ Should submit technical assessment report whether modernisation/refurbishment/product diversification/ capacity enhancement in the existing plant is possible to implement.
- ◆ The PI should have alternate arrangement for processing of its milk during temporary shutdown of plant.
- ◆ The PI is willing to contribute its share.
- ◆ PI has required manpower to implement, supervise and monitor the sub-project activities.

5. Conditions for hiring external agency for technical consultancy services for sub project implementation.

- ◆ All the activities proposed under this component would be implemented by the PI and it will be the responsibility of the PI to ensure that the activities are implemented as per the approved sub project plan.
- ◆ PI can execute the infrastructure projects by itself or hire reputed external agency for executing the project on technical consultancy services basis.

5.1. Conditions for hiring external agency for milk processing and VAP manufacturing projects

- 5.1.1. Experience in providing technical consultancy services in executing dairy processing infrastructure should be at least 10 years.
- 5.1.2. Agency should have sufficient & competent technical/professional manpower to execute the project efficiently, meeting quality requirements within approved timeline.

5.1.3. Should have experience in executing similar or larger size dairy projects in past.

5.1.4. Should not have barred or black listed by any organisation in India and abroad.

5.2. Conditions for hiring external agency for cattle feed & feed supplements manufacturing projects

5.2.1. Experience in providing technical consultancy services in executing dairy processing infrastructure should be at least 10 years.

5.2.2. Agency should have sufficient & competent technical/professional manpower to execute the project efficiently, meeting quality requirements within approved timeline.

5.2.3. Should have experience in executing similar or larger size dairy projects in past.

5.2.4. Should not have barred or black listed by any organisation in India and abroad.

6. Conditions for PIs willing to implement projects on their own

6.1. The PI should have at least 10 years of experience in implementation of similar or larger size project(s) in the past.

6.2. The PI should have separate qualified & sufficiently competent technical/professional manpower to execute the project efficiently, meeting quality requirements within approved timeline.

6.3. Project team and details of team manpower to be submitted.

7. Procedure to be followed for the implementation of the activities

7.1. Deciding capacity of the new processing plant along with Value Added Product manufacturing capacities/feed & feed supplement capacity, location of the plant and equipment/works required for modernisation/expansion/product diversification/ creation of new plant.

7.2. Preparation of Sub Project Plan (SPP) which would include detailed project cost estimate with brief design description, implementation schedule, rationale of the project etc.

7.3. Deploy exclusive manpower for planning, execution and monitoring the implementation of the sub project activities. A Sub Project Implementation Cell (SPIC) will be constituted, which will be headed by Project Coordinator and supported by required supporting staff.

7.4. Site readiness for initiation of work - carryout soil testing, contour survey, land levelling, approach road to the site, arrangement of

temporary stable power, water facilities etc. before initiating construction of plant.

- 7.5. Simultaneously obtain required environmental/statutory clearances from appropriate authority.
- 7.6. In case of hiring of agency for providing technical consultancy service, PI can issue Expression of Interest (EoI) so that agency can be appointed at an appropriate time without delaying in execution of the sub-project.
- 7.7. Preparation of bid document for procurement of civil, mechanical, electrical and other ancillary works. Prepare comprehensive technical specifications, drawings, mass balance etc. required for tender. Subsequently appointment of professional vendor (s)/consultant(s) for the above work. This process should be carried out in accordance with the Procurement Guidelines of the Project.
- 7.8. Proper planning and scheduling of activities and adequately deploy required resources so that all tasks are completed on time maintaining required quality standard.
- 7.9. The PIs shall obtain registration as Principal Employer under Contract Labour (Regulation and Abolition) Act, 1970 and shall ensure compliance of provisions of the said Act and other labour laws/cess, as applicable. Vendors will furnish information as may be required from time to time for compliance with the various labour laws/cess, as applicable to the PI as per the respective Contract/ Agreement.
- 7.10. PI shall ensure necessary insurance coverage for the work from respective vendors/contractors.
- 7.11. Monitor the sub- project progress as per the approved sub-project plan and ensuring quality of work by Project Coordinator and report the same to MD/CEO/GM of the PI and in turn to NDDB.
- 7.12. Completion of work – Completion of all activities in all respect by contractors/agency appointed under the project. Trial run has to be carried out in presence of PI officials. On successful commissioning & performance demonstration, the report & list of plant inventories to be handed over by the contractor/agency to the PI, which shall be duly accepted/endorsed by PI. The report should be shared with NDDB for records.
- 7.13. PI to ensure training and capacity building of existing officers/staff of PI for efficient management/operation of the plant.
- 7.14. The PI has to make final payment to all contractor/agencies and close the sub project and report the same to NDDB.

- 7.15. During execution of sub project and post completion of the sub-project, NDDDB/GoI/JICA may appoint auditor for audit of the quality of the work, procurement of works, services & goods and financial transaction etc. The PI shall provide required support to the auditors.

8. Project Management, Monitoring and Evaluation

8.1. Project Management (for Projects being executed by PI)

- 8.1.1. The PI would be responsible for overall management of this project activity. PI would identify one of its existing officers as Sub Project Coordinator (preferably from the PI's plant section/department), who shall be responsible for overall coordination of project implementation. The plant section/department of PI, has a key role to play in management and monitoring of the sub project.
- 8.1.2. PI will constitute Sub Project Management Committee (SPMC) for management, monitoring, review and required guidance & policy support for smooth implementation of the sub projects. Under SPMC, there will be sub project implementation cell headed by sub project coordinator.

8.2. Sub Project Management Committee (SPMC)

- 8.2.1. At the PI level, a Sub Project Management Committee will be headed by Managing Director (MD)/ Chief Executive Officer (CEO)/ General Manager (GM) of PI.
- 8.2.2. The members of the Committee will be:
- i. Managing Director/ Chief Executive Officer / General Manager of PI (Chairperson)
 - ii. Section/Department Heads (Purchase, Finance & Accounts, HR & Admin, Procurement & Inputs, Plant & Engineering, Marketing & Sales, IT/MIS.)
 - iii. Sub Project Coordinators (each for all components proposed under the project)
 - iv. Grievance Redressal Officer (GRO)
 - v. NDDDB representative
 - vi. MIS Officer – who shall be the member convener
- 8.2.3. The roles & responsibilities of the Committee will be:
- a. To review the progress of the sub project (component wise) and provide quarterly reports (as may be required) to Implementation & Monitoring Cell (IMC) in NDDDB in specified formats.

- b. To prepare long term strategies, action plans, take policy decisions related to sub project implementation, including approval of budget, expenditure, reimbursement and release of advances, entering into contracts with agencies and other organizations, etc.
- c. Post sanction, timely execution of project agreements and ensure utilisation & repayment of loan as per the terms and conditions prescribed in the loan agreements.
- d. Resolve issue and bottlenecks during sub project implementation.
- e. Regularly review the status of grievance redressal under the sub projects and provide guidance/directions, if required.
- f. Provide required support to auditors appointed under the project.
- g. Ensure timely submission of required data, information and reports to IMC (located at NDDB).
- h. PI needs to disclose information related to the project on their website.

8.3. Sub Project Implementation Cell (SPIC)

- 8.3.1. The Cell will be headed by Sub Project Coordinator (Plant) who will be appointed by MD/CEO/GM of the PI.
- 8.3.2. The members of the Cell will be:
 - i. Sub Project Coordinator (respective component)– head of the cell
 - ii. Plant officers & supervisors
 - iii. Purchase officer
 - iv. Finance & Accounts officer
 - v. IT/MIS Officer
- 8.3.3. The Cell will be responsible for implementation and monitoring of the project activities on day-to-day basis and will be accountable for achievement of the targets set under the sub project.
- 8.3.4. The Cell would meet every month or as frequently as required and will manage implementation of the sub project under the supervision, direction and control of the Sub Project Management Committee (SPMC).
- 8.3.5. The roles & responsibilities of the Cell will be:
 - a. Define sub project Key Performance Indicators (KPI) in line with Project Operation Manual and set monthly targets under each KPI.

- b. Arrange required resources to implement the project.
- c. Monitor the physical and financial progress of the Sub project
- d. Document success stories.
- e. Report the progress of sub project activities to the Sub Project Management Committee as and when required.
- f. Provide required suggestions/recommendations to Sub Project Management Committee to take necessary policy decisions for smooth implementation of the sub project.
- g. Resolve and respond to all grievances received under the sub project.
- h. Maintain record and accounts of all transactions.
- i. Identification/recruitment of requisite manpower & arrange their trainings.

8.4. Parameters to be monitored

- 8.4.1. Monitoring the progress of the sub project shall include monitoring and analysing each activity approved under the sub project.
- 8.4.2. Set of indicators against each activity has to be worked out to compare target against achievement on regular basis. The key parameters to be monitored and evaluated under the component B- (Milk Processing Facilities & manufacturing Facilities (Milk, Milk Products & Cattle feed component)):
 - ◆ Quantity of milk processed/ cattle feed produced in upgraded/new plants
 - ◆ Milk processing / VAP / Feed & Feed supplement capacity to be created.
 - ◆ Reduction in effluent generation.
 - ◆ Reduction in electrical energy usage.
 - ◆ Reduction in usage of fossil fuels.
- 8.4.3. The year wise targets approved under the sub project has to be phased out into monthly/quarterly targets and its progress has to be monitored accordingly.

8.5. Monitoring & Evaluation

- 8.5.1. The Sub Project Implementation Cell of the PI, shall meet every month or more frequently if required and would review the following:
 - ◆ Targets and achievements of last month.

- ◆ Reasons for any underachievement, and strategy to cope with the yearly targets.
- ◆ Targets for upcoming month, plan for achievement and arrangement of resources necessary.

9. Procurement of goods, works and services

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

10. Financial Management

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

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