

Ex-ante Evaluation Paper (for Japanese ODA Loan)

South Asia Division 1, South Asia Department, JICA

1 Basic Information

Country: India

Project: Project for the Dairy Development

Loan Agreement: December 21, 2018

2. Background and Necessity of the Project

(1) Current State and Issues of the Agricultural Sector (Dairy) in India and the Positioning of the Project

Annual production of cow's milk in India, the world's largest cow milk producer, totaled 155 million tons, accounting for 19% of the worldwide production volume (FAO STAT by the Food and Agriculture Organization). Agriculture is an important sector in India and accounts for 17% of its total GDP. Livestock sector accounts for approximately 25% of the agricultural sector's contribution to the GDP, while dairy production makes up approximately 70% of the livestock sector's contribution (National Accounts Statistics 2017). However, there are still many tasks to be addressed for the development of dairy sector. First, as for the production aspect, little progress has been made to intensify production and sales in the dairy sector and only 8% of farming households possess four milk cows/buffalos or more. Moreover, 70% of the milk in India is produced by small and marginal farmers with operational holding areas of 2 ha or less (JICA Data Collection and Confirmation Study on Dairy Sector Report). Dairy operations, which run during the 10-month milking period per year on average, can provide a stable income source for farming households all year round. In addition, while assets creating economic value in rural areas are traditionally land and animals, liquidity of land is low and thus small-scale farmers have limited opportunities to acquire new ownership of land. Hence, the importance of dairy operations is greater for such small-scale farmers with limited assets, since milk cows/buffalos can serve as not only a cash resource, but also as assets.

In terms of supply side, raw milk is highly perishable, so for distribution to remote areas for consumption, cold chains capable of prompt refrigeration of fresh milk, subsequent sterilization and pasteurization, as well as installation of dairy processing machinery (a modern distribution network) are indispensable. In India, dairy cooperatives and private companies handle the modern

distribution networks of milk and dairy products. However, since installation of such cold chains and machinery are not fully-established yet, the raw milk being marketed with proper treatment through these distribution networks accounts for roughly 20% of the total milk production, and the rest are likely consumed at homes or traded under unsanitary conditions at lower price in local markets. Farmers without access to modern distribution networks also lack experience of good sanitation. Their access to markets is also limited and naturally, their income from dairy products remains low. Under these circumstances, creating value chains through the installation of cold chains for milk and dairy products along with securing the relevant processing capacity for raw milk are critical tasks in terms of improvements in the livelihood of small-scale farmers and food safety in India.

The Government of India highlighted the importance of installing cold chains of dairy products and raw milk processing facilities in “Vision 2024: National Action Plan on Dairy Development.” The Government of India also clearly specified their intention to focus on the dairy sector in “India Three Year Action Agenda 2017-18 to 2019-20” aiming to double the farmers’ incomes by 2022. The Project for the Dairy Development, through dairy cooperatives, intends to improve small farmers’ access to modern distribution networks, leading to augmentation of milk sales and farmers’ income, by installation of dairy equipment as well as cold chains, and capacity strengthening of business management as well as food safety and quality control. Thus, the Project is positioned as an important project for the Government of India. In addition, the Project has the effect of poverty reduction, food security and nutrition improvement, making a contribution to the Sustainable Development Goals (SDGs) Goal 1: End poverty in All Its Forms Everywhere and Goal 2: Zero Hunger.

(2) Assistance Policies of Japan and JICA for Agricultural Sector in India and the Positioning of the Project

Japan’s Country Assistance Policy for India (March 2016) set “supporting sustainable and inclusive growth” as one of the priority areas and clearly specified the aim to support poverty reduction and the social development sector, including agriculture. Furthermore, JICA’s “Country Analysis Paper for India” (March 2018) concluded that, perceiving inclusive growth of rural areas as a critical issue that should be addressed, it is crucial to increase the incomes of farmers by facilitating access to markets and improving the efficiency of production activities. Thus, the Project meets the policies and analysis results

mentioned above.

(3) Other Donors' Activity

The World Bank has supported a dairy development project (“Operation Flood”) from 1970 to 1996, placing the National Dairy Development Board in India as the executing agency to promote expansion of dairy production in India. Since 2012, the World Bank has been assisting the “National Dairy Plan” conducted by the National Dairy Development Board aimed at enhancing productivity and improving milk collection. Since the Project, which will install equipment to process and distribute dairy products, and the National Dairy Plan are complementary to each other, the Department of Animal Husbandry, Dairying and Fisheries in the Ministry of Agriculture & Farmers Welfare in India will provide coordination for effective collaboration between these projects. In particular, the National Dairy Plan supported by the World Bank provides training on raw milk processing for individual farmers as part of its capacity building assistance to enhance productivity. Such training is important in terms of food safety, and the teaching materials used in the training will be also utilized in the Project.

3. Project Description

(1) Project Objective

The Project aims to increase sales of milk and dairy products by increasing farmers' access to organised market, upgrading dairy processing facilities and marketing infrastructure and enhancing the capacity of producers owned institutions, thereby contributing to increase in returns to milk producers in the project area. ▯

At the onset of the Project, under the agreement among the Ministry of Agriculture & Farmers Welfare, the National Dairy Development Board, and JICA, two states will be selected as target areas of the Project. These states will have a relatively higher milk production and lower socioeconomic indicator, as set by the National Institution for Transforming India Committee (NITI Aayog), based on the factors such as borrowing capacity of dairy cooperatives in the States and intentions of state governments.

(2) Project Site/Target Area: States agreed on by the Ministry of Agriculture & Farmers Welfare, the National Dairy Development Board, and JICA

(3) Project Components

Financed through the National Dairy Development Board, activity-(i) listed

below will be carried out by district level dairy cooperatives involved in secondary collection, processing, and sales of milk. As for financial assistance from the National Dairy Development Board, funds for the equipment of dairy plants will be loaned, while funds for other equipment will be provided as grant. Activities (ii) to (iv) will be conducted by the National Dairy Development Board.

- (i) Upgrade and install dairy product-related equipment (refrigerators for milk collection, milk quality testing equipment, equipment of dairy plants, refrigeration equipment for transportation and sales, equipment for feed production, etc.)
- (ii) Capacity development for business management (training on marketing, 5S (Sort, Set in Order, Shine, Standardize, Sustain), improvement activities referred to as “Kaizen” in Japanese, etc.)
- (iii) Capacity Development for food safety and quality control (training on formulating food sanitation policies, risk analysis, quality inspection, etc.)
- (iv) Project monitoring and studies (market research, baseline study, end-line evaluation, etc.)
- (v) Consulting services (project management, improvement of financial support, etc.)

(4) Estimated Project Cost

22,989 million yen (of which, the ODA Loan amount is 14,978 million yen)

(5) Schedule

Scheduled from December 2018 to November 2023 (60 months total). Project completion is defined as the completion of financing (November 2023).

(6) Project Implementation Structure

- 1) Borrower: President of India
- 2) Executing agency: National Dairy Development Board
- 3) Operation and Maintenance Agency: District level dairy cooperatives will be responsible for the operation and maintenance of all equipment and facilities provided by the Project, except for milk collection equipment stationed in each village. Village level cooperatives will be responsible for the operation and maintenance of milk collection equipment placed in the village.

(7) Coordination with Other Schemes and Donors

- 1) Related aid activities by Japan: None
- 2) Aid activities by other aid organizations: The Ministry of Agriculture & Farmers Welfare will coordinate funding services from other governmental entities and the World Bank. Of note, the Project will use the same teaching materials used in the training on raw milk processing provided for individual farmers implemented in the National Dairy Plan financed by the World Bank.

(8) Environmental and Social Considerations/Poverty Reduction and Social Development

1) Environmental and Social Considerations

① Category: C

② Categorization Rationale: According to the “JICA Guidelines for Environmental and Social Considerations” (promulgated in April 2010), the negative impact on the environment from the Project is judged to be minimum.

2) Cross-cutting Items

The Project will implement measures that focus on socioeconomically under-developed areas and provide financing to district level dairy cooperatives to increase the incomes of their impoverished members.

3) Gender Classification: [Gender Project] GI (S) (Gender Integrated Project)
<Activities/Classification Rationale> Since management of milk cows/buffalos has been carried out by women in many regions of India, training conducted as capacity development activities for food safety and quality control, among capacity development, will be implemented for women. Therefore, the Project is classified as a Gender Integrated Project.

(9) Other Important Issues: None in particular

4. Target Outcomes

(1) Quantitative Effects

Outcomes (Operational and Effect Indicators)

Indicator	Baseline (Actual value in 2019)	Target value (2025) [2 Years after Completion]
Quantity of milk processed in upgraded/new plants (thousand litter/day)	*1	3,500 *2
Quantity of liquid milk marketed by Participating Institutions (thousand litter/day)	*1	*1
Additional producer members of Dairy Cooperative Society	—	150,000 *2
Revenue of Participating Institutions from milk and dairy products (million Rupee)	*1	*1

*1 Figures are determined at the time of sanctioning of each sub-project .

*2 Figures are based on current predictions and will be determined at the

beginning of each sub-project.

(2) Qualitative Effects: stabilization of farmers' incomes, improvement of consumers' confidence in safety of dairy products.

(3) Internal Rate of Return

Internal Rate of Return will not be calculated since sub-projects have not been identified.

5. External Factors and Risk Control

(1) Preconditions: None in particular

(2) External Factors: Assumption that the political and economic situation in India and areas surrounding the Project do not deteriorate, and no large-scale natural disaster occurs.

6. Lessons Learned from Past Projects

From the ex-post evaluation of the "Dairy Facilities Improvement Project (2)" for the Republic of Korea, the following lessons were learned. Since demand forecasting examines situations containing uncertain factors, project estimates can potentially be incorrect, exerting tremendous impact over the projects. Thus, it is essential to have demand forecasting sufficiently reflect the characteristics of goods by analyzing consumption patterns in developed countries through careful and comprehensive examination of various factors. Moreover, from the ex-post evaluation of the "New and Renewable Energy Development Project" for India implemented through a two-step loan, the following lessons were learned. When the monitoring system of implementation of executing agencies is inadequate, establishing an adequate system early with technical assistance can enhance the effectiveness and sustainability of the project.

Based on these lessons, the Project should pay special attention to developing the appropriate products and installing the necessary equipment for processing such products based on the market demand through development of business management skills, such as marketing. In addition, the Project will provide consulting services to strengthen the project monitoring system implemented by the executing agency.

7. Evaluation Results

In alignment with the Government of India's policies on development and solving issues, as well as Japan's and JICA's policy on assistance and analysis

results, the Project intends to contribute poverty reduction, food security, and nutritional improvement, through installing dairy equipment and cold chains as well as strengthening capacity of dairy cooperatives in India. Therefore, supporting the implementation of the Project is considered highly necessary based on the judgment that it will contribute to SDGs Goal 1: End poverty in All Its Forms Everywhere and Goal 2: Zero Hunger.

8. Plan for Future Evaluation

(1) Indicators to be Used

As indicated in sections 4.(1) to (3)

(2) Timing of the Next Evaluation

Ex-post evaluation: 2 years after project completion