

“Impact of the digital transactions in cooperative milk institutions on the milk producing farmers in rural areas”

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Abstract-

Dairy farming has traditionally been an important and long-standing allied agricultural business. For dairy farming, mainly crossbred cows, local dairy cows, and dairy buffaloes are reared. Compared to traditional methods, conducting this business commercially using modern technology is a sustainable and economically viable option. Dairy farming includes aspects such as milk production, processing and selling the milk, and manufacturing and selling various dairy products. Milk production naturally involves breeding, feeding, milking, and caring for dairy animals. Due to advancements in milk and dairy product handling technology, and the increasing demand for milk created by urban growth, dairy farming has gained a significant place in agricultural economics since the mid-19th century.

In the digital transactions of cooperative milk societies, milk payments and annual milk rebates are credited to the bank accounts of milk-producing farmers. Government subsidies per liter are directly deposited into the farmers' bank accounts through DBT (Direct Benefit Transfer). Farmers include the purchase of animal feed, animal health facilities, animal insurance, and fulfilling personal and family needs in their online transactions. This research paper outlines the research objectives, research methodology, the impact of online transactions of cooperative milk societies on milk-producing farmers, and the selection of 100 milk-producing farmers from the local rural area for data collection. This information will then be analyzed.

- **Keywords:** Milk, Cooperative milk societies, digital transactions, milk-producing farmers.

● Introduction –

A cooperative milk society is an organization established by milk-producing farmers coming together, working for their economic and social upliftment, where milk collection, processing and sale are carried out on cooperative principles, like the famous models such as 'Gokul' (Kolhapur) or 'Amul' (Gujarat), which work for the benefit of the farmers. These societies are registered under the Maharashtra Cooperative Societies Act, 1960. Online transactions of cooperative milk societies bring transparency, efficiency, and financial stability for farmers; this improves milk quality, ensures timely payments, assists in animal health and management

(such as veterinary telemedicine), and strengthens the supply chain, thereby increasing the income of the producing farmers and boosting the rural economy.

● **Research Objectives:**

1. To study the facilities provided to milk-producing farmers by cooperative milk societies.
2. To study the influence of various factors on dairy farming.
3. To understand the impact of online transactions on milk-producing farmers.
4. To suggest solutions to the problems faced by milk-producing farmers in dairy farming.

● **Research Methodology:**

The information required for the research was collected using two methods:

1. Primary Data: For primary data collection, 100 milk-producing farmers were selected from rural areas using a random sampling method. Information was collected from them through questionnaires.

2. Secondary Data: Secondary data was collected from research articles, Research Paper and online sources.

● **Hypothesis:**

“All milk-producing farmers are satisfied with the online transactions of cooperative milk societies.”

● **Research Analysis:**

In rural areas, dairy farming has become not just a supplementary occupation to agriculture, but a primary occupation. This has created employment opportunities. Therefore, the following analysis was conducted based on the information collected from the selected milk-producing farmers.

1. Facilities provided to milk-producing farmers

Table No. 01

Sr. No.	Details of Facilities Provided	Number of Farmers	Percentage (%)
1.	Loans for dairy farming	16	16.00
2.	Advance payment facility	12	12.00
3.	Veterinary facilities	64	64.00
4.	Milk Rebate Scheme	100	100.00
5.	Government Milk Subsidy	00	00

Reference - Questionnaire of milk-producing farmers

Analysis -

1. The cooperative milk society provides the milk rebate scheme to all milk-producing farmers based on their annual milk supply.
2. During the Covid-19 period, a government subsidy of Rs. 5 per liter was deposited into the farmers' bank accounts. However, this has now been discontinued.

2. Factors Influencing the Dairy Business

Table No. 2

Sr. No.	Details of Influencing Factors	Number of Farmers	Percentage (%)
1.	Unprofitable Farming Business	100	100.00
2.	Family and Socio-economic Support	100	100.00
3.	By-products from Milk	100	100.00
4.	Organic Fertilizer for Agriculture	100	100.00
5.	Employment Generation	100	100.00

Reference - Questionnaire of Milk Producing Farmers

Analysis –

All the above factors influence the milk producing farmers in the dairy business.

3. Farmers conducting online transactions

Table No. 3

Sr. No.	Details	Number of Farmers	Percentage (%)
1.	Those conducting online transactions	91	91.00
2.	Those not conducting online transactions	09	9.00
Total		100	100.00

Reference - Questionnaire for milk-producing farmers

Analysis-

Out of the total farmers selected, 9.00% of the milk-producing farmers do not conduct online transactions. They do not conduct online transactions due to reasons such as illiteracy, lack of technical knowledge, and security concerns.

4. Problems in the Dairy Business

Table No. 4

Sr. No.	Details of Problems in the Dairy Business	Number of Farmers	Percentage (%)
1.	Milk spoilage	100	100.00
2.	Purchase of milk at low prices	100	100.00
3.	Problems with milk transportation	100	100.00
4.	Frequent animal illnesses	100	100.00
5.	Natural disasters	100	100.00

Reference - Questionnaire of Milk Producing Farmers

Analysis –

All the selected milk-producing farmers face problems such as milk spoilage, purchase of milk at low prices, problems with milk transportation, frequent animal illnesses, and natural disasters.

5. Verification of Assumptions-

“All milk-producing farmers are satisfied with the online transactions of cooperative milk societies.”

Table No. 5

Sr. No.	Details	Number of Farmers	Percentage (%)
1.	Satisfactory	76	76.00
2.	Generally Satisfied	18	18.00
3.	Unsatisfactory	06	06.00

Reference - Questionnaire of Milk-Producing Farmers

Analysis of Information–

Out of the total farmers selected, only 6.00% of farmers are dissatisfied with the online transactions of cooperative milk societies. This proves that not all milk-producing farmers are satisfied

- **Key aspects of digital transactions:**

- **Milk Collection and Recording:**

- **Digital Milk Collection System (DMCS):**

Using digital machines for milk testing (fat, SNF) and weighing.

- **Smart Card / QR Code:**

A unique card or QR code for each farmer, on which milk details are recorded.

- **Mobile App:** Farmers can view milk details and check the organization's records through the app.

- **Payment and Financial Transactions:**

- **Digital Payment:** Depositing money directly into farmers' bank accounts via NEFT/IMPS immediately after milk sale.

- **Bank Account Linking:** Farmers' bank accounts must be linked with the organization.

Promoting digital transactions instead of cash transactions

All this technology helps in providing modern services to milk-producing farmers in rural areas and increasing the efficiency of the cooperative society.

- **Positive Impacts of Digital Transactions:**

- **Improved transparency:** Digital systems bring complete transparency to processes such as milk collection, quality testing, and payments, increasing farmers' trust.

- **Timely and accurate payments:** Digital payments ensure farmers receive their money on time, making financial planning easier.
 - **Efficient supply chain:** Technologies like IoT (Internet of Things) real-time tracking of milk collection, transportation, and distribution, ensuring quality is maintained.
 - **Increased productivity and quality:** Veterinary telemedicine, e-learning tools, and proper nutrition management improve milk production and quality.
 - **Farmer empowerment:** Increased use of technology leads to greater participation of women in decision-making processes and provides them access to financial and technical resources.
- **Remedial Measures:**
 1. Milk-producing farmers should receive a fair price for their milk.
 2. The government should reinstate the discontinued government subsidies.
 3. Emphasis should be placed on adopting modern, technical methods in dairy farming.
 4. Milk cooperatives should increase their share in the milk rebate rate.
 5. The bulk cooler system should be implemented in various locations.

- **Conclusion –**

In short, digital transactions improve the economic and social conditions of farmers through cooperative milk societies, making the rural dairy industry more sustainable and profitable. Due to the lack of digital literacy, training programs at the community or institutional level can be effective. Digital transactions have led to the economic empowerment of rural milk-producing farmers. In 2026, technology is making the dairy industry more organized and profitable. However, to reap 100% of the benefits of this technology, it is necessary to provide greater digital literacy and robust internet facilities in rural areas.

Reference-

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