International Journal of Social Science and Economic Research

ISSN: 2455-8834

Volume:09, Issue: 12 "December 2024"

Sustainable Livelihood Among Dairy Farmers in India: A Micro Level Study

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DOI: 10.46609/IJSSER.2024.v09i12.026 URL: https://doi.org/10.46609/IJSSER.2024.v09i12.026

Received: 16 November 2024 / Accepted: 22 December 2024 / Published: 31 December 2024

ABSTRACT

A dairy cooperative is a business that secures its associated producers through an indivisible collective ownership of all its members-cooperators. It is noteworthy that in view of all the disadvantages in smallholders, especially the small-scale, it is important to create a class of family farmers through cooperatives to improve their competitiveness. Dairy production is defined as all those aspects and activities relating to rising of dairy animals during their various phases of life to get wholesome milk. Dairy farmers in India raise animals at a small scale in traditional ways. When dairy farming is organized, savings of total labour costs in dairy farming becomes particularly important due to stabilization and further increases in productivity are not possible without a significant reduction in production costs. The most active and transformative impact on the entire System of factors of productivity in the industry provides scientific and technical progress. A micro level study from the 50 dairy farmers in the Thalayal Milk Co-operative society shows the improvement in livelihood of the dairy farmers and their sustainability.

Keywords: Dairy Farmers, Livelihood, Sustainability

1. Introduction

Dairy farming has been an important part of the agricultural scenario for thousands of years. Livestock provide high-quality foods such as milk, cheese, butter, ghee etc. India is not only one of the top producers of milk in the world, but also the largest consumer of milk and milk products in the world. Due to the shortfall in supply, we have to import significant amount, of milk products to meet internal demand. Globally, agriculture provides a livelihood for more people than any other industry (primary or secondary) while dairy farming is one of the major agricultural activities. The FAO has estimated world milk production in 2012 at 754 billion litres. Livestock provide over half the value of global agricultural output and one-third in

ISSN: 2455-8834

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developing countries. Milk is nature's most complete food and dairy farming represents one of the fastest returns for livestock keepers in the developing world.[7]

2. Dairy Industry in India

India is the largest milk producer and ranks first position in the world contributing 24% of global milk production in the year 2021-22. According to Food and Agriculture Organization Corporate Statistical Database (FAOSTAT) in 2021-22, India is the largest milk producer and ranks first position in the world contributing 24% of global milk production in the year 2021-22. India's milk output rose to 239.30 million tonnes in 2023-24, continuing as the world's largest producer.[2]

Dairy farming is a major livestock enterprise in India where small and marginal farmers are engaged to earn their livelihood. India has emerged as the largest producer of milk in the world is 2001 with an annual production of 84 million tonnes and continues to occupy the top position in the subsequent year and in the year 2008-09, the milk production was 108.5 million tonnes. The World Bank funded operational food on program commonly known as white revolution was instrumental for enhancing them pro the country.

The importance operation flood programme was that it had focused on small rural producers and the producers organisation were established all over the country for sustainable dairy based enterprises in the rural village of India. The programme was modelled on the annual pattern Dairy Cooperative reforming to their origin in Annual District in the state of Gujarat This was comprised of a three ties system with village level dairy cooperative societies (DCS) promote district level union, which is turn promote the state level marketing federation.

The government has taken several initiatives for development of the dairy industry in India. To enhance milk output and productivity, which will increase farmers' income from dairying, the Rashtriya Gokul Mission (which aims to genetically improve the cattle population and promote and conserve indigenous cattle breeds) has been given a five-year extension for implementation. Milk production will rise from 198.4 million metric tonnes in 2019-20 to 300 million metric tonnes in 2024-25 with the implementation of the planned programme. An increase in milk production of an average of 1,200 kg per animal per year will directly assist eight crore dairy producers.

National Programme for Dairy Development (NPDD) has been in place since February 2014 and aims to build or strengthen infrastructure for the production of high-quality milk as well as for the procurement, processing, and marketing of milk and milk products through the State Implementing Agency or State Cooperative Dairy Federation. In July 2021, the programme underwent restructuring/realignment. From 2021-22 to 2025-26, the redesigned NPDD scheme

ISSN: 2455-8834

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will be implemented with a budget of Rs. 1,790 crores (US$ 217.3mn). The programme's objectives include enhancing the quality of milk and milk derived products and growing the organised market share for procurement, processing, value addition and marketing.

Dairy Entrepreneurship Development Scheme (DEDS) is being implemented by the Department of Animal Husbandry, Dairying, and Fisheries to create self-employment opportunities in the dairy industry. The National Bank for Agriculture and Rural Development is carrying out the programme which covers activities such as improving milk production, procurement, preservation, transportation, processing and marketing by offering back-ended capital subsidies for bankable projects.

Kerala Cooperative Milk Marketing Federation (KCMMF) popularly known as MILMA was established in 1980 for the successful implementation of operation flood project in Kerala replicating the Anand Model Dairy cooperative system. At present the MILMA federation consist of 10.6 lakhs through 3102 Village level primary milk cooperative organized under three regional milk producer's unions by March 2024[5]. The Milk production in the state has increased considerably and MILMA was even struggling to manage the excess milk through production of value-added products and by applying various marketing strategies to Increase the state of milk in the state.

3. Socio-economic condition and Livelihood Sustainability of Dairy Farmers

The objective of this study is to know the socio-economic conditions of dairy farmers and the sustainability of their livelihood with special reference to Thalayal milk Co-operative society.

The data required for the study are collected from both primary and secondary sources. Primary data are collected through the structured questionnaire from the dairy farmers. The data collected directly from the 50 dairy farmers in the Thalayal Milk Co-operative society. The total members in the milk cooperative societies are 603. Out of this 375 are male and 228 are females. But there are only 80 members giving milk to the cooperative society. The total milk given by all the members were 1150 litre. Out of these 500 litres were sold in local. There is middle income farmers have about 10 cows at their home. Only small number of farmers have more than 25 cows at their farms. The milk cooperative society goes directly to MILMA. There fodder is distributed from the cooperative society from a subsidized rate.

Table 1: Demographic Profile of the Dairy Farmers

Characteristics	Category	Frequency	Percentage
Gender	Male	30	60%

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	Female	20	40%
	Total	50	100%
Age group	25 - 35	9	18%
	36 - 50	19	38%
	51 - 60	13	26%
	Above 61	9	18%
	Total	50	100%
Education qualification	Primary education	35	70%
	Higher education	12	24%
	Graduation and others	3	6%
	Total	50	100%
Family size	3 members	12	24%
	4 members	27	54%
	5 members and above	11	22%
	Total	50	100%

The data in the table shows the demographic profile of the respondents. Out of the total respondents 60% were male and 40% were female. The male farmers are more interested in the dairy farming as compared to the female farmers. The age wise classification shows that, out of the respondents about 38% were in the category of 36 - 50 and the 18% were in the age category of 25 - 35 and above 61. The middle-aged group farmers were enthusiastic and have more work efficiency to get involved in agricultural related livelihood activities for earning. These might be the probable reasons for a greater number of the respondents to be found in middle and old aged group. The farmers in the age group of 25 - 35 years were found to be more interested in acquiring, trainings, demonstration and exposure visits and acquired high level of knowledge as compared to the elder group of more than 51 years of age. On the other hand, the adoption of various management practices was found to be higher in elder than the young group.

The educational status of the respondents shows that, majority of the dairy farmers have only primary education (70%) and followed by higher education (24%) and only 6% have Graduation and other courses. Education of the farmers will be a foundation for adopting new technologies.

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Most of the farmers have primary education and engaged in the dairy farmers for their livelihood. When the education level went on increasing farmers became reluctant to do field operations. Education level helped in acquiring the knowledge but adoption was found to be less in highly educated persons. Most of the dairy farmers belongs to the medium family size about 4 members in their house (54%). There were 22% and 24% of dairy farmers have 3 to 5 family members

Table 2: Economic Profile of the Dairy Farmers

Characteristics	**Category**	**Frequency**	**Percentage**
Annual income	Below 20000	20	40%
	21000 - 25000	16	32%
	26000 - 30000	9	18%
	30000 above	5	10%
	Total	50	100%
Types of savings	Daily deposit scheme	5	11.1%
	Weekly deposit scheme	10	22.2%
	Monthly deposit scheme	25	55.6%
	Others	5	11.1%
	Total	45	100%
Loan repayment	Repayable loans	40	80%
	Non - repayable loans	10	20%
	Total	50	100%
Type of houses	Kutcha	3	6%
	Pucca	47	94%
	Total	50	100%
Economic Status	Above poverty line	14	28%
	Below poverty line	36	72%
	Total	50	100%

ISSN: 2455-8834

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From the table it is clear that, most of the dairy farmers have below 20000 incomes in a year (40%) and the 32% of dairy farmers have 21000 - 25000 of income in a year. The income is different as their farm size is different. 90% of the dairy farmers have savings and a few farmers do not have savings (10%). Most of the dairy farmers save their income to meet medical expenses for their cattle's and there is shortage in the milk production. Many of dairy farmers have savings through different types of schemes They are mainly daily deposit scheme, weekly deposit scheme, monthly deposit scheme etc. Most of respondents are using monthly deposit scheme 55.6% daily deposit scheme and weekly deposit scheme 11.1% and 22.2% respectively and remaining on other schemes, i.e., 11.1%. Many of the dairy farmers have ability to repay the loans, about 80% and 20% of the farmers do not have the ability to repay the loans. The loans given to them have subsidies and low interest rates. So, they can repay the loans without any problem. The most of the dairy farmers have pucca house (94%) and only few dairy farmers have kutcha house (6%). The economic status of the dairy farmers shows that most of the farmers are belonged to below poverty line (72%) and only (28%) farmers are belonged to the above poverty line.

Table 3: Details of Dairy Farming

Characteristics	**Category**	**Frequency**	**Percentage**
Land holding (cent)	Below 20 cents	22	44%
	20 - 50	11	22%
	Above 50	17	34%
	Total	50	100%
Sources of water	Well	25	50%
	Canals	11	22%
	Pipelines	11	22%
	Others	3	6%
	Total	50	100%
Milk production (litres)	25 - 35	13	26%
	16 - 25	18	36%
	Below 15	19	38%
	Total	50	100%

ISSN: 2455-8834

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The data in the table shows the land holdings of the dairy farmers. Most of the dairy farmers have low land holdings (44%) and followed by above 50 cents of land (34%) and 20 - 50 cents of land (22%). Most of the dairy farmers have better land holdings. Out of total respondents 50% were using water in wells for irrigation purposes 22% using canals and pipelines and 6% from others. Water supply to dairy processing plants varies according to location, but may be from town water, bore wells, well, river, dams or irrigation channel. Water used for direct preparation of products, cleaning purposes and various technical purposes. Examples are: washing / cleaning of equipment, transport of product, dissolution of ingredients, water remaining in the final product etc. A characteristic of process water is that it comes into contact with product directly or indirectly. Therefore, process water should meet drinking water quality. The milk production of dairy farmers shows that, 38% of the farmers are able to provide milk below 15 litres only in a daily basis. Around 36% of dairy farmers can give 16 - 25 litres of milk everyday. The farm size of each dairy farmers is different. So the milk production of each dairy farmers is also different.

4. Conclusion

Dairy farming plays an important role in promoting the social and economic livelihood of the farmers. Dairy farming is a class of agriculture for long-term production of milk. The socio-economic conditions of the dairy farmers can be analysed through the survey conducted among 50 dairy farmers. It can be found out that most of the dairy farmers belongs to middle income groups. Most of the farmers are illiterate. They belong to small families and their land holdings is very small. There were many schemes available for the farmers through the milk co-operative societies. The increasing price of the fodder for the animals and the low price of milk should be increased by the government. The study concludes that dairy farmers are faced with challenges such as limited access to financial services, the price of fodder for the animals is increasing. It cannot be affordable by the poor and marginalized farmers.

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