A Study on employment Opportunities towards Milk and Milk Products in Imphal district of Manipur

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Abstract

Milk is the secreted fluid of the mammary glands of female mammals. It contains nearly all the nutrients necessary to sustain life. Since the earliest times, humanity has used the milk of goats, sheep and cows as food. Today, the term "milk" is synonymous with cow's milk. The milk of other animals is spelt out, e.g., sheep milk or goat milk, when supplied commercially.

The study was conducted to compare and assess the productivity of dairy cattle and the corresponding household income from traditional and improved dairy management systems. The study area, falling under four regions, was randomly selected by selecting one from the east and one from the west of each region. The study also documented significant challenges encountered in improving dairy animal productivity.

A field survey is conducted in the Imphal East and West districts of Manipur. Data was collected from Milk producers, Dairy collection centres, production plants, chilling centres, truck drivers, Wholesalers, retailers, local collection centres and Cycle vendors. The study was conducted on 50 respondents collected from each category. The data was collected from November 2025 to December 2026 using a convenience sampling technique. The questions are based on the Nature of work, income per day, employment opportunities, working duration per day, and Income generation, as asked of respondents. General opinions about the dairy business and future growth prospects were collected from those respondents.

Keywords: employment, dairy market, and socio-economics.

Introduction

Milk productivity varies across countries: some have surplus production, some have a deficit, and in some countries, availability matches their requirements. India is the world's leading producer and consumer of milk. The Indian dairy sector is divided into the organised and mostly unorganised (75%). India has the largest bovine population, over 30 million, and produced 198.4 million tons of milk in 2019-20. Despite COVID-19-induced restrictions, the organized sector is projected to grow by 5-6%, i.e., @Rs. 1.5 lakh crore sectoral revenue generation in 2021-22 as per CRISIL. The main constituents of milk are fat, protein, lactose and ash. The proportion of these constituents varies with the type of milk. This variation in milk composition is due to several factors, including species, breed, lactation stage, and feeding. Cow, buffalo, goat and sheep milk are often consumed and have been studied in detail.

Many animals can provide this, but cow's milk is the best wholesome supplement for children and adults. It is also the most accessible, whereas the milk of other animals, such as buffalo, goats, sheep, camels, reindeer, and yaks, is much more challenging to obtain. According to research led by Professor Peter Elwood of Cardiff University, drinking milk can lessen the chances of dying from illnesses such as coronary heart disease and stroke by up to 15 to 20 per cent. This systematic review of evidence from 324 published studies is the first to examine the association between milk consumption and deaths from those diseases. However, there are conflicting studies that claim milk contributes to disease, specifically heart disease. Milk deficiency can cause severe anaemia, osteoporosis and other related illnesses. Consuming milk is essential for maintaining good health and having the energy and strength to do everyday activities. It is the best source of calcium for all age groups. Since calcium is considered the most essential mineral for the healthy Growth, functioning, repair, and durability of bones and the skeletal system, milk will always play a significant role in people's diets to prevent calcium deficiency or osteoporosis.

Milk

Milk production is an important livestock-sector activity. According to data gathered by the International Farm Comparison Network (IFCN), in 2005, around 149 million farm households worldwide were engaged in milk production. On average, these households keep 2 milking cows (or buffaloes) that yield about 11 litres/day. Assuming a mean household size of five to six, some 750 to 900 million people (or 12-14 per cent of the world population) rely on dairy farming to some extent. Milk production is an important livestock sector activity. According to data gathered by the International Farm Comparison Network (IFCN), in 2005, around 149 million farm households worldwide were engaged in milk production. On average, these households keep 2 milking cows (or buffaloes) that yield about 11 litres/day. Assuming a mean household size of five to six, some 750 to 900 million people (or 12-14 per cent of the world population) rely on dairy farming to some extent.

Milk is a highly beneficial drink for human health. Some advantages of drinking this life-giving nectar are as follows: Milk is the best source of calcium that we can supply to our body. The body suffers from major chronic ailments such as cancer, bone loss, arthritic conditions, migraine headaches, premenstrual syndrome, and obesity in children. It also functions as a healthy aid in losing unwanted fats and reducing weight. Calcium is an essential mineral in creating bone matter, and bone mineral density measurements rely highly on calcium as the main support structure of the body. Milk is the quickest, least expensive, and most readily available source of calcium on the market. Although most of the focus on calcium is on bones, it has also been shown to reduce the risk of cardiovascular disease and stroke. A significant daily milk intake can prevent bone disorders such as osteoporosis. Children deprived of cow's milk have an increased chance of suffering from bone fractures when injured, and their healing time will be significantly higher if they don't have a steady stream of calcium to aid in the regrowth of bone matter. Encouraging children and youngsters to drink milk will give them excellent Dental Care, as milk protects the enamel surface against acidic substances. Drinking milk for energy and health would also reduce the frequency of children's soft drink consumption, thereby reducing the risk of tooth decay

and weak gums. Fluids are an integral part of the human body, and the body needs to be frequently replenished with fluids as they are used up. Milk contains many water molecules and is considered the best fluid for rehydration, second only to drinking water. Many animals can provide this, but cow's milk is the best wholesome supplement for children and adults.

According to medical research, drinking milk considerably improves our health. A person who consumes a carton of whole milk doubles his chances of fulfilling his daily calcium requirement. Calcium and the other essential minerals listed above are necessary for a healthy diet and the proper functioning of every aspect. Consuming milk products can also help reduce acidity throughout the body. Drinking cold milk provides explicit relief from acidity. It contains many vitamins and minerals to keep fit, healthy and strong. A full glass of milk contains vitamins A and B for good eyesight and increasing red blood cell count, carbohydrates for vitality and energy, potassium for proper nerve function, magnesium for muscular function, phosphorus for energy release, and proteins for body repair and Growth. It also helps keep the body functioning better than other vitamins and minerals as you age.

India - The largest producer of milk

India is the world's largest milk producer. This was not the case a few years ago. The country used to be milk-short and imported milk from other countries to meet the growing demand of its population. India accounts for over one-fifth of the global milk production, followed by the US, China, Pakistan and Brazil. In the 1950s and 1960s, India was heavily dependent on milk imports until 1965, when the Indian government established the National Dairy Development Board to improve the country's dairy sector.

From the 1970s, the country aimed to enhance milk production, leading to the launch of Operation Flood, and in 1998 India surpassed the US to become the world's largest milk producer. India's per capita milk availability more than doubled during 1991-2019, with production growing at a 4% CAGR.

Milk is likely to become one of the most volatile agricultural commodities owing to: (a) the strong influence that small changes in the quantities available internationally have on world market prices; (b) the length of time required for milk production to increase in response to rising prices; and (c) the delayed reaction of consumer demand to changing dairy commodity prices.

Dairy development may therefore serve as a powerful tool for reducing poverty. Devising a viable dairy development strategy for smallholders requires a detailed analysis of strengths, weaknesses, opportunities, and threats posed by the external environment. The strengths of smallholder dairy systems are low production costs, high profit margins, low liabilities, limited liquidity risk, and relative resilience to rising feed prices– strengths that enable smallholders to serve as a competitive source of milk supply. However, smallholder milk producers also face several weaknesses: lack of knowledge and technical know-how; poor access to support services; low capital reserves and limited access to credit; low (labour) productivity; and poor milk quality – all of which limit their ability to take advantage of market opportunities.

Employed Through Milk and Milk Products

Milk and milk products are a good source of minerals, especially calcium and phosphorus. Our body requires minerals such as calcium, phosphorus, magnesium, sulphur, nitrogen, sodium, potassium and chlorine (as chloride). Certain trace elements are essential to individuals in trace amounts. These include iron, copper, zinc, cobalt and iodine.

India is the world's leading producer and consumer of milk. The Indian dairy sector is divided into organised and mostly unorganised (75%). India has the largest bovine population, over 30 million, and produced 198.4

million tons of milk in 2019-20. Despite COVID-19-induced restrictions, the organised sector is projected to grow by 5-6%, i.e., @Rs. 1.5 lakh crore sectoral revenue generation in 2021-22 as per CRISIL. Milk procurement and production cannot alone be considered employment opportunities in the dairy sector. There are several job opportunities available in other dairy activities. Agriculturists benefit from dairy farming, as milk producers use grains and other cattle feed produced on farms. Milk collection centres earn a reasonable income from milk collection. Dairy firms also earn a significant income after undertaking suitable procurement and marketing, and selling in the market. In the transportation of raw milk, too, there is employment for the driver, and educated and uneducated people gain job opportunities. The seller and retailer earn income from milk sales through commissions. The dairy sector not only offers employment and income but also helps build a strong, healthier India.

Approximately 8 lakhs of milk producers are involved in milk production. They sell the milk to dairy firms or to nearby households. Milk production is a continuous process: feeding cattle, maintaining them, milking, and selling the milk to nearby cooperatives or private parties. This process not only offers employment opportunities but also helps rural farmers to gain income regularly.

In villages, most people engage in dairy farming. Milk production is the primary activity; dairy farming is an agriculture-allied activity. The Indian government had offered numerous schemes and drafted policies to improve milk production. We can understand the seriousness of the Indian government by including dairy development policies in every five-year plan. Milk production plays a major role in the economy. The growth rate is 5% annually. State governments are offering cattle at no cost and subsidies for dairy-related business activities.

From the milking till it reaches the consumer, there are umpteen employment opportunities ultimately provided by the dairy sector, both directly and indirectly. The status of milk and milk products production can be better understood.

Dairying has been considered one of the activities aimed at alleviating poverty and unemployment, especially in rain-fed, drought-prone rural areas. Progress in the dairy sector will lead to a more balanced development of the country's rural economy.

The impact of the Dairy Industry can be categorized into the following

1)Social Impact & Economic Impact

2) Impact on infrastructure

3) Impact on improved food aid security and nutrition.

Major opportunities for smallholder producers engaged in dairy production are: (i) growing demand for dairy products in developing countries; (ii) probable milk price increases; (iii) potential to increase milk yields through relatively few additional inputs; (iv) potential to increase dairy labour productivity; and (v) employment generation in the dairy value chain (for example, absorbing family labour released by higher on-farm labour productivity). However, smallholders in developing countries also face major threats, namely (a) policy support for (and competition from) dairy farmers in OECD countries; (b) increased consumer demand for food safety; (c) environmental concerns (low-yield dairy systems are estimated to have higher carbon footprints per 100 kg of milk produced than high-yield systems); (d) increasing local wage rates; (e) intergenerational discontinuity (children of the better performing farmers leave the system); (f) under-investment in dairy chain infrastructure; and (g) inappropriate dairy development policies and investment plans.

Dairy Opportunities

The dairy industry is generating income for millions of people, both directly and indirectly. The demand for milk and milk products continues to increase. Demand increases production and consumption. Production and consumption are integral to day-to-day life. The demand creates opportunities for income generation across different dimensions, both rural and urban.

The Operation Flood

programme, launched during 1970, organised dairy farmers' cooperatives in rural areas and linked them with urban consumers, creating a strong network for the procurement, processing, and distribution of milk across a lakh villages in rural India. The livestock sector employs 18 million people, of whom nearly 70 per cent are women. Further, the dairy sector is the major source of income for an estimated 27.6 million people. Among these, 65 to 70 per cent are small, marginal farmers and landless labourers. The dairy sector supports around 10 million members/farmers through one lakh cooperative societies across the country.

The dairy sector provides income and employment to many, often poor, people:

It is estimated that some 12 to 14 per cent of the world's population, or 750 to 900 million people, live on dairy farms or in dairy-farming households. The mean dairy herd size is around 2 cows, with an average milk yield of 11 litres per farm per day. Producing 1 million litres of milk per year on small-scale dairy farms creates approximately 200 on-farm jobs; in developed countries and in intensive dairy operations, such a volume of milk creates fewer than 5 on-farm jobs.

MILK PRODUCER

Milk Producer

There are plenty of job opportunities available in milk production. In the present scenario, income generated from milk production is enabling them to improve their socio-economic condition. The minimum investment in the dairy business ranges from Rs. 5,000 to Rs. 1,00,000, depending on the variety of milch animals. After all expenses, the net profit per day ranges from Rs. 100 to Rs. 500. The time required for rearing milch animals is less. If it is properly planned, it will yield good returns. The government is also offering Subsidies for the business-like free cattle scheme.

Organised and Unorganised

With the sales of milk and milk products, more educated youngsters are being employed in recent times, as steady income is available. In this industry, there are many job opportunities. There is a chain-like process with jobs at each link. Based on their employment, they can be categorised as organised or unorganised.

Collection Centre

Milk collection centres are of two types: privately owned and government-owned. There are employment opportunities available in these collection centres. The socio-economic profile of workers at the collection centres has significantly improved. The collection centre acts as a link between milk producers and dairy farmers.

Transport & Chilling Centre

From the milk producers, milk is transported by private milk transporters; drivers are recruited for the same. They operate vehicles both in the morning and evening to transport milk from the collection centre for processing. There is a constant source of income. The standard of living is on the rise. The chilling centres are used to cool milk from producers in the morning and evening. Milk is processed at the chilling centres. Many

milk products are obtained from milk. Milk is transported to dairy firms by chilled trucks. So many job opportunities are available at the chilling centres and the transportation.

Wholesaler

The wholesalers procure milk and milk products in bulk from the firm, sell them in limited quantities to retailers, and earn income based on commission rates. Based on the daily purchase and selling of milk products. Wholesalers earn income constantly based on the sales they get. Income ranges from Rs. 500 to Rs. 1000 per day.

Retailer

Retailers earn commission on the sale of milk and milk products to consumers and also earn a steady income. Retailers can earn Rs. 300 per day based on commission.

Cycle Vendor

They procure milk and sell it at retail rates. They sell to only a limited number of people. With the leftover milk, they produce buttermilk and curd, and sell them from place to place. They are to earn up to Rs. 500 per day.

Manufacturing

Milk is produced in bulk in various places, then processed and packed for sale as curd, butter, milk, ghee, and ice cream. The employment offered by this sector is for both educated and uneducated people. Most people in 30 firms work on a consolidated, daily wage basis and earn income to live through dairy farming.

Local Collection and Sales Centre

The local collection centres procure a minimum quantity of milk daily. They collect milk from dairy farmers, sell it to customers at a subsidised rate, and make curd and buttermilk with the leftover milk, selling them for a considerable profit. Through this, they earn around Rs300-Rs500 per day.

Types of Milk

Milk is consumed in the following forms:

• Raw fluid milk (high-quality milk), which has to comply with strict hygienic demands.

• Whole milk is heat-treated and contains at least 3% fat. It can standardise whole milk adjusted to a predetermined fat content, provided the fat content is at least 3.5%.

• Low-fat milk is heat-treated, and the cream is separated. The fat content is 1.5–2%.

• Skim milk is heat-treated, and the fat content is less than 0.3%.

• Reconstituted milk is most common in regions where milk production is not feasible (e.g., many Japanese cities). For production, melted butter fat is emulsified in a suspension of skim milk powder at 45 ◦C. The “cream” with a 20–30% fat content is subjected to two-stage homogenization (20 and 5 MPa, 55–60 ◦C) and then diluted with the skim milk suspension.

• Filled milk is less expensive because the butter fat is replaced with plant fat.

• Toned milk is a blend of fat-rich fresh milk and reconstituted skim milk in which the non-fat solids are “toned up”. The addition of water “tones down” the fat and non-fat solids.

Role of constituents of milk and milk products

λ Growth

λ Supply of energy

λ Maintenance of the body

λ Recovery from disease

λ Reproduction

λ Provide taste, appetite, and palatability

Minerals

Milk and milk products are a good source of minerals, especially calcium and phosphorus. Our body requires minerals such as calcium, phosphorus, magnesium, sulphur, nitrogen, sodium, potassium and chlorine (as chloride). Certain trace elements are needed in trace amounts. These include iron, copper, zinc, cobalt and iodine.

Steps taken by the state and central government

To enhance the productivity of the region's indigenous cattle breeds, an appropriate breeding strategy should be implemented to improve the region's dairy sector. Several schemes and policies have been implemented by the Central government as well as the State animal husbandry department for conservation of indigenous animals, such as the National Programme for Bovine Breeding (NPBB), National Dairy Plan and Dairy Entrepreneurship Scheme under the government of India, which aims to conserve, develop, and proliferate selected indigenous bovine breeds of high socio-economic importance.

An overview of the dairy sector in Manipur

The north-eastern states together contribute 0.19% to the total milk procured by the cooperatives, as against their 0.71% share in total milk production (NDDB 2017). More than 52% of Manipur's population depends on agriculture and allied activities for their livelihood (GoM 2016). Livestock, especially dairy animals, are an important component of farming systems in the state. This paper assesses the impact of dairy cooperatives on yield, price, and technical efficiency in milk production, as well as on income and employment in the Indian state of Manipur, located in the northeast. It explores the prospects for expanding dairy cooperatives in the region.

Consumption of milk and milk products in Manipur is low. Nonetheless, with increasing income and changing lifestyles, demand for milk and milk products is on the rise.

The preponderance of small landholdings and limited livelihood opportunities in the non-farm sector render dairying a more important source of livelihood for farmers in the state. In 2015-16, there were 561 registered primary dairy cattle breeding and rearing societies in the state, the highest being in Imphal East district (135) and the lowest in Tamenglong district (8), with a total membership of 15845. The Manipur Milk Producers' Cooperative Union is the apex body of dairy cooperatives under which the primary Dairy Cooperative Societies (DCS) function.

In 2016-17, the total milk production in Manipur was 78.82 thousand tons, of which crossbred and local cows contributed 40.38 thousand tons and 24.30 thousand tons, respectively. The per capita milk availability was low at 75 g/day. In the same year, the numbers of in-milk crossbred and local cows were 15.74 thousand and 45.49 thousand, respectively, with corresponding milk yields of 7.03 kg/day and 1.46 kg/day.

The country's dairy production systems may be defined as intermediate-input/intermediate-output (3,868 litres per cow/ year). Feeding is based mainly on grazing. Milk production is therefore seasonal, peaking in November and at its lowest in June and July. Milking usually takes place in swing-over parlours or rotary milking systems, after which the milk is stored in cooling tanks on-farm and subsequently collected by local milk processors. Almost 100 per cent of the milk is delivered to formal milk processors.

Objective of the study

1)To render extension services to provide self-employment opportunities amongst unemployed youths and the underprivileged of the state.

2) To study the problems faced by the milk producer engaged in dairy farming.

3. To study the market facilities and management of milk producers.

Limitations of the study

This study focuses only on Milk producers, Dairy collection centres, chilling centres, truck drivers, Wholesalers, retailers, local collection centres, and Cycle vendors in Imphal district, Manipur.

Methodology

A field survey is conducted in the Imphal East and West districts of Manipur. We distributed 250 questionnaires, but collected only 95. Data was collected from Milk producers, Dairy collection centres, chilling centres, Wholesalers, retailers, local collection centres and Cycle vendors. The study was conducted on 95 respondents collected from each category. The data was collected from November 2025 to March 2026 using a convenience sampling technique. The questions are based on the Incomework, Income per day, employment opportunities, working duration per day, and Income generation, as asked of respondents. General opinions about the dairy business and future growth prospects were collected from those respondents.

Sample of the study

The study sample consists of 95 from milk producers, Dairy collection centres, chilling centres, Wholesalers, retailers, local collection centres and Cycle vendors.

Analysis and Interpretation

Table No. 1. Total number of respondents

Total number of respondents	Yes	No
95	95	NIL
Percentage%	100%	NIL

Source: Survey Report/Data.

Table no.1. show the number of respondents who took part in dairy farming as well as Dairy collection centre, chilling centres, wholesalers, retailers, local collection centres and cycle vendors. Most dairy farmers know the value of milk and its production.

Table No. 2: Education Qualifications of the Dairy farmers.

Education Qualification	Graduation	Class12	Class 12 and below
95	60	20	15
Percentage%	63.15	21.06	15.79

Source: Survey Report/Data

Table no 2. Show the respondents' education qualifications who took up dairy farming for their livelihood. Most dairy farmers are well educated and have taken up dairy farming as a means of earning a livelihood. These educated farmers are well known in the field; they can easily identify problems and know how to address them. They can easily know where to sell their product and also how to earn a high profit. They can face many problems compared to uneducated farmers, e.g., regarding disease prevention and the use of vitamins/medication, and in controlling disease and markets. To develop their business abroad in other communities as well as other states and countries.

Most farmers have a high school education or higher. This shows that dairying is very useful for improving a person's economic status and overall development. It also creates self-employment and jobs for others in society. For many illiterate and rural people in Manipur, it serves as the sole means of livelihood. Dairy farming is, therefore, an essential need for society.

Table no. 3: Income level of Dairy farmers.

Increase income level	Yes	No
Total number of respondents	95	NIL
Percentage%	100%	NIL

Source: Survey Report/Data.

Table No. 3 shows the income level of the dairy farmers in Table 3. The figures above represent their income. After they started dairy farming, their income rose to a level that enabled them to survive, feed their families, and provide jobs for themselves and society. Their impact on society, in terms of Incomes and income, has raised their income levels, and job opportunities have increased rapidly. This shows that dairy farming is very much needed in our Manipur society to provide income and employment opportunities for the common people.

After practising dairy farming, farmers' incomes have risen somewhat. Their economy has improved through dairying. To survive, dairy farming has become important for every household. Their economic level has increased.

Most farmers have been practising dairy farming for time immemorial. In almost every household in Manipur, dairy farming has been practised. This dairy has improved its finances, and its products are used in every household. Their cow dung is used in farming.

If they use cow products like milk, cheese, and cow dung at home instead of buying them from the market, they save money by using their own products. In terms of income, farmers' income has increased compared to before dairy farming.

Table No.4: Self-dependent economy

Total no of sample	Yes	No	Don't know
Does dairy farmi provide a self-depende economy?	75%	15%	5%
Percentage%	78.94	15.79	5.27

Source: Survey Report/Data.

Table 4 shows the economic data for the dairy farmers. After they started dairy farming, they became economically dependent. They started earning through dairy farming, and these farmers have become self-sufficient economically. After this, 75% have become economically self-sufficient as dairy farmers in Manipur, while 15% reply 'No'. Where as 5% is NIL.

After taking up dairying, farmers have become economically self-sufficient compared to their economic level.As dairy farmers, their economic situation has improved, so they can now meet their family's needs. This included family expenses, children's needs, and guardians' requirements, enabling them to live meaningful lives.

As they become economically self-dependent, their families will develop. As families develop, so does society. As they become self-dependent and economically self-sufficient, society will develop, and the state or country will develop as well.

The work culture will definitely improve, and economic and job-related problems will be solved to a greater extent in Manipur. As economic self-dependence rises in Manipur, the youth will become the strength of society. This will help solve economic and employment issues and develop the Manipur Society.

Conclusion

From the milk: feed price ratio, it is possible to obtain an indication of which types of dairy farming systems fi t best into a given country or region. For instance, a high milk feed: price ratio indicates that it may be profitable to intensify a farming system. Once the milk: feed price ratio starts to fall – driven either by falling milk prices or rising feed prices – 'extensification' of the system might be preferable. There are plenty of job opportunities in the dairy value chain. All stakeholders in the dairy supply chain benefit. Mainly, unemployed labourers working in other sectors can also engage in dairy farming. Opportunities in the dairy sector are wide open for both educated and uneducated people. The Salem district is blessed with rich greenery and is ideal for rearing milch animals. By focusing more on dairy activities, the employment situation can improve. The study reveals that the dairy sector has consistently provided regular, incomparable income throughout the year. Most milk producers in agriculture are uneducated farmers who engage in dairy farming part-time. Dairy farming can be further promoted by involving young, educated people through the Government's specialised schemes, thereby eradicating unemployment.

Milk yield needs to increase to decrease the per-litre cost of production; quality needs to be enhanced through the adoption of the latest processing and packaging technology; and this will increase the export of dairy products. In a nutshell, it has been proven that dairy has the power to provide a major pathway out of poverty for individuals, families and communities by making the necessities of life-food, water, shelter and clothing-accessible and affordable.

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