

# PROBLEMS AND PROSPECTS OF DAIRY FARMING IN ALMORA DISTRICT OF UTTARAKHAND

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## ABSTRACT:

Dairy farming is an important part of our agricultural ecosystem and rural economy. It is a significant source of income and vital trail of subsistence to the small and marginal farmers and to the landless laborers also. Commercial dairy farming is playing a vital role in the economic development of the rural peoples throughout the country and more precisely in the hilly and mountainous states like Uttarakhand where land resources are very limited and options of livelihood are limited too. The growth and development of dairy farming mainly depends on the infrastructural conveniences provide to the dairy farmers with proficient rewards to the produced milk through dairy co-operatives, milk societies and milk collection centers. Dairy farming to a large extent relies on the level and pattern of livestock husbandry practiced as people keep various species of livestock for milk production. Socio-economic conditions, aspirations and awareness of the farmers are also important in running dairy business efficiently. Present study is concerned with the dairy farming in Almora district of Uttarakhand; its problems and prospects.

**Keywords:** Agricultural ecosystem, dairy farming, economic development, small and marginal farmers, subsistence.

## I. INTRODUCTION:

Livestock husbandry is an integral part of the Indian agriculture. It has emerged as an important form of diversification of agriculture and appeared as a new source of employment (Khan, et al., 2009). The important role played by dairy farming in the sustenance of landless and poor people in the village economy is quiet evident (Pandey and Pathak, 1997). Dairy farming has been considered one of the most important value added farming systems practiced in the country. Cows and buffalos are most important in the sense of commercial dairy farming about 90% of milk of the world comes from cows only. Small land holders in the mountain prefer to diversification of agriculture and dairy farming in order to reduce risks and more economic benefits from the limited resource base they own. The dynamic and diverse systems of livestock provide ideal safety nets for small holder and landless farmers (Yadav, 2012). It has also been recognized as an instrument to bring socioeconomic transformation in the rural sector (Mathur, 2000). Among the various basic needs the animals fulfill; milk is the important source. Cows and buffaloes are mainly domesticated on

large scale for production of milk and milk products. Production of milk is the result of various procedures and processes involved in dairy farming mainly offering fodder to animals, cleanliness of animals and their sheds, moving animals to one place to another place, rearing of animals in fields, management of animals and many more such activities. Good Dairy Farming Practices (GDFP) is an important practical tool used world-wide in supporting farmers to produce and market safe, quality milk and milk products to satisfy the expectations of the food industry and consumers (FAO, 2011).

Farmers generally rear one to two animals for milk production to fulfill their daily need of milk but more animals are reared in commercial dairy farming. Manure from animals provides a good source of organic matter for improving soil fertility of their fields too. Dairy farming in the country has been taken up as a main occupation around the metros, big cities, market and residential centers where the demand for milk remains always high.

Dairy farming has been considerable part of Indian agricultural system since early times but remained subsistence and traditional in nature. In recent past it has achieved nature of an important commercial activity. In India where, about 70 percent people are living in rural area; dairy farming as an occupation in providing appropriate employment throughout the year to the rural population of the country. Dairy farming has become an important source of nutritional security of India populations and easily available livestock derived products with decreased risk of environment degradation.

Dairy development board, Dairy co-operatives, and village milk societies are playing crucial role in the development of dairy business in India and enhancing economic development of rural population. The dairy co-operatives in India have three tier of structure which consists of state level federations, district milk unions and dairy cooperative societies at the village level respectively (Huria and Achaya, 1980). The evolution of dairy co-operatives has fuelled empowerment of rural people and promotes rural development (Bandhyopadhyay, 1996).

Uttarakhand is a hill state and rich in the natural resources like water, land forest & biodiversity after tourism; milk production is also an important source of livelihood. Geographical conditions like soil, climate, vegetation, are the main determinants of successful dairy farming. Particularly in mountainous parts of the world relief is the major factor in running dairy business.

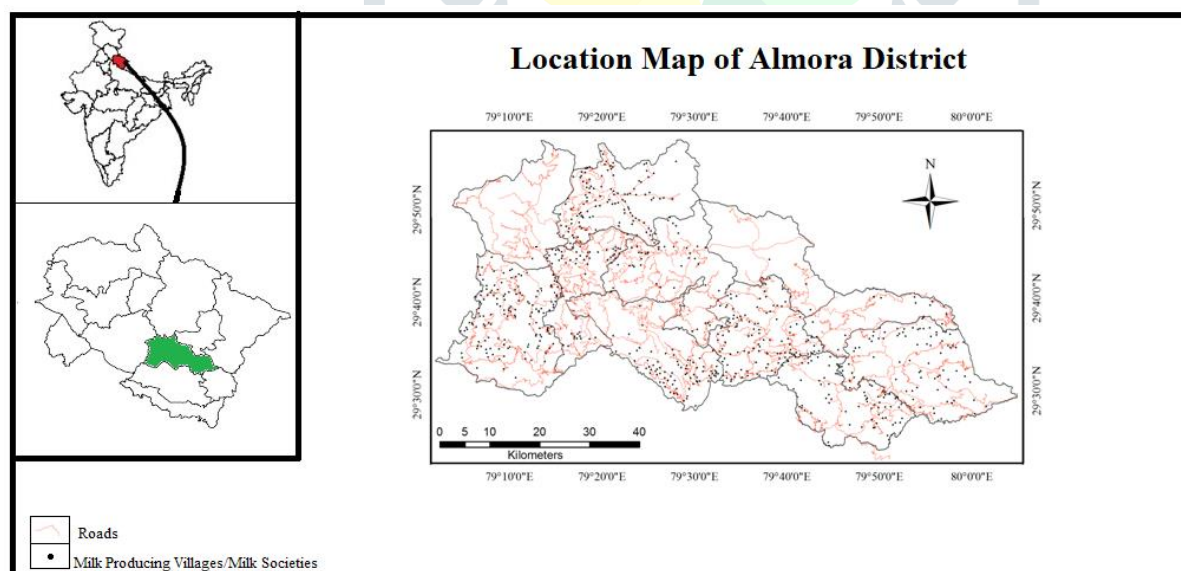
Various measures also have been taken by the government to develop dairy business and livestock farming. The government has provided infrastructural and policy framework from which millions of dairy farmers are benefiting from it. Market and institutional help provided by the government are some other factors. Dairy farming in the rural area has become a major source of livelihood generation for the people who do not have enough land resources and other means of income generation living in poor conditions by providing employment opportunities.

Growing urban and industrial centers like, Dehradun, Haridwar, Rishikesh, Haldwani-Kathgodam, Nainital and environs, Rudrapur, Pantnagar and Kashipur etc. are creating continuous demand of milk and

milk products. Role of Uttarakhand Co-operative Dairy Federation Limited (UCDFL) and milk unions of the districts is important in this regard which are working with thousands of milk societies spread throughout the Uttarakhand. Economic status of the milk producers belonging to these milk societies is continuously being improved by the sale of milk. By the time various problems are also associated with these milk societies and milk producers.

## II. STUDY AREA:

The district Almora lies in the Central Himalayas and consists of a series of ridges and valleys throughout its territory. The district is situated between latitudes 29°30' N to 29°50' N and longitude 79°10' E to 80°00' E. Total area of the district is 3082 sq. km. The district is bounded in the north-east and north by the districts of Pithoragarh and Bageshwar, on west lies the district of Garhwal while district Chamoli lies in north and north-west and on the south is the district of Nainital and whereas newly created district Champawat is on the east of Almora. The annual average temperature recorded of the district is 28°C to -2 °C. The district has a highly rugged terrain, marked with steep and high ridges and deep and narrow valleys through which Ramganga, Kosi, the Saryu rivers flow. The district receives an average annual rainfall of about 1000 millimeter which mainly confines to the rainy season. Some amount of rainfall also occurs in winter whereas higher altitude of the district witnesses snowfall. Almora covers a large area with a population of 622506 persons according to the census of the year 2011 among which 291081 persons are males and 331425 persons are females (Census, 2011).



**Fig 1: Map of the Study Area**

### III. OBJECTIVES:

Main objectives of the present paper are to study milk societies working in the district Almora, their problems, the distribution of livestock mainly milch animals, available health facilities and breeding services to them the milk and associated problems and identify solutions of them.

### IV. METHODOLOGY:

The present work is based mainly on secondary sources of data and information. Problems have been traced out by analyzing the data, personnel observations and interview of the concerned authority of the Almora Dugdh Utpadak Sahakari Sangh Ltd. Pataldevi, Almora. For the purpose of data and literature, various research articles, magazines, journals, newspapers, Sankhiki Patrika, publication of national dairy development board as well as different reports of Uttarakhand co-operative milk federation, and Almora Dugdh Utpadak Sahakari Sangh Ltd., have been concerned.

### V. RESULT AND DISCUSSIONS:

#### Pattern of Livestock Distribution in the District Almora:

The geographical conditions and socio-economic profile of the study area are the major determinants of rearing and distribution of the livestock resources in the study area Almora. Dairy business in the study area is growing and has emerged as a reliable source of income generation and nutritional security and this growth and development is attributed to the geographical dynamism as well as livestock dynamism. Dairy business is a reliable source of income and nutritional security and has provided employment to the rural masses directly or indirectly and opened a window of opportunity to earn additional income through numerous dairy operations. No. of dairy animals are important in the study related to dairy development. Table shows the cattle (milch animals) demography of Almora district of the year 2016-17.

**Table 1: Cattle (milch animals) Population in District, Almora, (2016 -17)**

Type	Group	Population	Total
Indigenous Cow	Above 3 years Male	71138	174135
	Above 3 years Female	56266	
	Male+Female Below 3 Years	46731	
Cross Breed Cow	Above 3 years Male	1578	23191
	Above 3 years Female	11228	
	Male+Female Below 3 Years	10385	
Buffalo	Above 3 years Male	990	96662
	Above 3 years Female	59132	

	Male+Female Below 3 Years	36540	
<b>Total</b>			<b>293988</b>

Source: Sankhiki Patrika, 2017

Dairy development has resulted in the improvement in the consumption and nutrition intake of the people. It has also increased the purchasing power and standard of living of the people in rural areas. The purchasing power, existing pattern of demand and supply, and regional distribution of livestock are the major factors which play an important role in the development of dairy business. The spatial and social pattern distribution of livestock is discussed here.

Table 1 show that in Almora district 102997 indigenous cows and crossbreed cows are 23191 and 96662 buffalo are present according the census of 2012. Above 3 years male cow are 71138 in which 3 years female are 56266 and male and female are 46731 below 3 years male and female both. Above 3-year male crossbreed cow are 1578 in which 3 years female, 11228 and male and 10385 females are below 3 year. No of buffalo in the district Almora above 3-year male are 990 which females are 59132 Male and female are 36510 below 3 year.

**Table 2: Procurement of Milk from Village Societies by Almora Dugdh Utpadak Sahakari Sangh Ltd. 2017-18**

Milk Procurement (in kg)	No. of Societies
1-1000	139
1001-2000	67
2001-3000	26
3001-4000	11
4001-5000	3
5001-6000	7
Above 6000	2

Source: Based on Annual Progress Report of Almora Dugdh Utpadak Sahakari Sangh Limited, 2017-18.

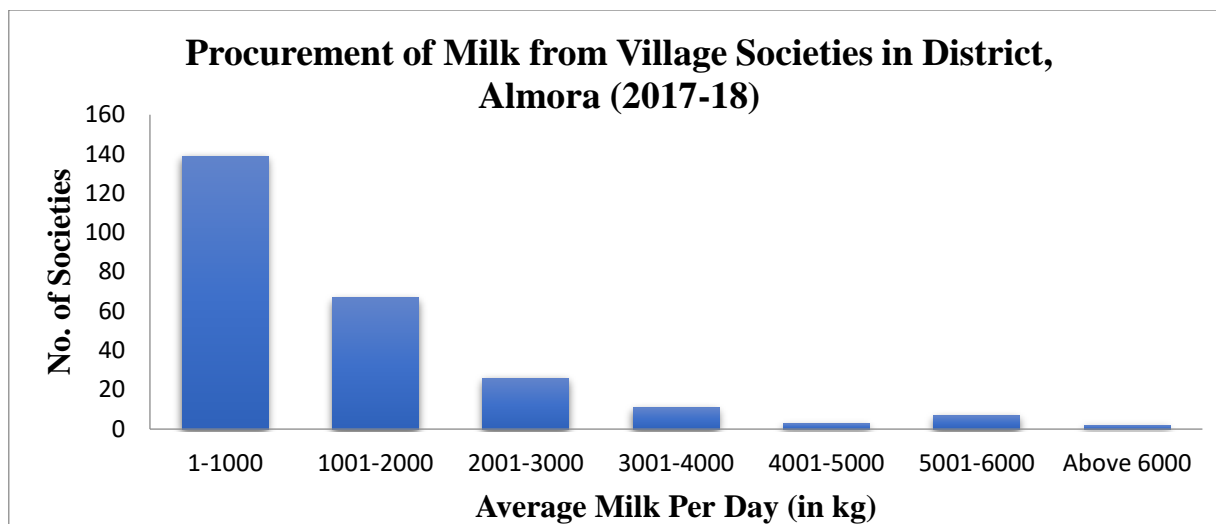


Fig. 2

From table 2 it is clear that 255 societies were working in the district Almora in the year 2017-18. Among all 255 societies, 139 societies are providing 1 to 1000 kg milk. Were as 67 societies are providing milk 1001 to 2000 kg and 26 Societies are providing are milk between 2001 to 3000 kg, 23 societies are providing milk more than 3000 kg From the discussion it is clear that most of the societies are providing milk below 3000 kg in Almora district (Table 2 and Fig.2).

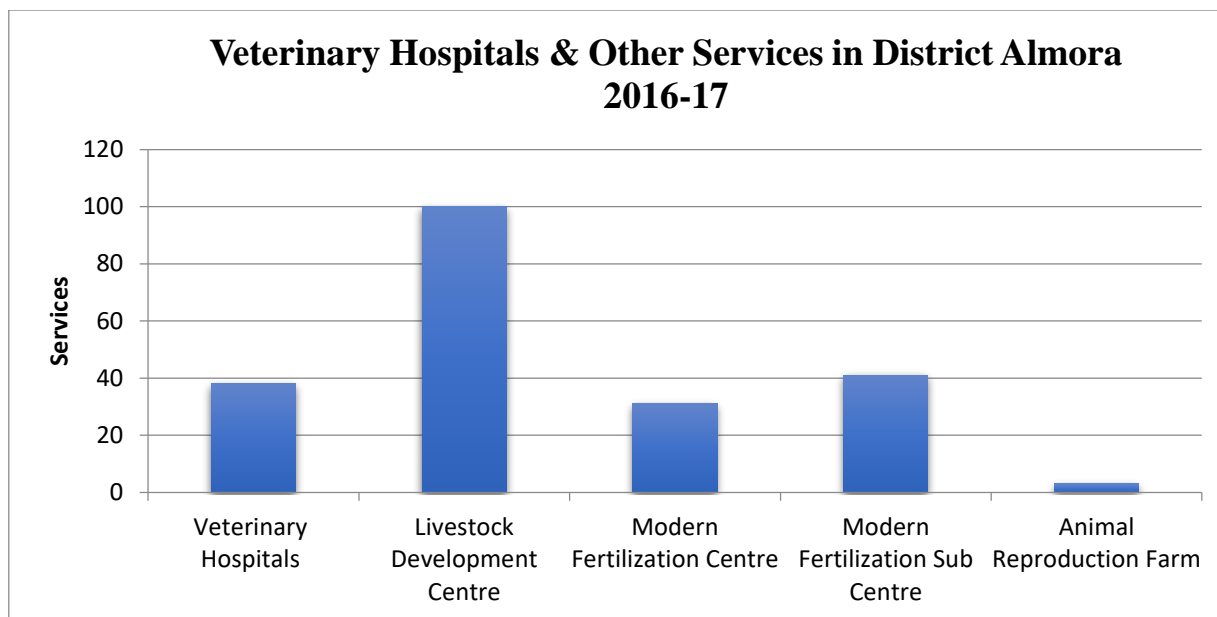
#### Available Animal Related service in District Almora:

**Table 3: Animal Related service in District Almora, 2016-17**

<b>Veterinary Hospitals &amp; Other Services in District Almora 2016-17</b>	
Veterinary Hospitals	38
Livestock Development Centre	100
Modern Fertilization Centre	31
Modern Fertilization Sub Centre	41
Animal Reproduction Farm	3

Source: Sankhiki Patrika, 2017





**Fig. 3**

To get sufficient amount and good quality of milk animal reared should be of good health. Government is providing animal hospitals and different centre. In district Almora 38 veterinary hospitals are available, no of livestock centers are 100 whereas 31 modern fertilization centre and sub centre are 41 are also working in the district Almora in the year 2016-17. Three animal reproduction farms are also working in the district Almora (Table 3 & Fig.3).

### **PROBLEMS AND PROSPECTS OF DAIRY DEVELOPMENT IN ALMORA DISTRICT**

Department of Animal Husbandry, dairy development board and Almora Dugdh Utpadak Sahakari Sangh Limited are providing different dairy related services in the district. Dairy business is evolving in the district continuously. Various hospitals are working here to provide the veterinary services, medication, and dispensary services. Most of the animals in the district are of indigenous/local breed whose milk is qualitatively good but have lower commercial values. There is huge demand in the district to improve the cattle breed. But due to mountainous terrain; there are countless problems and challenges associated with the Dairy Business in Almora. Some of them are discussed here below are as follows:

#### **1. Fodder and Feed Problem:**

Dairy animals are mostly feed the crop residual and related outside house in the villages. Mainly farmers and people with small size of land holding are involved in dairy business. Imbalance diet and lack of proper nutrients in animals feed which ultimately results in poor health, unproductive and poor amount of milk by animals. People are not more concerned about the fodder crops cultivation as they preferably depend on grasses available locally and forests for fodder to their animals which remain available for only few months of the year. People collect grass after rainy season and use them rest of the year which seldom

prove to be sufficient for the year. Grass available nearby areas also can't sustain the dairy business properly because of huge demand for commercial dairy farming.

## **2. Mountainous Topography: Connectivity and Accessibility**

Most of the village producing milk is not well connected by roads. Farmers face problems to carry milk to the markets and suffer a lot due to such a hilly region where seldom plains and level terrain is available. Lack of transport is a major setback in the development of dairy business.

## **3. Lack of Standard Pricing System:**

In absence of milk collection centre in the nearby areas, standard pricing system generally distorted by middlemen in this condition and lack of standard pricing dairy farmers face a financial loss.

## **4. Absence of Marketing System:**

Dairy farmers don't have access to ready market thus they have to sell their milk and milk products at very lower prices as before become useless and they don't have to access to urban market so farmers are heavy economic loss.

## **5. Absence of Storage and Processing Facilities:**

There is total absence of cold storage and other processing centre in the rural area of Almora, thus dairy farmers suffer economic loss due to decline in quality of milk and milk product with passing of time.

## **6. Lack of Animal Hospitals and Veterinary Amenities:**

For the increased production of milk animals are of good health, but there is a lack of sufficient veterinary services in the district. Government is providing animal services and hospitals per block including regularly visits of veterinary doctors to but all such efforts are only on papers which compel the dairy farmers to treat their animals by private doctors. Poor evaluation, execution and coordination are major problems in this regard. So, it will be effective to provide health services to the animals.

## **7. Exploitation by Middlemen:**

Major proportion of milk produced by the milk producers and farmers in the Almora is purchased at much lower prices by the middlemen but they sell it in urban market at higher price which result is heavy economic loss to the actual dairy farmers.

## **8. Absence of Credit and Loan facilities in the Study Area:**

Most of the farmers need financial assistance. They are unable to get loans and credit from government agencies, banks etc. due to fear and lack of awareness. They take loans from landlords; they



exploit them in various ways. Most dairy workers don't have enough money to purchase animals and modern tools required for commercial dairy farming.

### **9. Lack of Technological Adoption:**

Dairy business in Almora is of the traditional nature and practiced in traditional ways. All the dairy farmers in the study area are engaged in dairy farming are traditional is their knowledge. Technological adoption is almost absent in the district; they have passive attitude towards modern techniques used in dairy business. Lack of awareness and willingness is also at heavy about such modern techniques.

### **9. Lack of Information and Awareness:**

Dairy workers don't have reliable information about dairy and dairy development programmes initiated by the government. Ineffective Dairy development programme, low level of commercial education and literacy of the dairy farmer are major barriers in this regard. So, they not properly use and cultivate benefits of dairy business sustainability programs, plans and policies.

### **10. Low Socio-economic Standard of Women in Spite of Higher Participation:**

Women's participation in dairy business in the study is on higher side and they are playing a crucial role in dairy business actively but their contribution is not being acknowledged due their social taboos. Financial and decision-making rights are not given to them most of the cases.

### **11. Migration Problem:**

Migration is a big problem in the area of Almora district and huge number of populations migrate every year outward of the district creating labour problems. Thus, agricultural activities are decreasing and creating fodder problems. Dairy business in general need great work force.

### **12. Water Crises:**

Water is an essential requirement in dairy business in the form of drinking water, water for cleaning animals etc. Dairy farming requires a huge amount of water. Availability of water in the district is at risk. Water sources are depleting and degrading continuously in the district due to poor and irregular rain, poor rivers, *naula* and *dharas*. Quality of water is also a major concern due to increasing chemical and fertilizers use in agricultural activities. If proper water would be managed dairy business in district can flourish in manifolds. And population can be easily motivated towards dairy farming.

### **13. Problem of Hybrid Animal:**

Mountain milch animals give per animal lower milk. Local animals are not suitable for commercial production of milk in spite of good quality milk as they produce lower amount of milk per animal as compared to hybrid milk animals. But hybrid animals need more care and sophisticated tools and technology for rearing to them. Poor farmers can't invest huge in such technology and afford costly hybrid animals without government support.

#### **14. Poor Interest of Population towards Dairy Business:**

Rural population of the district is migrating towards cities inside and outside of the state in search of livelihood; they are not interested in to adopt dairy as a means of livelihood. Education is another cause due to which educated young generation feel shame in doing dairy business in spite of huge commercial benefits rather doing some work in factories etc. far from the home. In our society agriculture has still not gain its prestige. Society feels agriculture and dairy business as a work of shame. We have to break this stigma.

#### **FUTURE PROSPECTS AND SUGGESTIONS FOR DAIRY DEVELOPMENT IN ALMORA:**

1. As many as possible dairy cooperatives should be set up by government for the promotion of dairy and welfare of dairy workers in Almora and surroundings.
2. There requirement of some provision to provide financial assistance to the farmers engaged in dairy business in such adverse conditions. Provision of money in advance should be facilitated, as producers are bound to sell their milk to middlemen. So, credit facilities and collection centers should be established to abolish the exploitation by milkmen.
3. Development and establishment of modern chilling plants/centers are the necessity for the region. Most probably each block must have a chilling plant according to their area and availability of transportation in the block to avoid problems in milk collection, and distribution.
4. Veterinary services should be provided to maintain the productivity and health of animals for village-based producers. Animals should be fed by balanced diet to increase productivity and maintain health standard.
5. Connectivity, infrastructure and transport system of these villages involved in dairy business should be improved.
6. There should be a developed price determination mechanism in the dairy farming and price should be fixed.
7. Proper guidance and modern techniques should be provided to dairy producers to enhance the productivity and profitability of dairy farming.
8. Dairy development programs should encourage rearing of highly productive animals like modern breed of buffalos and cows for the development of dairy farming as a sustainable livelihood generation project.

9. Government and Non-governmental agencies should organize various workshops, and seminars to make dairy workers aware about modern dairy farming practices, tools and technologies.
10. Most of the agricultural work in Uttarakhand and also in Almora done mainly by women's therefore, it is essential to support and provide financial assistance and training to them related with dairy business.
11. Proper use of excreta of milch animals should be maintained. Organic agriculture can be supported from animals' excreta so that mixed farming should be promoted.
12. Women are deprived of land ownership rights. They are unable to run their enterprise individually and cannot get credit facilities from the co-operative societies without rightson land which is essential and mandatory for loan sanction. Thus, land ownership rights should be given to them.
13. It is suggested that women involved in dairy farming should be given free access to the education and training provided by dairy co-operatives.
14. There are huge demands of fodder crops for running dairy business in Almora successfully. Classification of fodder plants and grasses should be done properly by the government so that farmers can use those plants and its leaves for feeding their milch animals without damaging them. Plants like *Bheemal*, *Timil*, *Oak*, *Khadik* and many more can be planted on the boundaries of the fields.

## VI. CONCLUSION:

Dairy farming is one of the important sources of income and providing occupation opportunities to the rural families and farmers in District Almora. Dairy co-operatives have played an important role in the dairy development. In the study area dairy farming is done mainly by the small, marginal farmers and land less labourers. Dairy development has resulted in the improvement of nutritional intake and milk and milk products consumption. It has also increased the purchasing power and living standards in rural areas with socio-economic up gradation. Various problems discussed above are affecting dairy farming negatively in Almora and reducing the benefits but proper management, people's awareness, women's active participation and governmental support can take dairy business at new heights and can solve livelihood issues of rural population in Almora.

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