



DAIRY SECTOR IN NORTH EASTERN REGION- LESSON FROM ASSAM

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Abstract

Dairy sector contributes significantly in generating employment opportunities and supplementing the income of small and marginal farmers providing by them food security. Dairying is an important component of mixed farming systems in Assam. Milk productivity is very low in the state. The average milk yield of indigenous cattle, crossbred cattle and buffalo is far below the national average. In Assam, dairying is characterized mostly by rural smallholders' production using indigenous cattle and buffalo, with pockets of specialized dairy production using improved dairy cattle in the peri-urban areas and in certain rural zones having better market access. Organized marketing of milk in Assam remains insignificant, despite efforts in the past to develop and promote collective market mechanisms. The traditional market, either for fresh liquid milk or importantly, for traditional products such as sweets, thus accounts for about 97% of the market opportunities for farmers. For smallholder producers in areas with poor market access there are likely to be no alternative market options, besides the traditional market. Developments in the traditional market will be extremely important for the Assam dairy sub-sector, and a set of interventions that could facilitate improvements in that market could complement the ongoing efforts to develop cooperative organized milk markets. Drawing lessons from the institutional failure, the study has suggested some possible interventions and policy initiatives for strengthening the dairy processing activities in the state of Assam. Further, to ensure dairy prosperity, capacity building of milk farmers is essential. Formation of Self Help Groups having common interests and user groups should be encouraged for awareness and motivation of milk farmers

Keywords: *Dairy Sector Mixed Farming, Smallholders Producers, Institutional Failure, Milk Farmers.*

Introduction

Dairying is an important source of subsidiary income for the farmers. It provides livelihood to millions of Indian farmers and generate additional income and employment for a large number of families in the Indian countryside. Dairying has brought about socio-economic transformation in North East India and is playing a significant role in strengthening rural economy. Majority of milk producers are small farmers, marginal farmers, and downtrodden. It has vast potential to generate employment and has helped in alleviating poverty in rural belt. It provides definite and regular income and employment to millions of rural families throughout the year, improving the quality of their life. Dairying is characterized mostly by rural smallholders' production using indigenous cattle and buffalo, with pockets of specialized dairy production using improved dairy cattle in the peri-urban areas and in certain rural zones having better market access. While the increasing farm-level production and productivity will require more improved animals, improved fodder/feed technology, and access to livestock services, smallholders' access to reliable markets to absorb more milk at remunerative prices may remain a critical constraint. Organized marketing of milk in Assam remains insignificant, despite efforts in the past to develop and promote collective market mechanisms. Formal pasteurized milk and dairy product channels, both cooperative and private, account for only about 3% of the total locally-produced marketed milk. The traditional market, either for fresh liquid milk or importantly, for traditional products such as sweets, thus accounts for about 97% of the market opportunities for farmers. For smallholder producers in areas with poor market access there are likely to be no alternative market options, besides the traditional market. Developments in the traditional market will be extremely important for the Assam dairy sub-sector, and a set of interventions that could facilitate improvements in that market could complement the ongoing efforts to develop cooperative organized milk markets. Traditional market will be extremely important for the Assam dairy sub-sector, and a set of interventions that could facilitate improvements in that market could complement the ongoing efforts to develop cooperative organized milk markets. The per capital availability of milk is highest in Sikkim (213 gm) and lowest in Mizoram (44 gm). Marketing of the milk is highly unorganized and the concept of the milk cooperative is mostly unknown to the farmers (Kumaresan *et al.*, 2008). On analyzing various contributing factors responsible for the development of sustainable dairying in this region, it is inferred that empowering the farmers with proper knowledge, skill and resources is must and a planned effort in this direction is very much essential. The capacity building of the farmers in terms of their knowledge and skill towards various areas and operation of dairying to be carried out by different extension agencies involved in dairy development.

Rationale of the Study

Dairy Production Is Traditionally An important source of livelihood for the rural population of India and an integral part of crop-livestock production system. Cattles and buffalos are fed on by products of the crop production and in turn provide dung to increase fertility of the fields and are a source of draft power. Milk , butter and ghee produced with in the household are an important source of nutrition for the families and with increasing market access, allow for a regular cash inflow. Hence dairy production is improving the viability of the household and the farming system. With the increasing population and decrease



in land holding size seen amongst most of the farmers in North Eastern Region, more and more people are becoming unemployed. The problem has become even more acute among the rural poor due to the saturation of job. This has been the major reason evidently seen in the North Eastern Region scenario. So, it has been widely recognized that dairy husbandry sector can provide job opportunity to the educated unemployed persons.

Review of Literature

The literature survey on various aspects of dairying is quite extensive. It covers such aspects like production, consumption, marketing, size of farms, quality of breed, supply of feed, income generation and so on. But the researcher gives below the reviews of only those studies which deal with the impact of dairying with respect to economic development. Gakul Chandra Baruah (2001) studied on the dairy farming in Sibsagar District of Assam and concluded that the majority of the milch cattle were reared by the small farmers. Fodder cost had been found to constitute major portion of the cost of production. Problems of marketing, lack of transport facilities, lack of unity among farmers, lack of contact with the extension workers, etc. are same of the constraints of cooperative. Deepak Shah (2000) reviewed the book titled 'Amul-Story of a Growth Model with a Complete Story of Operation Flood' as to how OF increased the production of milk and made it available to consumers in most of the urban areas of India and acknowledged problems faced by Kurien for his attachment with the concept & operational aspects of operation flood. Walling (2000) explored the study related to the Kohima District Co-operative Milk Producers' Union Ltd, (KDCMUL), Dimapur and observed that the moderate satisfaction of farmers and the gradual changes in the attitude of the people towards milk in a society where flesh of animals constituted a basic element of food, would create an environment for the development of dairy industry. Producers' Union Ltd, (KDCMUL), Dimapur and observed that the moderate satisfaction of farmers and the gradual changes in the attitude of the people towards milk in a society where flesh of animals constituted a basic element of food, would create an environment for the development of dairy industry. Govind and Subramaniya(1988) found that involvement of farm women was widespread and larger in respect of livestock related activities than in respect of crop activities. Gautam Kakaty and Moromi Gogoi (2001) found that Dairy sector contributes significantly in generating employment opportunities and supplementing the income of small and marginal farmers providing by them food security.

Objective of the study

With this backdrop Specific objectives of the study are to (i) understand the performance of milk sector in NE Region with special attention in Assam. (ii) Identify the constraints and challenges associated with the dairy sector and to prepare a location-specific action plan to overcome the constraints and use the opportunities of dairy farming. (iii) and finally chalk out strategies and recommendation to improve the productivity through capacity building of milk producers.

Data and Methodology

The study is diagnostic in nature and is based on the review of secondary information (published and unpublished both) and an extensive discussion with stakeholders involved with dairy development in Assam. Need based literature and information were collected from the stakeholders like dairy development officials, farmers' representatives, personnel of co-operative dairy, private milk processors, NGOs, SHGs and consumers. Data on milk production, dairy animals and their yields, veterinary institutions, dairy cooperatives and milk processing were compiled from the *Basic Animal Husbandry Statistics*, published by the Department of Animal Husbandry, Dairying and Fisheries of the Ministry of Agriculture, Government of India. Data on the number of operational landholdings, irrigation and cultivated area under fodder crops were compiled from the *Agricultural Statistics at a Glance*, published by the Directorate of Economics and Statistics, Ministry of Agriculture. Data on the number of veterinarians in the country were extracted from the website

Study Area

North Eastern states comprising eight sisters has been chosen as domain of the study area on the basis of geography, climate, soil, topography, natural endowment with special attention on the dairy sector in Assam. In North Eastern (NE) region of India, farmers themselves evolved dairy cattle production system with locally materials based on the traditional knowledge and low input. This alternative production system, which does not depend mainly on cereals grains, has been practiced generation by generation. The farmers of this region by and large, are not aware of modern dairying.

2. Observations and Discussion

Dairy NE Region: current scenario

North-eastern part of India is the reservoir of 6.2% of total cattle population of India with maximum population in Assam and minimum in Mizoram. Except Tripura and Manipur, all states of NE registered an increase in the population of crossbreds, whereas except Assam, Meghalaya and Mizoram, all states of NE have exhibited decrease in the population of indigenous breeds of cattle (BAHS, 2005). Overall, there was an increase of 24.03% in the population of crossbreds and decrease of



2.71% in the population of Indigenous cattle. This has attributed to a large extent in increase in milk production in the region. However, productivity of cattle in the region is below the all India average (6.50 litres vs 4.66 litres in crossbreds and 1.91 liters vs 0.95 liters in local breeds) (Table 1). Except Manipur, all the states of NE India have registered an enhancement of milk production, however, availability of milk (gms/day) have decreased in Assam, Manipur and Nagaland resulting into only 74 gms/day milk availability as compared to All India average of 229 gms/day This is mainly because of the fact that most of the cattle are indigenous to this region. The milk yield of crossbred cows in the region ranges from 3.33 to 8.93 litres/day, while the national average of milk yield with respect to crossbred cows stands at 6.5 litres/day. In synchrony within the crossbred population, there is simultaneous increase in fodder production in the state like Nagaland and the farmers are gradually coming under organized marketing setup. Currently this region produces about 1.09 million tons of milk against the requirement of 2.14 million tones. The arguments of no demand for milk in this region dose not arise and therefore, opportunities for developing dairying as an organized enterprise are very high. Except, Sikkim, all other seven states in this region are deficient in milk production and the deficiency ranges from 24.6% in Arunachal Pradesh to 72% in Tripura.

The total milk production in Assam in 2010-11 is 833 million litres, a slight increase from the 830 litres in 2009-10, but the requirement is much more. It was 2,308 million litres per day in 2010-11 and 2,286 million litres in 2009-10. The per capita availability of milk in Assam during 2010-11 was, however, 74grams, which is far below the Indian Council of Medical Research recommended quota of 208grams per day. According to Economic Survey of Assam (2012-13), the dairy development department has been focusing on increasing milk production as well as creating processing facilities for economic uplift of rural dairy farmers.

Trend of Milk Production in Assam

Milk in million litres	
Year	Amount (in litre)
2004-05	812
2005-06	821
2006-07	823
2007-08	824
2008-09	827
2009-10	830

Source: Directorate of Animal Husbandry and Veterinary Department, Assam

Dairy development in Assam (A look)

Milk production is, of course, only half of the story. The other half is the sale of milk and milk products that provides the highest returns to our dairy farmers .The primary drivers of dairy sector development include changes in demand, advances in production, transportation and communication technology, enhanced on- farm productivity due to improved management, and expanding scope of dairy product marketing. It needs mention that the need for farmers to form groups so that they are not deprived of their due and get connected to market. The NDDDB has been managing the West Assam Milk Producers Co-operative Union Ltd. Popularly known as Purabi Dairy, since 2008 under a tripartite agreement for revving the brand. At present the union is procuring around around 31,000 litres of milk every day from its 153 milk producing institutions comprising around 4000 milk producers. The Union is selling around 48000 litres of packaged liquid milk every day along with other milk products in the markets of Assam. The NDDDB has already replicated the Anand model of Gujrat is many other parts of India and even here since the Board started managing the West Assam Milk Producers Cooperative Union Ltd, popularly known as Purabi Dairy, in 2008, the latter’s milk producing capacity has increased substantially. Provided with proper support of the support of the government, the model can now be expanded further in Assam.

The dairy development in Assam was initiated in the latter part of the Second Five Year Plan period with the basic concept of procurement and distribution of milk and aiming at economic upliftment of rural producers as well as to generate employment opportunities among the farming communities and to help urban consumers to get quality milk at a reasonable



price. The National Dairy Development Board (NDDB) is keen to reach out to more farmers and create the requisite infrastructure for the development of the dairy sector in Assam. Researchers are in the opinion that Assam having the natural endowment has the potentiality for the development of dairy sector towards rural development of the state. Assam is the second state in the Northeast after Sikkim where Amul is starting operations.

The dairy sector in Assam may be in for better times, as the country's market leader, Amul, is starting operations in the state. Wamul sells its products under the brand name Purabi, which has become a household name and has met with some success in recent years after going through a rough patch since its inception. Its average milk sale per day was about 1,800 litres in 2007-08 that reached 32,700 litres in 2011-12. The present sales figure is around 42,000 litres per day. At present, Wamul's distribution network consists of 44 routes, 1,477 retailers in 27 towns.

Constraints and Challenges

The small rural milk producers have several problems. The major problems faced by the farmers include small herd strengths, small land holdings, shortage of green and dry fodder, low productivity of animals, non availability of timely inputs for breeding and health care animals, lack of sustainable technology, inadequate finances, poor rural infrastructure facilities and lack of proper marketing support for their produce. In so far as fodder is concerned, paddy straw forms the bulk of the dry fodder. Rural farmers cultivate oat and maize in some areas for their animals but by and large marginal farmers are not in a position to grow green fodder for their animals. The small size of their holdings does not permit them to do so. The extent and dependence on grazing is thus quite high in rural areas where people are not in the practice of keeping cross-breed cows. For smallholder producers in areas with poor market access, there are likely to be no alternative market option besides traditional market. The majority of milk is produced by rural Small holders using indigenous cattle and buffalo, but productivity is low in comparison with other states in India. Further, most milk is marketed through traditional and informal channels, estimated at 97 per cent of locally marketed milk, compared to some 80 percent nationally. In spite of these constraints Assam displays strong production potential and inadequate milk supply, so there are many opportunities to grow the dairy sector and help poor for improving their livelihood. Action plan highlights demand outstrips supply. The report found dairy production to be feasible for raising income and increasing livelihood opportunities, particularly for the rural poor. To meet the demand, which is mostly for good quality raw milk, dairy interventions that address productivity, access to livestock services markets, and improved milk quality in the traditional sector, would result in more income and employment for rural smallholders. Formal marketing of milk in Assam is relatively insignificant.

3. Recommendations

1. Dairy farming will be developed on cluster basis in potential districts of Assam.
2. The small dairy farmers will be organized in to Dairy Co-operative Societies (DCs) or Selp Help Groups (SHGs). The primary DCs/SHGs will form the district level milk union or NGOs. All the organization will function democratically and the State Government will have the little say over the unions.
3. Support Services/ facilities like rural milk collection centre, Cold Storage, farm inputs, selling booths will be created and run in collaboration with co-operative societies or private entrepreneur.
4. Milk produced by farmers will be collected and tested and the same will be transported to Dairy Plant from rural milk collection centers.
5. Milk will be processed in the Dairy Plant and will be marketed through the modern selling booths.
6. All the beneficiaries will be imparted orientation training programme by the Dairy Development department.
7. There is a need to set up schemes for diversification and preparations of value added milk products at the production centre instead of sending raw milk over long distances. Depending upon the market demand for a particular product, quantum of raw milk available and financial position of the milk plan suitable milk processing and product manufacturing units can be set up.
8. The strengthening of market linkages through expansion of cooperatives, and facilitating new models of dairy farming would go a long way in further improving milk yield in the region.
9. Formation of Self Help Groups having common interests and user groups should be encouraged for awareness and motivation of milk farmers.

Summary and conclusion

The study has pointed out several avenues and strategies for policy intervention to support dairy development for enhanced milk yield. Productivity-led growth is the only viable option for accelerated and sustainable growth of the sector. To summarize the efforts of sustainable dairy development in NE Region, emphasis should be given to equip the dairy farmers with adequate and appropriate knowledge and skill related operation like dairy cattle rearing to marketing. Efforts to be made for organizing the farmers into groups and federating them for common resource management and marketing the milk under



a brand name. Among other things, the establishment of grass root level infrastructural facilities related to breeding and health care is very important institutional support required in this region. To sustain the production system at farmer's level, it is essential to equip the farmers with suitable production technologies related the breeding, feeding and health care management by facilitating closer interaction with Scientists, KVKs, SIRDs, etc. in the region. Anand Model may be replicated, with suitable modifications, as necessary, besides alternative institutional framework should also be explored. With correct planning, proper reforms and matching infrastructural facilities it is possible to shift the main productivity centre from town to villages with professional management of cooperatives. Policy makers and NGO's also play a key role for making public awareness about the environmental effects of the dairy farmers as well as consumers.

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