The advent of dairying has been a boon for dairy farmers and of particular importance to those segments of the society that have been traditionally weak, the small landholders, landless laborers and women. It has provided a year-round source of income for people who previously could only depend on payments from small seasonal crops or even occasional labour. It is estimated that up to 60-65 percent of the income of this group (marginal and small-scale farmers) now comes from dairying. Studies have shown that dairying in rural areas surpassed crop production in terms of profit in marginal, small and medium-sized holdings. For small-scale farmers with irrigated land, dairying and crop production together, were more profitable than crop farming alone. Over the period, dairying has also acquired the contours of a fully-fledged industry in the country and has positively improved the life of those engaged in this business, directly or indirectly, bringing significant socio-economic changes.

The Indian context for Dairy

Indian agriculture is an economic symbiosis of crop and cattle population. Millions of rural smallholder milk producers dominate India's dairy industry, contributing 62 percent of total milk produced in the country. The milk animals are fed on crop residues and milch animal dung is used as manure for crops. Livestock plays a vital role in the economy; animal husbandry is the most important economic activity in rural areas. The dairy sector today provides 80 million farm households with the triple benefits of nutritive food, supplementary income and productive employment for family labour, mainly for women. Dairy farming provides self-employment to millions of households in rural areas. Dairying with crossbred cattle and high-yielding buffaloes has become a lucrative business. Owe to the easy cash provided by animal husbandry components, small-scale farmers prefer it to crop production. Further dairying provides a support system to milk producers without disturbing their agro-economic systems.

The sustenance of rural livelihoods is currently at stake than ever before, in the face of economic liberalization. Livelihoods options are shrinking in rural areas in general and more so in eco-fragile regions, such as drought, desert prone, hilly areas and other under developed/ backward districts. Rapidly growing markets for livestock products in general, and dairy products in particular (owing to rise in per capita incomes) are opening new avenues for enhancing rural incomes. Dairy farming plays significant role in sustaining the rural livelihoods, although the phenomenon of farmers suicides, migration, malnutrition/all health are widely prevalent in rural India. However, some of the dairy based drought prone districts made rapid strides in ameliorating poverty by substantially contributing to the District/State agriculture economy. Contribution of agriculture and allied sectors to the national GDP has declined during the past few decades, the contribution of the livestock sector has increased from less than 5 percent in the early 1980s to over 6 percent in the late 1990s. The Operation Flood programme, which was launched during 1970, organizing dairy farmers’ cooperatives in rural areas and linking them with urban consumers created a strong network for procurement, processing, and distribution of milk over a lakh villages in rural India.

Employment

Livestock sector provides employment to 18 million people and nearly 70 per cent of them are women. Further, 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 land-less labor. The dairy sector supports around 10 million members / farmers through one lakh cooperative societies existing in the country. Apart from employment generated by rearing of animals, the procurement of milk and its processing also provides substantial employment. For example in Punjab, MILKFED, with its network of over 5,000 village Milk Producers' Cooperative Societies, supports over 3 lakh Milk Producers. Further, MILKFED and its units have a workforce of about 4,000 people and gives employment to another 10,000 workers who engaged in milk procurement and technical input supply, etc. Similar number of workforce is employed in almost all the milk federations. Further, under SGYS (Swarnajayanti Gram SwarojgarYojana) , the only self-employment programme for rural areas, about 35 per cent swarojgaris opted for dairy farming as income generating activity. The incremental employment generated was 11 man-days per month and the incremental net income generated was Rs. 865 per month per person (Nationwide Study on SGYS, NIRD, 2005). Recognizing the importance of dairy farming in its substantial contribution to the agriculture economy and to the livelihoods of resource poor farmers/rural population, high priority is attached in several locations strengthening the milk marketing infrastructure, veterinary services for breed improvement and health care, extension support for capacity International Journal of building of farmers, developing entrepreneurship, technical skills and knowledge on scientific dairy farming practices, etc. several programmes have been launched from time to time by State/ Central Governments for promoting the sector, although the impact of such programmes varied widely.

PROGRESS OF DROUGHT PRONE DISTRICTS

Livestock rearing is a means for sustainable livelihoods in rural India, more so in ecofragile regions. As per Indian Meteorological Department (IMD), 15 drought years were registered during the past 5 decades registering one out of every third year as drought year. It may be noted that they are 182 DPAP (Drought Prone Areas Programme) and 40 DDP (Desert Development Programme) districts and 150 are backward districts as of now India. It may also be noticed that 60 districts are identified both as DPAP/DDP and backward districts. In all,
around 312 districts, out of the 602 Indian districts are either DAP/DDP or Backward where livelihoods are under constant stress. Some of the districts in these drought prone areas made spectacular progress in dairying in terms of contribution to the share of agriculture economy and in ensuring sustainability of the rural livelihoods of the resource poor farmers. Dryland agriculture accounts for 68 per cent of the total cultivated area contributing only 44 per cent of the country's food requirement and supporting 40 per cent of human and 60 per cent of the livestock population (National Bureau of Soil Survey and Land Use Planning, 2001).

**Contribution to Indian Economy**

Dairying has become an important secondary source of income for millions of rural families and has assumed a most important role in providing employment and income generating opportunity. Indian Dairying is unique in more than one ways. Contributing about 5.3 per cent to India's agricultural GDP, milk is a leading agricultural produce. The value output from milk at current prices during 2006-07 has been over Rs.144386 crores which is higher than the output from paddy (Rs.85032 crore) alone and is also higher than the value output from Wheat (Rs.66721 crore) and sugarcane (Rs.28488 crore), put together. The unique feature of the system is that about 120 million rural families are engaged in milk production activities as against big specialized dairy farmers in the west. During the post independence period, progress made in dairy sector has been spectacular. Milk production has increased more than four folds from a mere 17 million tones during 1950-51 to 104.8 million tones in 2007-08. However, the country's per capita availability is still lower than the world's daily average of about 285 gms though it has doubled from 124 gms in 1950-51 to 256gms per day in 2007-08. This impressive growth effort speaks volume about the co-ordinated efforts of large number of milk producing farmers, scientists, planners, NGO's and industry in achieving self-sufficiency in milk production. Dairy industry is of crucial importance to India. The country is the world's largest milk producer, accounting for more than 13% of world's total milk production. It is the world's largest consumer of dairy products, consuming almost 100% of its own milk production. Dairy products are a major source of cheap and nutritious food to millions of people in India and the only acceptable source of animal protein for large vegetarian segment of Indian population, particularly among the landless, small and marginal farmers and women. Dairying has been considered as one of the activities aimed at alleviating the poverty and unemployment especially in the rural areas in the rain-fed and drought-prone regions. In India, about three-fourth of the population live in rural areas and about 38% of them are poor. In 1986-87, about 73% of rural households own livestock. Small and marginal farmers account for three-quarters of these households owning livestock, raising 56% of the bovine and 66% of the sheep population. According to the National Sample Survey of 1993-94, livestock sector produces regular employment to about 9.8 million persons in principal status and 8.6 million in subsidiary status, which constitute about 5% of the total work force. The progress in this sector will result in a more balanced development of the rural economy. This impact of Dairy Industry can be categorized into the following: Social impact, Economic impact, Impact on infrastructure, Impact on improved food aid security and nutrition.

**Social Impacts**

Social impact is open to all, lack of discrimination, in caste, creed, gender and financial status has succeeded in breaking down barriers for those with milch animals. Remarkable new awareness has been developed and observed among the producers.

**Resolving Social Inequity**

This social stigma still exists in many parts of rural India. At all the collection centres of APDCs, morning and evening, hundreds of adults as well as the children of milk producers belonging to all castes come and stand in queue to deliver milk, developing a habit of discipline. The mix of various ethnic and social groups twice a day for a common cause and to their mutual improvement has resulted in reducing social inequity.

**Democracy**

Elected representatives of the members manage the DCs and are responsible for all the policy decisions. All the members are entitled to cast their respective votes (one each) to elect the management committee members. This annual election of the management committee and its chairperson by members raises the participants' awareness of the value of their vote and their rights to elect the right person for the right job.

**Hygiene and Cleanliness**

All the producers are frequently kept informed on the importance of observing hygiene and cleanliness of animals and milkers at the time of milking and at the milk collection centre. It has been observed that such learning is carried with them in their daily living habits.

**Health Care**

The privilege of collecting the milk from members places an obligation on the cooperatives to provide inputs to increase the milk production. Accordingly, the unions operate elaborate veterinary services at their doorstep to take care of cattle health. Exposure to various modern technologies and their applications by the veterinarians to treat their animals has made farmers more aware of healthcare for their family members as well.

**Impact on Infrastructure**

Participating farmers have become aware of their responsibility to the community. Every year they generously contribute a proportion of their cooperative's profit towards the overall development of the village, such as: • Improving the village approach road condition • Providing facilities to youth through establishing village libraries • Contributing to educational institutions and village primary health centres • Providing and updating day-to-day knowledge by putting television sets in DCs • Providing a telephone facility to members for better and fast communications • Contributing to establishing the drinking water supply system in the village. • Cooperative dairying has therefore shown a significant socio-economic impact in rural development.

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