CHAPTER - VI

C O N C L U S I O N

CONCLUSION

Dairying happens to be the florishing activity and an integrated part of agriculture in the State of Maharashtra. The study deals with the spatio-temporal distribution of milch animals and assessment of fodder availability in Solapur district. It is also concerned with the regional pattern of milk production and it's distribution. The growth trends in milk production have also been examined in the foregoing analysis. The study is attempted at tahsil and village levels. Agriculture forms the base of economy of the region which largely supports live-stock by providing dry as well as green fodder.

The foregoing analysis reveals the fact that there is, regional variations in the concentration of milch animals. Cows and buffaloes are the major sources of milk produced in Solapur district. The study pertaining to the spatio-temporal pattern of milch animals and their ratio to total livestock is essential to understand the development of dairy in the region. In fact, the domestication of animals is an age-old practice in the region. The study of animal association region helps to understand as how and in what proportion milch animals are associated with the total livestock.

The total number of livestock is accounted for 1,202,835 during 1988 in the region of which milch animal shares about 12.73 percent and further cows and buffaloes contribute 6.99 and 5.75

percent of the total livestock respectively (Table 2.3). In the tahsils of Pandharpur, North and South Solapur milch animals have recorded third position whereas in Akkalkot, Mangalwedha and Barshi tahsils they have occupied third position after goats and bullocks. The regional disparities in the distribution of milch animals has been determined by a number of parameters viz. availability of green and dry fodder, concentrates, effective co-operative movement, decision making ability of farmers and their awareness about this luerative activity, prices offered to milk, assured market, efficient transport and availability of chilling facilities for such perishable commodity. The irrigated tracts, confined mainly to Bhima river valley within the district, have offered favourable conditions for the supply of green fodder in the form of sugarcane tops. This belt has recorded high concentration of milch animals. Besides the tahsils in the close vicinity of Solapur city have also shown high coneentration of milch animals due to assured market for milk. Malshiras tahsil has high concentration of breeding cows which has been encouraged by late Shri Mohite-Patil, a social worker.

The study of fodder and feed availability is also essential to understand the nature and extent of dairy development. An attempt has been made to determine the requirement of fodder and feeds to be obtained from agriculture (1976). Based on this, tahsilwise pattern of fodder availability zones are determined

and further zones having either adequate or deficiency of fodder have been delineated. Dry fodder is mainly available from the foodgrain crops like jowar, bajara, maize, groundnut. Jowar, a first ranking crop, offers 136,324,000 M.T. followed by bajara 1,142,600 M.T., maize 2,798,3000 M.T. and groundnut 1,085,000 M.T. (Table 3.3) in the region.

Cropped area has recorded the high proportion (70-82 percent) providing fodder in the form of crop residues, straws and concentrates. This is the major source of fodder in the region. Sugarcane has been considered as the main source for green fodder in the irrigated tracts of the region viz. parts of Malshiras and Madha and Pandharpur tahsils. Green fodder may be obtained from the areas under forest (2.39%), pastures (4.23%), culturable waste (2.19%) and fallow lands (12.24%) in the form of grasses during favourable monsoon season. However, major parts of the district show the deficiency in green fodder which has been resulted from inadequate rainfall. This has led for poor development of dairy development, as the green fodder has greater bearing on milk productivity of milch animals.

There is intra-regional disparity in the availability of fodder. Malshiras tahsil has attained first ranking position (Table 3.2) having 302,560 M.T. of green fodder available. This could be related to the endownement of irrigation facilities from canal as well as lift irrigation shemes. Besides these, four sugar factories of this area have encouraged sugar cultivation offering green fodder to milch animals (273,600 M.T.) .

This has followed by Pandharpur (267,300 M.T.) and Karmala (110,500 M.T.) tahsils for green fodder. Rest of the tahsils have low proportion of green fodder affecting dairy development adversely.

In view of the requirement of fodder the existing animal population of 2,029,515 needs 4,398,302 M.T. fodder per year. The region has, however 264,451,177 M.T. showing deficit of 1,753,785 M.T. which has become main constraint for the development of dairy as the milch animals are not fed properly. Pandharpur tahsil, however has recorded surplus of 45,877 M.T. fodder indicating the scope for dairy development. The rest of the tahsils have inadequate (Table 3.2) fodder production discouraging the development of dairying.

The regional imbalances in fodder availability correspond with the regional patterns of milk production and milk productivity. Such studies are of immense importance in regional planning to improve the conditions of 'Weaker areas' in regards to fodder production. Moreover, the attention has to be paid to encourage farmers to adopt breeding technology in case of local cows. Besides these, attractive prices should be given to the milk producers so that they will turn to this lucrative occupation from their tradtional animal husbandry. The co-operative dairy farming has important role to play in this regards in the years to come.

Chapter four exposes the fact that Solapur district has emerged out as one of the milk producing districts of Maharashtra State and the last three decades have witnessed considerable increase in milk production. Cows and buffaloes play vital role in milk production. A large number of farming community, alongwith their agricultural activities has been involved in dairying. The credit has to be given to milk co-operatives as they are pushing ahead such enterprise by providing infrastructural facilities like collection, assembling, chilling and distribution of milk to urban markets etc.

The District Co-operative Milk Federation for ten tahsils and Shivamrut Dudh Utpadak Sangh Ltd., Akluj (for Malshiras tahsil only) are two important co-operative organizations which have developed network of milk collection by linking each village to chilling plants. Apart from this, the processed milk (chilled) has been sent regularly and efficiently to urban markets in the state. The district has now 688 village milk co-operatives located in the villages. The above mentioned two organizations supply concentrates, medical facilities and collection of milk through these village milk co-operatives. The financial facilities are also made available from the District Co-operative Banks to the milk producers through these village milk co-operatives. These village milk co-operatives have direct contact with the milk producers which enables them to understand local problems regarding milk production.

In 1991, the region produced about 54,843,000 litres of milk, of which 4,853,000 litres (8.85%) from buffaloes and 49,790,000 litres (91.15%) from cows collected. Despite the development of dairy in the region, there is regional disparity in milk production within the limits of the district. Obviously, Malshiras tahsil has attained high ranking postion (23,984,000 litres) in milk production. This has been followed by Barshi and Madha tahsils. However, villagewise imbalances are observed due to variations in the socio-economic and natural set up. The central tahsils have shown moderate position alongwith their intra-village disparities in milk production. Mention may be made of Pandharpur tahsil which has always recorded first rank in the production of milk from buffaloes. This can be attributed to tradition of keeping buffaloes, sufficient supply of green as well as dry fodder, water availability and favourable social and economic environment. However, such picture is mainly confined to the villages close to Bhima river course.

Apart from the spatial variations the region has also witnessed temporal variations in milk production (Fig.4.7 and 4.8) indicating upward trend during 1971-91. The milk productivity per head of milch animals per day is remarkably lower than many parts of the Western Maharashtra. This could be attributed to physical conditions mainly semiarid climate, relatively less effective socio-economic setting comparing to nearby districts of Sangli and Kolhapur. However, breeded cows have shown sound

milk productivity with 18 litres per head/per day, especially in Malshiras tahsil (Table 4.2). Pandharpur tahsil has shown high milk productivity with 7 litres per buffalo per day. The rest of the tahsils have poor milk productivity i.e. less than 5 litres per day.

The economy of milch animals also varies from village to village. However, aggrigate picture of both animals through case studies (statement I and II),indicate that breeded cows are more profitable than the buffaloes. The chilling plants are located at central places which has saved the time for the collection of milk, a perishable commodity. The collected milk, after chilling at specific low temperatures is sent to Bombay and a small fraction of it to Solapur city and to other tahsil places by milk tankers. Shivamrut Co-operative Dairy was leading in the collection and distribution of milk upto 1988. However, it has been surpassed by the District Co-operative Dairy. Presently, the share of the Co-operatives and Shivamrut dairy in the distribution is 55.11 and 44.89 percent respectively. Recently, other milk products have also been started by them which use a small fraction of milk.

There are, however, seasonal changes in the supply of milk resulted from the variations in the availability of green as well as dry fodders, period of lactation and concentrate availabilities. In general, the region shows rich potential which should be exploited through proper planning and mainly by

eliminating constraints for the development of dairying in the region. The measures would include the increase in fodder availability, increase in irrigated areas for green fodder, encriching the milk productivity, development of infrastructure and making farmers aware about this enterprise. Chapter fifth reveals micro-level picture through the case study of Shivamrut Dairy and it's area of operation (Malshiras tahsil) and householdwise study of two case study villages i.e. Kolegaon and Phalawani, in Malshiras tahsil.

The study of the area of operation of Shivamrut Co-operative Dairy i.e. Malshiras tahsil, is leading milk producing tahsil in the district having 468,000 metric tonnes of fodder available in 1991. The existing milch animal population requires 775,000 M.T. marking the deficiency of 287,000 M.T. of fodder per year. This indicates that tahsil needs sustained efforts to enhance fodder production. The regional profile shows that the tahsil has greater potential which could be tapped to strengthen dairy development. Barring to irrigated tracts, the major part of the tahsil experiences environmental constraints to increase fodder availability. Extension of irrigation to dry parts would be the solution to climinate such problem.

The region has also witnessed substantial increase in the number of livestock from 145,413 in 1968 to 206,978 in 1988. The tahsil ranks first in the number of cross breed cows

producing about 150,000 litres of milk per day during 1990-91. The milk co-operatives of each village are linked with Shivamrut Co-operative Dairy at Akluj which offer assured market for milk produced in each village. The financial assistance, supply of concentrates, provision of medical facilities to milk producers are also attempted through these village milk co-operatives. There are 180 milk co-operatives engaged in the collection and distribution of milk produced every day. However, there are intra-village imbalances in the quantum of milk which could be related to the variations in the physical, social and economic attributes.

Shivamrut Co-operative Dairy has made remarkable progress in the collection of milk showing an upward trend from 14.63 lakh litres in 1977 to 239.84 lakh litres in 1991 (Table 5.5). This may be attributed to the adoptation of cross-breed cows with high productivity (above 18 litres per day). There are also seasonal variations in milk production in a year (Table 5.6). The period from March to July shows high proportion whereas remaining period indicates decrease in milk production. Perhaps, this may be due to the technological developments in cross-breeding and adjusting the cows for lactation period. Based on the milk production, the region can be divided into three distinctive zones i.e. High, Moderate and Low (Fig.5.4).

The householdwise case study of two villages i.e. Kolegaon and Phalawani reveals the variations in milk

production at household level. The village Kolegaon has 800 milch animals of which 650 are cross-breed cows and 150 buffaloes. Most of the fodder (Green and Dry) has been obtained from the cultivated lands. Based on the size of holdings, the medium farmers (596) with 1-2 hectares of cultivated land have domesticated 550 milch animals (i.e. 500 cross-breed cows and 50 buffaloes) whereas 40 large sized holders (more than 3 hect.) have small number (250) of milch animals with 150 cross-breed cows and 100 buffaloes.

The milk productivity of cows is higher (16 litres average) than the buffaloes (less than 5 litres per head/per day). Besides this, the cross-breed cows, owned by large sized holders, offer more milk productivity (18 litres per head/per day) than the small sized holders with less than 14 litres per head/per day (Table 5.7). The large sized holders can offored themselves to obtain green fodder their irrigated lands, devoted to sugarcane crop, in a large quantity. Nearly 2500 litres of milk has been collected per day from the cross breed cows by the village milk co-operative. Besides this, in turn the village milk co-operative has provided 40 tonnes of oil-cakes to milk producers during 1990-91.

Phalawani is another case study village having 31.2 percent irrigated area, devoted mainly to sugarcane crop which provides substantial green fodder. This village has 800 milch animals of which 700 cross-breed cows and 100 buffaloes (Table 5.8). The small holders with less than one hectare of cultivated

land have 200 cows, medium holders (1-3 hect.) have 100 and large sized holders (above 3 hect.) 150 cows with average milk productivity of 19 litres per head per day.

The foregoing work reveals the facts that there are spatio-temporal variations in the animal association zones in the region. There is also regional variations in the concentration of milch animals. Barring to Pandharpur, the rest of the tahsils show inadequate fodder availability which determines the development of dairing in the region. Despite the upward trend in milk production, the region has experienced spatio-temporal variations. Apart, from the intra-tahsil variations, there are also intra-village variations in the milk production. The milk co-operatives, either at village or district level, play vital role in the collection and distribution of milk regularly offering to the milk producers an assured market and providing a variety of infrastructural facilities. Malshiras tahsil or the area of operation of Shivamrut Co-operative Dairy has made remarkable progress in milk production especially from of cross-breed cows. The dairy farming, however, is facing certain problems i.e. inadequate availability of green as well as dry fodder and concentrates, low milk productivity from local species, non-availability of medical facilities to improved breeds, low prices in relation to the expenditure made and overall dry conditions of the region.
