

CHAPTER - V



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CASE STUDIES

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Shivamrut Dudh Utpadak Sahakari Sangh Ltd. Akluj : A Case Study of Co-operative Organization

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SECTION - ASHIVAMRUT DUDH UTPADAK SAHAKARI SANGH LTD.AKLUF- A CASE STUDY OF CO-OPERATIVE ORGANIZATION5.1 INTRODUCTION :

In the earlier chapter the collection and distribution of milk through co-operative organisation in the district has been attempted. This section of the present chapter deals with the case study of Shivamrut Co-operative Dairy located in Malshiras tahsil at Akluj. The establishment and further development of this dairy was made by Late Shankarrao Mohite-Patil, a social worker of this region. He had the vision for economic development of the people. In view of economic backwardness of peasants, especially, of small holders, poor and illiterate landless labourers, he made sincere efforts to develop dairy farming with which the farmers were closely associated. His close friend, Late Manibhai Desai advised him that it was possible to get more milk by cross-breeding of Indian cows and it would help the poor farmers to get income for meeting their daily requirements. Thus, under his guidance Shankarrao Mohite-Patil established five cross-breeding centres in Malshiras tahsil. Section - B is concerned with the analysis of dairying at grass-root level in the form of case study of two villages from Malshiras tahsil.

5.2 AREA OF OPERATION - A PROFILE :

The area of operation allocated to Shivamrut dairy is the entire Malshiras tahsil which has emerged out recently as sugarcane producing part of the district due to irrigation facilities made available from Nira and Bhima rivers in the north and the east. Shivamrut dairy was registered in 1976 with its jurisdiction of the 110 villages in Malshiras tahsil occupying mainly westernmost part of the district (Fig.5.1). The village milk dairies were established to collect the milk from member farmers sent to Akulj for chilling purpose.

Late Mohite-Patil encouraged the farmers to keep improved species of breded cows for higher yields. The green fodder, in the form of sugarcane tops is available. Besides this, feeds are also supplied through village milk co-operatives to milk producers regularly. The payments are also made at week end. As a result, the area of operation of Shivamrut dairy, has been emerged out as 'Milk Producing Zone' of the region. In order to assess the development of Shivamrut dairy, it would be worthwhile to examine briefly the salient features of the area of operation i.e. Malshiras tahsil covering an area of 1608 sq.kms (1991) i.e. 0.11 percent of the total area of Solapur district. Fig.5.2 shows spatial aspects of physiography and soils in the tahsil.

The southern part, occupying about 144 sq.km (9.46% of the tahsil total) has been characterised by hilly nature and here

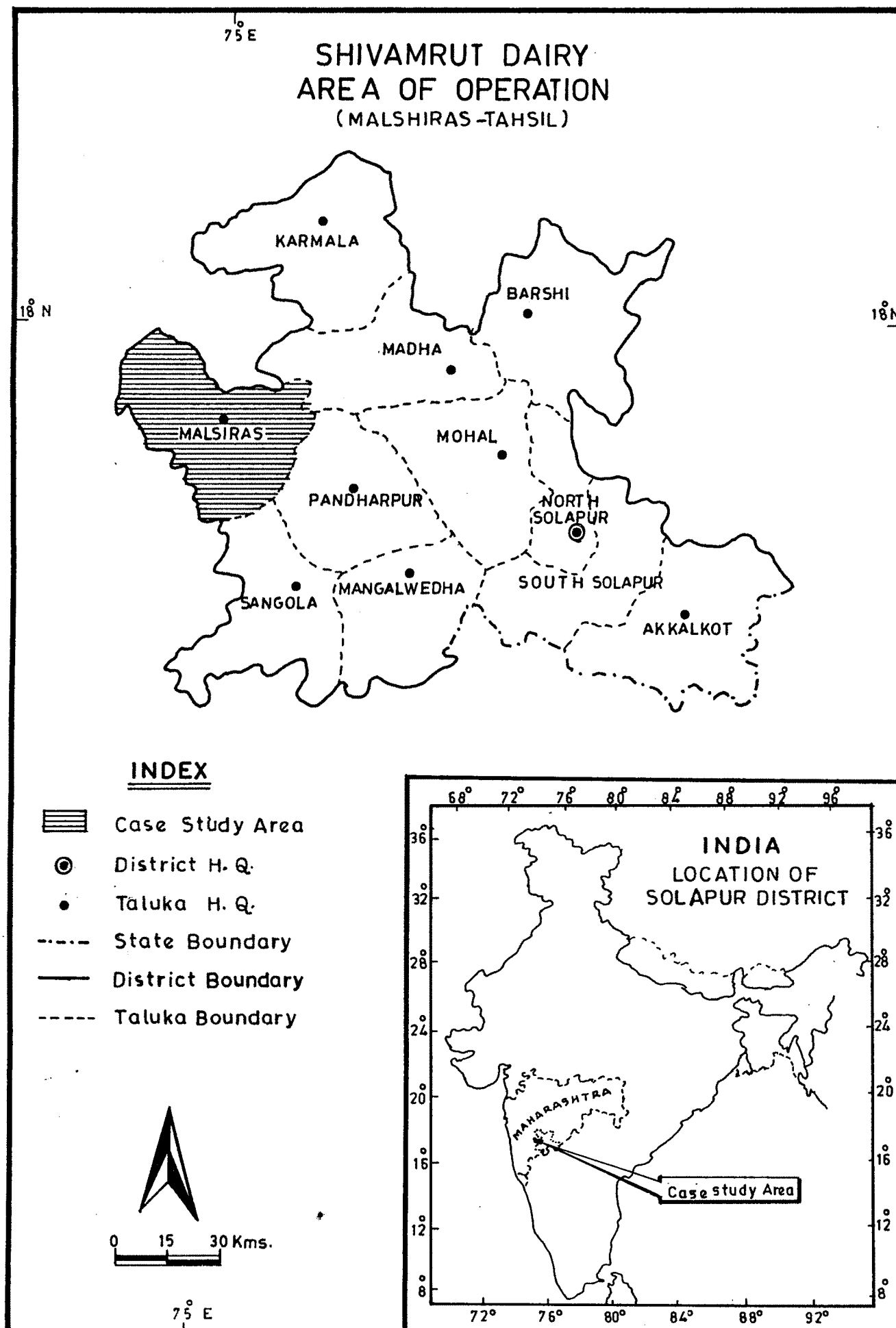


Fig. 5.1

the coarse soils are poor in fertility. The foot hill zone covers nearly 631 sq.km (41.46 percent) area which is agriculturally suitable and more productive than the above zone. The remaining part, in the north and the east; is river flood plain and irrigated tract where sugar factories are located. The villages belonging to this zone possess favourable environmental and socio-economic facilities for the development of dairy farming. Throughout this part, the monsoon rainfall is scanty recording greater variability (30%). The temperatures range from 41.4°C in May to 30.8°C in December.

5.2.1 Irrigation :

Irrigation plays significant role in the development of dairy in Malshiras tahsil. The Nira Right Canal is the major source of canal irrigation for 8000 hectares for twelve months, 4000 hectares for six months and 4962 hectares for three months. Well irrigation is also important as well as indigenous methods of irrigation. But due to scanty rainfall the watertable is highly depleted in the region causing adverse effect on well irrigation. However, nearly forty percent of the wells are seasonal in character.

5.2.2 Land utilization :

Malshiras has 160,800 hectares (10.71 percent) area to total geographical area of the district. The salient features of the land utilization are shown in Table 5.1 which indicates

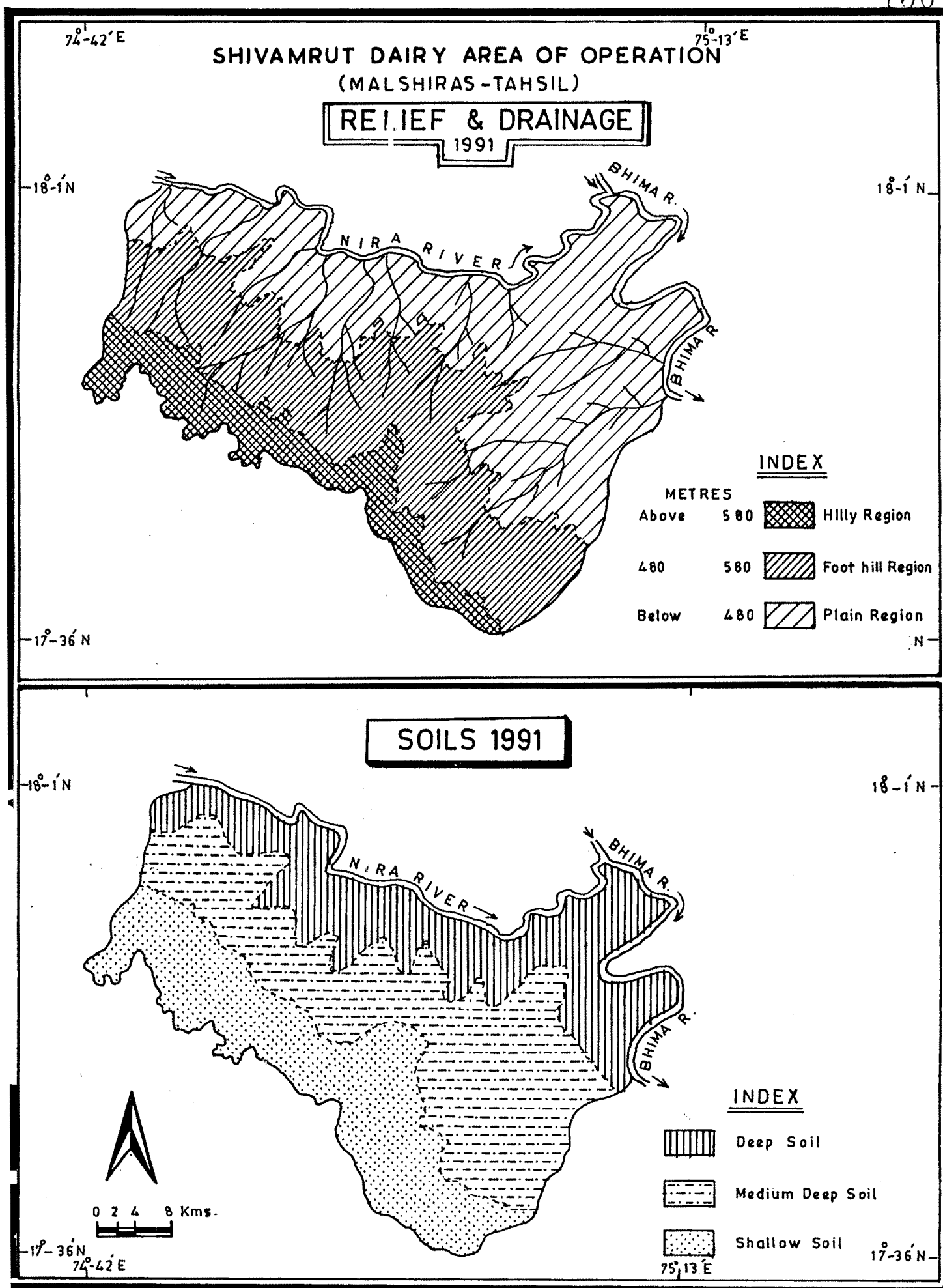


Fig.5.2

that 3.67 percent (5,990 hectares) land has been occupied by the forest remained constant during 1990-91.

Table 5.1 : Land utilization in the area of operation of Shivamrut dairy, Akluj.

(figs in hundred hect.)

Sr. No.	Item	1985-86	1990-91
1	Total area	1608	1608
2	Area under forest	59 (3.67%)	59 (3.67%)
3	Not available for agriculture	162 (10.07%)	162 (10.07%)
4	Waste land	88 (5.47%)	53 (3.30%)
5	Pastures	136 (8.46%)	136 (8.46%)
6	Fallow land	66 (4.10%)	323 (20.09%)
7	New sown areas	1143 (71.08%)	1005 (62.50%)
8	Gross cropped area	1251 (77.80%)	1251 (77.80%)

SOURCE : Socio-Economic Review of Solapur District, 1991.

In order to assess the changes in landuse, a comparative picture of 1985-86 and 1990-91 can be examined. Table 5.1 reveals that there are some landuse categories which are constant. The area not available for cultivation has recorded 16,200 hectares (10.07%) during the both periods. Same is the case of area under

pastures having no variation. However, there are landuse categories which show either increase or decrease. The area under waste land has decreased from 8800 hectares (5.47%) during 1985-86 to 5300 hectares (3.30%) in 1990-91. In fact such land is potential grazing land which could be developed by adopting suitable measures. The area under fallow land has shown remarkable increase from 6600 hectares (4.10%) in 1985-86 to 32,300 hectares (20.98%) in 1990-91. This could be attributed to the dominance of rabi cropping pattern resulted from specific climatic conditions viz. arid conditions. This has also caused the reliance on dry farming system. However, from the view point of fodder availability, such lands could be developed which may support additional milch animal population. The increase in this category might have caused substantial decrease in net sown area from 114,300 hectares (71.08%) in 1985-86 to 100,500 hectares (62.50%) in 1990-91. This might have created scarcity in the availability of dry fodder.

5.2.3 Availability of Fodder :

Area of operation of Shivamrut Dairy i.e. Malshiras tahsil, has been characterised by the dominance of agriculture as a major activity from which over 78.79 percent of total population seeks its livelihood.

In 1991, Solapur district produced 2,645,000 metric tonnes of fodder. Of this Malshiras tahsil shared 468,000

metric tonnes. Similarly, the district produced 978,000 M.T. of green fodder and of it the tahsil contributed to 284,000 M.T. (29.04%). Jowar, maize, groundnut and total pulses produced 1,569,000 M.T. dry fodder. Besides this, Malshiras tahsil is known for its permanent pastures and grazing lands. Per hectare production of fodder is approximately three metric tonnes. The tahsil needs 755,000 metric tonnes of fodder. Total 468,000 M.T. fodder production is not sufficient to existing livestock.

5.3 MILCH ANIMALS :

Livestock occupies an important place in the agricultural economy of the tahsil. Cows and she buffaloes are reared for milk production purpose. Livestock also provides much of organic (F.M.) manure used in the farm.

Table 5.2 : Animal population in the area of operation (1971-1991).

Region	Year	Bullocks	Cows in milk	Buffa- loes in milk	Sheep	Goat	Other	Total
1	2	3	4	5	6	7	8	9
Malshiras Tahsil -----	1968	23,846	8,763	3,339	81,541	24,826	3,098	145,413
	1978	21,263	10,833	6,025	91,408	55,746	3,301	188,576
	1988	15,612	10,697	7,781	99,899	70,795	2,014	206,978

SOURCE : Socio-Economic Census of Solapur District, 1991.

Table 5.2 shows animal population of Malshiras tahsil during 1968, 1978 and 1988 indicating substantial increase in their number. In 1991, the Solapur district has recorded 1,606,000 total livestock. Out of it, the Malshiras tahsil recorded 206,978 total livestock (12.89%). Of the total, the tahsil has 10,697 (5.17%) milch cows and 7,781 (3.76%) buffaloes. The number of milch animals shows an increasing trend during the period of twenty years. The tahsil ranks first in the district so far as total number of cross breed cows is concerned. The tahsil accounted for 12.78 percent of the districts total milch cows in 1991. Buffalo milk is mainly used for domestic purposes which contributes insignificantly to dairy. The total milk production of the tahsil is estimated as 150,000 litres per day during 1990-91.

5.4 GROWTH OF MILK CO-OPERATIVE SOCIETIES

IN MALSHIRAS TAHSIL :

Table 5.3 indicates as how there has been an increasing number of milk co-operatives distributed in the villages located in the area of operation of Shivamrut dairy. Many villages have more than two milk co-operatives which collect milk daily from their member farmers. These milk co-operatives also supply feed and provides ~~the~~ medical services. Besides this, financial assistance taken from the district co-operative banks, has been properly channelised through these societies. The weekly payments are made by these milk co-operatives as per the prices fixed by the state

government. The collected milk is sent to chilling plants located at the central places where milk is processed. The number of such multipurpose milk societies has increased from 35 in 1977 to 48 in 1981, 106 in 1984 and further reached to 180 in 1991 (Table 5.3). The transportation of collected milk is attempted by tempo or trucks which are hired by the dairy co-operatives on specific routes.

Table 5.3 : Growth of dairy co-operative societies in its area of operation (Malshiras tahsil) 1977-1991.

Sr. No.	Year	Number of co-operative dairy societies
1	1977	35
2	1978	28
3	1979	34
4	1980	41
5	1981	48
6	1982	56
7	1983	84
8	1984	106
9	1985	133
10	1986	150
11	1987	153
12	1988	157
13	1989	163
14	1990	175
15	1991	180

SOURCE : Compiled by the author, based on Dairy Office Records, Akluj, 1991.

5.5 ECONOMIC STATUS OF THE SHIVAMRUT DUDH

UTPADAK SANGH, AKLUJ (1981-91) :

The economic status of the 'Shivamrut Dudh Utpadak Sangh' is presented in Table 5.4. The number of member co-operatives includes only milk procurement sanstha from each village in the tahsil. The number of sanstha members was recorded 60 in 1980-81 which increased to 143 in 1990-91.

Table 5.4 : Economic status of Shivamrut Dudh Utpadak Sangh, Akluj (1981-1991).

Year	Member co-operative	Share capital (Rs.lakh)	Total Reserve funds Rs. in lakh	Profit/Loss Rs.in lakh
1981	60	4.02	9.13	+ 0.44
1982	64	5.94	16.55	+ 0.43
1983	78	7.11	21.43	+ 0.40
1984	97	8.01	26.56	+ 0.25
1985	102	8.89	32.37	- 0.91
1986	104	12.24	57.49	- 2.10
1987	125	38.35	66.18	- 1.40
1988	129	49.35	80.95	+ 0.20
1989	135	59.94	116.98	+ 11.95
1990	136	83.48	156.16	+ 2.47
1991	143	124.12	206.14	+ 2.83

SOURCE : Compiled by the author, based on Dairy Office Records, Akluj, 1991.

There has been an increase in the share capital. The total reserved funds are also increased in the same proportion. From 1981 to 1984, there has been remarkable profit by all the member co-operatives. The profit was as high as Rs.11.95 lakhs during 1989. During 1985-87, however, there was loss of Rs.0.91 lakh and Rs.2.10 lakhs during 1985-86. However, from 1988 onwards, there has been gradual increase in the profit received to Shivamrut dairy co-operative from Rs.0.20 lakhs to Rs.2.83 lakhs in 1991. Presently this dairy is based on sound footing with substantial share capital of Rs.124.12 lakhs and reserve funds of Rs.206.14 lakhs in 1991. The profit column is not showing a constant increase. This is mainly due to the increasing investment in fixed assets, such as ice factory, purchase of land at Bombay, purchase of vehicles, cans and development of other infrastructural facilities.

5.6 ROUTEWISE DAILY MILK COLLECTION

BY SHIVAMRUT MILK SANGH :

The Shivamrut Dudh Utpadak Sangh, has organised twenty one milk routes to procure milk from the primary co-operative milk societies. The milk collection routes link almost all villages in the tahsil and finally connected to Akluj, the headquarter of the Sangh. Fig.5.3 reveals that the proportion of milk collection is substantially high on Tandulwadi route with daily average of 6650 litres. This route contributes for

7.20 percent of the total quantity of milk procured by the Sangh. Kothale route is ranked second with 7.15 percent of the milk collected with 6604 litres daily. Mandave route ranks third, with 5.87 percent of the milk and 5418 litres daily collection. These three routes contribute 20.22 percent of the total milk collection of the Sangh. The Chandapuri route collects only 2898 litres of milk per day sharing 3.14 percent of the total milk procured by the Sangh in 1990-91. The routewise variation in the collection of milk has been determined by a number of variables as the availability of fodder to milch animals, management of cows at individual level, changes in temperatures, water availability and overall economic status of the farmers.

5.7 MILK COLLECTION OF THE SHIVAMRUT

MILK SANGH (1977-91) :

Table 5.5 shows yearwise milk collected during 1977-91. In the beginning (1977) about 14.63 lakh litres of milk was collected. From 1988 onwards, there was upshoot of milk collected from 133.90 lakh litres to 239.84 lakh litres in 1991. Thus, there was absolute increase of 22,521,000 litres. The milk is collected mainly from the cross breed cows in the tahsil. This fifteen years period has been characterised by substantial increase in milk collection. This may be attributed to gradual diffusion of such lucrative business and overall adoption by

the farmers of this new innovation. All the routes are operated in day and night for milk collection. In 1977, the Sangh operated six day and night routes. The number of routes has increased to twenty one in the year 1991.

Table 5.5 : Yearwise milk collection by the Shivamrut Dudh Sangh, Akluj (1977-1991).

Year	Milk collection (Lakh liters)
1977	14.63
1978	26.06
1979	38.26
1980	54.20
1981	62.07
1982	69.84
1983	91.09
1984	133.90
1985	191.31
1986	251.74
1987	256.80
1988	212.76
1989	216.78
1990	229.54
1991	239.84

SOURCE : Compiled by the author from the Dairy Office Records, Akluj, 1991.

This has resulted into overall increase in the milk collection and daily milk collection. Because, milk producers always seek for assured market for such perishable product. During 1977, the daily average milk collection was 0.04 lakh litres which has increased to 0.66 lakh litres in 1990-91.

5.8 SEASONAL TRENDS IN MILK COLLECTION :

Table 5.6 indicates the seasonal trends in milk production during 1990-91. It is clear that from May to July the collection of milk is more (over 21 lakh litres).

Table 5.6 : Seasonal trends in milk collection
of Shivamrut, Akluj (1991).

(Figs in lakh litres)

Sr. No.	Months	Milk collection
1	July 1990	21.28
2	August	17.78
3	September	19.07
4	October	19.38
5	November	19.17
6	December	19.60
7	January	19.02
8	February	19.53
9	March	20.40
10	April	20.55
11	May	22.02
12	June 1991	22.02
	Total	239.84

SOURCE : Compiled by the author from Dairy Office, Akluj, 1991.

The lowest figure (17.78 lakh litres) of milk collection is recorded in August. Highest collection of milk is recorded in June i.e. 22.04 lakh litres. During 1990-91, total 239.84 lakh litres of cow milk has been collected on twenty one routes in the tahsil. The seasonal fluctuations in milk production can be attributed to the technological development in breeding and the period of lactation.

5.9 VILLAGEWISE MILK COLLECTION :

Based on the milk collected from 110 villages, three zones can be identified (Fig.5.4).

1) Zone of high collection of milk -:

This comprises four villages with more than 10 lakh litres of milk is collected daily. They are Dahigaon, Gaurwadi, Velapur and Tandulwadi where adoption of breded cows was attempted in the beginning.

2) Zone of moderate collection of milk -:

About 14 villages are included in this zone (Fig.5.4) which provides milk ranging from 5 to 10 lakh litres daily to Shivamrut dairy. This may be attributed to the availability of dry as well as green fodder, breded cows and positive role of co-operative milk societies.

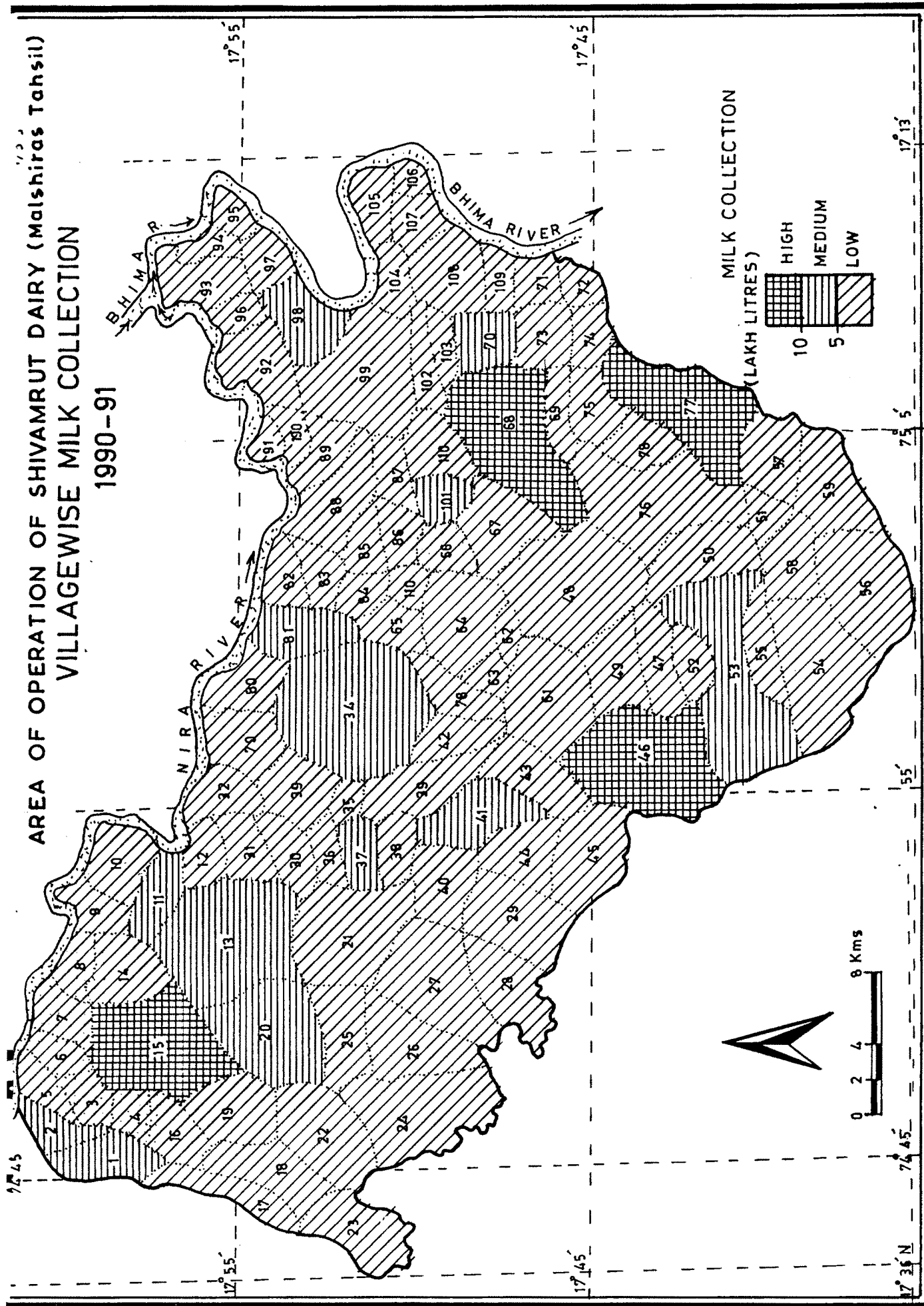


Fig. 5.4

3) Zone of low collection of milk -:

Nearly 92 villages have been included in this zone with less than five lakh litres of milk daily to Shivamrut. The low collection from these villages may be due to inadequate availability of green fodder, low intensity of irrigation, poor economic conditions of farmers, low rate of diffusion of innovation, increasing distance from the chilling centres and overall adverse environmental conditions.

SECTION - BMICRO-LEVEL (VILLAGE LEVEL) ANALYSIS :CASE STUDY OF TWO VILLAGES5.B.1 INTRODUCTION :

This section deals with the micro-level study at village level selecting two representative villages from Malshiras tahsil. Such micro-analysis will highlight the characteristics at village level.

(1) KOLEGAON :

The village Kolegaon is situated to the South of Akluj on Sangola-Akluj road in Malshiras tahsil, covering 2429 hect. of land (Fig.5.5). Of this, 101 hectares of land (4.16%) has been occupied by bushes and 329 hectares (13.45%) by waste land. The remaining, 1999 hectares land (82.30%) is used for cultivation. Sugarcane alone has occupied about 500 hectares and its tops are major source for green fodder.

Of the total 2429 hectares, nearly 1999 hectares of land has been irrigated and 329 hectares of land is used for jowar which depends upon rainfall.

5.B.2 ANIMAL HUSBANDRY :

There are 700 milch livestock in the village of which 550 are cross breed cows and 150 buffaloes. Buffalo's milk

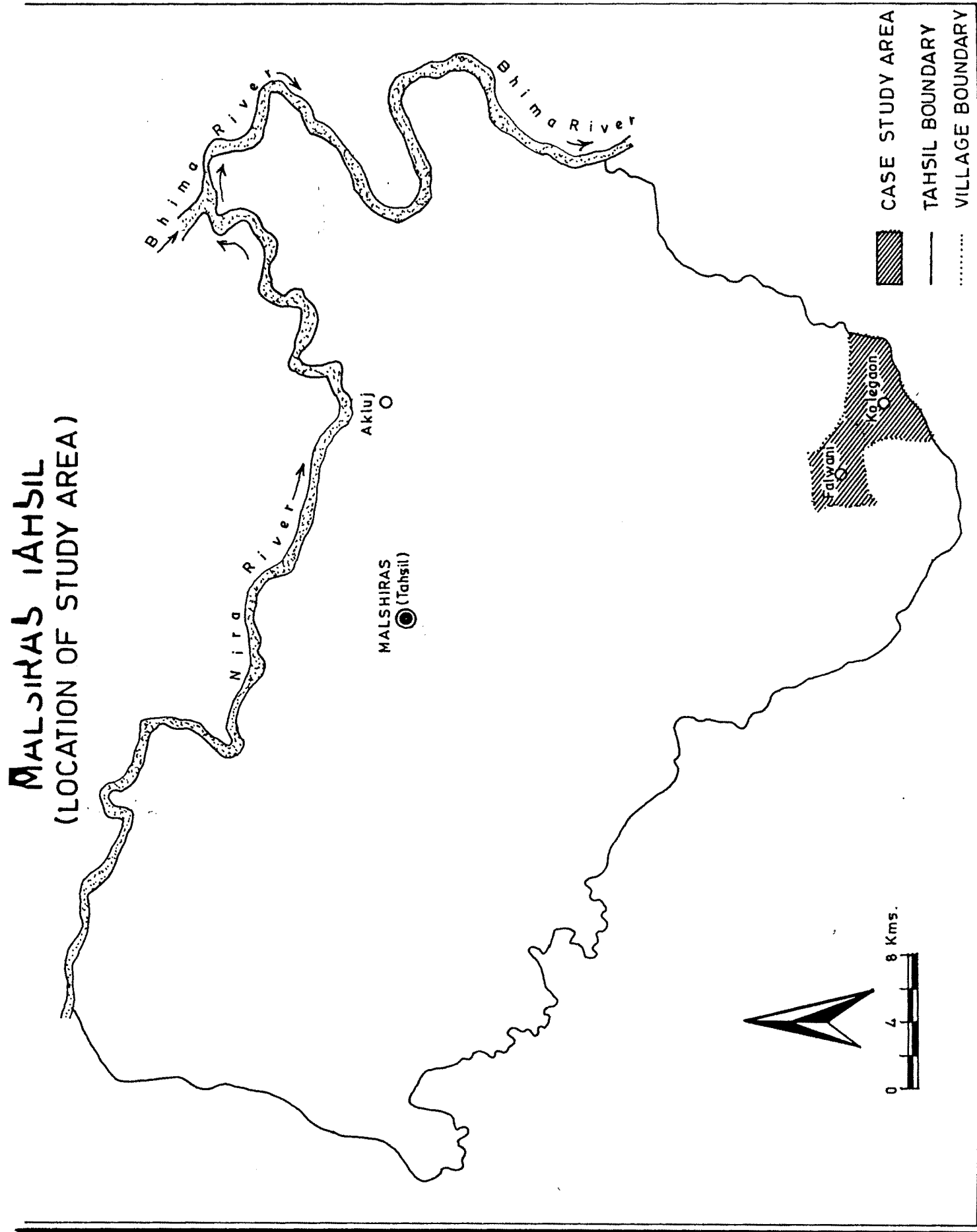


Fig. 5.5

is mainly used for daily consumption whereas cow-milk is sent to the dairy.

Table 5.7 : Micro-level analysis - A case study of Kolegaon

Size of holdings	Number of house holders	Number of cows	No. of buffaloes	Per day milk from per Cow (Lit.)	Per day milk from per Buffalo (Lit.)
Less than 1 hectare	Nil	Nil	Nil	Nil	Nil
1-2 hectares	596	500	50	14	8
2-3 hectares	Nil	Nil	Nil	Nil	Nil
More than 3 hectares	40	150	100	18	10

SOURCE : Compiled by the author, 1994.

5.B.3 FODDER AVAILABILITY :

Agricultural land provides green and dry fodder to the milch animals. About five kilogram of oil-cakes and ten kilogram of green fodder per animal every day are supplied. The green fodder includes maize and sugarcane tops. The concentrates in the form of oil ckades and others are provided by the village milk co-operative society regularly to farmers. Besides medical facilities are also made available.

5.B.4 FAMILYWISE (BASED ON SIZE OF HOLDINGS)

MILK PRODUCTION :

Table 5.7 shows that there are 636 families in this village of which 596 families (93.70%) possess 1 to 2 hectare of land. There are 500 cross breed cows and 50 buffaloes domesticated by these families. Cross breed cow gives 14 litres of milk per day.

There is no any family in this village which possesses less than one hectare of land and 40 families (6.29%) have more than three hectares of land. There are 150 cross breed cows and 100 buffaloes in these families. Per head milk productivity of cow is 18 litres and 10 litres of buffalo per day.

The general survey of this village indicates that average milk production is 18 litres per cow and 8 litres of milk per day. Nearly 200 milligram milk is used per person per day obtained from buffaloes.

5.B.5 DAILY COLLECTION OF MILK (BY THE VILLAGE

CO-OPERATIVE MILK SOCIETY) :

With the co-operation of Shivamrut Dudh Dairy, one co-operative milk society was established in 1976. The society collects 2500 litres of milk everyday. In the month of August the production of milk is increased by adopting devices. The society has given the average rate of Rs.6.25 per litre for the

cow milk. The collected milk is then sent by tempo to the chilling centre at Akluj. In 1991, the turnover was about Rs.35/- lakhs. Shivamrut Dudh Sangh supplied 40 tonnes of oil cakes to the farmers during this period. This amount of oil cakes is deducted from the milk bill of the farmers.

(2) PHALAWANI :

i) Introduction :

The village 'Phalawani' is situated about 22 kilometers to the South of Akluj on Sangola-Akluj Road.

Table 5.8 : Micro-level analysis - A case study of Phalwani

Size of holdings	Number of house holders	Number of Cows	No. of buffaloes	Per day milk from per Cow (Lit.)	Per day milk from per Buffalo (Lit.)
Less than 1 hectare	250	200	Nil	14	Nil
1-2 hectare	50	100	10	16	8
2-3 hectare	100	250	35	20	8
More than 3 hectare	100	150	55	22	10

SOURCE : Compiled by the author, 1994.

The village has 1400 hectares of land out of which 437 hectares (31.2%) are used for irrigated crops and 963 hectares of land (68.79%) is used for non-irrigated crops. 50 percent of the land of this village is irrigated by wells and 25 percent by canal irrigation. Sugarcane is main irrigated and maize, groundnuts are subsidiary crops.

ii) Animal husbandry :

Phalwani village has recorded 900 livestock of which 800 are milking animals i.e. 700 cross breed cows and 100 buffaloes.

iii) Fodder availability :

It is observed that one cow needs seven kilogram of cattle feed everyday. It is provided in the form of oil cakes by the Shivamrut Dudh Utpadak Sangh, Akluj. 15 kilogram of green fodder is available through sugarcane tops and maize from agricultural land.

iv) Familywise (based on size of holdings)
milk production :

From the Table 5.8, there are 500 families in Phalawani and of them 250 families (50 percent) own less than one hectare of land. They have 200 cows and about 14 litres of milk from each cow per day is obtained. 50 families (10 percent) have

have one to two hectares of land and they have one to two hectares of land and they have 100 cows and ten buffaloes. They get 16 litres milk from each cow and eight (8 litres) litres of milk from each buffalo. There are 100 families (20 percent) having two to three hectares of land. They have 250 cows in milk and 35 buffaloes in milk. They get 20 litres of milk from each cow and 8 litres of milk from each buffalo per day. The milk production is increased due to the availability of green fodder from the increasing irrigated area. As there is enough cattle feed, the production of milk has also increased. 100 families of this village have more than three hectares of land and they have 150 cows and 55 buffaloes. During the survey the author found that, there are Hosten cows, which give 22 litres of milk per head per day and 10 litres from each buffalo per day. The average production of milk from each cow is 13 litres and 4 litres from each buffalo per day.

v) Daily collection of milk (By the village co-operative milk society) :

The daily collection of milk is about 1400 litres which comes mainly from cows. The buffalo milk is generally used by the families themselves. The collected milk is sent to Shivamrut Dudh Utpadak Sangh, Akluj by the tempo. The annual collection of milk of these societies is about five lakh litres during 1990-91. The dairy also gives attractive

but reasonable rates during this period. During this period, the farmers receive the rate of Rs.6.75 per litre. Sometimes, during the Diwali festival the dairies distribute bonus amount to the farmers in order to encourage them. Shivamrut Duddh Utpadak Sangh provides medical facilities for livestock. The farmers can get loan from bank and Nagari Path Sanstha, Phalawani.