

CHAPTER - FIVE

COOPERATIVE DAIRY FARMING : A STUDY OF SELECTED VILLAGES

## **CHAPTER-FIVE**

### **COOPERATIVE DAIRY FARMING: A STUDY OF SELECTED VILLAGES**

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## CHAPTER-FIVE

### COOPERATIVE DAIRY FARMING: A STUDY OF SELECTED VILLAGES

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#### 5.1 Cooperative Dairy Farming: A Case Study of Sagaon Village:

##### 5.A.1 Introduction:

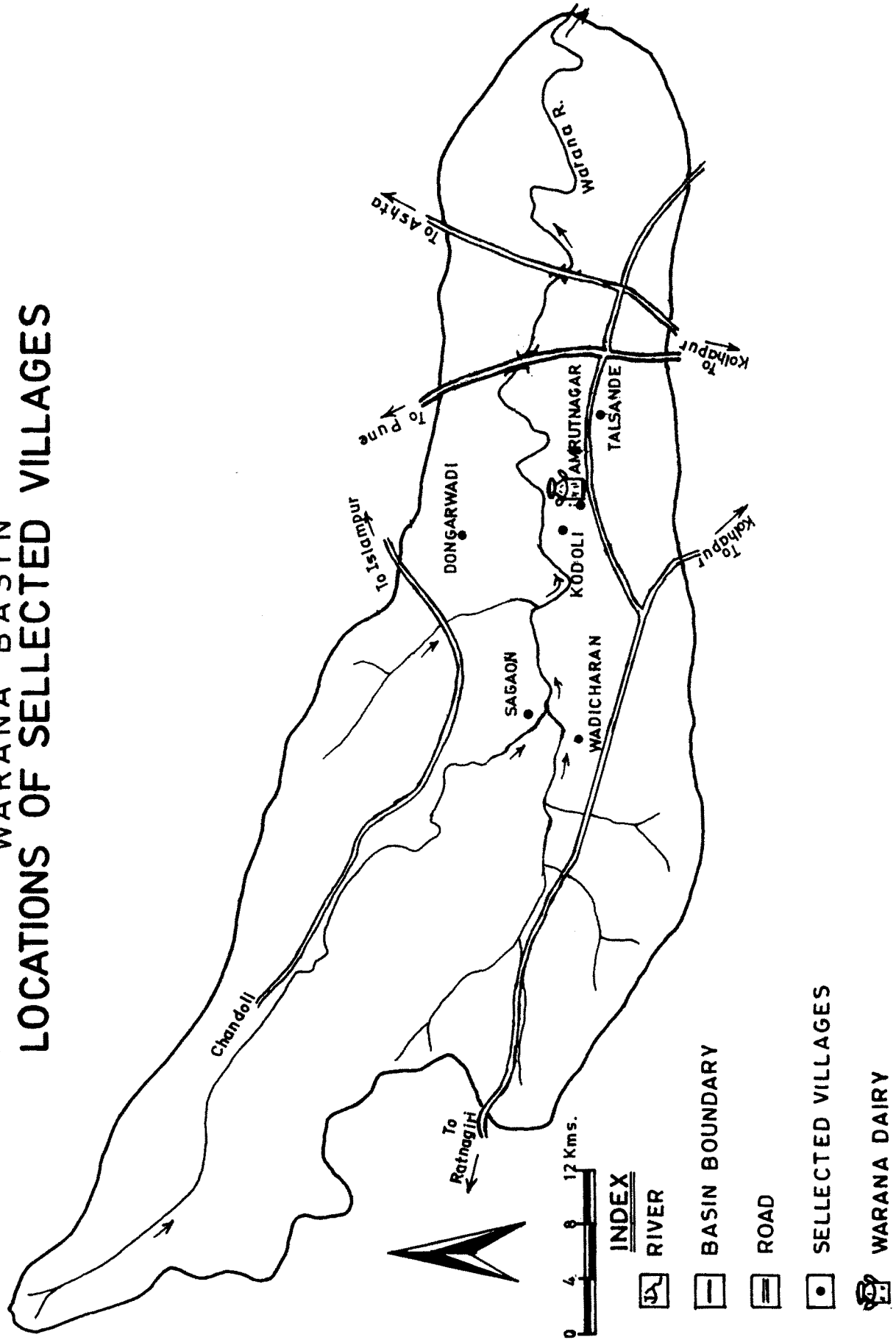
Village Sagaon has three milk producers' primary cooperative societies. The village is at a distance of 19 Kms. from Warana dairy. It is purposefully selected for presenting a case study to represent the villages with three milk producers' primary cooperative societies.

##### 5.A.2 Location:

Sagaon is located on the left bank of Warana river nearly 19 Kms. west of Amrutnagar on Sangli-Chandoli (Warana dam) road. It falls in Shirala tahsil of Sangli district and is connected by motorable road throughout the year. It is linked to Kolhapur through Sarud by Kolhapur-Kokrud road.

The total geographical area of Sagaon is 725.35 hectares and population according to 1991 census is 4,892. The village has Gram Panchayat and facilities available there include a Post Office, rural hospital, three private hospitals and rural outlet of Warana Bazaar, which is a consumers' cooperative society. The other infrastructural facilities are, good village

# WARANA BASIN LOCATIONS OF SELECTED VILLAGES



Map 5.1

roads, two primary schools, two high-schools, two higher secondary schools and a junior college of education. The village has sufficient facilities of banking and finance with a branch of Sangli District Central Cooperative Bank, a branch of Bank of India and five urban credit societies. There are three primary milk producers' cooperative societies in the village which supply milk to Warana Dairy at Amrutnagar.

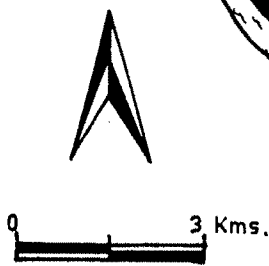
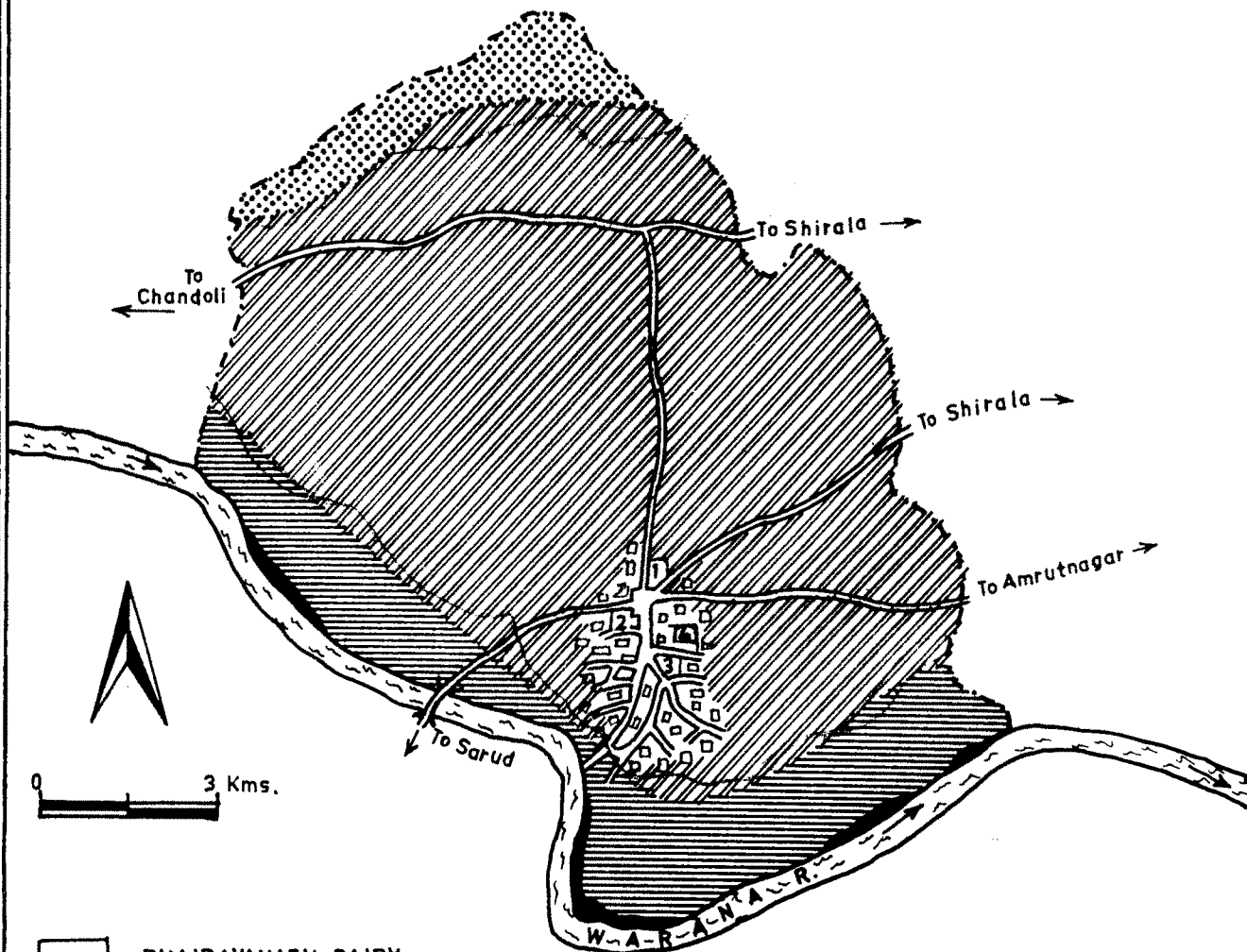
#### **5.A.3 Physical Setting:**

The physical setting of the village is very simple as the village is located on the bank of Warana river; a major part of the village is a low-land plain region with the exception of a hill in the northern part. The upland region, however, covers nearly 50 per cent of the total geographical area of the village. A few streams of the village flow from north to south and join the Warana river. The soils in the plain region are fertile due to the silt deposited by the river. In the upland region soil is thin and is locally known as Maal-Raan.

#### **5.A.4 Agronomy:**

Agriculture is the main occupation of the people in the village and can be treated as backbone of the economy of the village. Though the village is situated

# SAGAON



- 1 BHAIRAVANATH DAIRY
- 2 NAGABABA DAIRY
- 3 DATTA DAIRY
- 4 V. DISPENSARY
- SUGARCANE CROP
- OTHER ALL CROPS
- GRASS
- GREEN PASTURE

- HILLY REGION
- UPLAND REGION
- LOW LAND REGION

Map 5-2

on the bank of Warana river, due to cancellation of the canal from Warana dam, the agriculture is dependent on monsoon in the upland area. The southern part of the village is benefitted by lift irrigation facilities from Warana river. Fertile soil and availability of irrigation facilities are responsible for advanced agriculture in the plain region. There are 1,044 landholders in the village and all are totally dependent on agriculture for their livelihood. Table 5.1 shows the general landuse and cropping pattern in Sagaon village.

Table 5.1 reveals that the total geographical area of Sagaon is 725.35 hectares, out of which 87 per cent area is net sown area. Other 7 per cent area is not available for cultivation. Fallow land accounts for 3.7 per cent of the total geographical area, whereas 2.3 per cent of the land is classified as cultivable waste land. The table also reveals that the percentage of net sown area (87 per cent) is considerably high.

Agronomic condition in major part of the village is favourable in the plain region, fertile productive soil, annual rainfall ranging between 150 and 200 Cms. and irrigation facilities, the southern low-land area is good for the cultivation of sugarcane and wheat.

Table 5.1: Sagaon village: General landuse and cropping pattern (1992-93)

A: General landuse

Sr. No.	Category	Area in hectare	Percentage to total geographical area
1	Net sown area	631.35	87.00
2	Area not available for cultivation	50.40	7.00
3	Fallow land	27.20	3.70
4	Other cultivable area	16.40	2.30
	Total geographical area	725.35	100.00

B: Cropping pattern

Sr. No.	Crop	Area in hectare	Percentage to total cultivated area
1	Rice	304.00	48.20
2	Sugarcane	227.00	35.90
3	Other crops	100.35	15.90
	Total area under crops:	631.35	100.00

Source: Talathi record, Sagaon.



This murumic soil of average fertility and absence of irrigation facilities are the major drawbacks in upland area or Maal region. Maize, Nachani, rice and pulses are the major crops taken from the agricultural land in this part of the region.

Rice is the major foodcrop of the village. The total area under food crops is 304 hectares. The most important cash crop is sugarcane. Nearly 227 hectares of land is under sugarcane which is more as compared to the area under food-crops. As a result of increase in the lift irrigation facilities the area under sugarcane increased considerably at the cost of area under food-grains.

#### **5.A.5 Population and Occupational Structure:**

The total population of Sagaon village was 4,892 in 1991, out of which 2,547 were males and 2,345 were females. The total working population of the village accounts for nearly 62 per cent of the total population. Some 3,030 persons in the village are classified as working population. Out of the total working population, 64 per cent are farmers and 36 per cent are working in other sectors. The number of persons engaged in dairy farming as subsidiary occupation is considerably high.

**5.A.6 Milch Animals and Veterinary Facilities:**

Dairy farming is the main subsidiary occupation of the people in the village. The livestock census of 1992 shows that there were 2,722 animals in the village. Out of these nearly 65.90 per cent were milch animals. The total number of milch animals was 1,794, out of which nearly 42 per cent, that is, 838 were cows and nearly 48 per cent, that is, 956 were buffaloes. A remarkable feature of milch animals in the village is that almost cent per cent cows are cross-bred; only 4 cows were of local Khillar breed. Surprisingly, most of the buffaloes are of local Jawari or Pandharpuri breeds. The high yielding improved buffaloes are mainly of Mehasana type.

The village is having considerably fair veterinary facilities which are provided by the State Government and Warana Doodh Sangh. A government veterinary dispensary and a Mobile Veterinary Dispensary of Warana Dairy provide veterinary facilities to the village. Warana dairy provides the basic veterinary facilities through the milk producers' cooperative societies.

**5.A.7 Cooperative Dairy Farming:**

As discussed earlier, dairy farming is an important subsidiary occupation of people in Sagaon. Almost all

the people associated with agriculture have their own milch animals. The big land-owners, small and marginal farmers, landless labourers and other artisans rear milch animals. The milk producers in the village organized the first cooperative society in 1973. The establishment of this first primary milk cooperative society was due to the instructions and guidance of the Warana dairy. The only society in this village was collecting milk from the milk producers and sending it to the Warana dairy till 1986. In the year 1986 two more primary milk cooperative societies were established mainly due to two factors, namely, the increasing milk production in the village and secondly, factors having social and political implications.

(1) Bhairavanath Doodh Utpadak Cooperative Society Ltd., Sagaon:

This was the first milk producers' primary cooperative society established in Sagaon. Since its establishment there is rapid progress in all respects in this society in 1983-84. There were 301 members with share capital of Rs. 3,311. The annual turnover of the society was 3.98 lakhs. Its turnover increased to Rs. 44.72 lakhs in 1992-93 and it was in 'A' audit class. However, the number of members increased by ten only during the last ten years. This was due to the establishment of two more primary dairy cooperatives in the village.

The area of operation of this cooperative society is limited to Sagaon village. The society has two milk collection centres to collect milk.

(2) Datta Doodh Utpadak Cooperative Society Ltd. Sagaon:

In 1986 two additional dairy cooperative societies were established in Sagaon. Out of these two, Datta Doodh Utpadak Cooperative Society is an important and successful primary dairy cooperative society in the village. At the time of establishment there were only 63 members which increased to 160 in 1992-93. A remarkably rapid growth is observed in 1986. The annual milk collection of the society was 57 thousand litres which rapidly increased to 2.69 lakh litres within a short span of seven years.

(3) Nagababa Doodh Utpadak Cooperative Society Ltd., Sagaon:

In the year 1986 when Datta Doodh Utpadak Co-operative Society in Sagaon, another politically active group of the village, registered a third co-operative milk society during the same year with 81 share-holders. During the year of establishment the annual turnover of the society was 34 thousand only. In 1992-93 the number of members increased to 96 and the annual turnover was 1.45 lakhs. This society also shows a rapid growth.

The total number of directors on the boards

of dairy cooperatives in Sagaon was 28. There were 23 persons directly employed in the dairy cooperatives. The figure itself speaks about the employment generation in cooperative dairy farming.

#### **5.A.8 Milk Collection:**

The first primary milk cooperative society in Sagaon was established in 1973. Since then the milk collection in the village is organized in cooperative sector. The dairy societies have their four milk collection centres spread evenly throughout the village. Milk is collected at their centres twice a day, early in the morning from 7 a.m. to 8.30 a.m. and in the evening from 6 to 7.30 p.m.. Table 5.2 shows the total milk collection in Sagaon village.

Table 5.2 reveals that in 1983-84 only one cooperative milk society was collecting milk in the village and the total milk collection during the year was 4.52 lakh litres. In 1986-87 two more cooperative societies were established in the village and the year shows the marked decrease in the milk collection of old Bhairavanath Milk Society from 4.52 lakh litres to 3.78 lakh litres and even in 1986-87 it was not more than 4 lakh litres. This considerable fall in the milk collection was due to the establishment of two new milk cooperative societies in the village. The Table also reveals that

Table 5.2: Sagaon village: Total milk collection  
(1983-84 to 1992-93)  
(Figures in lakh litres)

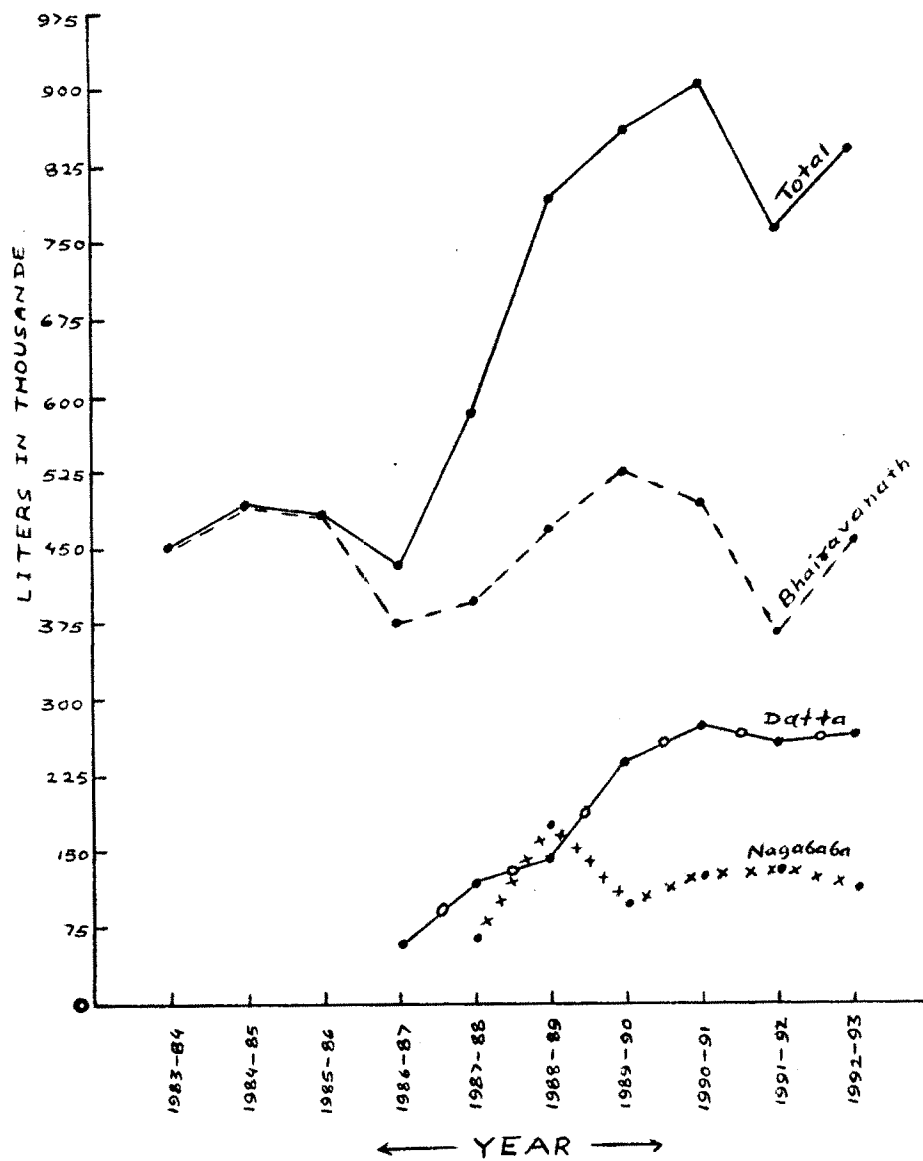
Sr. No.	Year	Milk society			Total
		Bhairavanath	Datta	Nagababa	
1	1983-83	4.52	-	-	4.52
2	1984-85	4.93	-	-	4.93
3	1985-86	4.90	-	-	4.90
4	1986-87	3.78	0.57	-	4.35
5	1987-88	3.96	1.22	0.69	5.87
6	1988-89	4.74	1.45	1.78	7.97
7	1989-90	5.25	2.41	0.96	8.62
8	1990-91	4.94	2.81	1.29	9.04
9	1991-92	3.65	2.63	1.35	7.63
10	1992-93	4.61	2.69	1.10	8.40

(Compiled by the researcher)

a sizable quantity of milk that was being supplied to the old Bhairavanath Society was diverted to the newly formed societies. But there was very minor increase in the total milk collection in the village which was only 0.4 lakh litres. It is also clear from the table that in the first half of the decade increase in the milk collection was considerably low.

During the second half of the decade there was a marked increase in the collection of milk in Sagaon.

# SAGAON TOTAL MILK COLLECTION 1983-84 to 1992-93



GRAPH 5:1

If we consider the milk collection of all the primary milk cooperative societies, it will be seen that the newly formed Datta milk cooperative society shows a comparatively high rate of rise in the milk collection from 0.57 lakh litres in 1986-87 to 2.69 lakh litres in 1992-93. Secondly, Nagababa milk cooperative society also shows a remarkable increase in milk collection from 0.69 lakh litres in 1987-88 to 1.10 lakh litres in 1992-93. However, the milk collection of old Bhairavanath milk cooperative society remained almost stagnant with an increase of only 9,000 litres during the last decade. The total milk collection in the village was doubled during the decade from 4.52 lakh litres in 1983-84 to 8.40 lakh litres in 1992-93.

The monthwise collection of milk in Sagaon during 1992-93 is presented in Table 5.3. The table also shows the societywise collection of milk during the same months.

Table 5.3 reveals the trends of milk collection during various seasons. It is clear from the table that the average monthly collection of milk ranged between 70 thousand and 80 thousand litres. The average monthly milk collection during the lean season ranged between 57 thousand and 64 thousand litres, with the minimum monthly collection of 57.7 thousand in August.



Table 5.3: Sagaon village: Monthwise milk collection (1992-93)  
(Figures in '000 litres)

Sr. No.	Month	M i l k s o c i e t y			Total
		Bhairavanath	Datta	Nagababa	
1	April 1992	43.9	22.4	12.1	78.4
2	May	42.0	23.0	10.7	75.7
3	June	37.5	20.2	6.0	63.7
4	July	33.3	17.8	8.2	59.3
5	August	31.7	17.7	8.3	57.7
6	September	33.6	19.8	8.7	62.1
7	October	36.3	20.3	9.6	66.2
8	November	37.2	24.3	9.4	70.9
9	December	36.6	19.3	8.7	64.6
10	Jan. 1993	43.0	27.3	9.2	79.5
11	February	39.9	27.0	8.8	75.7
12	March 1993	46.0	30.2	10.3	86.5
	Total:	461.0	269.3	110.0	840.3

(Compiled by the researcher)

The monthly collection of milk varies between 66.2 thousand litres and 86 thousand litres, with a maximum collection of 86.5 thousand litres in the month of March. Figures of societywise milk collection show the same trend.

The daily average milk collection was 2,302

litres in Sagaon. The daily average milk collection of Bhairavanath society was 1,263 litres and of Datta society was 738 litres. The daily average milk collection of Nagababa society was the lowest among the three societies which was 301 litres only. The total milk collection of the three societies during 1992-93 was 840.3 thousand litres. The Bhairavanath ranked first with 55 per cent of the total milk collection during 1992-93. Datta society ranked second with 32 per cent and Nagababa society ranked third with 13 per cent of the total milk collection.

#### **5.A.9 Prices of Milk:**

The rates of milk in the area of operation are decided by the rules and regulations of Warana dairy. The Government of Maharashtra has the ultimate control over these rates. There are three different rates of milk. The first is the rate given by the Government of Maharashtra to Warana Dairy, the second rate is given by the Warana dairy to the primary milk producers. There prevails one more rate of milk which is charged to the consumer. However, the main principle behind deciding price of milk is based on Anand pattern in Gujarat State. These rates are fixed according to the quality of milk and quality in turn depends on the fat content. Nearly 20 to 25 per cent variations are

observed in the prices of milk in Sagaon village. Again, the rates of milk vary according to milch animals. Buffalo milk having high fat content is paid heavily as compared to cow milk.

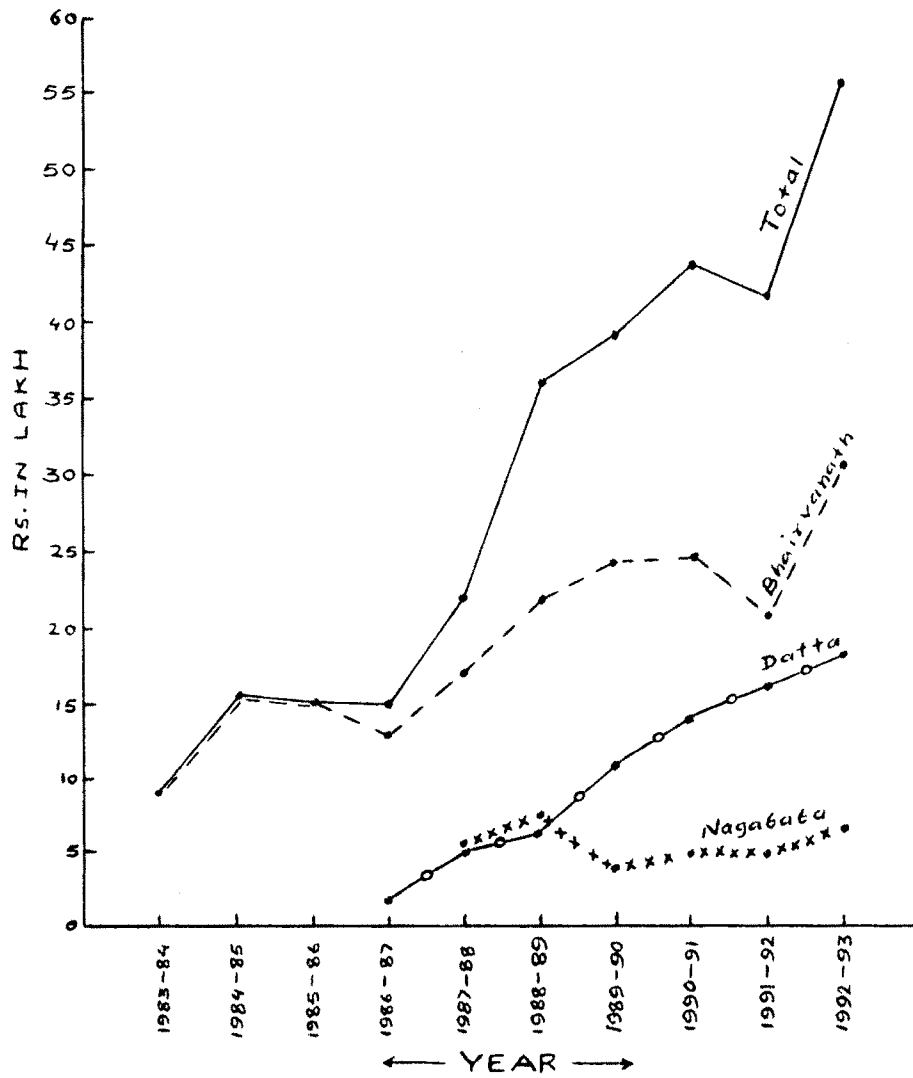
Table 5.4 shows the price of milk paid by all the three cooperative dairy societies in Sagaon village for a period of 10 years.

Table 5.4: Sagaon village: Price of milk paid by the societies to the milk procucers (1983-84 to 1992-93)  
(Figures in lakh Rs.)

Sr. No.	Year	M i l k s o c i e t y			Total
		Bhairavanath	Datta	Nagababa	
1	1983-84	13.88	-	-	13.88
2	1984-85	15.56	-	-	15.56
3	1935-86	15.23	-	-	15.23
4	1986-87	13.15	1.98	-	15.13
5	1987-88	16.82	5.18	5.25	27.25
6	1938-89	21.66	6.61	7.53	35.80
7	1989-90	23.94	11.00	3.87	38.81
8	1990-91	24.53	13.95	4.85	43.33
9	1991-92	20.45	16.06	4.85	41.36
10	1992-93	30.64	17.95	7.06	55.65
	Total:	195.86	72.73	33.41	302.00

(Compiled by the researcher)

# SAGAON PRICE OF MILK 1983-84 to 1992-93



GRAPH 5:2

The foregoing table reveals the figures of income generated in Sagaon village through the business of cooperative dairy farming. It also shows the classification according to the primary dairy societies. It is clear from the table that during 1983-84 the milk producers in Sagaon received an amount of Rs. 13.88 lakhs from a single society as a price of milk. There was a slight increase of <sup>Rupees</sup> 1.25 lakhs during the first four years. In 1987-88 the amount almost doubled; this was mainly due to the inception of two more primary cooperative dairy societies. In the year 1992-93 the milk producers in Sagaon received Rs. 55.56 lakhs as the price of their milk. The foregoing table also reveals that the income generation in Sagaon through the last ten years was Rs. 302 lakhs. It is interesting to note that the amount shows a rapid growth in the last ten years, which is four times in 1992-93 as compared to 1983-84. However, the collection of milk was only doubled during the same period. Thus, it should be noted that rapid increase in the income generation was not only because of the increase in the milk production but also due to rising prices of milk.

The share of the three societies so far as this income generation is concerned, was unequal with Bhairavanath 65 per cent, Datta 24 per cent and Nagababa 11 per cent of the total income generation. Again there

is a constant and steady growth in the income generation through cooperative dairy farming with the exception of 1985-86, 1986-87 and 1991-92, when there was a slight decrease in the amount of the previous year. In the year 1991-92 there was a change in the cooperative year and for the purpose of adjustment this year was considered of nine months. This was one of the reasons for the shortfall in the income generation during the year.

The primary milk cooperative society received a commission of Rs. 0.22 per litre of milk. Thus, by way of this commission the societies received an amount of Rs. 14.58 lakhs as the commission. This was also the income generation through the cooperative dairy farming. Thus, the total income generation through cooperative dairy business during the period of 10 years comes to 316.65 lakhs.

Table 5.5 shows the amount paid by the cooperative milk societies in Sagaon village during 1992-93 as the price of milk to the milk producers.

**Table 5.5:** Sagaon village: Monthwise price of milk paid by the cooperative milk societies to the milk producers (1992-93)  
(Figures in lakh Rs.)

Sr. No.	Month	M i l k s o c i e t y			Total
		Bhairavanath	Datta	Nagababa	
1	April 1992	2.74	1.45	0.81	5.00
2	May	2.92	1.56	0.85	5.33
3	June	2.82	1.49	0.69	5.00
4	July	2.66	1.38	0.62	4.66
5	August	2.45	1.34	0.62	4.41
6	September	2.34	1.35	0.56	4.25
7	October	2.15	1.29	0.48	3.92
8	November	2.19	1.29	0.52	4.00
9	December	2.18	1.44	0.39	4.01
10	January 1993	2.62	1.78	0.43	4.83
11	February	2.58	1.66	0.50	4.74
12	March 1993	2.99	1.92	0.59	5.50
	Total:	30.64	17.95	7.06	55.65

(Compiled by the researcher)

Table 5.5 shows that during 1992-93 Rs. 55.65 lakhs were paid by all the three cooperative milk societies in Sagaon to the milk producers. The amount is the highest in the month of March, that is, Rs. 5.50 lakhs, it being the month in the flush season and the lowest amount was in the month of October which was Rs. 3.92 lakhs. The share of each society was different. Out of the total amount distributed 55 per cent was distributed by Bhairavanath society, 32.3 per cent by Datta society, 12.7 per cent by Nagababa society.

The commission received by all the three dairy societies at the rate of Rs. 0.22 per litre was 184.9 thousand during 1992-93. This was an additional income generation. Thus, the total income generation during the year was Rs. 57.50 lakhs in Sagaon. The average monthly income generation was of Rs. 4.79 lakhs and the average daily income generation of the milk producers and the societies through the business of dairy farming was nearly Rs. 15.7 thousand. This shows that in the small village with 785 families, the daily income is Rs. 20 per member through cooperative dairy farming, which is a considerable amount. Thus, the income generation through the cooperative dairy farming in Sagaon supports more than 100 agricultural labourers,



13 artisans and almost all farmers and helps to supplement their income.

#### **5.A.10 Economic Status of Dairy Cooperatives:**

Table 5.6 shows the economic status of the primary dairy cooperative societies in Sagaon from 1983-84 to 1992-93.

Since their inception, all the three milk producers' primary cooperative societies show a steady and constant growth. In general, all the three societies show a continuous profit margin with a major exception of Datta and Nagababa societies, during a single year, mostly the year of their establishment. The profit gained by Bhairavanath dairy in 1983-84 was Rs. 73.7 thousand and was eventually reduced to Rs. 4.2 thousand during 1985-86. Since 1986-87 again the profit margin showed rapid increasing trend. During 1992-93 the profit margin of Bhairavanath society was Rs. 430.2 thousand. The society, the first cooperative dairy society, shows a constant profit throughout the last ten years.

The Datta cooperative society had a loss of Rs. 1.6 thousand in 1985-86 which was the year of its establishment. The profit margin of this society shows fluctuation and unsteadyness. Because in the year 1989-90 there was a profit of Rs. 23.1 thousand which decreased

to Rs. 2.9 thousand in 1990-91 and further decreased to Rs. 1.6 thousand in 1991-92. However, in the year 1992-93 this society gained a remarkable profit margin of Rs. 48.5 thousand.

Nagababa cooperative milk society was established in 1986. In 1987, which was the year of actual starting of milk collection, the society had a profit of Rs. 3.1 thousand. But during the very next year there was a loss of Rs. 8.6 thousand. However, there was recovery in the economic status during the subsequent 4 years with the annual profit margin of Rs. 2.5 thousand to Rs. 5.0 thousand. The average daily collection of milk by this society was only 301 litres. The share capital was Rs. 1,056 only. In the years 1986-87 and 1987-88 there was a considerable fall in the economic status of the Bhairavanath dairy and Datta dairy also. This was mainly due to the formation of two new dairies in the village. A third society was started with average 301 litres of milk collection and a margin of Rs. 66 as the commission. It pays the wages of 3 workers. Thus, though the third society shows the profit margin of Rs. 3.6 thousand during 1992-93, it is at the cost of other two societies in the village. Thus, it is clear that the third society is struggling hard for its survival. In fact the increase in the milk production

in the village is not sufficient to support the third dairy cooperative society in the village.

**5.A.11 Developmental Activities:**

The dairy cooperative societies in Sagaon are engaged in developmental activities in Sagaon. They distribute the cattle feed and provide the veterinary facilities. They have also provided drinking water facilities for bovine animals by constructing tanks. The old Bhairavanath dairy has constructed a building worth Rs. 6.23 lakhs. This society also organizes training camps for the milk producers, especially for their womenfolk. Thus, it acts as link between the Warana dairy and the primary milk producers and accelerates the process of rural transformation and rural development through the distribution of generated income and their own developmental activities. Some of the societies are planning to support poor students, learning in secondary schools by distributing prizes worth Rs. 1,000 to the students showing high merits.

**Table 5.6:** Sagaon village: Economic status of primary cooperative societies (1983-84 to 1992-93) (Figures in '000 Rs.)

Sr. No.	Year	Bhairavanath			Datta			Nagababa			
		Income	Expenditure	Profit	Income	Expenditure	Profit	Income	Expenditure	Profit	
1	2	3	4	6	8	9	10	12	13	14	15
1	1983-84	1,478.3	1,404.6	73.7	-	-	-	-	-	-	-
2	1984-85	3,790.9	3,776.4	14.5	-	-	-	-	-	-	-
3	1985-86	3,549.9	3,545.7	4.2	200.00	201.6	-	1.6	-	-	-
4	1986-87	3,600.7	3,542.1	58.6	543.0	525.9	17.1	-	-	-	-
5	1987-88	4,882.6	4,790.2	92.4	694.4	674.1	20.3	-	108.5	105.4	3.1
6	1988-89	7,201.3	7,008.2	193.1	1,154.4	1,137.3	17.1	-	571.8	580.4	-
7	1989-90	8,821.2	8,577.9	243.3	1,100.2	1,077.0	23.1	-	867.4	862.5	4.9
8	1990-91	8,268.2	7,973.8	294.4	1,394.2	1,391.3	2.9	-	1,249.9	1,247.4	2.5
9	1991-92	7,482.9	7,225.9	257.0	1,824.2	1,822.6	1.6	-	1,336.1	1,333.6	2.5
10	1992-93	11,294.3	10,864.1	430.2	1,442.8	1,394.3	48.5	-	1,914.4	1,910.8	3.6

(Compiled by the researcher)

5.B: Cooperative Dairy Farming :  
A Case Study of Kodoli Village

1. Introduction
2. Location
3. Physical Setting
4. Agronomy
5. Population and Occupational Structure
6. Milch Animals and Veterinary Facilities
7. Cooperative Dairy Farming
8. Milk Collection
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10. Economic Status of Dairy Cooperatives
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## **5.B Cooperative Dairy Farming: A Case Study of Kodoli Village:**

### **5.B.1 Introduction:**

Village Kololi has two primary dairy cooperative societies within a short distance from Amrutnagar. After presenting the case study of Sagaon village at a distance of 19 Kms. and with three primary dairy cooperative societies, we have purposefully selected Kodoli village for presenting a case study as a representative case study of village quite near to Amrutnagar (Warana Dairy) and having two primary dairy cooperative societies.

### **5.B.2 Location:**

Kodoli is situated on the right bank of Warana river on Hatkanangale-Ratnagiri road and it is northernmost and is the biggest village in Panhala tahsil of Kolhapur district. The total geographical area of Kodoli is 2,236.23 hectares. It is very close to Warananagar. In fact Warananagar, an industrial and educational complex where the Shree Warana Sahakari Sakhar Karkhana is located, is a part of Kodoli village itself.

Kodoli is situated on the right bank of Warana river and has fertile soils in the northern part. The village is most important in Warana basin as fruits of cooperative movement have helped the village to bring about rapid economic development. Population

of this village according to 1991 census was 22,542. Agriculture is the mainstay in this village where there are 2,000 agricultural land-holders and 30 per cent of the total geographical area is under irrigation. Sugarcane dominates the agricultural landuse.

The farmers in this village are experienced in leading cooperative way of life, thanks to the establishment of Warana Sahakari Sakhar Karkhana in this village 37 years ago. Even though the village has more than 22 thousand population, still there is Gram Panchayat. The village is having well developed infrastructural facilities as a result of the establishment of cooperative sugar factory. There are three primary schools, four high schools, two higher secondary schools, one arts, science and commerce college, one engineering college, one Ayurvedic medical college, one junior college of education, a college of education and one industrial training institute. This is a singular example of a village in the entire district with facilities of all kinds of education.

The village is well served by two Post Offices, Telephone Exchange for communication, the health facilities including rural hospital, & quite a large number of doctors. There are about 125 shops in the village with very important rural consumers stores, Warana

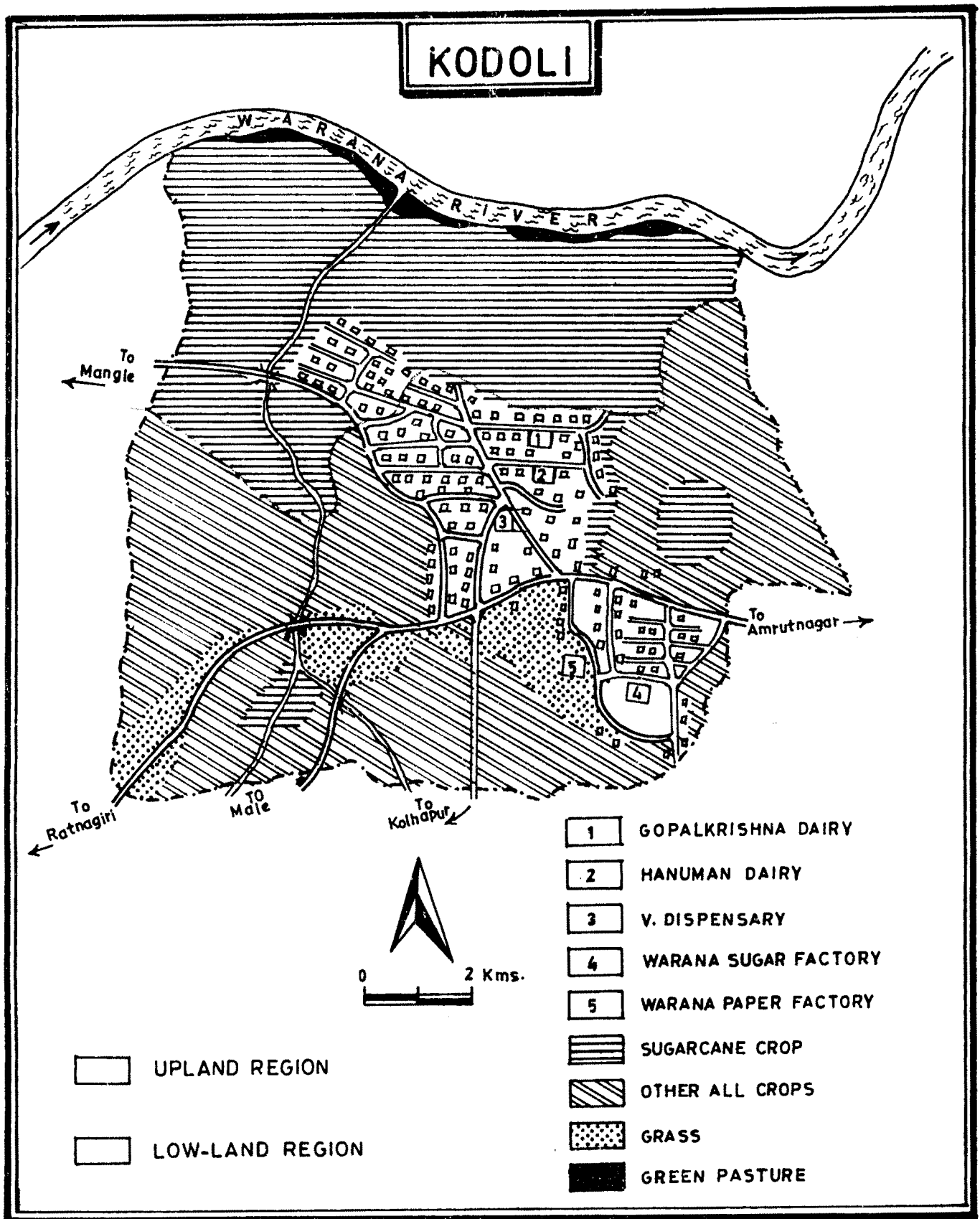
Bazaar with its one branch.

The village is industrially well developed and has Warana Cooperative Sugar Factory, Warana Paper Mill, Manugraph Industry and many small industries in private sector. The other infrastructural facilities include a branch of Bank of India, three branches of cooperative bank, one urban bank and five urban credit societies. Thus, the village has very well developed infrastructure in all respects including health, education, services, finances, communication, transportations, industries and many others. Thus, due to all these aspects it is necessary to study the development of cooperative dairy farming in this village as the dairy farming is an important subsidiary occupation of the people in this village.

### **5.B.3 Physical Setting:**

Kodoli village is near to the Warana river. Being a village situated on the bank of Warana river, it is having homogeneous physical setting. The entire area is low-land or plain region which is having fertile soil. Very little part of the village can be classified as Maal-Raan or upland region on which Warana industrial and educational complexes are located. There are no hills or hillocks. The village stretches for about





Map 5-3

5 Kms. entirely on the bank of Warana river. The soils are medium black to deep black nearer the river; they are deep and away from river and are medium black. One stream coming from nearby village named Male, flows northwards and meets Warana river in Kodoli village itself.

#### 5.B.4 Agronomy:

Agriculture is the backbone of the economy of the village. Physical and cultural aspects have a major impact on the agriculture. Table 5.7 shows the general landuse and the cropping pattern in Kodoli village.

Table 5.7 reveals that nearly 67 per cent of the total geographical area is under cultivation and 9 per cent area is classified as fallow land, the remaining 24 per cent of the land not being available for cultivation. This category has comparatively higher percentage of land due to the increasing residential settlements and industrialization.

Suitable climate, fertile black soil, availability of facilities have influence on the agronomy of the village. Nearness to the Warana Cooperative Sugar Factory and Warana Dairy has influenced the agricultural practices. Sugarcane is the major cash crop and rice and jowar are major food crops. Other crops include maize, wheat, gram, groundnut and pulses.

**Table 5.7:** Kodoli village: General landuse and cropping pattern (1992-93)

A: General Landuse

Sr. No.	Category	Area in hectares	Percentage to total geographical area
1	Net cultivated area	1,492.00	66.70
2	Area not available for cultivation	534.15	23.90
3	Fallow land	210.08	9.40
	Total geographical area:	2,236.23	100.00

B: Cropping Pattern

Sr. No.	Crop	Area in hectares	Percentage to total cultivated area
1	Sugarcane	671.00	45.00
2	Rice	295.00	19.80
3	Groundnut	266.00	17.80
4	Other crops	260.00	17.40
	Total area under crops:	1,492.00	100.00

(Source: Talathi records, Kodoli)

A very important characteristic feature of this village is that a higher percentage of the land is under cash crops. Out of the total geographical area of 1,492 hectares, 937 hectares, that is, 62.8 per cent of the area is under cash crops and 555 hectares, that is, only 37.2 per cent area is under food-crops. Sugarcane covers the highest cropping land which is 671 hectares, followed by rice in 295 hectares and groundnut in 266 hectares. Other food-crops like Jowar, maize, wheat etc. account for 260 hectares. Thus, due to the fertile soil, favourable climate, availability of irrigation facilities and nearness to Warananagar and Amrutnagar Industrial complexes there is a very rapid development of the area.

#### **5.B.5 Population and Occupational Structure:**

It has been already stated that total population of Kodoli village was 22,542 in 1991. Seventy per cent of the total population was classified as working population which accounts to 15,770; nearly 52 per cent of the working population, that is, 8,200 persons are engaged in agriculture and the remaining 48 per cent that is, 7,570 persons are engaged in animal husbandry, industry, transportation and trade. As compared to the other villages in Warana basin, the percentage of working population engaged in agriculture is low

in Kodoli village. There are several factors responsible for this low percentage, the main among them being industrialization and availability of alternative occupations in the vicinity. Secondly, mechanization of agriculture requires comparatively smaller number of manpower in agriculture.

#### **5.B.6 Milch Animals and Veterinary Facilities:**

In Kodoli, animal husbandry and dairy farming are important subsidiary occupations of the people. The total number of animals (1992 census) in the village are 3,300, of which nearly 71 per cent, that is, 2,352 are milch animals. The total number of cows is 686 and buffaloes 1,666. The cows account for 29.2 per cent of the total milch animals and the percentage of buffaloes is 70.8. Almost all the cows are of improved breed, Jersey and Holestein whereas buffaloes are local Jawari, Pandharpuri and improved Murrah and Mehasana.

All types of veterinary facilities are available in Kodoli. A government veterinary dispensary is run by the State Government. The dispensary run by Warana Dairy at Amrutnagar and a mobile veterinary dispensary are the important veterinary facilities available in the Kodoli village.

### 5.B.7 Cooperative Dairy Farming:

Dairy farming is an important subsidiary occupation of the farmers and agricultural labourers in Kodoli. The following factors are responsible for the rapid growth of dairy farming in this village.

1. Nearness to Amrutnagar (Warana Dairy)
2. Rich fertile grass on the bank of Warana river
3. Availability of plenty of sugarcane tops to feed milch animals
4. Introduction of cross-breed animals
5. Availability of veterinary facilities
6. Extension work done by Warana Dairy
7. Effective working of primary cooperative milk societies
8. Production of maize and other fodder crops.

Due to the above reasons dairy farming has rapidly developed in Kodoli village. One more favourable factor about the supply of green fodder is noticed. The sugarcane is transported from all the villages in the area of operation to the sugar factory at Warananagar. The bullock-cart owners are allowed to sell the sugarcane tops. Thus, the bullock-cart owners bring sugarcane tops for sale at many places on way to Warananagar and farmers (milk producers) buy these sugarcane tops. The villages which are located near Warana Sugar Factory

are benefitted by the sugarcane tops available at their doors. Kodoli village has the highest area under sugarcane. So, the farmers have their own sugarcane tops. The landless labourers and other milk producers can buy the sugarcane tops from the bullock-cart owners. Thus, there is ample supply of fodder to milk producers in the village.

In Kodoli there are two primary milk cooperative societies, namely, (1) Shree Hanuman Sahaari Doodh Society, and (2) Shree Gopal Krishna Sahakari Doodh Society. These societies collect milk from the milk producers and supply it to Warana Dairy. These societies came up with the following objectives:

1. Development of dairy farming on cooperative lines
2. Collection of milk from the milk producers and its supply to Warana Dairy
3. To increase the milk production on scientific lines
4. To provide veterinary facilities to the members
5. To give reasonable price for milk to the milk producers.

Shortly after the establishment of Warana

dairy, two milk producers' primary cooperative societies were established in Kodoli village; Shree Hanuman Sahakari Doodh Society was the first among them.

(1) Shree Hanuman Sahakari Doodh Society Ltd., Kodoli:

This milk producers' primary cooperative society was the first to be established in Kodoli village in 1973. Since its establishment there is a very rapid progress in all aspects of its working. If we take into consideration the period of ten years from 1983-84 to 1992-93 it would be observed that there is a constant and continuous progress in the number of members, share capital and milk collection. This society is particular regarding bill payment, distribution of dividend and payment of the wages to the workers.

In the year 1983-84 there were 674 members of the society and the share capital was Rs. 8,250. The turnover during that year was Rs. 5.35 lakhs and the society was in audit class 'A'. In the year 1992-93 there was increase in the share-holders by 118. The total number of shareholders rose to 765 and share capital to Rs. 24,354. The annual turnover increased to Rs. 20.33 lakhs and the society was in 'A' grade of the audit class. The society has in all 12 members on its board of directors, of whom one is from Scheduled Class community and one from the economically backward



class.

The society has 13 workers including a secretary, 7 clerks, 2 milk testers, 2 milk collectors and a peon. In 1984 the society started its own bakery section which runs in profit. In the bakery section there are 4 directors and in all 9 workers.

The area of operation of the society is limited to Kodoli village and there is a single milk collection centre where milk is collected in the morning from 7 a.m. to 8.30 a.m. and in the evening from 6 p.m. to 8 p.m.

(1) Shree Gopal Krishna Sahakari Doodh Society Ltd., Kodoli:

This milk producers' cooperative society was formed during 1973. The year of establishment of both the societies mentioned above in the village was the same. The progress of Gopal Krishna Dairy is also excellent since its establishment. The society was having 509 share-holders in the year 1983-84 and the share capital was Rs. 5,599. The total turnover during that year was Rs. 19.99 lakhs and the society was in 'A' audit class. In the year 1992-93 the number of share-holders rose by 209. In that year the total number of share-holders was 799. The share capital was Rs.

32,029 and the annual turnover during the said year was Rs. 20.85 lakhs and the society was in 'A' audit class.

This society shares its area of operation with the Hanuman Cooperative Dairy, that is, Kodoli village and the society is having two milk collection centres - one at Kodoli and another at Warananagar. The society has 9 members on its board of directors including one each from Scheduled Classes and economically backward classes. The society has appointed 17 workers.

The society has plans to start a bakery section and to start a stall for the sale of milk products from Warana Dairy. They have the intention to promote the establishment of a cooperative society for farmers and supply the members the agricultural material and equipment.

The total number of directors on the board of directors of the dairy cooperatives in Kodoli was 25 and the total number of workers employed in these dairies was 39. Thus, there is considerable employment generation in these two cooperative dairies in Kodoli village.

#### **5.B.8 Milk Collection:**

Prior to the establishment of the primary dairy cooperative in Kodoli village, the milk vendors used

to collect milk from the village and were selling it either to Warana Dairy or to the individual consumers. In this process there were a number of employees in the forward as well as backward linkages, that is, the producers as well as consumers. Since the establishment of these two milk producers' primary cooperative societies, these milk vendors have disappeared from the scene. The milk producers directly sell milk to the societies. The societies have their three milk collection centres where milk is collected twice a day. Table 5.8 shows the total milk collection during the period of ten years from 1983-84 to 1992-93.

Table 5.8 reveals that in 1983-84 the total collection of milk from the village by cooperative society was 10.14 lakh litres which increased to 15.32 lakh litres in 1992-93. Out of this, 46 per cent was collection of Hanuman Dairy and 54 per cent was by Gopal Krishna Dairy in 1992-93. Though the total collection of milk increased to 15.32 lakh litres, the milk collection in the decade is not consistent because in the years 1987-88 and 1988-89 the collection was more than 17 lakh litres. In the year 1991-92 due to the adjustment of cooperative year the figure was for nine months only. However, since 1989-90 there is a slight fall in the milk collection in the village.

**Table 5.8:** Kodoli village: Total milk collection  
(1983-84 to 1992-93)  
(Figures in lakh litres)

Sr. No.	Year	Milk Society		Total
		Hanuman	Gopalkrishna	
1	1983-84	4.99	5.15	10.14
2	1984-85	5.36	6.15	11.15
3	1985-86	6.05	7.46	13.51
4	1986-87	6.61	9.61	16.22
5	1987-88	6.66	10.44	17.10
6	1988-89	7.28	10.18	17.46
7	1989-90	7.24	8.64	15.88
8	1990-91	7.18	9.38	16.56
9	1991-92	4.85	7.00	11.85
10	1992-93	6.99	8.33	15.32

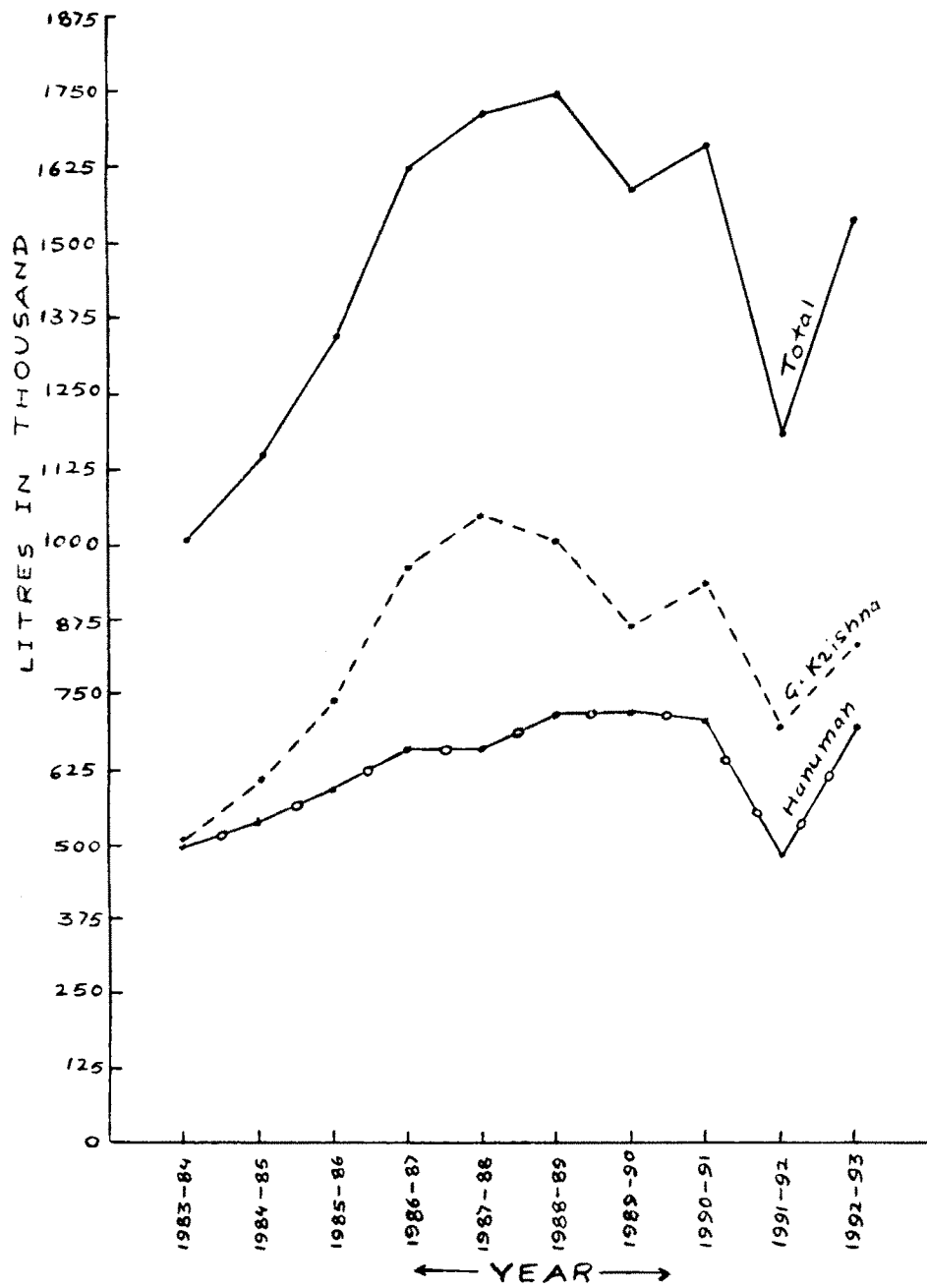
(Compiled by the researcher)

This is mainly because of increase in the local demands. The milk producers directly sell milk to the consumers because they get high rates as compared to the rates given by the milk society.

In 1992-93 the share of Gopal Krishna Dairy was 54 per cent and that of Hanuman Dairy was 46 per cent. Thus, the table shows that the share of Gopal Krishna Dairy has increased by about 4 per cent.

The monthwise milk collection in Kodoli village

# KODOLI TOTAL MILK COLLECTION 1983-84 to 1992-93



GRAPH 5:3

during 1992-93 is presented in Table 5.9. The table also shows societywise collection of milk during the same months.

**Table 5.9: Kodoli village: Monthwise milk collection (1992-93)**  
(Figures in '000 litres)

Sr. No.	Month	M i l k S o c i e t y		Total
		Hanuman	Gopalkrishna	
1	April 1992	65.4	92.3	157.7
2	May	62.3	76.9	139.2
3	June	54.9	67.7	122.6
4	July	49.3	60.9	110.2
5	August	49.4	61.9	111.3
6	September	48.4	60.5	108.9
7	October	52.7	63.0	115.7
8	November	59.9	67.1	127.0
9	December	60.6	66.8	127.4
10	January 1993	68.1	71.1	139.2
11	February	61.7	69.2	130.9
12	March 1993	66.4	75.6	142.0
	T o t a l:	699.1	833.0	1,532.1

(Compiled by the researcher)

Table 5.9 reveals the trends of milk collection during various seasons in the year 1992-93. It is clear from the table that the average monthly collection of milk ranged between 108 thousand litres and 157

thousand litres. Thus, there was a wide fluctuation in the milk collection. The average milk collection during lean season was 108 thousand to 122 thousand litres and milk collection during flush season ranged between 127 thousand litres and 158 thousand litres. The table shows that the maximum milk collection was done in the month of April, which was 157.7 thousand litres and minimum milk collection was in the month of September which was 108.9 thousand litres.

The daily average milk collection was 4,197 litres in Kodoli. The daily average milk collection of Hanuman dairy was 2,282 litres. The total collection of milk during the year was 15.32 lakh litres.

#### **5.B.9 Price of Milk:**

Prior to the establishment of these two cooperative dairies in Kodoli village, the milk vendors used to collect milk at meagre prices. Since the inception of Warana Dairy the milk producers are being given the rates commensurate with the quality of milk. At present the societies pay the prices of milk to the producer-members. Table 5.10 shows the price of milk paid by the two cooperative dairy societies in Kodoli village for a period of 10 years.

Table 5.10: Kodoli village: Price of milk paid by the cooperative societies to the milk producers (1983-84 to 1992-93) (Figures in lakh Rs.)

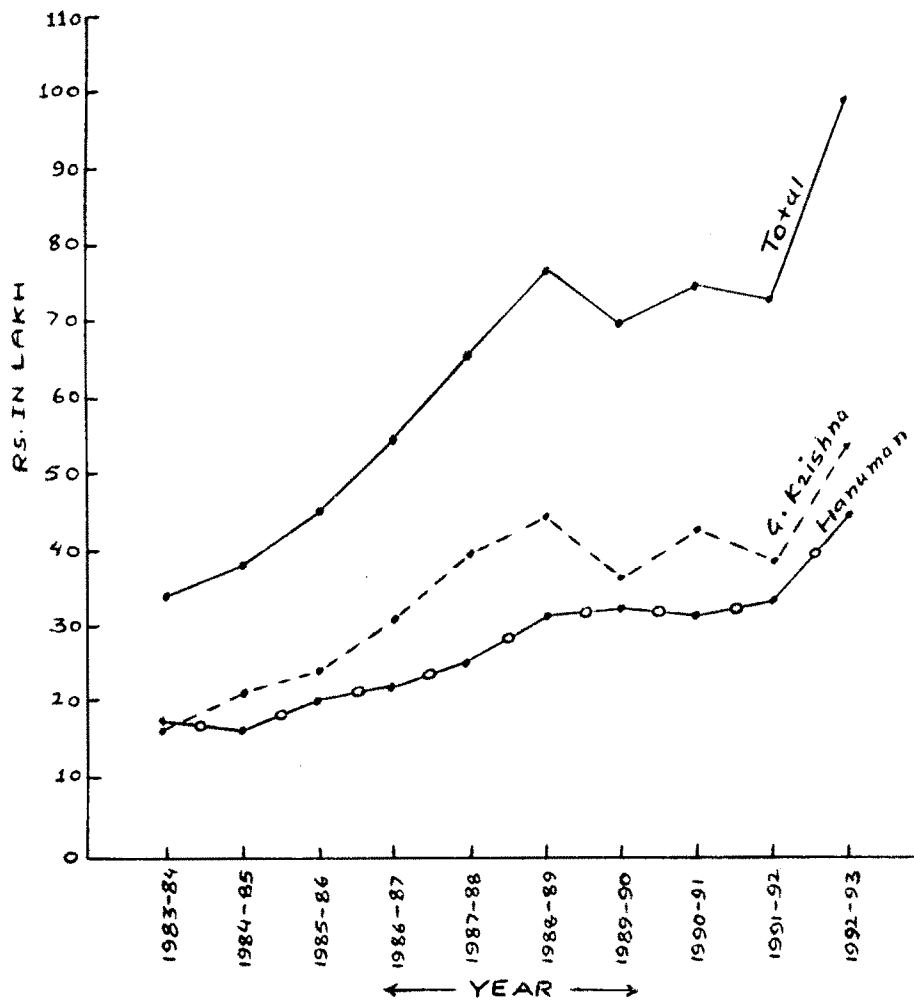
Sr. No.	Year.	Milk society		Total
		Hanuman	Gopalkrishna	
1	1983-84	18.36	17.08	35.44
2	1984-85	16.67	22.06	38.73
3	1985-86	20.94	24.53	45.47
4	1986-87	23.16	31.74	54.90
5	1987-88	26.18	40.20	66.38
6	1988-89	31.50	45.29	76.79
7	1989-90	32.62	37.16	69.78
8	1990-91	32.10	43.06	75.16
9	1991-92	33.99	38.67	72.66
10	1992-93	45.09	53.68	98.77
	T o t a l:	280.61	353.47	634.08

(Compiled by the researcher)

Table 5.10 reveals the income generation in Kodoli village through the business of co-operative dairy farming. The table also shows the income generation by each of the societies. In 1983-84 the milk producers in Kodoli received an amount of Rs. 35.44 lakh as the price of milk. Since then there is a constant increase in the amount of income generation. In 1992-93 the total amount received by the milk producers as the price of milk in the village was Rs. 98.77 lakhs.



# KODOLI PRICE OF MILK 1983-84 to 1992-93



GRAPH 5:4

In the year 1989-90 there was a sharp decrease in income generation over that of the previous year from Rs. 76.79 lakhs in 1988-89 to Rs. 69.78 lakhs in 1989-90.

Thus, there is an increase by about 278 per cent in a period of ten years. The rapid increase in the income generation is because of the increase in the milk collection and the increase in the prices of milk.

In the period of ten years from 1983-84 to 1992-93 the total amount paid by the dairy cooperative societies to the milk producers was Rs. 6.34 crores with the Hanuman Dairy's share of Rs. 2.80 crores and that of Gopal Krishna Dairy of Rs. 3.53 crores. The commission received by these dairies was Rs. 13.91 lakhs and Rs. 18.41 lakhs respectively. Thus, the total commission received by both the cooperative dairies was Rs. 32.32 lakhs during the period of ten years. Thus, the total income generation through the cooperative dairy farming in the village was Rs. 6.66 crores in the decade.

During the year 1992-93 both the societies received a commission of Rs. 2,85,561 and interest on the bank deposit was Rs. 52,523. The interest on loan disbursed was Rs. 55,407. If this amount is added to the total price paid to the milk producers, that is, Rs. 98.77 lakh,

the total income generated in the villages, through the cooperative dairy farming comes to Rs. 102.70 lakhs. In this income the share of Gopal Krishna Dairy was Rs. 55.87 lakhs and that of Hanuman Dairy was Rs. 46.83 lakhs. The average monthly income generation during 1992-93 was Rs. 8.55 lakhs and the average daily income generation was Rs. 28 thousand. The calculation indicates that the average amount received by each milk producer per day was Rs. 14. Thus, the income generation through cooperative dairy farming in Kodoli village is considerable and supports the farmers and landless labourers.

#### **5.B.10 Economic Status of Dairy Cooperatives:**

Table 5.11 shows the economic status of the primary milk producers' cooperative societies in Kodoli from 1983-84 to 1992-93.

Both the cooperative dairy societies were established during the same year, that is, 1973. Since then both the societies have shown very good progress. Table 5.11 reveals the comparative economic status of dairy cooperatives in the village. A steady and constant economic growth is observed in the case of both the societies. Table 5.11 shows the profit gained by the societies. The profit gained by Hanuman Dairy in 1983-84 was Rs. 9.4 thousand which was doubled during the next

Table 5.11: Kodoli village: Economic status of primary cooperative societies (1983-84 to 1992-93)  
(Figures in '000 Rs.)

Sr. No.	Year	Hanuman Milk Society			Gopalkrishna Milk Society		
		Income	Expenditure	Profit	Income	Expenditure	Profit
1	1983-84	1,929.7	1,920.3	9.4	990.8	962.7	28.1
2	1984-85	2,177.2	2,158.5	18.7	1,190.1	1,176.4	13.7
3	1985-86	2,542.7	2,532.5	10.2	138.0	107.3	30.7
4	1986-87	2,983.4	2,975.5	7.9	304.6	287.2	17.4
5	1987-88	3,447.4	3,432.8	14.6	314.3	290.2	24.1
6	1988-89	4,370.7	4,352.7	18.0	303.4	284.5	18.9
7	1989-90	4,224.4	4,197.8	26.6	370.6	357.0	13.6
8	1990-91	4,597.7	4,577.1	20.6	414.4	391.8	22.6
9	1991-92	5,169.1	5,119.2	49.9	290.2	282.9	7.3
10	1992-93	5,992.2	5,974.6	17.6	793.0	781.6	11.4

(Compiled by the researcher)

year. However, there was a considerable reduction in the profit margin during the subsequent two years, that is, Rs. 10.2 thousand and Rs. 7.9 thousand respectively. The profit margin gained a momentum in 1987-1988 and was the highest at Rs. 49.9 thousand in 1991-92. Surprisingly, in 1992-93 again there was a decrease in the profit margin to 17.6 thousand. The downfall is mainly due to increase in expenditure.

The Gopal Krishna Dairy also shows fluctuation in the profit margin in the year 1983-84 which was Rs. 28.1 thousand. The highest profit margin was of Rs. 30.7 thousand in the year 1985-86. Since then the profit margin varies from Rs. 7 thousand to Rs. 24 thousand every year.

In fact, Kodoli is the nearest village from Warana Dairy and is having all necessary infrastructural facilities. The fluctuation in the profit margin is also because of the investment done for the building and construction purpose. Both the societies have constructed their own buildings and the cost of each construction is Rs. 6 lakhs.

#### **5.B.11 Developmental Activities:**

The dairy cooperative societies in Kodoli village are engaged in developmental activities like other

milk producers' primary cooperative societies. The societies also distribute the cattle feed and provide the veterinary facilities in addition to the regular activities. These societies are also engaged in other developmental activities. Both the societies distributed cash prizes of Rs. 500 to the milk producers supplying best quality of milk and maximum possible milk. Both the societies have constructed their own buildings and the total cost of these buildings is Rs. 12 lakhs. These societies also advance loans to the members and many a time disburse advances. Training camps for the members are organized and the members are trained in scientific milk production. These societies also distributed prizes given by Warana Dairy. Hanuman Dairy has started its own bakery and confectionary section and they have their stalls for the sale of their products. These societies in true sense act as the links between Warana Dairy and the milk producers. They have their own plans for the establishment of farmers' cooperative society. Thus, the societies are working hard for the betterment of the members in particular and for the development of all rural-folk in general.

**5.C: Cooperative Dairy Farming  
A Case Study of Talsande Village**

1. Introduction
2. Location
3. Physical Setting
4. Agronomy
5. Population and Occupational Structure
6. Milch Animals and Veterinary Facilities
7. Cooperative Dairy Farming
8. Milk Collection
9. Prices of Milk
10. Economic Status of Dairy Cooperatives
11. Developmental Activities

## **5.C Cooperative Dairy Farming: A Case Study of Talsande Village:**

### **5.C.1 Introduction:**

Village Talsande has also two primary cooperative societies and the village is at a distance of 7 Kms. from Amrutnagar. After presenting case studies of Sagaon and Kodoli villages, we are presenting here the case study of Talsande village for the following reasons:

1. Till 1988 there was only one cooperative dairy society in the village and it was functioning in a remarkably excellent manner.
2. The society has started a project of community-farm for growing green fodder, which is a solitary example in the entire Warana basin.

### **5.C.2 Location:**

Talsande village is located on the right bank of Warana river and is favourably located on the Hatkanangale-Ratnagiri road. It is at a distance of 7 Kms. from Warana Dairy. The total geographical area of the village is 1,009 hectares and its population according to 1991 census is 4,475. The village administration is done by Gram Panchayat and there are Vikas societies in the village. The village has two irrigation schemes. The infrastructural facilities are also well developed with a primary school, secondary school,



two urban credit societies, government veterinary dispensary and two milk producers' primary milk cooperative societies.

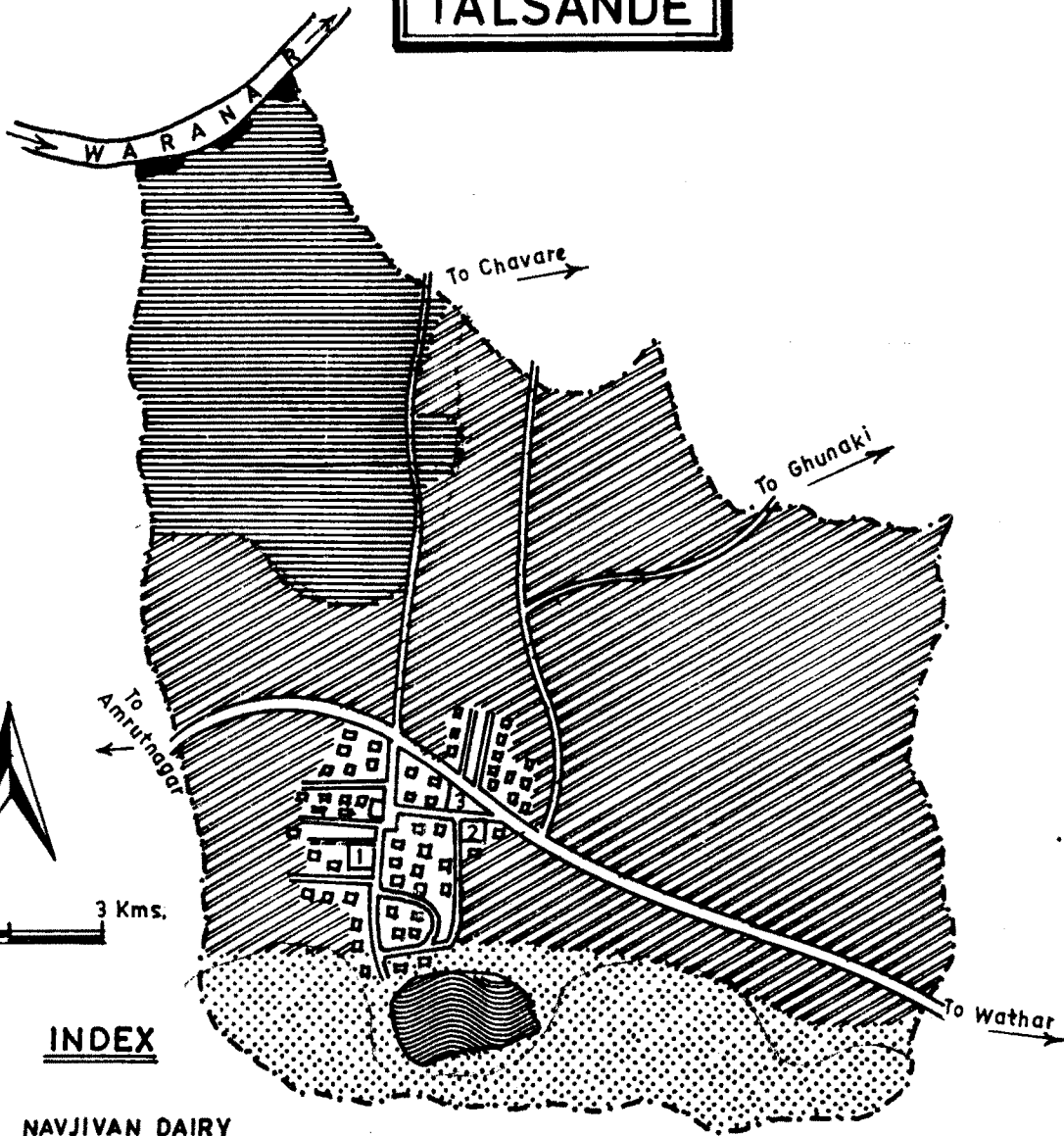
The people in Talsande village are well trained for the cooperative system by the local leaders, especially Shri Mamasahab Gulavani, who has donated his big house for the purpose of social activities. Almost all the offices of cooperative societies in the village are located in this house.

#### 5.C.3 Physical Setting:












Talsande village is located between Warana river to the north and Shidoba hill, an expansion of Panhala-Jotiba hill range to the south. Very small fringe of the village is located near the river Warana. Physiographically the village can be divided into three relief regions. They are:

- (1) Low land region: The north-western part of the village is on the bank of river Warana. This part is a low-land area and covers 90 hectares of land. This part of the village is characterized by deep black soils locally called as Mali.
- (2) Upland region: The middle part of the village between low-land area to the north and hilly region to the south. The upland area is locally

# TALSANDE



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Map. 5.4

known as Maal. The settlement of the village is in this part. The Maal region covers nearly 890 hectares of land. Soils in this region are medium black and thin.

- (3) Hilly region: The south-western part of the village is occupied by three hillocks which are the off-shoots of Panhala-Jotiba range. The hilly region covers nearly 29 hectares of area. The hillocks are characterized by thin soil of coarse origin and are not under cultivation.

In between the hilly area and the upland area there is a very big lake from which the name of the village Talsande is derived (Tale = lake). The village has not a single major stream; all the minor streams join the lake.

#### 5.C.4 Agronomy:

Like all other villages in Warana basin agriculture is the main occupation of the people of Talsande. Agriculture in the village is influenced by many factors. The most important factor is the nearness of the village to Warana Industrial complex. Due to the cooperative sugar factory located at Warananagar, there are many basic changes in the land utilization pattern in the nearby villages. Talsande village is no exception to this. The other important factor is physiography. Only

9 per cent of the total geographical area of the village is low-land or plain region. This has resulted into restricting the area under sugarcane. The upland area covers 88.20 per cent of the total geographical area of the village which is not suitable for sugarcane cultivation. Thus, the village agriculture has inherent drawbacks with respect to its physiography. Table 5.12 shows the land utilization and cropping pattern in Talsande village.

Table 5.12 reveals that the net cultivated area is 95 per cent of the total geographical area. Area not available for cultivation and uncultivated area are 2.1 per cent and 2.9 per cent respectively. Out of the total cultivated area only 9.4 per cent area is under irrigation. The cropping pattern of the village shows Jowar as the major food-crop with 466 hectares, groundnut is major oilseed in the village with 154 hectares of land under it, followed by sugarcane with 94 hectares and rice with 71 hectares. Other food-crops include wheat, maize, pulses and gram. The net area under food-crops is 702 hectares. Area under cash crops is considerably low due to the limited irrigation facilities in the village.

#### **5.C.5 Population and Occupational Structure:**

The total population of Talsande village was

Table 5.12: Talsande village: General landuse and cropping pattern (1992-93)

A: General Landuse

Sr. No.	Category	Area in hectares	Percentage to total geographical area
1	Total cultivated area	959.00	95.00
2	Area not available for cultivation	29.00	2.90
3	Uncultivated area	21.00	2.10
	Total geographical area:	1,009.00	100.00

B: Cropping Pattern

Sr. No.	Crop	Area in hectares	Percentage to total cultivated area
1	Jowar	466.00	48.60
2	Groundnut	154.00	16.00
3	Sugarcane	94.00	9.80
4	Rice	71.00	7.40
5	Other crops	174.00	18.20
	Total area under crops:	959.00	100.00

(Source: Talathi record, Talsande)

4,475 in 1991. Out of this population nearly 60 per cent population is classified as working population. This working population is dependent on the agricultural activities to a great extent. The total working population in Talsande village is 2,680. Out of this working population 1,748 persons, that is, 65 per cent of the total working force is directly engaged in agricultural activities and the remaining 35 per cent working population is engaged in other occupations like animal husbandry, dairy farming, industry, trade and commerce and service. Nearly 190 persons in the village are agricultural labourers.

#### **5.C.6 Milch Animals and Veterinary Facilities:**

Talsande village is basically an agricultural village, where agriculture is the important occupation of the people. Next to agriculture animal husbandry and dairy farming are important subsidiary occupations of the people in the village. Thus, the livestock is an important factor in the economy of the village. According to 1992 census the total number of animals in the village was 1,420. Out of this total livestock, 74.15 per cent, that is, 1,053 were milch animals and the remaining 367, that is, 25.85 per cent animals were used for other purposes. Out of the total milch animals, 544, that is, 51.7 per cent were buffaloes

and the remaining 48.3 per cent, that is 509 were cows. Almost all the cows are of improved breed, mainly of Jersey and Holstein types, whereas buffaloes are of local Jawari and Pandharpuri breeds as well as of improved breeds like Murrah and Mehasana. The village is self-sufficient in fodder supply, the main reason for that being cultivation of maize in upland and/or Maal regions. Sugarcane tops are also available to feed the bovine population. The village has some patches of permanent pasture on the bank of Warana river.

Talsande village has almost all types of veterinary facilities. One government dispensary, a mobile veterinary dispensary supplied by Warana Dairy and an artificial insemination centre are the important veterinary facilities available in the village.

#### **5.C.7 Cooperative Dairy Farming:**

As stated earlier, dairy farming is an important subsidiary occupation of the farmers and agricultural labourers in Talsande village. The factors responsible for the growth of cooperative dairy farming in Talsande village can be listed as follows:

1. Nearness to Warana Dairy
2. Direct road linkage to Warana Dairy
3. Availability of fodder crops like maize, jute, hulaga and sugarcane tops

4. Availability of veterinary facilities
5. Effective working of both the milk producers' primary cooperative societies in the village
6. Sufficient drinking water facilities for dairy animals.

Thanks to the above factors dairy farming shows a rapid development in Talsande village. There are two milk producers' primary cooperative societies in the village. They are:

1. Navajivan Cooperative Milk Society
2. Rajarshi Shahu Cooperative Milk Society.

These societies collect milk and supply it to Warana Dairy, because the societies are affiliated to Warana Dairy and the village falls in the area of operation of Warana Dairy. These societies perform the following activities:

1. Activate the development of dairy farming on cooperative lines
2. Collect milk from the milk producers and supply it to Warana Dairy
3. Accelerate the milk production on scientific lines
4. Provide veterinary facilities to the members
5. Give reasonable price of milk to the milk



producers in the village.

The detailed study of both the milk producers' primary cooperative societies in the Talsande village is presented here.

(1) Navjivan Cooperative Milk Society Ltd., Talsande:

This milk producers' cooperative society was the first to be established in the village in 1978. At the beginning only this cooperative milk society became ideal milk cooperative society in Warana basin because it showed a rapid economic development and provided many facilities to the milk producers in the village. Its effective functioning also became an example to the milk producers' cooperative societies in Warana basin. Since the establishment of the society, there is rapid increase in the number of share-holders, share capital and annual turnover. If we consider a period of ten years from 1983-84 to 1992-93 a consistent progress is noticed in the case of this cooperative milk society. In the year 1983-84 the society had 169 share-holders with share capital of Rs. 6,970 and annual turnover of Rs. 87,862. The society was put in 'B' audit class during that year. In 1992-93 the number of share-holders increased to 247 with share capital of Rs. 30,000. The annual turnover increased to Rs. 1,31,697 and the society was put in 'A' audit class. At present the

society has 12 members on its board of directors, out of whom one is from Scheduled class and another one from the economically backward class.

The society has 8 workers including a secretary, 3 clerks, 2 milk testers and 2 milk collectors. The area of operation of the society is limited to Talsande village only and there is only one milk collection centre at the centre of the village and the society collects milk from 7 a.m. to 9 a.m. and 6 p.m to 8 p.m.

This society is engaged in various developmental activities and also promotes rural development. These activities are presented separately in the foregoing discussion. The society has purchased four hectares of land in the village and regularly grows fodder crops to distribute among the members. No other milk producers' society in the region has undertaken this type of activity. This singular example is sufficient to explain the uniqueness of the society.

(2) Rajarshi Shahu Cooperative Milk Society Ltd., Talsande:

This milk producers' primary cooperative society was established in 1989. Since its inception this society does not show any considerable growth. At the time of its establishment the society was having 111

shareholders. The share capital was 1,120 and the society was put in 'A' audit class. In 1992-93 the number of shareholders and share capital remained constant. There was slight increase in the annual turnover. However, the society was put in 'C' audit class.

The area of operation of Navjivan Cooperative Society is shared by this society. At present there are nine directors including one from Scheduled Class and another one from economically backward class. The society has appointed 5 servants, including a secretary, a clerk, a milk-tester and two milk collectors. The society has only one milk collection centre.

#### **5.C.8 Milk Collection:**

Before the establishment of the first milk producers' cooperative society in the village the milk producers were supplying milk to milk vendors. Since the establishment of Navjivan Cooperative Milk Society the members and other milk producers started selling milk to the society. Thus, the establishment of a primary milk cooperative society geared the cooperative dairy farming in the village. Another cooperative milk society was established in the village in 1989. At the beginning some of the milk producers were supplying milk to the first cooperative dairy society. Then they started supplying milk to the newly formed cooperative dairy

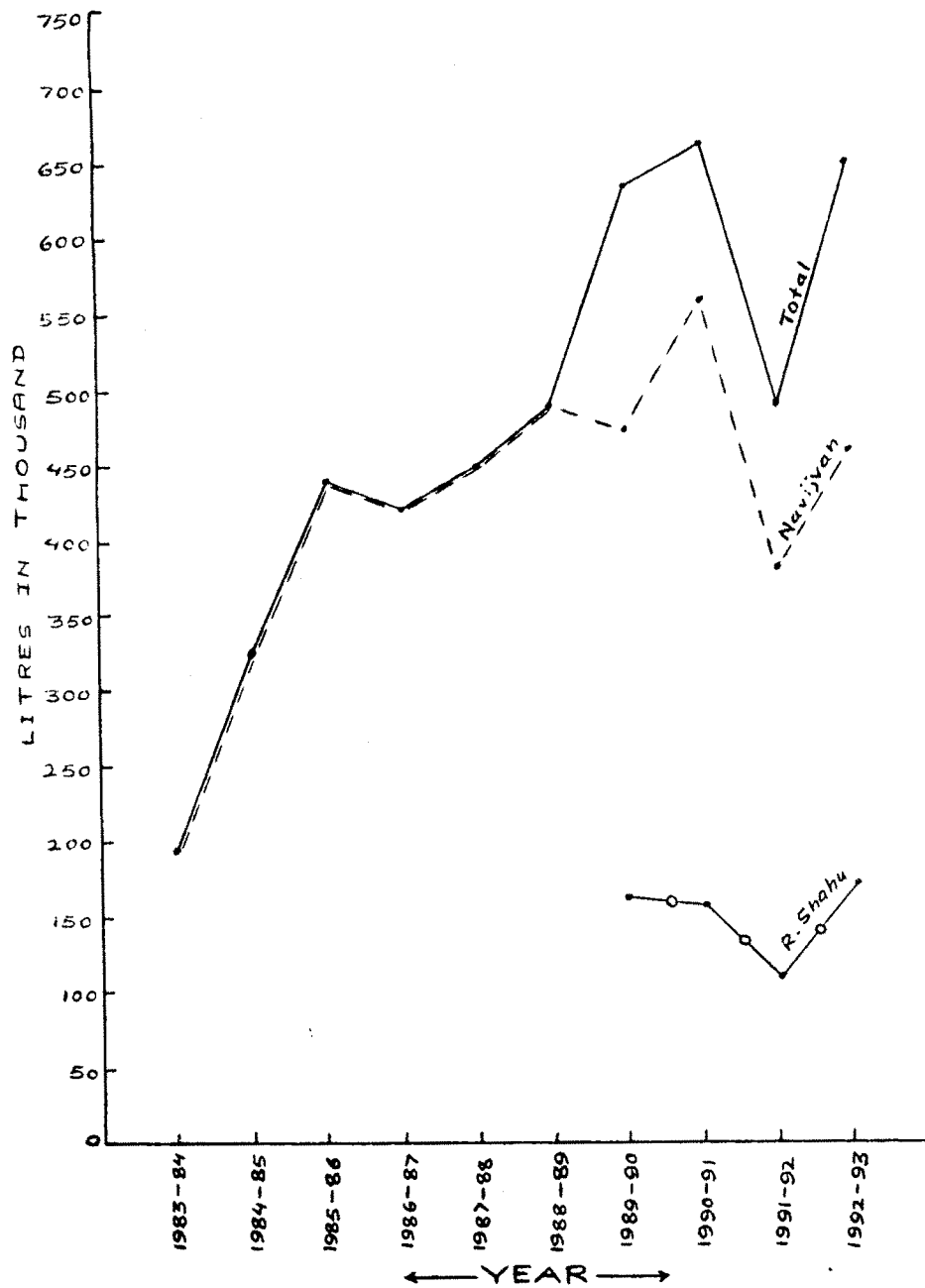
society. Thus, at least for the first 3 years, that is, from 1989-90 to 1991-92 the second cooperative dairy society shared the milk collection of the previous one. Both the societies are having one milk collection centre and they are very near to each other. Milk is collected twice a day, that is, in the morning as well as in the evening. Table 5.13 shows the total milk collection in Talsande village during a period of ten years, that is, from 1983-84 to 1992-93.

Table 5.13: Talsande village: Total milk collection  
(1983-84 to 1992-93)  
(Figures in lakh litres)

Sr. No.	Year	Milk Society		Total
		Navjivan	R. Shahu	
1	1983-84	1.93	-	1.93
2	1984-85	3.26	-	3.26
3	1985-86	4.38	-	4.38
4	1986-87	4.17	-	4.17
5	1987-88	4.48	-	4.48
6	1988-89	4.89	-	4.89
7	1989-90	4.76	1.58	6.34
8	1990-91	5.59	1.55	7.14
9	1991-92	3.79	1.11	4.90
10	1992-93	4.57	1.93	6.50

(Compiled by the researcher)

# TALSANDE TOTAL MILK COLLECTION 1983-84 to 1992-93



GRAPH 5:5

Table 5.13 reveals that in 1983-84 there was only one primary milk cooperative society in the village, that is, Navjivan Milk Cooperative Society. The collection of milk during that year was 1.93 lakh litres. Since then there was a sharp rise in the milk collection till 1988-89. The milk collection in the village in 1988-89 was 4.89 lakh litres. Thus, during the first 6 years there was 2.5 time increase in the milk collection. In 1989-90 due to the establishment of second primary milk cooperative society in the village there was a considerable decrease in the milk collection of the first society. In 1989-90 Rajarshi Shahu Dairy collected 1.58 lakh litres of milk and in 1992-93 it showed a slight increase and collection was 1.93 lakh litres. During the same period the milk collection of Navjivan Dairy shows decreasing trend from 4.89 lakh litres to 4.57 lakh litres in 1992-93, with a single exception in 1990-91, which was 5.59 lakh litres. Thus, it is clear from the table and the above discussion, that the inception of second milk cooperative society was not useful in accelerating the milk collection in the village to a considerable extent.

In 1983-84 the total milk collection in the village was 1.93 lakh litres which increased to 7.14 lakh litres in 1990-91. The milk collection decreased

to 4.90 lakh litres in 1991-92 which was mainly due to the adjustment of cooperative year, due to which the figures of milk collection were for nine months only. In 1992-93 the total milk collection in the village was 6.50 lakh litres which was considerably low as compared to that of 1990-91. These figures of total milk collection also indicate that the establishment of second cooperative dairy in the village was not helpful to increase milk collection to a considerable extent. In 1992-93 the share of Navjivan Cooperative dairy in the total milk collection was 70.3 per cent and the share of Rajarshi Shahu Cooperative Dairy was 29.7 per cent.

The monthwise milk collection in Talsande village during 1992-93 is presented in Table 5.14. The table also shows societywise milk collection during the same months.

Table 5.14 reveals the trend of milk collection during various seasons in the year 1992-93. It is clear from the table that the average monthly milk collection ranges between 40.1 thousand litres and 69.4 thousand litres. Thus, there was a wide range in the milk collection during the year. The average milk collection during lean season was 40.1 thousand litres to 52.9 thousand litres and the average milk collection during flush

**Table 5.14:** Talsande village: Monthwise milk collection (1992-93)  
(Figures in '000 litres)

Sr. No.	Month	Milk Society		Total
		Navjivan	R. Shahu	
1	April 1992	43.6	13.3	56.9
2	May	40.4	12.5	52.9
3	June	35.2	10.9	46.1
4	July	29.4	10.7	40.1
5	August	32.2	13.0	45.2
6	September	33.2	13.9	47.1
7	October	37.5	16.1	53.6
8	November	38.7	18.2	56.9
9	December	35.7	19.1	54.8
10	Jan. 1993	44.5	21.7	66.2
11	February	41.2	19.7	60.9
12	March 1993	46.2	23.2	69.4
	T o t a l:	457.8	192.3	650.1

(Compiled by the researcher)

season was between 53.6 thousand litres and 69.4 thousand litres. The table shows that the maximum collection was done in the month of March which was 69.4 thousand litres and the minimum milk collection was in the month of July, which was only 40.1 thousand litres.

The daily average milk collection in Talsande



village during 1992-93 was 1,781 litres. The daily average milk collection of Navjivan Dairy was 1,254 litres and that of Rajarshi Shahu Dairy was 527 litres. The total collection of milk in the village during the year was 6.50 lakh litres. Percentage division of this collection is: 70.4 per cent by Navjivan Dairy and 29.6 per cent by Rajarshi Shahu Dairy.

#### 5.C.9 Prices of Milk:

Like all other milk producers' cooperative societies in Warana basin, the societies in Talsande village also paid the prices of milk to the milk producers according to the rules laid down by Warana Dairy. The prices are dependent on the quality of milk, especially the fat content of milk.

Table 5.15 shows the price of milk paid by the two cooperative societies in Talsande village from 1983-84 to 1992-93.

Table 5.15 reveals the income generation in Talsande village through the business of cooperative dairy farming. The table also shows the prices paid by the societies to the milk producers in Talsande village. In 1983-84 the milk producers in Talsande village received an amount of Rs. 6.15 lakh as the price of milk, when there was only one cooperative

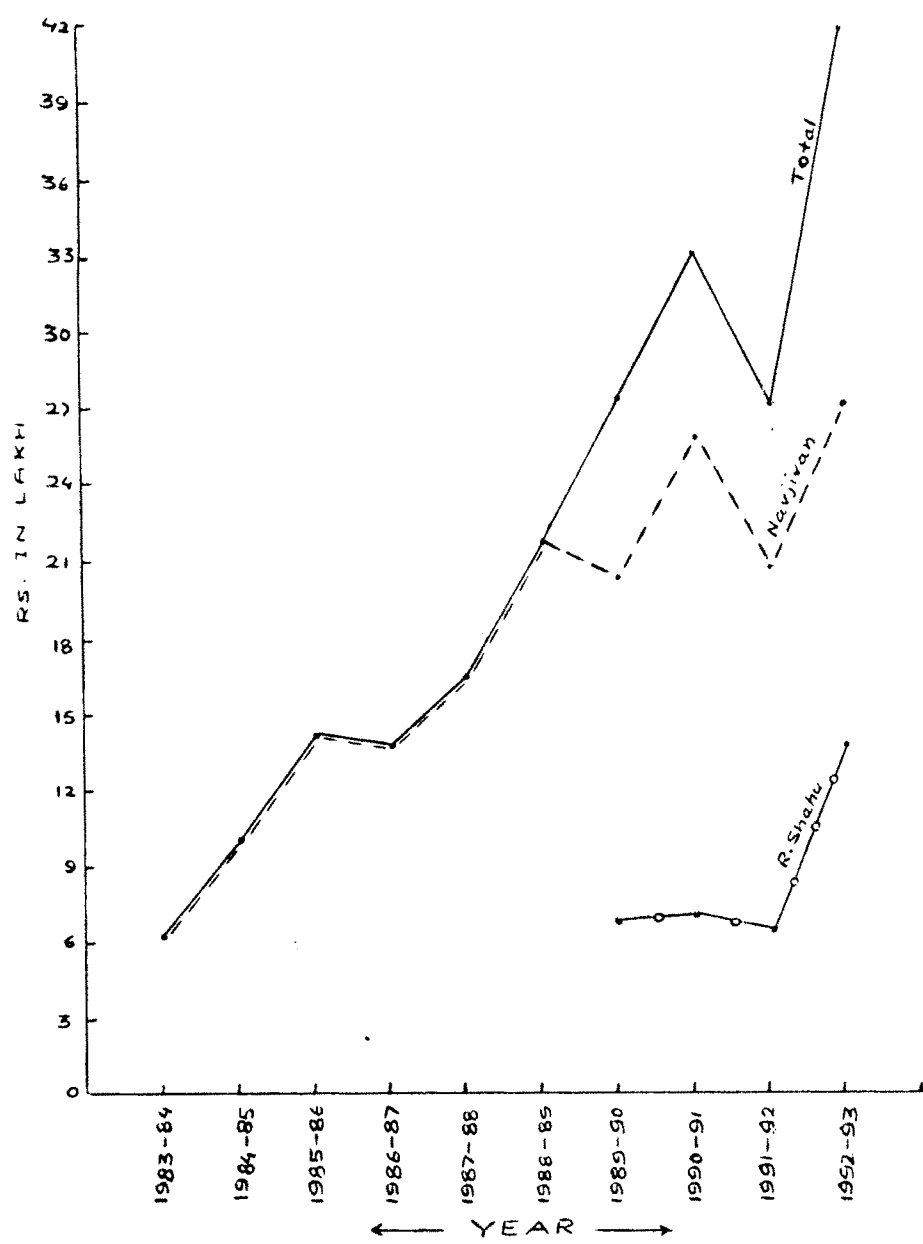
**Table 5.15:** Talsande village: Price of milk paid by the societies to the milk producers (1983-84 to 1992-93)  
(Figures in lakh Rs.)

Sr. No.	Year	Milk Society		Total
		Navjivan	R. Shahu	
1	1983-84	6.15	-	6.15
2	1984-85	10.34	-	10.34
3	1985-86	14.14	-	14.14
4	1986-87	13.83	-	13.83
5	1987-88	16.63	-	16.63
6	1988-89	21.62	-	21.62
7	1989-90	20.40	6.76	27.16
8	1990-91	25.79	7.19	32.98
9	1991-92	20.61	6.52	27.13
10	1992-93	28.05	13.76	41.79
T o t a l:		177.56	34.23	211.79

(Compiled by the researcher)

dairy society in the village. Since 1983-84 there is a constant increase in the amount of income generation. In 1992-93 the total amount received by the milk producers as the price of milk was Rs. 41.81 lakh. Thus, there is nearly seven times increase in the price received by milk producers. There is only one example during 1991-92 when there was sharp decrease in the price of milk paid by the societies and that was only because

# TALSANDE PRICE OF MILK 1983-84 to 1992-93



GRAPH 5:6

the figures are for nine months. The rapid increase in the income generation was because of two reasons: first, there was increase in the milk collection and second, the prices of milk were rapidly increasing during the said period.

In the year 1989-90 Rajarshi Shahu Cooperative Society was established in the village. During that year there was a slight decrease in the amount of price paid by Navjivan Cooperative Dairy. In the year 1988-89 this dairy paid Rs. 21.62 lakh to the milk producers and during the next year the amount decreased to Rs. 20.40 lakhs due to the establishment of second cooperative dairy which paid Rs. 6.76 lakh to the milk producers in the village and the total amount paid by both the dairies was Rs. 27.16 lakh during the same year.

In the period of ten years, that is, from 1983-84 to 1992-93 the total amount paid by the milk cooperative societies to the milk producers was nearly 2.12 crores. The share of Navjivan dairy in this amount was 84 per cent and the share of Rajarshi Shahu dairy was 16 per cent. The commission received by these cooperative dairies was Rs. 9.2 lakh and Rs. 1.4 lakh respectively. The total commission received by both the cooperative dairies in the village was Rs. 10.6 lakh during the above mentioned period of ten years. Thus, the total

income generation through the cooperative dairy farming in Talsande village was Rs. 2.22 crores in the decade.

The monthly income generation during 1992-93 was Rs. 3.6 lakh and the average daily income generation was Rs. 12,000. Thus, further calculation shows that the average amount received by each milk producer per day was Rs. 16. Thus, the income generation through cooperative dairy farming in Talsande village is considerable and provides support to the farmers and landless labourers.

#### **5.C.10 Economic Status of Dairy Cooperatives:**

Economic status of both the milk producers' dairy cooperative societies from 1983-84 to 1992-93 is presented in Table 5.16.

Navjivan cooperative dairy society was established in 1978. Since its establishment it has been showing a constant progress. It is clear from Table 5.16 that in 1983-84 the society had gained a profit of Rs. 19.5 thousand. Though the income of the society is in increasing order the expenditure shows a more rapid increase, thus reducing the profit margin. Hence, the profit margin of the society shows fluctuation and is not constant. This society is engaged in many developmental activities and has thus undertaken projects for the betterment of the living of the members and milk producers.

Table 5.16: Talsande village: Economic status of primary cooperative societies  
(1983-83 to 1992-93)  
(Figures in '000 Rs.)

Sr. No.	Year	Navjeevan Milk Society			Rajarshi Shahu Milk Society		
		Income	Expenditure	Profit	Income	Expenditure	Profit
1	1983-84	65.3	45.8	19.5	-	-	-
2	1984-85	70.3	68.3	2.0	-	-	-
3	1985-86	63.9	60.6	3.3	-	-	-
4	1986-87	75.4	69.6	5.8	-	-	-
5	1987-88	212.0	200.6	11.4	-	-	-
6	1988-89	301.2	291.9	9.3	-	-	-
7	1989-90	337.4	326.0	11.4	-	95.1	54.5
8	1990-91	257.9	256.7	12.2	-	104.4	33.3
9	1991-92	302.1	294.0	8.1	-	412.2	85.9
10	1992-93	423.6	414.3	9.3	-	189.4	29.9

(Compiled by the researcher)

Rajarshi Shahu Cooperative Society was established in 1989. Since then its income kept on increasing upto 1991-92 and in that year a sharp fall took place in the income. Thus, in the case of this society also there are fluctuations in profit margin. However, its profit margin is considerably higher in comparison with that of Navjivan Cooperative Dairy Society. For example, in 1989-90 Navjivan Cooperative Dairy Society recorded a profit of Rs. 11.4 thousand and during the same year Rajarshi Shahu Society gained a profit margin of Rs. 54.5 thousand.

#### **5.C.11 Developmental Activities:**

The dairy cooperative societies in Talsande village are engaged in many developmental activities. Though almost all the milk producers' cooperative societies in the region have undertaken measures for betterment of lives of milk producers, the Navjivan Dairy society is foremost cooperative dairy society in the region due to the variety of developmental activities undertaken by the society. The society collects and distributes milk and is very particular about the quality of milk. The society has purchased two electronic milk testers. The milk is tested in the presence of the milk producers and its fat contents are recorded on the milk card alongwith the relevant rate of milk.

The Navjivan Cooperative Dairy provides cattle-feed and veterinary facilities to the milk producers. In the year 1992-93 the society supplied a bag of cattle-feed to each of the milk producers. The society also holds veterinary camps periodically. At a time 200-300 milch animals are treated by veterinary doctors in these camps.

A very important activity which may be considered as exceptional, is the development of a fodder farm by the society where fodder crops are taken. For this purpose the society has purchased 4 hectares of land and has developed a fodder farm. The fodder grown in the farm is mainly distributed to the marginal farmers and landless labourers. The fodder crops grown include maize, Hulaga and soybean.

The society has also purchased chaff cutter and has fixed it near the milk collection centre. The milk producers bring their grass, fodder crops and cut it with the help of this cutter. This has helped maximum utilization of the fodder with minimum wastage.

The society has also undertaken many activities for promoting the interests of milk producers and workers. The important activities include the bonus to the milk producers. The milk society gives considerable bonus to the milk producers, which is 22 Paise per litre.



The society also distributes prizes to milk producers under different heads such as:

1. Members supplying maximum quantity of cow milk
2. Members supplying maximum quantity of buffalo milk
3. Members supplying good quality of cow milk
4. Members supplying good quality of buffalo milk.

Under each head three prizes are given.

Prizes are also given to primary school students showing extraordinary merit. Three students from each class are thus encouraged with these prizes. The society pays the milk bills regularly without any delay. After every ten days these bills are distributed. The society also distributes prizes, bonus and uniforms to their workers. Every year the society organizes tours and visits of the milk producers of the village to the places of interest like Agriculture University, Rahuri and many famous dairies. the average expenditure borne by the society on these tours and visits comes to Rs. 37 thousand per year. The society also arranges cattle fairs, veterinary camps and training camps for the milk producers.

Navjivan Cooperative Dairy Society in Talsande

is also engaged in social work in the village. This society promoted an urban credit society and there are 400 members of the society. This credit society has distributed loans of Rs. 11 lakhs and has deposited Rs. 9 lakhs. The <sup>has</sup> society also promoted cooperative water scheme. The society has started either with the help of Warana Cooperative Sugar factory or Warana Cooperative Dairy, a library, a kindergarten and has also promoted many other activities like gymnasium, study room etc. for the children of milk producers in the village.

The Rajarshi Shahu Cooperative Dairy also distributes prizes and bonus to the milk producers. The society has constructed a building worth Rs. 1.5 lakhs.

**5.D: Cooperative Dairy Farming:  
A Case Study of Dongarwadi Village**

- 1. Introduction**
- 2. Location**
- 3. Physical Setting**
- 4. Agronomy**
- 5. Population and Occupational Structure**
- 6. Milch Animals and Veterinary Facilities**
- 7. Cooperative Dairy Farming**
- 8. Milk Collection**
- 9. Prices of Milk**
- 10. Economic Status of Dairy Cooperatives**
- 11. Developmental Activities**

## **5.D Cooperative Dairy Farming: A Case Study of Dongarwadi Village:**

### **5.D.1 Introduction:**

Dongarwadi village is at a distance of about 12 Kms. from Amrutnagar. It is having only one milk producers' primary cooperative society. We have already presented case studies of the villages with two and more primary milk producers' societies. However, in Warana basin there are many villages with only one milk producers' cooperative society and Dongarwadi can be treated as a representative of such villages. This was the main reason for selecting Dongarwadi village for the purpose of presenting a case study.

### **5.D.2 Location:**

The village is located on a small hillock which is an offshoot of Ashta hill range. Thus, the village derives its name Dongarwadi, due to its location on the slope of the hillock 'Dongar'. Dongarwadi village is in Walwa tahsil of Sangli district. It is in the north-west of Amrutnagar. The total geographical area of the village is 557.68 hectares.

The population of the village according to 1991 census is 940. The village has Gram Panchayat and Vikas society. There is only one primary school in the village upto 4th standard. There are only three shops in the village and as stated earlier, there is only one milk

producers' primary cooperative society in the village.

#### **5.D.3 Physical Setting:**

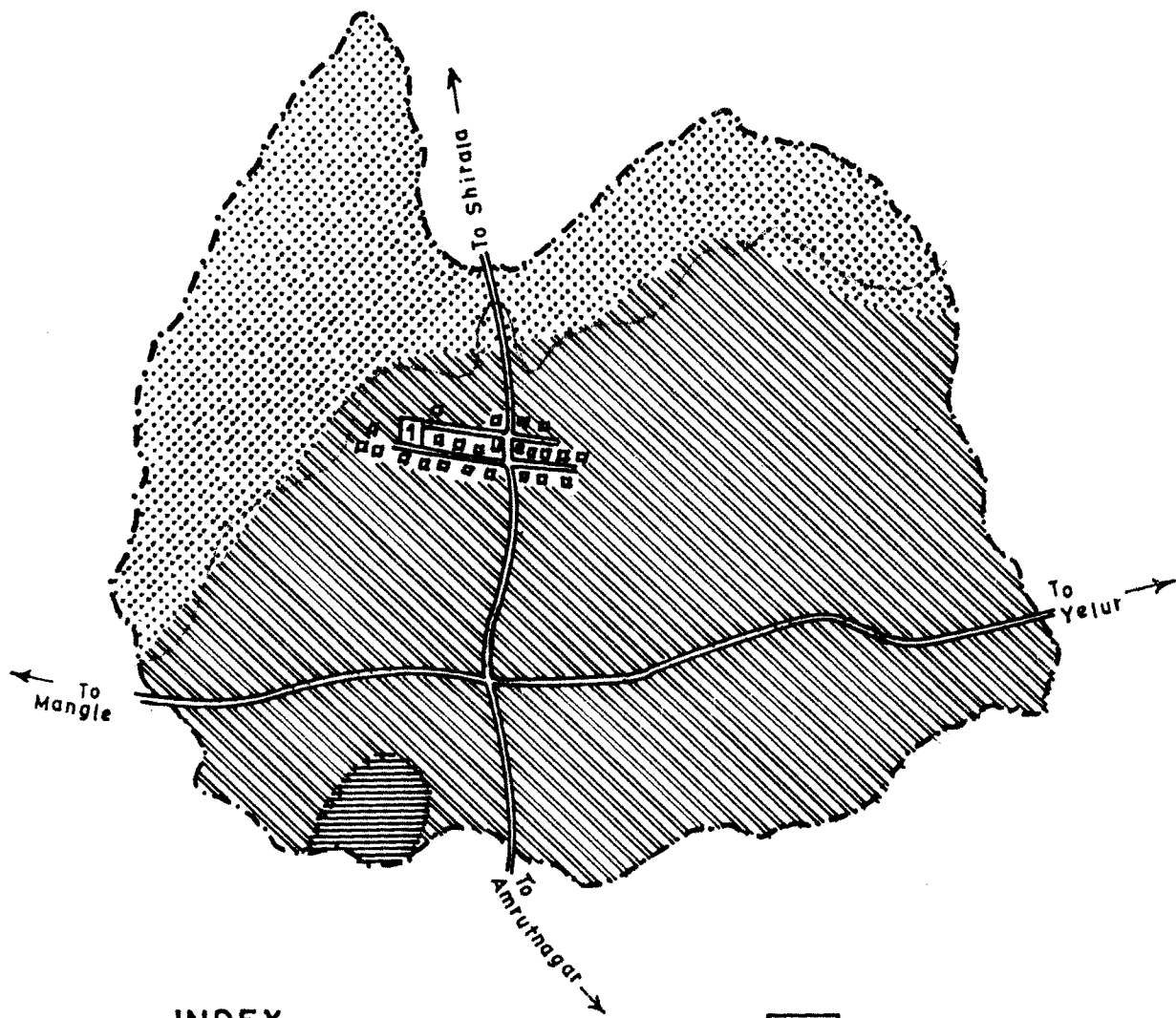
The Ashta hill range of Sahyadri runs in the west to east direction. Dongarwadi village is located on a small offshoot of the Ashta range. Actually the settlement is in the foot-hill region.

The village can be divided physiologically into two distinct sub-regions, namely, hill region and upland region.





Hill Region: This region mainly covers the northern part of the village. Thirty per cent of the total geographical area of the village, that is, nearly 165 hectares of land is hill region. The maximum elevation of the hill is 200 metres. The slope towards the foot-hill region is generally gentle but at places it is interrupted by the steep slope gradient. The slopes are washed by the rain water and erosion has resulted into rugged terrain. The soils are thin and are of red murmic type. They lack humous and are not fertile.



Upland Region: Nearly 70 per cent of the total geographical area of the village can be classified as foot-hill region or upland region, which is the part and parcel of deccan plateau. The total area of this region is 392.68 hectares. This sub-region is between the

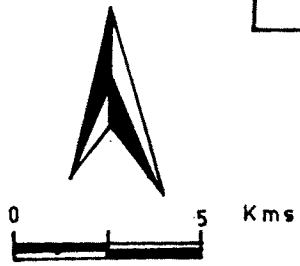
# DONGARWADI



## INDEX

-  HANUMAN DAIRY
-  SUGARCANE CROP
-  OTHER ALL CROPS
-  GRASS

-  HILLY REGION
-  UPLAND REGION



Map. 5·5

hill region in the north and Warana river valley in the south. All the settlement of the village is clustered in this region only. There is very small streamlet in the southern part of the village. Except for small patches of the fertile soil along this streamlet, the remaining part of the foot-hill region has thin red soil. The rate of erosion is also considerably high.

#### 5.D.4 Agronomy:

Though soil in the village area is not fertile and there are no irrigation facilities, even then agriculture is the main occupation of the people in the village. Agriculture in this village can be described as dry farming mainly of 'Jirayat' type, which is totally dependent on monsoon rain. The general landuse and the cropping pattern of the village is presented in Table 5.17.

Table 5.17 depicts that out of the total geographical area of the village, which is 557.68 hectares, 75.4 per cent area is under net cultivation, one per cent area is classified as fallow land and nearly 23.6 per cent of the total geographical area of the village is not available for cultivation. As stated earlier, steep slopes and thin fertile soils have restricted the agriculture to the foot-hill region only. However, fertile lush green grass grows on the slopes of the

Table 5.17: Dongarwadi village: General landuse and cropping pattern  
(1992-93)

A: General Landuse

Sr. No.	Category	Area in hectares	Percentage to total geographical area
1	Total cultivated area	420.00	75.40
2	Area not available for cultivation	131.51	23.60
3	Fallow land	6.17	1.00
	Total geographical area:	557.68	100.00

B: Cropping Pattern

Sr. No.	Crop	Area in hectares	Percentage to total cultivated area
1	Jowar	140.00	33.30
2	Groundnut	128.00	30.50
3	Rice	110.00	26.20
4	Sugarcane	10.00	2.40
5	Other crops	32.00	7.60
	Total area under crops:	420.00	100.00

Source: Talathi records, Dongarwadi)



hills during the rainy season, which is a favourable factor from the point of view of dairy development.

Table 5.17 also shows cropping pattern in the village, according to which the maximum land is under foodgrains and oilseeds with only 2.4 per cent of the net cultivated area is under sugarcane. This cultivation is on small patches of 10 hectares of land along the streamlet. Jowar is the important crop in the village with 33.3 per cent of the area under it. Groundnut covers 30.5 per cent of the cultivated area followed by rice with 26.2 per cent of the cultivated area. The other crops include soybean, Hulaga and other coarser crops. Thus, it is also clear that the cropping pattern of agriculture is of subsistence type.

#### **5.D.5 Population and Occupational Structure:**

Out of the total 940 people in the village (1991) nearly 620, that is, 66 per cent are classified as working population. Agriculture is the main occupation for nearly 63 per cent of the working population. The remaining 37 per cent population is engaged in animal husbandry, dairy farming and other activities.

#### **5.D.6 Milch Animals and Veterinary Facilities:**

As presented in the above discussion, agriculture, animal husbandry and dairy farming are the main occupations

of the people in Dongarwadi village. Agriculture is seasonal and totally dependent on monsoon rain. Infertile soils, steep slopes and lack of irrigation facilities are the basic problems of agriculture in the village. It is necessary for the people in the village with the meagre income to have some subsidiary occupation. So, dairy farming comes to their rescue as an important subsidiary occupation.

According to 1992 livestock census the bovine population of the village was 380 animals, out of which 184 were cows and 62 buffaloes. Thus, there were 246 milch animals in the village. Out of the total cows, the number of improved cows was 165 whereas out of the total buffaloes only 8 were of improved breed. The number of improved cows is considerably large due to the efforts of the farmers to improve the cows of local breed by using artificial insemination method.

There are no veterinary facilities in the village, not even an Artificial Insemination centre or not a single veterinary doctor. However, all these facilities are available in Chikurde village which is very near, that is, only 3 Kms. from Dongarwadi.

#### **5.D.7 Cooperative Dairy Farming:**

Dairy farming is the subsidiary occupation of

the people in Dongarwadi village. All the farmers are engaged in dairy farming. There are no labourers in the village. The farmers have taken keen interest in dairy farming due to the following reasons:

1. Seasonal subsistence agriculture demands a subsidiary occupation.
2. Rich grass is available on the hill slopes during rainy season.
3. Introduction of cross-breed cows.
4. Effective working of milk producers' primary cooperative society.

Due to the above reasons this small village also shows a rapid development of cooperative dairy farming. It was not till 1983 when the milk producers in the village formed a cooperative society for their own development, that this sector witnessed transformation in their day-to-day financial position brought about by the society. Prior to the establishment of milk producers' cooperative society in the village, all milk producers were selling their milk to the society in Chikurde village.

Shree Hanuman Cooperative Milk Society  
Ltd., Dongarwadi:

Dongarwadi village has only one milk producers' primary cooperative society, namely, Shree Hanuman

Cooperative Milk Society, which was established in 1983. The working of the society is very effective since its inception. The society collects milk from milk producers in the village and supplies it to the Walwa dairy.

At the time of the establishment of the Hanuman Cooperative Milk Society it had 136 shareholders and share capital was Rs. 2,680. The annual turnover was of Rs. 2.27 lakhs. In 1992-93 the number of shareholders increased to 367. For a small village like Dongarwadi with barely 200 houses this is quite a high number of shareholders in 1992-93. The share capital increased to Rs. 18,160 and annual turnover, too, reached Rs. 26.15 lakhs. These figures show a rapid development of cooperative dairy farming in the village. The society is having nine members on its board of directors and has appointed 4 workers to collect milk. There is only one milk collection centre in the village and milk is collected in the morning as well as in the evening.

#### **5.D.8 Milk Collection:**

Prior to the establishment of milk producers' primary cooperative society in the village, the milk producers were selling milk to the cooperative dairy in the nearby villages. In 1983 Hanuman Cooperative milk society was established and started collecting

milk regularly. The milk collection of this society is shown in Table 5.18.

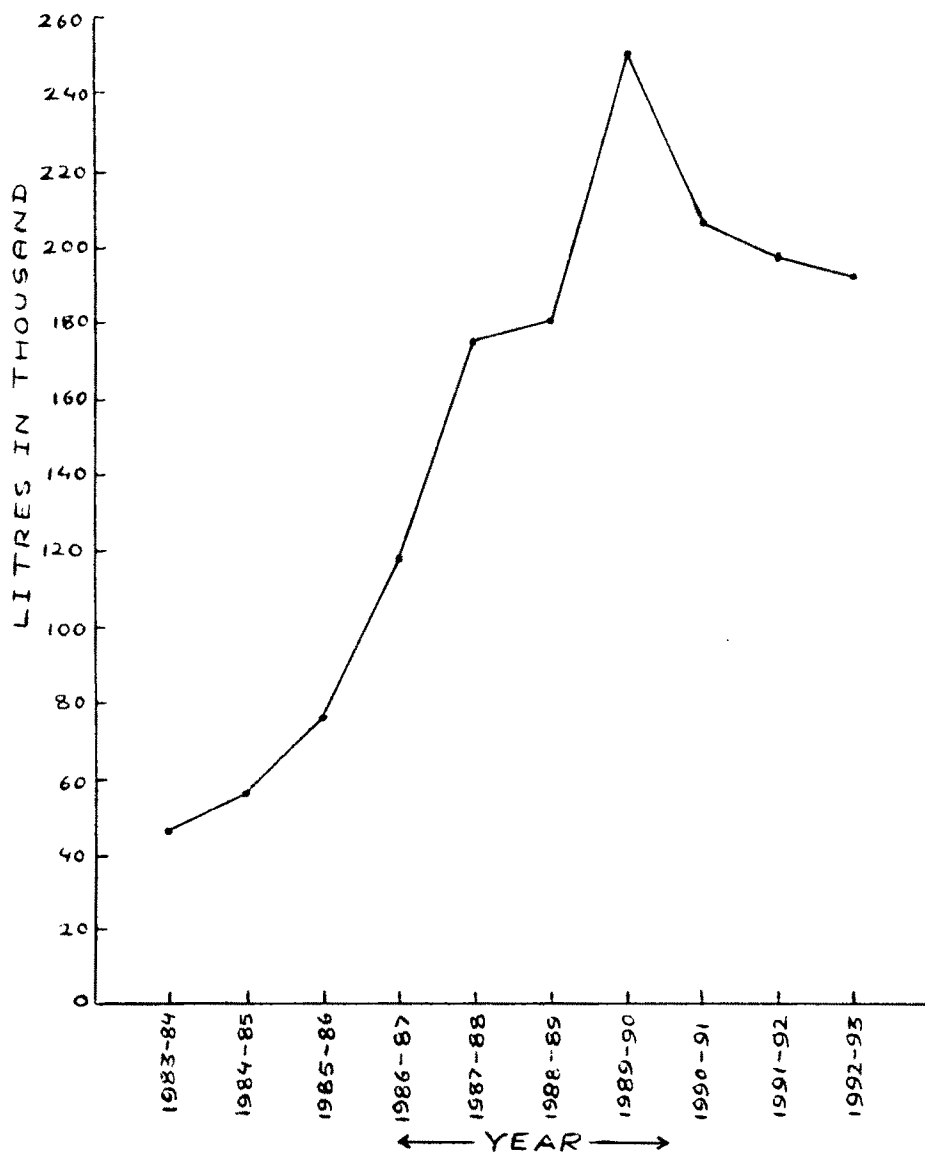
**Table 5.18:** Dongarwadi village: Total milk collection (1983-84 to 1992-93)  
(Figures in '000 litres)

Sr. No.	Year	Milk collection
1	1983-84	45.4
2	1984-85	55.9
3	1985-86	76.6
4	1986-87	117.6
5	1987-88	174.7
6	1988-89	180.7
7	1989-90	250.6
8	1990-91	206.6
9	1991-92	197.0
10	1992-93	191.1
	Total:	1,496.2

(Compiled by the researcher)

Table 5.18 reveals that in the year of establishment the total milk collection of the society was 45.4 thousand litres. Since then upto 1988-89 there was a constant rapid increase in the milk collection. In 1989-90 milk collection was higher, that is, 250.6 thousand litres. During the next three years there was a slight decreasing trend in the milk collection

# DONGARWADI TOTAL MILK COLLECTION 1983-84 to 1992-93



GRAPH 5:7

from 206.6 thousand litres in 1990-91 to 191.1 thousand litres in 1992-93. Some farmers sold out their cows due to a fall in the prices of cow-milk. Owing to this reason the milk collection shows a decreasing trend. During the last ten years the society collected 14.96 lakh litres of milk.

Table 5.19 shows monthwise milk collection in Dongarwadi village during 1992-93.

**Table 5.19:** Dongarwadi village: Monthwise milk collection (1992-93)  
(Figures in '000 litres)

Sr. No.	Month	Milk collection
1	April 1992	16.3
2	May	16.0
3	June	14.5
4	July	11.3
5	August	15.3
6	September	16.8
7	October	17.2
8	November	16.9
9	December	17.0
10	Jan. 1993	16.6
11	February	15.6
12	March 1993	17.6
	Total:	191.1

(Compiled by the researcher)

Table 5.19 reveals that during 1992-93 the total milk collection of the village was 191.1 thousand litres; during the lean season minimum monthly milk collection was 11.3 thousand litres in July and maximum milk collection was 17.6 thousand litres in the month of March. The daily average milk collection was 524 litres.

#### 5.D.9 Prices of Milk:

Milk producers' primary cooperative society was established in 1983 in Dongarwadi village. Prior to that the milk producers used to sell milk in the nearby villages like Chikurde, Devarde, Karanjavade etc.. Some of the milk producers were selling milk to the cooperative dairies in the said villages. But it was after the establishment of the Hanuman Cooperative Milk Society in Dongarwadi that the milk producers were paid the appropriate prices for their milk by the society. The Hanuman Cooperative Society also pays the prices of milk in accordance with the quality of milk and also the rules of Walwa dairy. Table 5.20 shows the price of milk paid by Hanuman Cooperative Dairy to the milk producers in the village for a period of ten years.

It is clear from Table 5.20 that in 1983-84 the price of milk received by the milk producers of Dongarwadi village was Rs. 1.24 lakhs. Since then there



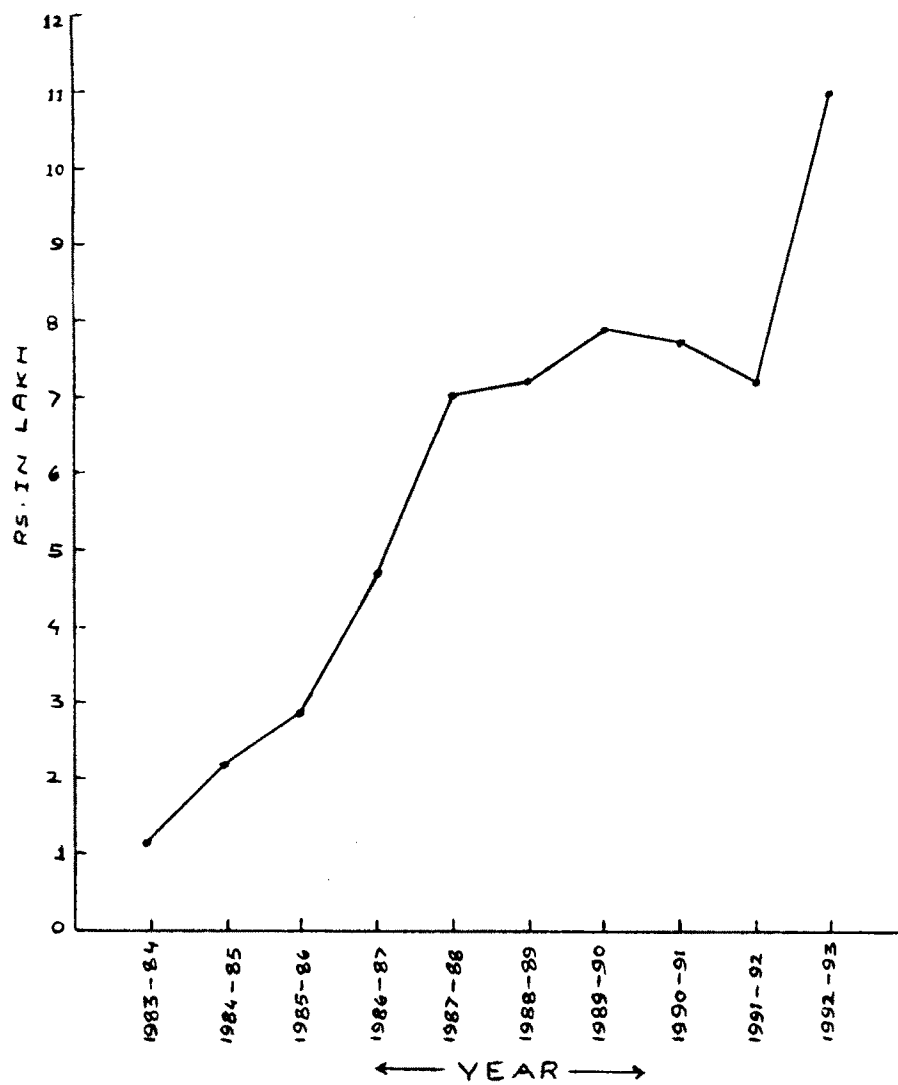
**Table 5.20:** Dongarwadi village: Price of milk paid by the societies to the milk producers (1983-84 to 1992-93) (Figures in lakh Rs.)

Sr. No.	Year	Price of milk
1	1983-84	1.24
2	1984-85	2.23
3	1985-86	2.86
4	1986-87	4.70
5	1987-88	6.98
6	1988-89	7.23
7	1989-90	7.88
8	1990-91	7.73
9	1991-92	7.22
10	1992-93	11.01
	Total:	59.08

(Compiled by the researcher)

is a constant increase in the price of milk received by the milk producers except for two years, that is, 1990-91 and 1991-92, during which there was a slight decrease. In the year 1992-93 the price of milk received by the milk producing village was 11.01 lakh. In the period of ten years the milk producers in the village received Rs. 59.08 lakh that is nearly 5.9 lakh per year on an average. During this period the society received Rs. 5.3 lakh by way of commission. Thus, the total income generation during the decade was Rs. 62.38 lakh. During the year 1992-93 the amount paid to the

# DONGARWADI PRICE OF MILK 1983-84 to 1992-93



GRAPH 5:8

milk producers as the price of milk was Rs. 11.01 lakh and the society received a commission of Rs. 0.42 lakh. Thus, the total income generation in the village through cooperative dairy farming was Rs. 11.43 lakh during 1992-93. The average monthly income was Rs. 95.3 thousand and average daily income generation was Rs. 3,132. The average amount received by each milk producer was Rs. 15 per day, which is the income generation through dairy business. Thus, for a small village like Dongarwadi, devoid of well developed infrastructural facilities and fraught with unfavourable physical and cultural conditions, cooperative dairy farming proves to be a constant source of supplementary income to the farmers.

#### **5 D.10 Economic Status of Dairy Cooperative:**

The economic status of Hanuman Cooperative Dairy Society is presented in Table 5.21 from 1983-84 to 1992-93.

Table 5.21 reveals that in the year 1983-84, that is, the year of establishment of the dairy cooperative society, the income was Rs. 226.6 thousand and expenditure Rs. 220.1. Thus, there was profit margin of Rs. 6.5 thousand. During the last ten years the profit margin shows a constant increase of only a few exceptional years like 1984-85, 1988-89 and 1992-93 when there was a slight decrease in the profit margin

**Table 5.21: Dongarwadi village: Economic status of Hanuman Cooperative Milk Society (1983-84 to 1992-93)**  
(Figures in '000 Rs.)

Sr. No.	Year	Income	Expenditure	Profit	Loss
1	1983-84	226.6	220.1	6.5	-
2	1984-85	287.7	283.3	4.4	-
3	1985-86	495.2	475.3	19.9	-
4	1986-87	720.4	697.3	23.1	-
5	1987-88	744.3	726.2	18.1	-
6	1988-89	799.6	783.5	16.1	-
7	1989-90	789.3	769.0	20.3	-
8	1989-90	758.1	730.4	27.7	-
9	1991-92	728.0	699.4	28.6	-
10	1992-93	738.1	711.0	27.1	-

(Compiled by the researcher)

over the previous year. During 1991-92 there was a maximum profit of Rs. 28.6 thousand. Thus, since the inception of the milk producers' primary cooperative society, there is constant income growth and economic status of the village has improved tremendously.

#### 5.D.11 Developmental Activities:

Even in a small village like Dongarwadi the milk producers' primary cooperative society is engaged in a number of developmental activities. The society has constructed a building worth Rs. 1.35 lakhs. The

society also distributes cash advances to the needy members. It also distributes cattle feed to the members. Thus, the society is functioning in an efficient manner for the development of village in all aspects.

**5.E Cooperative Dairy Farming:  
A Case Study of Wadicharan Village:**

1. Introduction
2. Location
3. Physical Setting
4. Agronomy
5. Population and Occupational Structure
6. Milch Animals and Veterinary Facilities
7. Cooperative Dairy Farming
8. Milk Collection
9. Prices of Milk
10. Economic Status of the Dairy Cooperative
11. Developmental Activities

## **5.E Cooperative Dairy Farming: A Case Study of Wadicharan Village:**

### **5.E.1 Introduction:**

After presenting case studies of four different villages from four different tahsils in Warana basin, we are presenting here a case study of village Wadicharan from the fifth tahsil, that is, Shahuwadi. Village Wadicharan is located at a distance of 24 Kms. from Amrutnagar by road. The village has only one milk producers' primary cooperative society and the average daily milk collection during 1992-93 was 485 litres. Thus, the average daily milk collection is less than 500 litres. Wadicharan can be treated as a representative example of the villages having average daily milk collection less than 500 litres.

### **5.E.2 Location:**

This village is located on the right bank of Kadavi river, a tributary to Warana river, on Bambavade-Chandoli road and its total geographical area is 213.28 hectares. The population of Wadicharan village is 1,292 (1991 census). In the village there is Gram Panchayat and a Vikas Society. Other facilities include a cooperative irrigation scheme, a primary school upto the 4th standard and one milk producers' primary cooperative society. There are only two small retail shops in the village.

### 5.E.3 Physical Setting:

Wadicharan village is located on the right bank of Kadavi river. Physiographically the village can be divided into two sub-regions, namely, upland region and low-land region.

(1) Upland Region: The south-western part of the village is an upland area and is locally known as Maal-Raan. This region covers a small portion of the village that is only 58 hectares. The soil in this part is red, thin and mostly unfertile.

(2) Low-land Region: Northern part of the village is low-land. It is on the bank of river Kadavi. This region covers 155 hectares of land. The soils are black, alluvial and very rich, locally known as Mali.

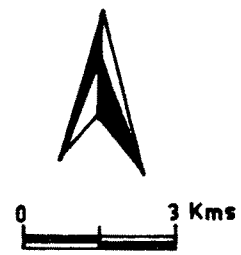
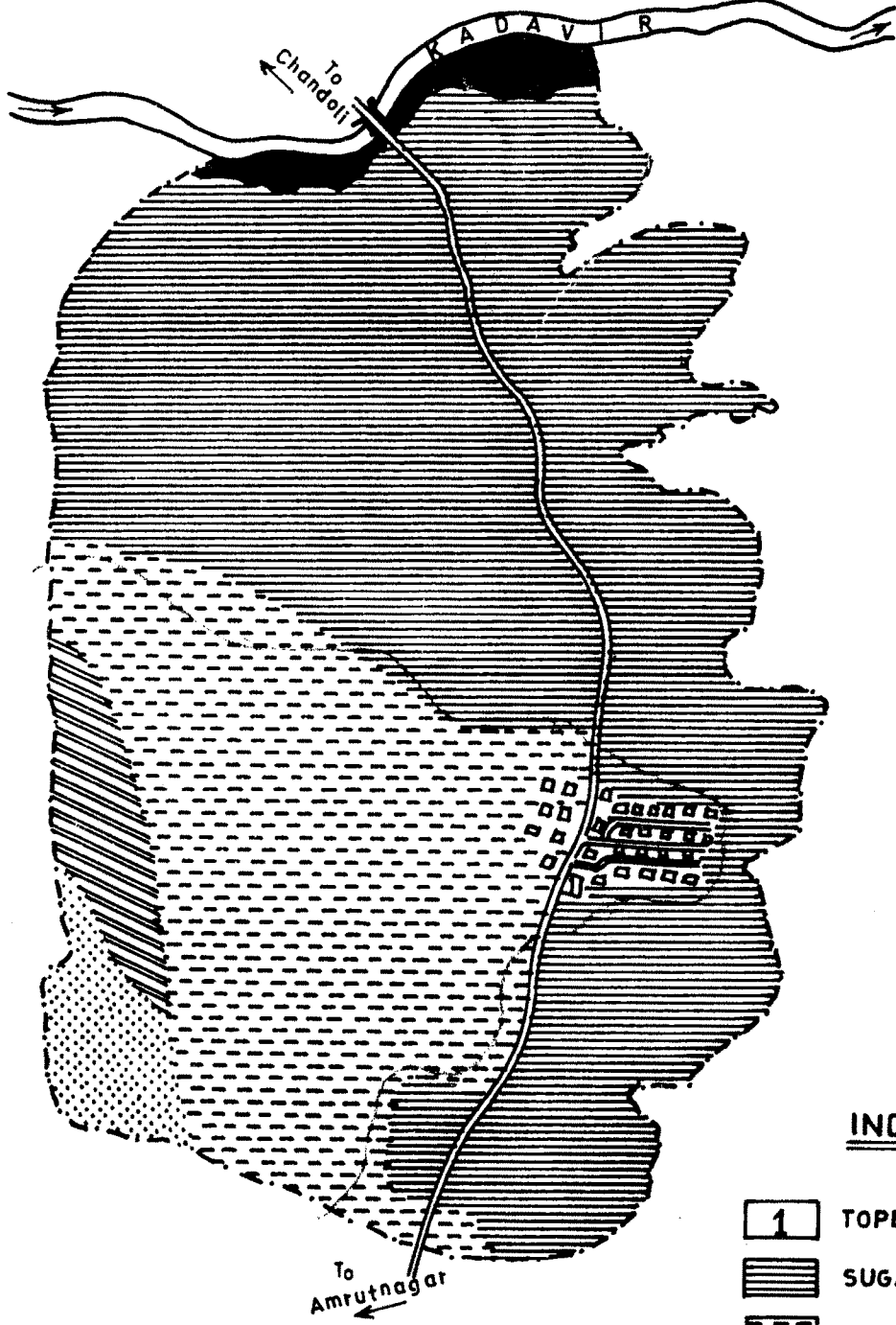
### 5.E.4 Agronomy:

Agriculture is the main occupation of the people in Wadicharan village. The rich fertile soil and irrigation facilities are the basic favourable factors for the development of agriculture in this village. Table 5.22 shows the general landuse and cropping pattern in Wadicharan village.

Table 5.22 reveals that out of 213.28 hectares, 195.20 hectares, that is, 91.60 per cent area is under cultivation, 6.10 per cent area is not available for



# WADICHARAN



## INDEX

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Map. 5-6

**Table 5.22: Wadicharan village: General landuse and cropping pattern (1992-93)**

**A: General Landuse**

Sr. No.	Category	Area in hectares	Percentage to total geographical area
1	Total cultivated area	195.20	91.60
2	Area not available for cultivation	13.08	6.10
3	Uncultivated area	5.00	2.30
	Total geographical area:	213.28	100.00

**B: Cropping Pattern**

Sr. No.	Crop	Area in hectares	Percentage to total geographical area
1	Sugarcane	140.00	71.80
2	Rice	45.00	23.10
3	Other crops	10.20	5.10
	Area under crops:	195.20	100.00

(Source: Talathi record, Wadicharan)

cultivation and only 2.30 per cent of the total geographical area is classified as uncultivated area. The high percentage of cultivated area is a peculiar feature of this village. Cropping pattern of the village is

dominated by cash crop - sugarcane. The area under cultivation of sugarcane is 71.8 per cent. Rice is the major food-crop and occupies second position with 23.1 per cent. Other food crops include maize, gram and pulses.

#### **5.E.5 Population and Occupational Structure:**

Out of the total 1,292 people in the village (1991) 783, that is, 61 per cent population is classified as working population. Agriculture is the main occupation for 70 per cent of the working force. Some 544 people are directly engaged in agricultural activities. The remaining 30 per cent, that is, 238 people are engaged in other activities like animal husbandry and dairy farming.

#### **5.E.6 Milch Animals and Veterinary Facilities:**

Animal husbandry and dairy farming are important subsidiary occupations of the people of Wadicharan village. The 1992 livestock census shows that there were 63 cows and 72 buffaloes in the village. Thus, the total number of milch animals was 135. Nearly 60 per cent of the cows were of improved breeds like Jersey and Holstein. The remaining 40 per cent cows were of local breeds, mainly Khillar type. All the buffaloes in the village are of local breeds including Jawari and Pandharpuri.

The village has no veterinary facilities. For the veterinary facilities the milk producers in the village are totally dependent on the veterinary dispensary in Bambavade village which is at a distance of 1.5 Kms.

#### 5.E.7 Cooperative Dairy Farming:

As stated earlier, dairy farming is the main subsidiary occupation of the people in the village. Almost all the farmers are engaged in dairy farming. There is only one milk producers' primary cooperative society which collects milk and supplies it to Gokul Dairy, Kolhapur.

#### Topeshvar Cooperative Milk Society Ltd., Wadicharan:

Topeshvar Cooperative Milk Society is the only dairy cooperative in Wadicharan village which was established in 1974. In the year 1983-84 the number of shareholders was 529 and the share capital of the society was Rs. 5,819. The annual turnover of the society was Rs. 0.69 lakh and the society was in 'B' audit class. In 1992-93 the number of shareholders remained the same but the annual turnover increased to Rs. 6.84 lakh and the society was put in 'A' audit class. There are nine members on the Board of Directors of this society. The society has appointed 4 workers including Secretary, clerk, milk tester and milk collector. The

society has only one milk collection centre in the village where milk is collected during morning and evening hours.

#### 5.E.8 Milk Collection:

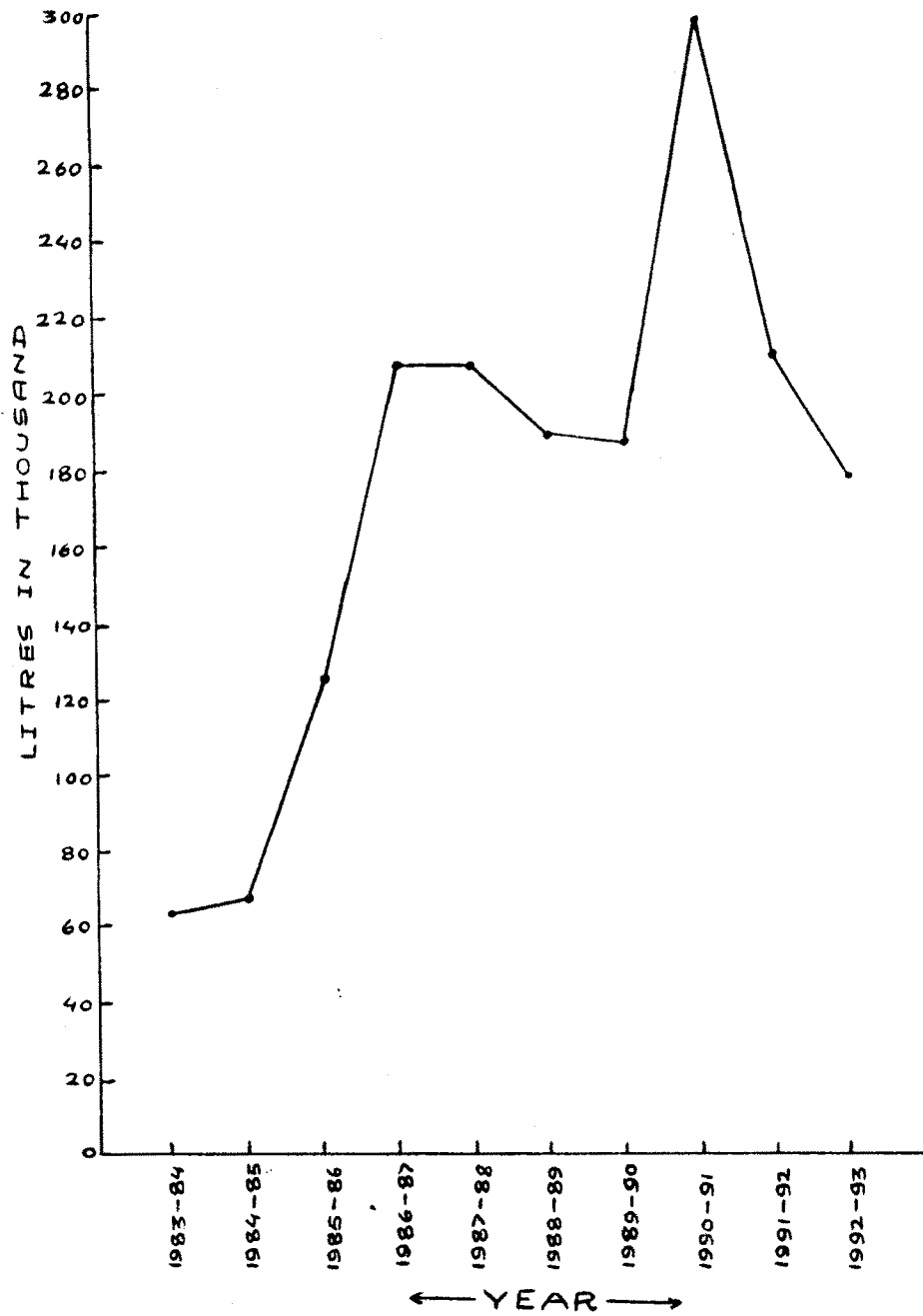
Before the establishment of Topeshvar milk cooperative society the milk producers in Wadicharan used to sell milk in Bambavade village. Since the establishment of milk producers' cooperative society in Wadicharan the society started regular milk collection and its supply to Gokul Dairy at Kolhapur. Table 5.23 shows the total milk collection in Wadicharan village from 1983-84 to 1992-93.

Table 5.23: Wadicharan village: Total milk collection (1983-84 to 1992-93)  
(Figures in lakh litres)

Sr. No.	Year	Milk collection
1	1983-84	0.63
2	1984-85	0.67
3	1985-86	1.25
4	1986-87	2.08
5	1987-88	2.08
6	1988-89	1.90
7	1989-90	1.88
8	1990-91	2.98
9	1991-92	2.09
10	1992-93	1.77
	T o t a l:	17.33

(Compiled by the researcher)

WADICHARAN  
TOTAL MILK COLLECTION  
1983-84 to 1992-93



GRAPH 5:9

The foregoing table reveals that in 1983-84 the total milk collection in Wadicharan village was only 63 thousand litres. Since then upto 1986-87 there was a remarkably rapid increase in the milk collection but for the next three years there was a considerable decrease in the milk collection. In 1989-90 the milk collection decreased to 1.88 lakh litres and in 1990-91 a sudden increase in the milk collection was observed the total milk collection being 2.98 lakh litres which sharply decreased to 1.77 lakh litres during 1992-93. Thus, there are many fluctuations in the milk collection during the last ten years. During this period of ten years the total milk collection was 17.33 lakh litres.

The monthwise milk collection during 1992-93 is presented in Table 5.24.

Table 5.24 shows that during 1992-93 the total milk collection was 1.77 lakh litres. In the month of April milk collection was maximum, that is, 19.1 thousand litres and in the month of November, as low as 11.2 thousand litres. The table shows low milk collection during flush season. This is due to the establishment of a new cooperative dairy society in the month of October 1992, which started collecting milk. The daily average milk collection of Wadicharan village

**Table 5.24:** Wadicharan village: Monthwise milk collection (1992-93)  
(Figures in '000 litres)

Sr. No.	Month	Milk collection
1	April 1992	19.1
2	May	18.9
3	June	16.2
4	July	14.6
5	August	16.4
6	September	12.3
7	October	11.6
8	November	11.2
9	December	13.5
10	January 1993	14.0
11	February	13.9
12	March 1993	15.3
	T o t a l :	177.0

(Compiled by the researcher)

was 485 litres during 1992-93.

#### 5.E.9 Prices of Milk:

The prices of milk in Wadicharan village are governed by the rules and regulations of Kolhapur Milk Federation's Gokul dairy. The milk producers in the village are getting appropriate prices for the milk



since the establishment of cooperative dairy society in the village. The prices of the milk depend upon quality of milk. The amount paid by Topeshvar Cooperative Dairy to the milk producers in Wadicharan village from 1983-84 to 1992-93 is presented in Table 5.25.

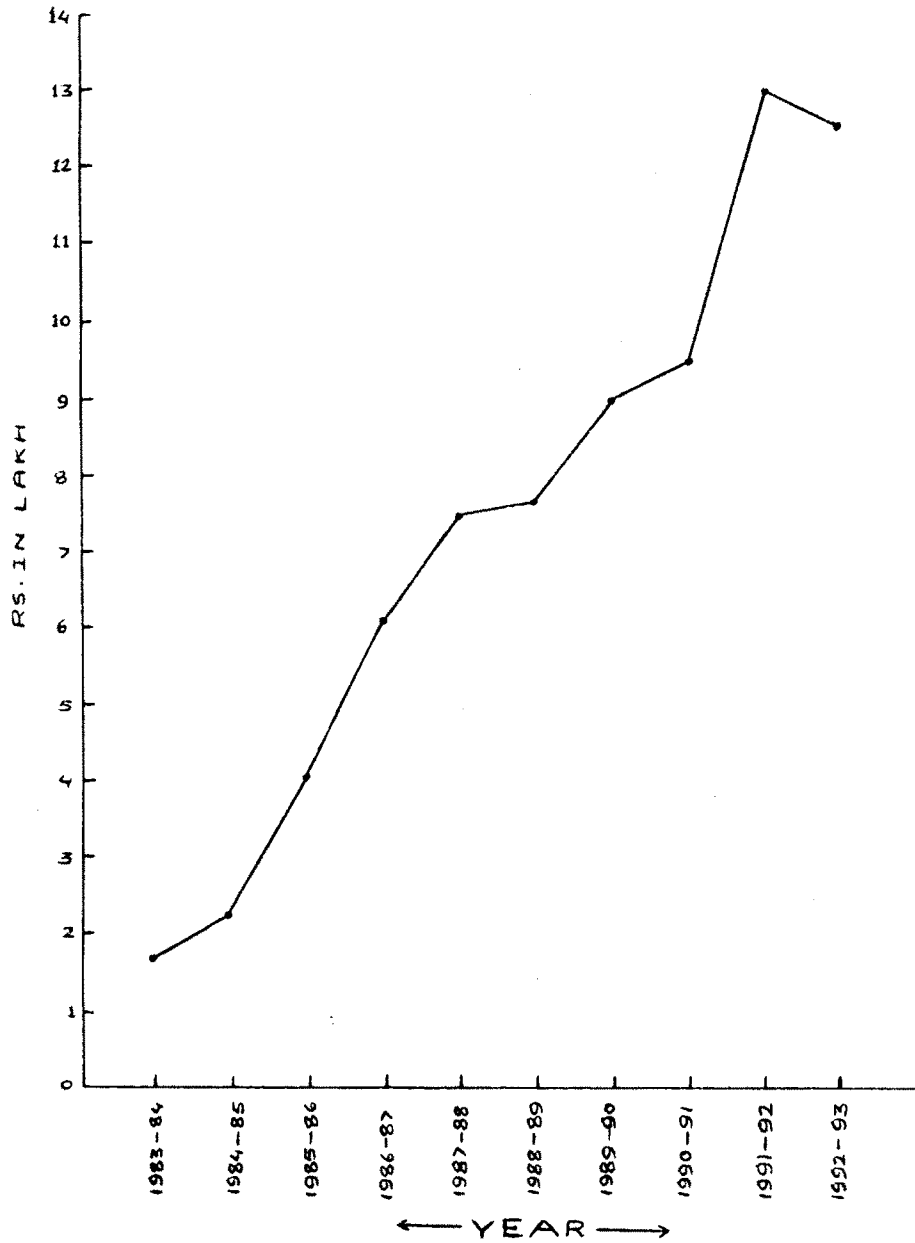
Table 5.25: Wadicharan village: Price of milk paid to the milk producers (1983-84 to 1992-93) (Figures in lakh Rs.)

Sr.No.	Year	Price of milk
1	1983-84	1.71
2	1984-85	2.30
3	1985-86	4.10
4	1986-87	6.05
5	1987-88	7.48
6	1988-89	7.70
7	1989-90	9.03
8	1990-91	9.54
9	1991-92	13.02
10	1992-93	12.61
	T o t a l:	73.54

(Compiled by the researcher)

The above table reveals that in 1983-84 the amount paid by the cooperative dairy society to the milk producers was Rs. 1.71 lakh. Since then there is a constant increase in the amount paid to the milk producers in the village upto 1991-92, when the total

# WADICHARAN PRICE OF MILK 1983-84 to 1992-93



GRAPH 5:10

amount paid to the milk producers was Rs. 13.02 lakh. However, in the year 1992-93 the amount decreased to Rs. 12.61 lakh. This decrease was due to the decrease in the milk collection during that year. In a period of ten years the total amount paid to the milk producers was Rs. 73.54 lakh. The calculation shows that the average amount received by the milk producers was 7.35 lakh per year. If we add the amount of Rs. 3.46 lakh received by the society as commission, the total income generation through cooperative dairy farming during the period of ten years comes to Rs. 77 lakh.

During the year 1992-93 the amount paid to the milk producers was Rs. 12.61 lakh and the society received commission of Rs. 0.35 lakh. Thus, the total income generation in the village through cooperative dairy farming during that year was Rs. 12.96 lakh. The calculation reveals that the average monthly income generation was Rs. 1.08 lakh and average daily income generation was Rs. 3,550. Further calculation shows that the average amount received per day by each milk producer was Rs. 12.

#### **5.E.10 Economic Status of the Dairy Cooperative:**

The economic status of Topeshvar Cooperative milk society from 1983-84 to 1992-93 is presented in Table. 5.26.

**Table 5.26:** Wadicharan village: Economic status of Topeshvar Cooperative Milk Society (1983-84 to 1992-93)  
(Figures in '000 Rs.)

Sr. No.	Year	Income	Expenditure	Profit	Loss
1	1983-84	350.6	339.4	11.2	-
2	1984-85	528.0	515.0	13.0	-
3	1985-86	1,236.8	1,210.5	26.3	-
4	1986-87	1,502.8	1,474.3	28.5	-
5	1987-88	1,928.2	1,902.1	26.1	-
6	1988-89	2,104.8	2,051.9	52.9	-
7	1989-90	2,310.5	2,258.2	52.3	-
8	1990-91	2,435.6	2,408.5	27.1	-
9	1991-92	3,277.6	3,233.9	43.7	-
10	1992-93	2,336.8	2,218.5	118.3	-

(Compiled by the researcher)

The above table depicts that in the year 1983-84 the dairy cooperative society had a profit of Rs. 11.2 thousand which increased to Rs. 52.9 thousand in 1988-89. There was a considerable decrease in the profit margin during the next three years. However, in 1992-93 there was a profit of Rs. 118.3 thousand. Despite a decrease in the milk collection the society had the highest profit margin during the year due to the low expenditure.

**5.E.11 Developmental Activities:**

Most of the milk cooperative societies in the region are engaged in a number of developmental activities. The dairy cooperative society in Wadicharan village is an exception to this rule. Besides collecting milk from the milk producers and paying the price to them, the society is not engaged in any type of developmental activities in the village. However, the society distributed the cattle feed supplied by the Gokul Dairy to the members. The society has constructed its own building worth Rs. 2 lakh. In 1992-93 a new cooperative dairy society was established in the village which has affected the milk collection of the existing society.

**S u m m a r y:**

To present the study of cooperative dairy farming in Warana basin we have selected five villages and the development of cooperative dairy farming in these villages is studied and presented with special reference to the study of milk producers' primary cooperative societies in the villages. The selected villages are Sagaon (Shirala Tahsil) and Dongarwadi (Walwa Tahsil) from Sangli district and Kodoli (Panhala Tahsil), Talsande (Hatkanangale Tahsil) and Wadicharan (Shahuwadi Tahsil) from Kolhapur district.

**Table 5.27: Cooperative dairy farming in selected villages:  
A comparative statement (1992-93)**

Sr.No.	Villages	Tahsil & district	Population (1991)	Milk Union	No. of milk producers' cooperative societies	Milk collection daily average (Litres)	Income through dairying	
							Income in the villages (daily average) Rs.	Income per member (daily average) Rs.
1	Sagaon	Shirala (Sangli)	4,892	Warana dairy	3	2,302	15,700	20
2	Kodoli	Panhala (Kolhapur)	22,542	-do-	2	4,197	28,000	14
3	Talsande	Hatkanangale (Kolhapur)	4,475	-do-	2	1,781	12,000	16
4	Dongarwadi	Malwa (Sangli)	940	Malwa dairy	1	524	3,132	15
5	Wadicharan	Shahuwadi (Kolhapur)	1,292	Gokul dairy	1	485	3,550	12
								204

(Compiled by the researcher)

Village Sagaon located on the left bank of Warana river, has good irrigation facilities and sugarcane is an important cash crop there. The village has good quality bovine stock and improved varieties of milch animals. There are three milk producers' primary cooperative societies and the daily average milk collection during 1992-93 was 2,302 litres. The third society in the village collects only 301 litres of milk per day. All the three societies have provided direct employment to 23 persons. The income generation through cooperative dairy farming in Sagaon village was Rs. 15.7 thousand and average daily amount received by each milk producer is Rs. 20.

Village Kodoli is located on the right bank of Warana river and is the largest village in Warana basin with a population above 22 thousand (1991 census). The village is situated near Warana dairy and also gets the benefit of Warana cooperative sugar factory, which is located within the revenue limits of the Kodoli village. Kodoli village has well developed infrastructural facilities and a good number of improved breed of milch animals. There are two milk producers' primary cooperative societies in the village. The daily average milk collection was 4,197 litres in Kodoli. Both the societies together have provided direct employment to 39 workers. The daily average income generation in this village

through cooperative dairy farming was Rs. 28 thousand during 1992-93 and the average daily income per milk producer was Rs. 14. Both the cooperative milk societies in the village are economically self-sufficient.

Talsande village is located on the right bank of Warana river. But major part of the village is upland (plateau) region. The population of the village was 4,475 (1991) and the village has comparatively small area with irrigation facilities. There are two milk producers' primary cooperative societies in Talsande village and the average daily collection of milk in 1992-93 was 1,781 litres. The direct employment generation of both the societies was 13 workers. In this village the average daily collection of milk of the second society was only 526 litres. Since the establishment of the second cooperative society the growth of the first cooperative society was hampered. Prior to the establishment of the second cooperative society the first society has been showing a rapid growth rate. The average daily income generation through cooperative dairy farming in 1992-93 was Rs. 12,000 and average amount received by each milk producer was Rs. 16 per day.

Dongarwadi village situated on the left side of Warana river is located near small hill. The physical



setting of the village limits the development of agriculture. The total population of the village is 940 according to 1991 census and the village has 246 milch animals most of which are of improved breeds. The small village has only one milk producers' primary cooperative society with average milk collection of 524 litres per day during 1992-93. The society has provided direct employment to 4 persons. The average income generation through cooperative dairy farming was Rs. 3,132 per day and average daily income of individual milk producer was Rs. 15.

Wadicharan village located on the right side of Warana river is a small village with a population of 1,292 (1991). The village has 135 milch animals. Most of the cows in the villare are of improved breeds. This village has only one milk producers' primary cooperative society with an average of 485 litres milk collection per day during 1992-93. The society supplies milk to Gokul Dairy, Kolhapur. The society has provided direct employment to four persons. The average income generation through cooperative dairy farming was Rs. 3,550 per day. The average daily income of individual milk producer during 1992-93 was Rs. 12. Besides collecting milk from the milk producers and supplying it to Gokul dairy, the society is not engaged in

commendable activities of rural development. The low milk collection is the basic reason for this.

All these societies are engaged in the developmental activities in the villages. They not only collect milk and supply it to the milk union but also provide veterinary facilities and drinking water facilities for bovine animals. These societies organize training camps for the milk producers, distribute cash prizes to milk producers and also advance loans and give advances to the members. Some of these societies like Hanuman Dairy, Kodoli, have started bakery and confectionary units also. A cooperative dairy society in Talsande village organizes veterinary camps; a very important activity undertaken by Navjivan cooperative dairy in Talsande is the development of its own cooperative fodder farm. Some of the societies have purchased chaff cutters and thus they help the milk producers in cutting grass and fodder crops. These societies also organize tours and visits of the milk producers to the places important from the point of view of dairy development. Some of the dairy societies organize cattle fairs and veterinary camps; while some others have promoted urban credit societies. There are library, kindergarten, gymnasium and study room run by the milk producers' primary milk cooperative

societies.

Thus, the milk producers' primary cooperative societies in the village are responsible for the development of dairy farming in the region and have helped to raise the economic status of milk producers, which ultimately helps to accelerate the growth of rural economy in the region.