

CHAPTER : 3

Comparison of The Co-operative Dairy Development
In Irrigated And Non-irrigated Areas In
BARAMATI TALUKA.

- : Importance of Water Supply .
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CHAPTER : 3

Comparison of The Co-operative Dairy Development In Irrigated And Non-irrigated Areas In Baramati Taluka.

Importance of Water Supply :-

Agricultural development mainly depends upon water supply. If there is sufficient and regular water supply, it is possible to increase agricultural production. Nature is the main water supplier. Man can make its stock and use it rigorously.

In Maharashtra, of the total land-area available, 60 percent is under cultivation, but only 12 percent of the cultivated land is irrigated. With given resources and efficient utilization of water resources, a maximum of 25 percent of the total cultivable area can be irrigated. The prospects of increasing production is limited to that extent.

In Pune district only 14 percent of the area is under irrigation. Tahsil-wise percentage of net irrigated area to net area in Pune district is given in the Table 3.1.

The major irrigated area in Pune district is found in the Baramati Taluka as shown in Table 3.1. In the past the Baramati taluka was known as a dry area. But this situation has completely changed because of the Nira Left Canal. It became functional in 1886. This canal passes through Baramati taluka. It is a west to east canal. It creates prosperity but at the same time leaves the other area untouched i.e. irrigated and non irrigated area.

Table 3.1

Tahsilwise Percentage of Net Irrigated Area to Net Area shown in Pune District.

| Sr. No. | Tahsil | Percentage of net irrigation area to net area shown. | | |
|----------------|-----------|--|---------|---------|
| | | 1960-61 | 1970-71 | 1980-81 |
| 1. | Pune city | 18.92 | 54.60 | 38.45 |
| 2. | Haveli | 5.64 | 9.91 | 18.44 |
| 3. | Khed | 4.57 | 3.20 | 4.66 |
| 4. | Ambegaon | 4.91 | 9.08 | 4.60 |
| 5. | Junner | 8.09 | 3.09 | 7.18 |
| 6. | Shirur | 5.95 | 10.19 | 12.54 |
| 7. | Daund | 8.30 | 15.90 | 24.50 |
| 8. | Indapur | 27.45 | 22.82 | 18.89 |
| 9. | Baramati | 32.12 | 35.59 | 43.94 |
| 10. | Purandhar | 7.78 | 14.44 | 16.07 |
| 11. | Bhor | 2.44 | 1.36 | 3.52 |
| 12. | Velhe | 0.02 | 2.39 | 4.17 |
| 13. | Mulashi | 0.66 | 1.42 | 2.91 |
| 14. | Maval | 0.23 | 0.34 | 0.57 |
| District Total | | 10.35 | 12.05 | 13.84 |

Source : Socio-Economic Review And District Statistical Abstract of Pune District - 1981-82 - PP 5,6

The total geographical area of Baramati taluka is 1,38,248 hectares, but the area under cultivation is 10,0712 hectares. According to the 'latest' statistics available for the Baramati taluka, 45 percent of the cultivated area is under irrigation. The area irrigated by different sources is shown in the following table.

Table 3.2

The Area Irrigated by Different sources In Baramati Taluka (hectares)

| Year | Surface Irrigation | Well Irrigation | Net Area Irrigated | Gross Area Irrigated |
|---------|--------------------|-----------------|--------------------|----------------------|
| 1960-61 | 16043 | 15428 | 31471 | 36195 |
| 1979-80 | 25775 | 7202 | 32977 | 46081 |
| 1980-81 | 27756 | 12136 | 39892 | 48063 |

Source :- Socio-Economic Review And District Statistical Abstract of Pune District. 1981-82 PP - 5,6

Sources of irrigation :-

Following are the main sources of irrigation in this taluka.

(a) Surface Irrigation :

It is known as canal irrigation. Nira left canal passes through the taluka. The table shows that it is the main source of water supply to agriculture in the area. Out of the total irrigated area 70 percent is irrigated by this canal. It shows that the area under canal irrigation has increased between ~~XXXXXX~~ 1960-61 to 1980-81 by 37.5 percent.

(b) Well Irrigation :-

This is another source of irrigation. The area under well irrigation has fluctuated between 7000 hectares and 15,000 hectares, but has shown a tendency towards a decline, reflecting probably the existence and recurrence of drought conditions. Out of the total irrigated area 30 percent area is under well irrigation. But it depends mostly on monsoon. Details of wells in the Baramati taluka in 1980-81 ~~and~~ are given below.

| | <u>1980-81</u> |
|---|----------------|
| 1) Total number of wells | 6224 |
| 2) Number of Irrigation wells in use with z electric pump sets | 4396 |
| 3) Number of Irrigation wells in use with diesel pump sets | 1331 |
| 4) Number of Irrigation wells in use with traditional method | 434 |
| 5) Number of Irrigation wells not in use | 63 |

Determination of Irrigated And Non-irrigated Area :

Nira left canal has divided the taluka into two parts. It passes through Baramati taluka from west to east. The area to the right of the canal is high ground, where as that to the left is low lying. So only the left side area of the canal comes under canal irrigation. Since the canal flows from lofty area the wells from the deeper area also benefit,

though those on the higher side cannot benefit. Such wells depend for 'sustenance' on the monsoons. If there is no rain for one or two years, the problem of drinking water also arises.

For the study of comparative development of co-operative dairy societies in the irrigated and the non-irrigated areas, a clearer view of what is irrigated or non-irrigated area needs to be had. Here the irrigated area would mean that area which comes under the canal irrigation or which is benefited directly or indirectly by Nira Left Canal or both.

Thus, the non-irrigated area means that area which does not come under the canal irrigation or that area which does not benefit directly or indirectly from this canal, that is the area on the right of the canal.

For the study of comparative development of co-operative dairy societies in the irrigated and the non-irrigated areas the criterion of land alone has not been considered. The number of villages from this area has also been taken into account as the registration of milk co-operative societies is made on village basis, i.e. co-operative societies are registered in the name of the village.

There are 67 villages in Baramati taluka. These villages are divided into two sections i.e. those having irrigation facilities and those lacking them. According to the determination of area 30 villages come under irrigated and the remaining 37 villages come under non-irrigated area.

The comparison of the co-operative dairy development in both areas, is made on the basis of the following points.

- A) Registration of milk co-operative societies in each year from both areas.
- B) Number of milk co-operative societies in each village from both areas.
- C) According to the daily milk collection of each co-operative society from both areas.

(A) Registration of Milk Co-operative Societies In Irrigated And Non-irrigated Area -

The first milk co-operative society was registered in the year 1973 and led to the development of co-operative dairy society. At the end of 1984-85 there were 139 registered milk co-operative societies in Baramati taluka. From 1973-74 to 1984-85 the year-wise registration of milk co-operative societies in irrigated and non-irrigated area is shown in the Table 3.3.

In the table the year-wise registration of milk co-operative societies in the irrigated areas is shown in column number two, and the non-irrigated areas in column three. The total number of registered co-operative societies is indicated by column four. The last column indicates the total numbers of registered co-operative societies in the taluka.

There were, by the end of 1984-85 99 milk co-operative societies registered in the irrigated areas and 40 in the non-irrigated areas i.e. 71 percent of the societies were registered in irrigated and 29 percent in the non-irrigated areas. Thus, the number of registered co-operative societies is more in the irrigated areas than in the non-irrigated areas.

Table 3.3

Registration of Co-operative Dairy Societies In Irrigated^{ed}
and Non-irrigated Area In Baramati Taluka.

| Year | Registration of Co-operative Dairy Societies in | | | Total Co-op. Societies |
|---------|---|--------------------|-----------------------------------|------------------------|
| | Irrigated Area | Non-Irrigated Area | Total registered Co-op. societies | in taluka |
| 1973-74 | 1 | -- | 1 | 1 |
| 1974-75 | 20 | 1 | 21 | 22 |
| 1975-76 | 4 | 2 | 6 | 28 |
| 1976-77 | 4 | - | 4 | 32 |
| 1977-78 | 10 | - | 10 | 42 |
| 1978-79 | 6 | 3 | 9 | 51 |
| 1979-80 | 5 | 2 | 7 | 58 |
| 1980-81 | 6 | 2 | 8 | 66 |
| 1981-82 | 5 | 6 | 11 | 77 |
| 1982-83 | 2 | 2 | 4 | 81 |
| 1983-84 | 1 | 2 | 3 | 84 |
| 1984-85 | 35 | 20 | 55 | 139 |
| Total | 99 (71 percent) | 40 (29 percent) | 139 | 139 |

Source : Record from D.D.D.O's Office
Pune - 1973 to 1985.

At the end of 1977-78, out of 42 registered co-operative societies in the taluka, only three (7 percent) were in the non-irrigated area. It shows that in the beginning progress of the co-operative societies was registered only in the irrigated areas and non-irrigated areas had remained neglected and were relegated to the distant background. In fact, in the irrigated areas, there was not a single year, between 1973-74 and 1984-85, in which at least one new milk co-operative society was not registered. But in the case of non-irrigated areas, there were years when no new milk societies were registered. In 1976-77 and 1977-78 there was no registration of co-operative societies in the non-irrigated areas.

From 1978-79 the progress of co-operative dairy societies started picking momentum which continued till the end of 1984-85.

A maximum number of co-operative during societies were registered in the non-irrigated areas in the year 1984-85, which was 50 percent of all such registration in the area. But compared to the registered co-operative societies on the whole, the percentage share of those in the non-irrigated area registered in the year 1984-85 was 36.

It is clear that the progress of co-operative dairy development is greater in the irrigated areas (71 percent) than the non-irrigated area (29 percent).

(B) Classification According to Number of Co-operative Dairy Societies Registered In Each Village From Irrigated And Non-irrigated Areas :

For the comparative study of co-operative dairy development, it is necessary to study the number of milk co-operative

societies registered in each village from both areas. From that point of view, classification is made according to the number of milk co-operative societies registered in each village from both the areas.

Table 3.4

Number of societies in each village from irrigated and non irrigated area in Baramati Taluka.

| No. of Co-op- erative societies | No. of villages having No. of societies shown in column No. 1 | | No. of villages |
|--|--|-----------------------|--------------------|
| | Irrigated Area | Non-irrigated Area | |
| 1 | 5 | 19 | 24 |
| 2 | 13 | 8 | 21 |
| 3 | 3 | 2 | 5 |
| 4 | 3 | - | 3 |
| 5 | 1 | - | 1 |
| 6 | 2 | - | 2 |
| 7 | 2 | - | 2 |
| 17 | 1 | - | 1 |
| Villages without co-operative dairy societies | Nil | 8 | 8 |
| Total villages | 30 | 37 | 67 |

The table shows the number of milk co-operative societies in column one, number of villages having societies from irrigated areas in column two and the number of villages for non-irrigated areas in the last column.

Following is the sum and substance of the development of milk co-operatives.

There are, in all, thirty villages in the irrigated areas and thirty-seven villages in the non-irrigated areas. In the irrigated areas there is not a single village without milk co-operative society. But in the non-irrigated area, out of 37 villages 8 are not having any milk co-operative society.

In Baramati taluka there are 24 villages having one milk co-operative society in each village. Out of that five villages (21 percent) are from the irrigated areas and 19 (79 percent) are from non irrigated areas. It means that the maximum villages having one co-operative society are in the non-irrigated areas.

In this taluka, 21 villages (31 percent) are having two milk co-operative societies in each. From these 13 villages (62 percent) are from the irrigated areas and only 8 (38 percent) are from non-irrigated areas.

Five villages (7.6 percent) from this taluka are having three milk co-operative societies in each village. From these five villages three (60 percent) are from the irrigated areas and remaining two (40 percent) are from the non-irrigated, area.

Nine villages (13 percent) are having more than three milk co-operative societies in each village. All these villages are from the irrigated area .

A maximum of 17 milk co-operative societies are registered in one village alone. It is again in the irrigated area.

The name of that village is 'Pandare'. It is a leading village in the production of milk. The daily collection of milk from this village is nearly 24,000 litres.

Following are the main reasons for the multiplicity of milk co-operative societies in Pandare village.

(i) The geographical area of this village is large, and the inhabitants (farmers) of this village are scattered in number of contiguous lands. So, a number of co-operative societies are registered in the area covered by this village.

(ii) This village is the origin of co-operative dairy development in the Baramati taluka.

(iii) A large number of farmers from this village are landlords. They are able to maintain more milch cattle. Out of the total population of cross breed cows in the Baramati taluka, 35 percent cross-breed cows were in this village. So the production of milk is high and the number of milk co-operatives, as well.

(iv) The people from this village are active in politics from the beginning. So, they could manage to procure permission for the registration of co-operative dairy society, easily.

(v) The large area of agriculture is under canal irrigation etc.

Though the number of co-operative societies is large, fifty percent co-operative societies were collecting less than 500 litres milk perday.

However, the data shows that, it is not possible to manage, more than one milk co-operative society in one village from the non-irrigated areas.

(C) Classification According to Daily Average Milk Collection of Co-operative Societies From Irrigated And Non-irrigated Areas.

The collection of milk depends upon the production of milk in the village as well as the collection facility, among others. The progress of co-operative societies depends upon the collection of milk. If the collection is more, societies can get more benefit and these societies can provide more facilities to their members. So it is necessary to examine the daily milk collection of co-operative societies from this taluka.

In the table no. 3.5 the milk co-operative societies are classified according to the daily average collection of milk by the co-operative societies from irrigated and non-irrigated areas.

The table shows that at the end of 1984-85, out of the total registered milk co-operative societies in the taluka, 15 (11 percent) were closed due to inadequate milk procurement. From which 9 (60 percent) are from the irrigated and 6 (40 percent) from the non-irrigated areas.

The daily collection of 8 societies (6 percent) is less than 100 litres, 54 (39 percent) societies have between 101 and 500 litres and 40 (29 percent) collect more than 500 and less than 1000 litres per day. The collection of 16 (11.5 percent) societies is between 1000 litres and 2000 litres. Only 5 (3.5 percent) societies are collecting between 2000 and 4000 litres per day. There is only one society where the collection is more than 5000 litres per-day.

Table 3.5

Classification of co-operative societies according to daily milk collection : (litres)

| Daily Collection of milk (litres) | Societies from Area | | Total Societies |
|--------------------------------------|---------------------|---------------|--------------------|
| | Irrigated | Non-irrigated | |
| below 100 | * 7 (87.5) | * 1 (12.5) | (a) 8 (6) |
| 101 to 500 | 34 (63) | 20 (37) | 54 (39) |
| 501 to 1000 | 30 (75) | 10 (25) | 40 (29) |
| 1001 to 2000 | 14 (87.5) | 2 (12.5) | 16 (11.5) |
| 2001 to 3000 | 2 (67) | 1 (33) | 3 (2) |
| 3001 to 4000 | 2 (100) | Nil | 2 (1.5) |
| 4001 to 5000 | Nil (Nil) | Nil | Nil - |
| More than 5000 | 1 (100) | Nil | 1 (79) |
| Closed | 9 (60) | 6 (40) | 15 (11) |

* Figures in brackets are percentage to the row totals.

(a) Figures in brackets are percentage to the total column table.

The total number of registered milk co-operative societies in the irrigated areas is 99 of which nine percent have been closed. The average daily collection of seven percent of the co-operative societies is less than 100 litres perday. Thirty four percent co-operative societies collect between 100 and 500 litres, 30 percent between 500 and 1000 litres and only 16 percent are collecting more than 1000 litres perday. Only one society is collecting more than 5000 litres perday.

In non-irrigated areas 40 co-operative societies are registered of which 15 percent are closed. Only one co-operative society (2.5 percent) is collecting less than 100 litres perday. The collection of 50 percent of the co-operative societies is more than 100 and less than 500 litres, 25 percent are between 500 and 1000 litres and only 7.5 percent societies are collecting more than 1000 litres perday. In non-irrigated area there is no society collecting more than 3000 litres perday.

It is clear that in the non-irrigated areas 40 milk co-operative societies are registered in 37 villages but 77.5 percent societies are collecting less than 1000 litres perday. Whereas 99 co-operative societies are registered in 30 villages in the irrigated areas but 71 percent of the societies are collecting 1000 or less litres perday. And 19 percent of the societies are collecting more than 1000 litres perday.

So it is clear that in the non-irrigated areas the number of societies and their collection is less than that in the irrigated areas.

From all the above points (ABC) it is clear that the co-operative dairy development in the taluka is concentrated in the irrigated areas.

Main causes of disparities in co-operative dairy development :

Following circumstances are responsible for unequal development of co-operative dairy societies in irrigated and non-irrigated areas.

(i) Fodder Problem :

The milk-production depends upon the milch cattle population, and this in its turn is reinforced by the types of cattle. To be able to keep high milk yielding cattle becomes contingent to the availability of fodder in adequate quantity and at the right time. Because when we expect more milk from the cattle, we must accept providing them with nutritious food. There is a need for sufficient and regular supply of dry as well as green fodder for the high milk yielding cattle. If there is not sufficient and regular supply of fodder, it is not profitable to keep such cattle. This problem always arises in the non-irrigated areas.

In Maharashtra State, there is a great contrast between actual need and availability of fodder. Details about need and actual production of fodder is shown in the following table.-

Table 3.6

Actual need and availability of fodder in Maharashtra State
(lakh tones) 1977-78.

| Particulars | Green fodder | Dry fodder | Oil cake |
|-----------------------|--------------|------------|----------|
| Need | 585.09 | 661.44 | 70.44 |
| Production | 189.50 | 379.46 | 12.44 |
| Deficit (shortage) | 395.59 | 281.98 | 58.00 |
| Percentage of deficit | 67.62 | 42.64 | 82.34 |

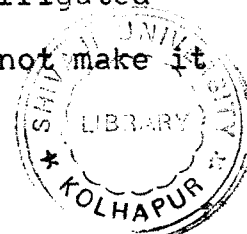
Source - Statistical Diry - 1980.

Table 3.6 very succinctly indicates that the cattle have to go more or less hungry. This situation affects the milk production.

The fodder problem is more intense in non-irrigated areas than in irrigated area. The same situation exists in the Baramati taluka. In the irrigated area sugarcane is the main ~~crop~~ crop. So farmers can grow subsidiary crops like maize for the green fodder. Because of availability of water, farmers can produce different types of grass. Sometimes, farmers can use sugarcane as a fodder. Only big landowners can afford this.

In irrigated areas some landless labourers are keeping cross-breed cows. They are getting work in all the period of the year. They can get some fodder from the farmers, where they are working. And also they collect grass from the farms. Farmers agree to this arrangement because both of them are needy. So it is possible for farmers and agricultural labourers to keep high milk yielding cross-breed cows. In irrigated areas, number of farmers are keeping more than three or four cross-breed cows.

In the non-irrigated areas the situation is completely different. Because of uncertainty of water supply, it is not possible to bring the land under irrigation for the whole year. Major portion of the agricultural area depends upon monsoon. At some places, there is well-irrigation, but there are certain limits to wide-spread use of these. So in the non-irrigated area the main crops are jawar, bajra etc. These do not make it



possible to provide continuous supply of green fodder for cattle. It is not possible to purchase fodder and provide it to cattle. It is costly and has to be brought from far away places. So the farmers from the non-irrigated areas are unable and cannot afford to keep cross-breed cows. There are a number of farmers keeping only one cross-breed cow. The farmers, therefore, keep the local types of cattle. The distribution of cattle in the irrigated and the non-irrigated areas is shown in the table below. (XXX)(3.7)

Table 3.7

Distribution of cattle in the irrigated and non-irrigated areas in Baramati taluka. (Percentage)

| Particulars | In irrigated Area | In non-irrigated Area |
|------------------|-------------------|-----------------------|
| Cross breed cows | 85 | 15 |
| Local types cows | 49 | 51 |
| Buffalows | 79 | 21 |
| Goats | 52 | 48 |
| Sheep | 27 | 73 |

Source : Record of animal censuses 1982
Panchayat Samiti Baramati.

The table shows that the farmers from non-irrigated areas are unable to keep high milk-yielding (cross-breed) cattle. The non-availability of sufficient and regular supply of green fodder is one of the reasons.

(ii) Economic Conditions of Farmers :-

The dairy development depends on the economic conditions of farmers. Cattle do not give milk all the time. Some period is a dry period. In the dry period, farmers have to keep cattle without receiving any income. So the farmers, who are economically sound can feed them properly. But those who are economically weak cannot do so. Owing to inadequate water supply, farmers incomes diminish. These farmers have no savings. It is, therefore, not possible for them to feed the cattle properly in the dry period. In the irrigated areas the farmers are economically well off, and the availability of fodder is bright, so they can feed cattle properly all the time. In the non-irrigated areas improper feeding practices lead to reduction in milk production.

(iii) Loans :-

The dairy business faces a pressing need for capital to purchase milch cattle, to build cowpen etc. If the farmers have capital of their own, then they will have to face less severe problems. A survey of farmers in different villages from the irrigated and the non-irrigated areas, has indicated that in irrigated areas, a majority of the milk producers had invested their own capital. Some producers had taken loans from financial institutions. These institutions could provide loans to the farmers from the irrigated area easily. They could get advances from the milk co-operative society to meet day-to-day expenditures. They could get cattle feed from the

co-operative society or private traders on credit. The farmers enjoyed high credit in various markets.

But in the non-irrigated area the dairy business depends mostly on the availability of loans, because farmers from these areas are economically weak. They have no capital of their own to invest in dairy business. The above survey indicated that there is need of loans for dairy business, in the non-irrigated areas. However, the farmers are unable to get sufficient loans from banks. Banks do provide loans for purchasing cattle. But the problem of daily expenses arises. It is difficult to repay the loan after the fulfilment of their own daily needs as well as that of their cattle. In the non-irrigated areas the banks have implemented government schemes meant for farmers below the poverty line.

(iv) Inadequate Dairy co-operatives :-

Dairy co-operatives are the contributors in dairy development. Dairy development depends on economic conditions of milk co-operatives. Economically sound co-operative societies can provide various types of facilities to their members. Economic conditions of dairy co-operatives depend on their daily collection of milk. In the non-irrigated areas there are fewer milk co-operative societies than the number of villages. Milk collection in these areas is also low, resulting in the societies from the non-irrigated area getting economically weak.

In the irrigated areas, a number of villages have more than one milk co-operative society. So members are distributed among a number of societies. It has been found that many members

of the milk co-operative societies belong to the same family. Separation is indicated only on paper. Economically these societies are sound. These societies can provide various types of facilities to their members.

(v) Veterinary Services :-

These services are also responsible for the inadequate dairy development in the irrigated and the non-irrigated areas. There are 20 veterinary service centres in the taluka. In the non-irrigated area, there are 37 villages, which are served by only seven centres. Two of these centres do not have artificial insemination facilities. Out of these centres six are managed under the Zilla Parishad and one is managed by the KVC.

In the irrigated area there are 30 villages and 13 veterinary service centres. Of these 13 centres, three are managed by the Zilla Parishad, eight are managed by the KVC and one by BAIF. The fodder development programmes of the KVC are mostly undertaken in the irrigated areas.

Some villages are not having veterinary service centres. It is difficult to bring the cattle for treatment to the centres. So farmers have to call the veterinary personnel to their own residances, which involves paying of visit fees. But it is not possible for poor farmers and landless labourers to pay the fee, and it is not possible again to spend more money for treatment.

(vi) Transport :-

Milk is a perishable commodity. It must be transported within a short time. In Baramati taluka at the end of 1984-85 only 47 co-operative societies were collecting milk, twice in a day. Other societies were collecting milk only once in a day.

In the non-irrigated areas, out of 40 registered co-operative societies 34 were working. But only 5 societies were collecting milk twice in a day. So in other villages the farmers have to search for customers. Some private vendors are collecting milk and providing it to some co-operative societies on commission basis. In the evenings the collection is very low. So it is not beneficial to carry it to the chilling plant.

In the irrigated areas the production of milk is much higher, resulting in a number of societies collecting milk twice in a day. Some co-operative societies find it convenient to employ vehicles for milk transport.

These conditions are responsible for the disparities in development of co-operative dairy societies in the irrigated and the non-irrigated areas, as well as for concentration the of co-operative societies in irrigated areas.