

" In every work of genius, we recognise our own rejected thoughts; they come back to us with a certain alienated majesty".

- Ralph Waldo Emerson -

CHAPTER I

- 1) INTRODUCTION.
- 2) OBJECTIVES.
- 3) METHODOLOGY.
- 4) BRIEF PROFILES OF
 - a. SANGLI DISTRICT.
 - b. KOLHAPUR DISTRICT.

INTRODUCTION

The development of agro-industry plays a crucial role in the economic development process of agriculture based country like India. An agro-industry like sugar industry occupies a premier position in the field of agricultural product processing. The industry has come a long way since its inception in India. The industry has made tremendous progress despite the initial growth problems. Today, the Indian sugar industry stands first in the world in terms of sugar production as well as total area under sugarcane cultivation. The relative share of India in the total number of sugar factories in the world is the highest.

Sugar factories act as growth centres of the rural economy. The development of sugar industry in the co-operative sector has made most important and major contribution in the economic development of India. In Maharashtra, the contribution of co-operative sugar factories in the socio-economic development is quite significant from many angles. The sugar co-operatives are playing important role in the development activities like education and other socio-economic developments.

It is no doubt that co-operative sugar factories were helpful not only for the agricultural development but also for the socio-economic changes. Their contribution through finances of the state and the centre is substantial.

The sugar industry enquiry commission [1965] observed "*...in Maharashtra, the setting of a co-operative sugar factory has acted as a nucleus for social and economic development of the area around it and has helped to develop a new class of rural enterprises*".

A. OBJECTIVES OF THE STUDY.

The present study of five sugar factories in Southern Maharashtra is an attempt to examine the the working of the sugar factories in its various aspects. The study aims at the following specific objectives :

1. To make a comparative study of working of five different cooperative sugar factories in Southern Maharashtra.
2. To examine and analyse the comparative strengths, functioning, price paid to members and other socio-economic developmental activities.

Selection of the sugar factories.

Three representative cooperative sugar factories from the district of Kolhapur were selected viz.

- 1 Shri Panchaganga Shetkari Sahakari Sakhar Karkhana Ltd, Ganganagar, Ichalkaranji.
- 2 Shri Datta Shetkari Sahakari Sakhar Karkhana Ltd. Shirol.
- 3 Shri Warana Sahakari Sakhar Karkhana Ltd. Warananagar.

While two representative factories from the district of Sangli were selected for the present study viz.

- 4 Rajarambapu Patil Sahakari Sakhar Karkhana Ltd. Rajaramnagar, Sakharale, Tal. Walva, and
- 5 Shetkari Sahakari Sakhar Karkhana Ltd, Sangli.

The cooperative sugar factories from Kolhapur and Sangli district were purposely selected due to the limitation of time, accessibility and availability of data.

B. METHODOLOGY.

The study is based mainly on secondary data obtained from the

selected cooperative sugar factories for a period of last five years i.e. from 1985 - 86 to 1989 - 90. The secondary data so obtained is subjected to suitable methods of analysis for a meaningful interpretation. The period of five years has been selected so as the data does not become unwieldy.

The sugar factories have been selected purely on the basis of random convenience sampling. These sugar factories were personally visited and the management, after discussions, agreed to supply whatever published information was available with them.

C. A BRIEF PROFILE OF SANGLI DISTRICT

The district of Sangli is one of the southern part of the famous "Deccan Plateau". It is located between 16 degree 45' to 17 degree 52' North latitude and 73 degree 42' to 75 degree 40' East longitude. It is surrounded by Solapur district in the north-east, while Satara district in the north-west. In the south-west is Kolhapur district and in the north-east it is Bijapur district in Karnataka state. Beyond the west lies the Ratnagiri district. (p4). Total area of Sangli district is 8,612 sq.km. It is divided into three different parts on the basis of topography, climatology and rainfall etc.

1. Western - hilly area of Shirala Tehsil with heavy rainfall.
2. The basin area of Krishna, Warana and Yerla comprising Walva Tehsil and,
3. Eastern drought prone area comprising eastern part of Miraj, Tasgaon, north eastern parts of Khanapur and whole of Atpadi, Kavathe-Mahankal and Jath tehsils.

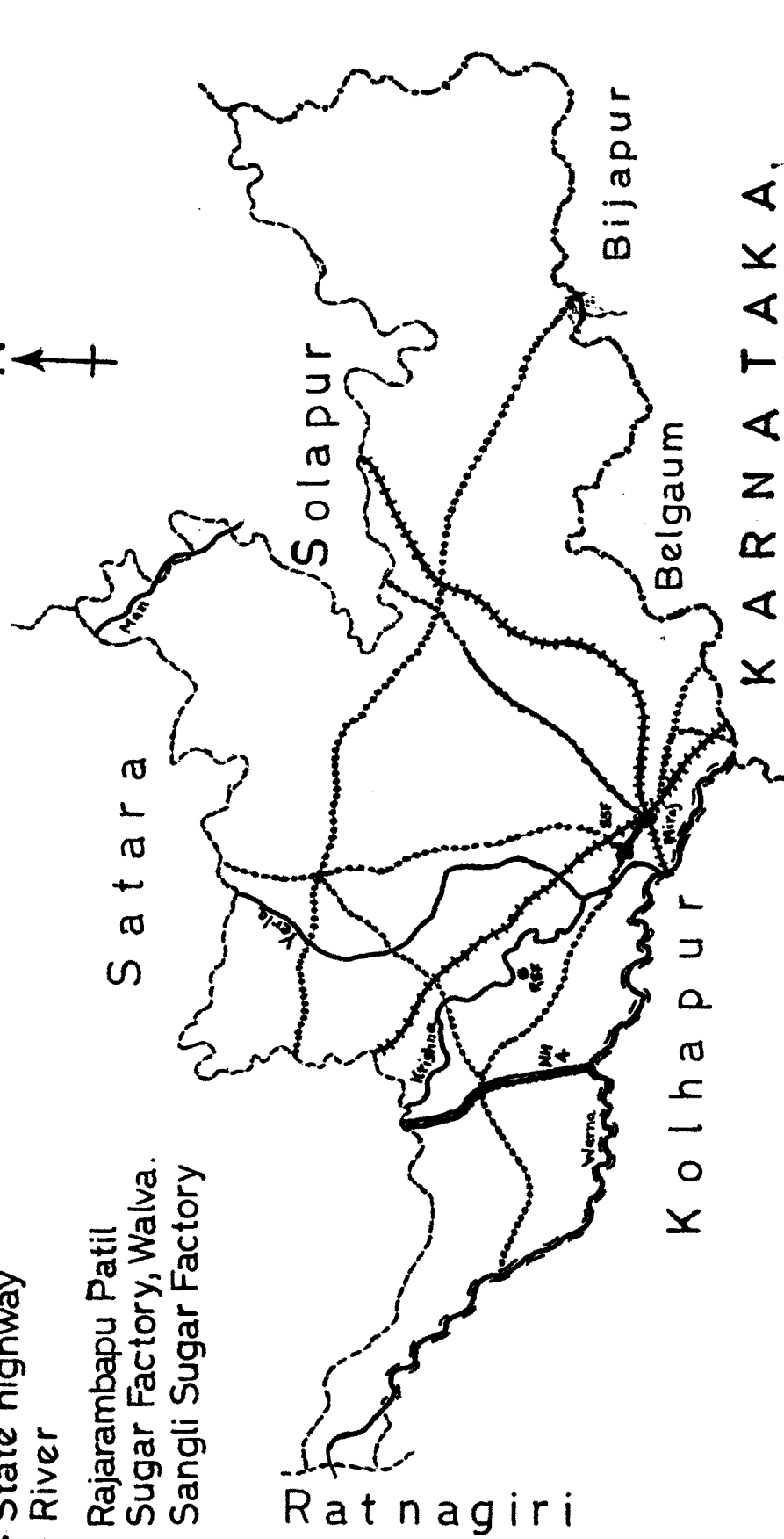
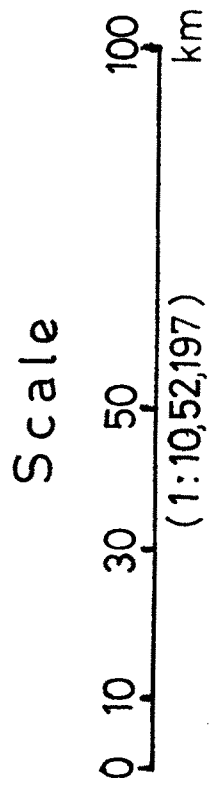
There are two main hill ranges viz Sahyadri and Mahadeo ranges. The western part of Shirala is covered by Sahyadri range with maximum elevation is about 915m. The Macchindragarh hill

S A N G L I D I S T R I C T

Reference

- District HQ
- - - State boundary
- - - District boundary
- ||||| Railway line
- == National highway
- State highway
- ~ ~ ~ River

RSF Rajarambapu Patil
Sugar Factory, Walva.
SSF Sangli Sugar Factory



K A R N A T A K A

ranges, which are off shoot of main Mahadeo range run along the common boundaries of Walva, Tasgaon and Khanapur tehsils with maximum elevation of 762m above mean sea level.

The major river Krishna with its Warana and Yerla tributaries flows through the western part of the district. Warana flows from west to east along the southern boundaries of the district and meets Krishna near Sangli city. Yerla river enters the district from north Bramhnal. Small rivers like Agrani, Morana, Bor and Manganga also flow in the district, however, these remain dry during summer months. (map on page 4).

The climate gets hotter and drier towards the east and humidity goes on increasing towards west. The maximum temperature ranges between 31.5 degrees C in July to 41.5 degrees C in April. Similarly the minimum temperature ranges from 10.3 degrees C in December to 21.5 degrees C during April to June. The climate in the district is fairly tolerable throughout the year. The winter is pleasant from December to February. The summer season starts from mid February to end of May. While June to September are the months of normal rainy season.

Generally the wind flow is moderate. In the rainy season velocity is high in the south-west to north-east. In the post monsoon periods the winds predominantly flow from east and by February, the wind flows in north-east direction. Thunder storms occur in the hot and in the post monsoon seasons.

Normal rainfall in the district is about 27 inches extending to about 40 rainy days. The western portion of Shirala tehsil gets heavy rainfall. Major portion of rainfall is received between June to September and October to November. From the studies for last 15 years record indicates that the six tehsils viz Atpadi, Jath, Kavathe-Mahankal, Miraj[East], Tasgaon[East] and Khanapur[East],

fall in broad draught zone.

The soil of varied texture and structure is seen in the district. The western part contains iron compounds and has a good drainage property. Walva, Tasgaon, Miraj has good quality of deep soil which is excellent for kharip crops. The rest eastern part of the district comprising of parts of Tasgaon, Miraj, Khanapur and whole of Atpadi, Kavathe-Mahankal and Jath tehsils have a shallow poor grey soils in well known scarcity tract.

The average size of holdings in the district is about 8 acres. About 61 % of the total cultivations own less than 5 acres aggregating 17 % of the total area of the district. Only 21 % of the agriculturists own more than 10 acres each accounting for 60 % of the gross cropped area. In backward tehsils viz Jath, Kavathe-Mahankal, Atpadi, Khanapur, large size farms are plenty. These four tehsils account for 66 % of the farmers owning more than 10 acres in the district. Out of the total 2,35,400 agriculturists in the district only 76,541 are members of cooperative societies.

The district has 517.8 sq.km.of irrigated area i.e.8.4 % of the total net cropped area of 6110.07 sq.km. However, the benefits of irrigation are not equally distributed throughout the district. In the 46.41 % of the high quality of soil, 50.02 % of medium quality soil and only 3.06 % of the low quality of soil is irrigated.The sources of water for agriculture in this district are wells and rivers. The biggest major irrigation project viz Chandoli is on the Warana river at Chandoli in Shirala tehsil. Yeralawadi, Bassappachiwadi, Morana, Siddewadi, Dodanala are other medium irrigation projects in the district. The projects are constructed on Yerla, Kokalendha, Agrani, Morana and Doddanala rivers respectively. Excluding the river banks, the crops are mostly fed by well water. Well irrigation is prominent in Sangli

district and about 84 % of the total irrigation area is covered by wells. The water is lifted from rivers directly or by constructing bandharas under small lift irrigation schemes.

Important crops cultivated are jawar, bajra, pulses, wheat, paddy, groundnut, cotton, sugarcane etc. Good quality grapes are cultivated in selected areas of the district. Seedless Thomson variety of grapes are grown in Tasgaon whereas sugarcane is cultivated in Miraj and Walva block on large scale. Bajra, jawar, cotton are grown in the arid zones of the district. The cropping pattern has been changing during the years [Table 1.1] mostly

TABLE 1.1

**DISTRIBUTION OF AREA UNDER IMPORTANT CROPS IN SANGLI DISTRRICT.
(1960-1980)**

S.No.	Crop	%area of the total gross cropped area		
		1960-61	1970-71	1979-80
1	Rice	1.98	2.53	3.19
2	Wheat	2.20	2.33	2.74
3	Jawar	38.99	35.01	38.80
4	Bajra	19.79	17.51	18.46
5	Other pulses	8.64	9.03	10.40
6	Total food grains	74.86	68.73	72.52
7	Sugarcane	1.36	3.12	4.74
8	Total food crops	78.13	73.70	78.97
9	Cotton	0.72	0.63	0.52
10	Groundnut	12.47	12.23	7.26

Source : - District Statistical Abstract, Sangli.

in favour of increasing sugarcane production, mainly because of increased irrigation facilities. It is also observed that the

percentage under rice, wheat, pulses and sugarcane is significantly increasing while bajra, cotton and groundnut is decreasing. There is increasing trend in the use of improved farm practice and use of different machineries. Farmers of this district use modern developed scientific technology in agriculture to produce bumper crops like sugarcane, grapes etc.

Special livestock production programme is carried out in the district. The district has fairly good amount of dairy development. The milk collection is done by seven centres including the Government milk dairy. There are 327 dairy cooperatives. The milk collected by the societies is supplied to Government Milk Scheme at Miraj. The Government milk dairy has capacity of 1,20,000 litres per day. There are two chilling plants at Jath and Shirala. The development of poultry farming is found mainly in the urban areas of Miraj and Sangli. Goat/sheep breeding is practiced throughout the district particularly in Atpadi [20%] and Kavathe-Mahankal [9%].

The population of the district is 21,97,977 as per the 1991 census. The urban population of the district was 21.51% while rest of the population lived in rural areas. The sex ratio was 971 females per 1000 males. The population of SC and ST was 2,04,352 and 15,535 respectively. The literacy percentage of the population was high 46.04% [59.06% males & 33.02% females]. The district is well advanced in the field of education with facility of college education in almost all faculties including arts science and commerce, law, medical and engineering.

The transportation and communication facilities are adequate in the district. Roads constitute one of the important items in the infrastructure of a country's economy. The road length was 91.4 kms per 100 sq. kms in 1980-81 and 91.60 in 1981-82.

The classification of roads in the district with the length in km. is as follows :

1. National Highways	-	29.57 kms
2. State Highways	-	570.39 kms
3. Major districts roads	-	1379.74 kms
4. Village roads	-	630.60 kms
5. Other roads	-	3711.91 kms
Total length	-	7512.16 kms

This clearly indicates, that almost all villages are linked by roads. This district is well connected by roads and railways to other districts of Kolhapur, Satara, Solapur and districts of Karnataka state. The total railway route in the district is 173.7 kms. The district head quarter, Sangli is connected with major villages and important towns in the district. Transport facilities are sufficient in the district except the rural branches in Jath, Atpadi and Shirala. (p.4).

There are no major industries in the district. However, textile industries are located in Madhavnagar, Sangli and Vita. Some industries are located in Kirloskarwadi and Vita. There are seven cooperative sugar factories in the district at the end of 1987. Very few Gur industries are observed in the district. As per the economic census, 1977. There are 9702 establishments in the district out of which 3523 are found in urban area. At the end of 1983, there were 433 registered companies out of which 365 are running and 68 industries are closed down.

The above profile shows that the district has sufficient geographical background for the development. Industrial development is not much. The main activity practiced in the district is agriculture.

D. A BRIEF PROFILE OF KOLHAPUR DISTRICT

Kolhapur is well known as 'Dakshin Kashi' and the major centre of the 'Maratha Empire' right from the days of Shri Chhatrapati Shivaji Maharaj. Through the ages Kolhapur has been known as one of the important regions in southern India for its religious and cultural history.

Kolhapur district was formed in 1959. It includes 12 talukas. It is spread over major parts of Krishna-Panchaganga basins and is located between 15 degrees 43' to 17 degrees 10' North latitude and 13 degrees 40' to 74 degrees 42' East longitude. It is surrounded by Sangli district in the north and Belgaum district [Karnataka state] in the south (p.11). The total area of Kolhapur district is 8059 sq. kms of which 7867.2 sq. kms is rural area and 191.8 sq. kms is the urban area. The Kolhapur district forms 2.62 % area of the total geographical area of Maharashtra state. The district has very fertile soil which can be divided into three broad soil zones according to its colour and fertility.

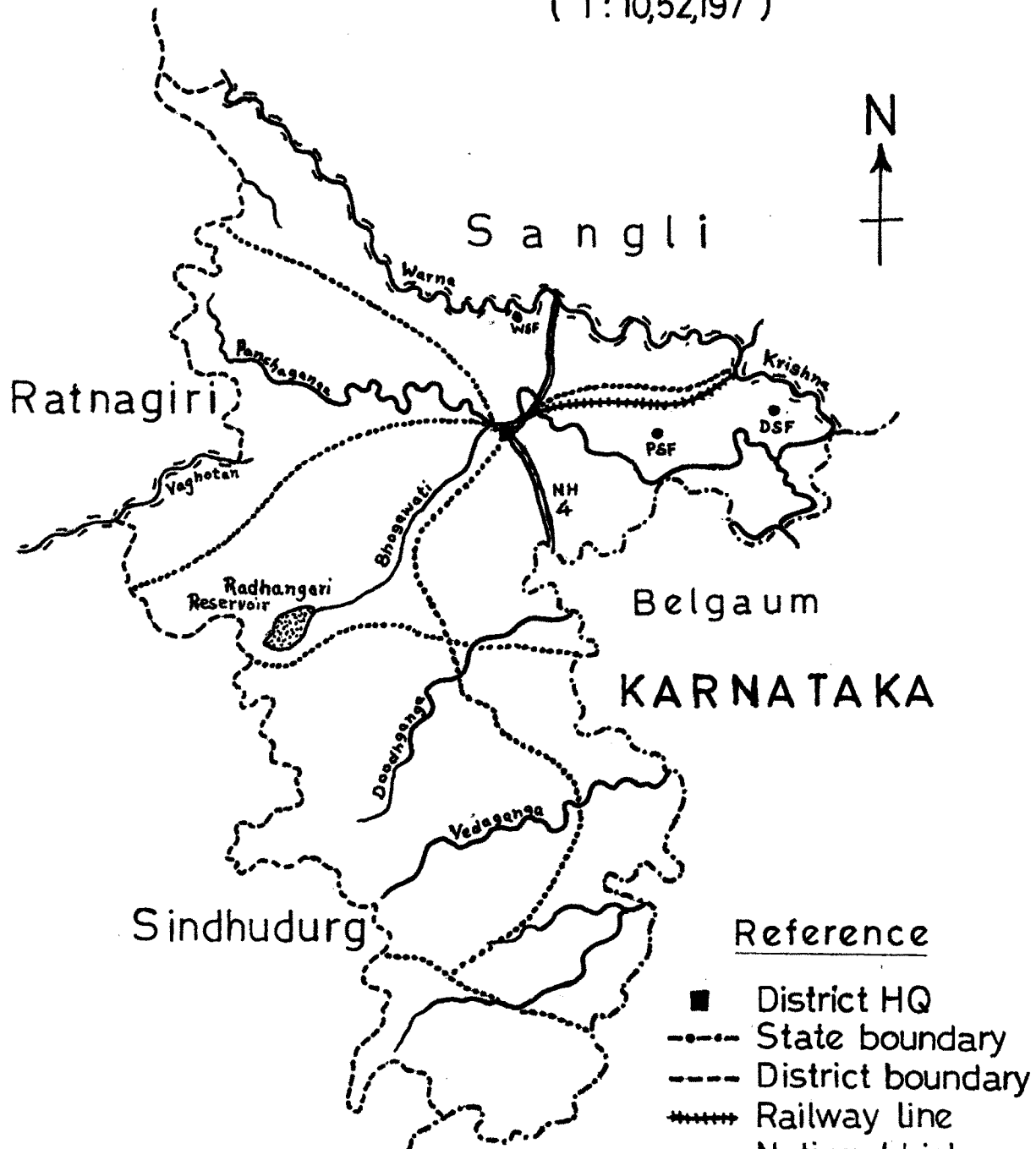
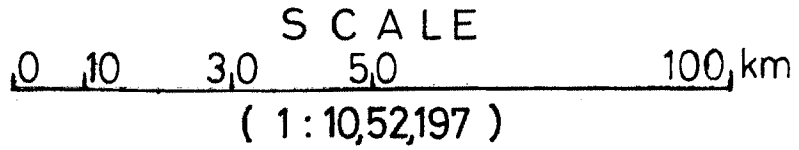
1. The fertile soil or red clay of the western part which facilitates the cultivation of paddy crop.

2. The brownish well drained soil is found in the central part of the district which enabled the farmers to cultivate various crops like rice, jawar, groundnut etc in kharip season and sugarcane, vegetables etc throughout the year, wherever irrigation facilities are available.

3. Deep black soil of varying depth forms the dry eastern zones of Kolhapur district. Such soil has been found suitable for growing paddy, sugarcane and vegetables.

The natural water resource is provided by rivers in the district, which is beneficial to lift irrigation and development of agriculture. There are about 14 rivers flowing in the district.

KOLHAPUR DISTRICT



Reference

- District HQ
- - - - State boundary
- - - - District boundary
- + + + + Railway line
- National highway
- State highway
- ~~~~~ River

- PSF Panchaganga Sugar Factory, Ichalkaranji.
- DSF Datta Sugar Factory, Shirol.
- WSF Warana Sugar Factory, Warananagar.

The major rivers are Krishna, Warana, Panchaganga, Dudhaganga and Vedganga (p.11). The Kolhapur district receives rains from south-west as well as north-east monsoons. However, the main rainy season is from June to October. The pre-monsoon rains are occasionally accompanied by thunderstorms. The rainfall is not uniform in all parts of the district. The western part of the district lies in the Sahyadri ranges. The average rainfall of the district varies according to the area from about 500 mm in Kurundwad area in the north-east to about 8,000 mm in Gaganbawda area near Sahyadri in the west. Kurundwad has the lowest annual average rainfall of 475 mm whereas Gaganbawda gets 6100 mm of rainfall. About 3/4th of the geographical area of the district receives more than 1000 mm of rainfall annually.

It is well known that Kolhapur district has achieved tremendous success in lift irrigation. The major irrigation projects of the district are Warana project, Tulsi project, Dudhaganga project, Hiranyakeshi project and Radhanagari project. The good quality of soil, increasing facilities of irrigation favourable weather and sufficient rainfall have all contributed to the agricultural prosperity in the district.

The food crops such as rice, bajra, jawar etc are the prominent crops in the district. Among the cash crops groundnuts, tobacco and sugarcane have large shares in the gross cropped area of the district. Area under sugarcane has increased from 16,320 hectares in 1950-51 to 31,504 hectares in 1980-81. The area in 1973-74 was 34,034 hectares and near about 40,000 hectares in 1981. Increasing area under irrigation stimulated sugarcane production and increasing area was brought under sugarcane cultivation. Consequently a number of sugar factories came into existence.

At present [1986- 87] there are 11 sugar factories operating in the district.

An outstanding feature of the local agriculture is that the average yield per hectare for most of the crops are higher than rest of the state average. In case of the jawar, the district yield is twice that of the state. The district yield for groundnuts has been observed to be 25% higher than the state. The district has the highest gross value of the output per hectare in Maharashtra. The techno-economic survey of Maharashtra has estimated the value for 1965-66 at Rs.490/- for the district as against Rs.190/- for the state and Rs.3151/- for the country. Table 1.2 shows agricultural implements in Kolhapur district.

TABLE 1.2
AGRICULTURAL IMPLEMENTS IN KOLHAPUR DISTRICT
[1951 - 1982]

Details	1951	1961	1970	1978	1982
1. Ploughs.					
a) Wooden	88434	94846	94375	102608	96249
b) Metal	6222	7741	9581	17984	17289
2. Carts.					
	30237	39469	49013	51713	50679
3. Sugarcane Crusher.					
a) Power	1052	1618	1813	1595	1322
b) Manual	674	319	490	8	5
4. Oil Engines.					
	2632	7560	12398	17418	13225
5. Electrical pumps.					
	44	203	6412	18062	14989
6. Tractors.					
	28	103	954	1372	2384

Source - [i] District Census Hand-book of Kolhapur.

[ii] Socio-Economic Review and District Statistical Abstract of Kolhapur 1971-72, 1972-73, 1981-82, 1986-87.

From table 1.2, it is seen that there were a large number of oil engines in use in 1950's and 1960's. In fact the numbers of

oil engines increased almost three fold in the decade 1951 to 61. They less than doubled in the decade 1961 to 71, and further increased by about 40% between 1970 and 1978. However, the number of oil engines used for irrigation purposes fell by about 25% in the four years from 1978.

A few electrical pumps were also in use for irrigation purposes in 1951, 44 in all - 1.64% of the total engines used for irrigation purposes. However, there was a fairly substantial increase [2.61%] in the number of electrical pumps used for irrigation purposes during 1951 to 61. There was an astronomical increase in the number of electrical pumps between 1961 and 1970.- 34.09 %. Thereafter the number of electrical pumps more or less trebled upto 1978. But between 1978 and 1982, there was a fall [17%] in the use of electrical pumps for irrigation purposes. Further, till about 1970, the number of electrical pumps in use of irrigation purposes was much lower than those of oil pumps. But from 1978 onwards, there were more electrical pumps in use as compared to the oil pumps.

There has been an increasing use of agricultural implements in the Kolhapur district as indicated by the number wooden and metal ploughs in use from 1951 to 82. In fact, though there was an increasing proportion of the metal ploughs in use compared to the total number of ploughs [from 6.6 % to 15.2 %], the proportion on the whole remained very low.

The main mode of transportation for the agriculturists in the Kolhapur district, particularly for local transport, is the faithful bullockcart. The number of carts increased continuously from 30,237 in 1951 to 51,713 in 1978. The figure for 1982 was 50,679. Bullocks have also been used as power for 'manual' cane crushers. Such cane crushers declined from 674 in 1951 to 8 in

1978, though there was a slight increase to 15 in 1982. The reduction in the use of these type of crushers can probably explain by the increasing use and possible switch over to, power cane crusher.

There has been a gradual technological transformation in some of the agricultural practices in the Kolhapur district. This is reflected in the number of tractors in use. The tractor is used for the purposes of tilling the land, as well as transporting agricultural goods to and from the processing units or the consumer market. The use of tractor has increased continuously from 28 in 1951 to 2,384 in 1982.

The brief discuss shows that the fairly rapid progress of mechanisation in the field of agriculture has generated an increase in the demand for agricultural tools and equipment such as oil and electrical pump sets, oil engines, tractors etc., along with their spare parts. This has helped spawn an increase in the industrial activities in the Kolhapur district.

An important feature of agriculture in the Kolhapur district is the steadily increasing demand for chemical fertilizers, resulting in increased production of agricultural commodities. This further has a positive impact on the incomes in the rural areas and therefore on the demand for modern agricultural tools and equipment.