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**CHAPTER - III**

**DISTRIBUTION OF SPECIALIZED MARKET CENTRES IN SATARA  
DISTRICT**

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CHAPTER - III

DISTRIBUTION OF SPECIALIZED MARKET CENTERS IN  
SATARA DISTRICT

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( S.M.C. - Specialized Market Centres; C.M.C. - Cattle  
Market Centres ; and A.P.M.C. - Agriculture Produce Market  
Centres. )

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CHAPTER- III  
DISTRIBUTION OF SPECIALIZED MARKET CENTRES IN  
SATARA DISTRICT

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3.0.0. DISTRIBUTION OF SPECIALIZED MARKET CENTRES IN  
SATARA DISTRICT.

3.1.0. INTRODUCTION :

India is an agrarian country and most of the population live in rural areas. Ultimately rural scenario is worth studying for a geographer. Rural settlement plays vital role in human life. Rural settlement involves in different types of functions; viz. social, cultural and economical functions. Economical functions involve various economic activities. It is carried out both in rural as well as in Urban areas.

Rural market centres fulfil the requirements of the population of their own and surrounding area. The Market centres act as nodal centres for collection and distribution of goods.<sup>02</sup> Mostly rural market centres are important in agricultural areas as they are important places for collection and redistribution of agricultural products. The specialized market centres are established in such agriculturally prosperous areas.

The location and space relationships are the important aspects, which have been studied widely by many geographers. This distributional approach have been taken into consideration since 1931. The important studies include, 'The distribution of rural market centres in Saryapur plain in Uttar Pradesh,' studied by V.K. Shrivastva and H.O. Shrivastva (1979)<sup>09</sup>. A.P. Kumbhar and P.W. Deshmukh (1984) put forth the 'study of periodic market centres of Sangli district.' R.S. Dixit (1984) also tries to elaborate various aspects of the rural market centres in U.P. G.B. Patil studied Cattle market centres of Walva taluka of Sangli district.

Specialized market centres are different kind of market centres which are developed due to surplus production of a particular agricultural produce. These market centres are distributed according to agricultural patterns, existing in a particular area. Sometimes due to some other kind of background of social-cultural and economical aspects there develop such specialized market centres. Thus it is observed that development of the specialized market centres are the result of the effects of various factors.

3.2.0. TALUKAWISE DISTRIBUTION OF SPECIALIZED MARKET CENTRES :

Satara district is one of the important districts of South Maharashtra. It is observed that there are 1573 rural settlements in Satara district, 118 rural market centres serve these villages. By and large thirteen rural settlements depend upon each of the rural market. But there is not a particular relationship developed in between settlements and market centres. The specialized market centres are developed as a result of capacity of serving large number of villages. Thus distinct relationships have been developed between rural settlements and specialized market centres. Each of the specialized market centre acts as a dominant nodal characterised market centre. ( see Fig. 2.9 )

The table III-I gives details about talukawise distribution of specialized market centres and number of villages being served.

TABLE III-I  
SATARA DISTRICT  
TALUKAWISE DISTRIBUTION OF SPECIALIZED MARKET CENTRES  
AND NUMBER OF VILLAGES SERVED - 1991.

Sr. No.	Taluka	No. of Rural Settlements	No. of Rural Market Centres	No. of Specialized Market Centres	Average No. of Settlements Served	No. of Specialized Market Centres but not Recognised
1	Satara	202	7	3	68	-
2	Wai	113	5	3	38	-
3	Khandala	65	3	1	65	2
4	Koregaon	110	9	3	37	-
5	Phaltan	121	16	3	40	2
6	Man	98	14	3	33	-
7	Khatav	138	17	5	28	-
8	Karad	179	19	3	60	-
9	Patan	279	19	4	87	-
10	Jaoli	213	7	1	106	1
11	Mahabal- eshwar	55	2	-	-	1
	TOTAL	1573	118	29		6

Source : Author.

The distribution of specialized market centres is improportionate. The average number of villages served by each of the specialized market centre in Satara district is 54 . Mahabaleshwar

SATARA DISTRICT  
DISTRIBUTION OF MARKET CENTRES  
(1991)



INDEX

- Rural market centre
- ⊙ Regulated market centre (S.P.M.s)

FIG NO.

taluka does not have any specialized market centre. The settlements belong to this taluka are equally dependent on specialized market centres of neighbouring talukas i.e. Wai, Jaoli, Satara. The maximum rural settlements served by each specialized market centre from Jaoli taluka is about 113 settlements. Next to it is Patan taluka in which each of the specialized market centre serves 87 rural settlements in average.

Lonand is the only recognized specialized market centre in Khandala taluka which is able to serve 65 villages of the taluka and other settlements of neighbouring talukas.

There are three specialized market centres each for Koregaon, Man, Karad and Satara talukas. The average number of settlements served by each of the specialized market of each taluka is 37, 33, 60 and 68 respectively.

Phaltan taluka has three recognized specialized market centres and two non-recognized specialized market centres. Thus Phaltan taluka-based three Regulated specialized market centres serve 40 villages each.

Khatav taluka have maximum i.e. five specialized market centres which are able to provide services to 28 settlements in and average. There is



distinct marketing cycle among these specialized market centres.

Wai taluka has three specialized market centres having distinct characteristics. They serve 38 rural settlements each. Besides, majority of the villages of Mahabaleshwar taluka also depend upon these centres.

### 3.3.0. TALUKAWISE DISTRIBUTION OF AGRICULTURE PRODUCE

#### MARKET CENTRES AND CATTLE MARKET CENTRES :

The talukawise distribution of agriculture produce market and cattle market centres shows uneven distribution. The Table III-II and Fig. 3.0 show clear picture of distribution of APMC and CMC.

TABLE III - II  
SATARA DISTRICT  
TALUKAWISE DISTRIBUTION OF AGRICULTURE PRODUCE MARKET  
CENTRES AND CATTLE MARKET CENTRES.

Sr. No.	Taluka	No. of Agriculture Produce Market Centres	No. of Cattle Market Centres	Non-recognised Market Centres	
				Agri. Prod.	Cattle
1	Satara	1	3	-	-
2	Wai	2	3	-	-
3	Khandala	1	1	1	1
4	Koregaon	3	1	-	-
5	Phaltan	2	2	2	-
6	Man	2	2	-	-
7	Khatav	1	5	-	-
8	Patan	4	3	-	-
9	Jaoli	-	1	1	-
10	M. shwar	-	-	1	-
11	Karad	3	3	-	-
	Total	19	24	5	1

Source : Author

SATARA DISTRICT  
DISTRIBUTION OF SETTLEMENTS AND SPECIALIZED  
MARKET CENTRES  
1991

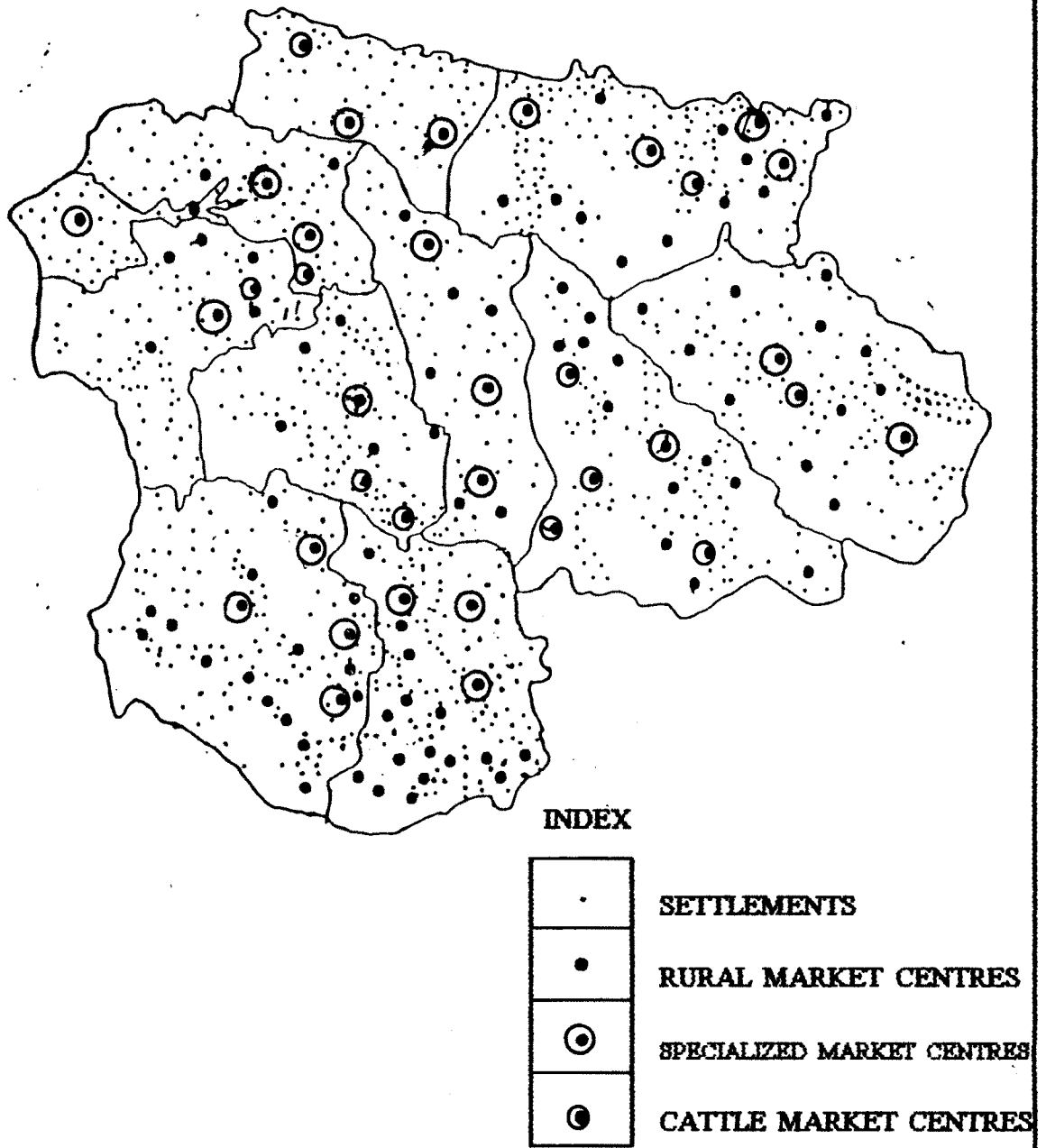


FIG. 3-0.

It is observed that, there are some centres which are developed specially as cattle markets; among them Pachwad, Atit, Nagthane, Mhasvad, Mayani, Aundh, Pusegaon, Pusesavali, Kudal, Gondavale, Dhavapati are the important centres.

Khatav taluka consists of four cattle market centres. Next to it Satara taluka consists of two centres while Wai, Jaoli, Man, Phaltan talukas consist of one cattle market centre each.

There are some specialized centres which involve the trading of both i.e. agricultural commodities as well as cattle marketing. There are fourteen market centres in Satara district of both the types.

Dahiwadi, Wathar(st.), Rahimatpur, Manewadi, Barad are the specialized market centres for agricultural produce trading activity only.

Mahabaleshwar taluka does not have any of the two market centres. The settlements of this taluka depend upon the specialized market centres of neighbouring talukas.

There are five agricultural produce market centres and one cattle market centre non-recognized. The transactions at such centres are carried out under the APMCs of that particular taluka. The

centres like Khandala, Taradgaon, Vakhari, Medha, Mahabaleshwar are governed by APMCs of respective talukas. All these centres are important weekly market centres and play vital role in agricultural produce marketing activity. Shirwal of Khandala taluka is one of the important cattle market centre where there is a sub-market yard.

The above two tables point out the differences in this regard.

#### 3.4.0. FACTORS AFFECTING THE DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKET CENTRES :

Here an attempt has been made to analyse impact of geographical factors on the distribution of the agricultural commodity market centres and cattle market centres simultaneously in the study region.

There is distinct relationship between economic activities and physio-socio-economical factors. Marketing activity is influenced by these factors. Ultimately, they also affect the development of specialized market centres. The specialized market centres are created and can be prospered only when these factors are favourable.

Among the natural factors physiography, drainage, climate and soil affect on cropping pattern and agricultural production. Thus they directly or

SATARA DISTRICT  
DISTRIBUTION OF SPECILIZED MARKET CENRES  
1991

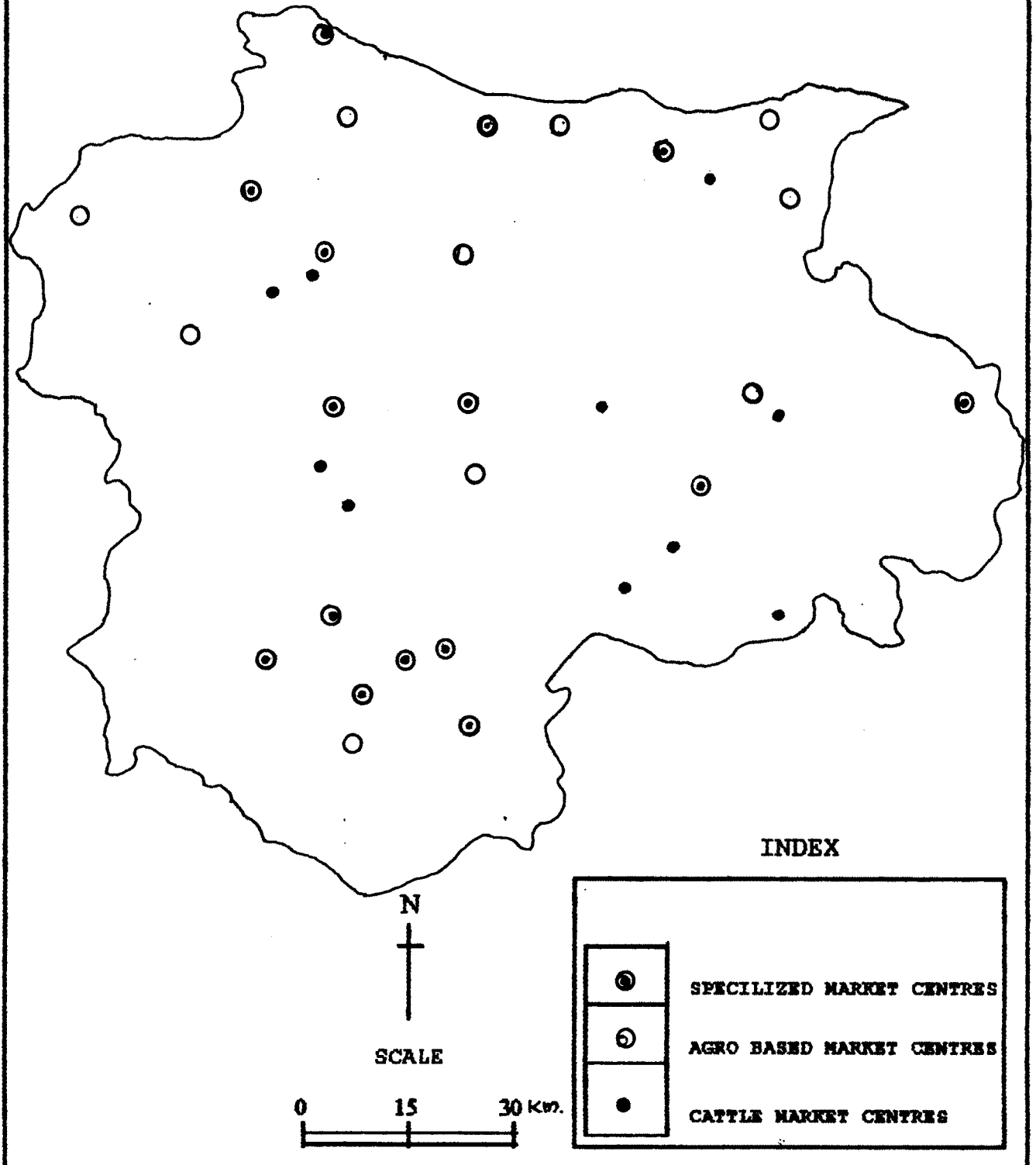


FIG. NO. 3-1

indirectly affect the marketing activity and the distribution of specialized market centres.

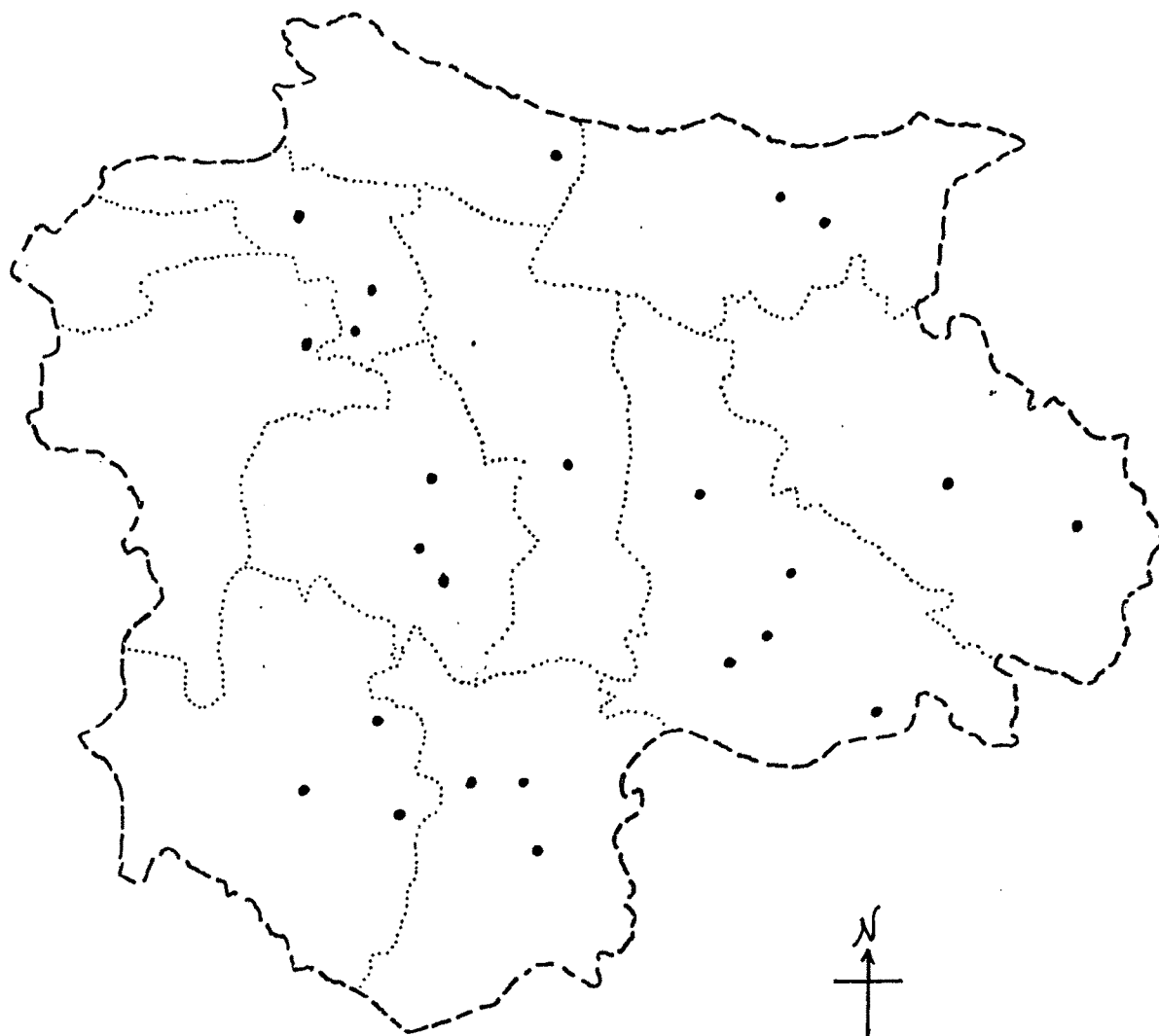
Socio-economic factors include population, irrigation, land holdings, cropping pattern, land under cultivation, transportation, communication, cultural bindings, Government policies and co-operative authorities etc. All these factors affect the distribution of specialized market centres and of cattle market centres. It gets clarified through following illustrations. ( see Fig. 3.1 and 3.2 )

3.4.1. PHYSIOGRAPHY AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKETS :

Relief features are formed due to the geological process. It exercises direct influence on the landuse, cropping pattern particularly through elevation, ruggedness and slope. It also influences farming by modifying the climate.<sup>04</sup> It means that the different kinds of agricultural produce take place according to the variation of climate and relief features. Thus market centres are established and flourished according to the variation in relief features.

The study region has not uniform terrain. Broadly, relief feature changes are seen more in the west-east direction with local variation. These

SATARA: TALUKAWISE DISTRIBUTION OF  
CATTLE MARKET CENTRES



6 0 6 12 km.



Cattle market centre.

32  
FIG No. 3-2.

variations are due to the geological complexities and varied geo-morphological evolutions of the region. (Deshpande 1971 ).

The physiography of the study region has been classified or divided into following three categories :

- a) The part of Sahyadri or the Western Ghats.
- b) The Mahadeo ranges and its offshoots.
- c) The river basin region.

TABLE III-III  
SATARA DISTRICT  
THE HEIGHT FROM SEA-LEVEL, AREA COVERED, ITS  
PERCENTAGE, NO. OF SPECIALIZED MARKET CENTRES AND  
THEIR PERCENTAGE.

Sr. No.	Height from mean sealevel (in m.)	Area Sq. km.	% to total	No. of SPMC's	% to total
1	Above 900 m.	4624.49	44.11	2	5.72
2	600 to 900 m.	3052.95	29.12	21	60.00
3	below 600 m.	2806.56	26.17	12	34.28
	Total	10484.00	100.00	35	100.00

Source : Author.

A) THE PART OF SAHYADRI OR THE WESTERN GHATS :

The Sahyadri mountain is located in the western part of the Satara district, it extends north-south direction about 96 kms. and extends from Mahabaleshwar to Patan. The Sahyadri ranges and its



main spurs belong to its main offshoots, which cover an area about 44.11 per cent of the total study region, having height above 900 m. above mean sea level. The gradient is found more steep which is nearly an average 30 to 50 m. per km.

The region is hilly and mountainous so the density of population is very sparse. The remoteness is an obstacle in agricultural and transportation development. Ultimately market centres are not well developed in this region. So some small market centres are developed. There are only two specialized market centres found in this region. Mahabaleshwar taluka depends upon specialized market centres of neighbouring talukas.

TABLE III-IV  
SATARA DISTRICT  
TALUKAWISE AREA, PHYSIOGRAPHIC DIVISIONS

Sr.No	Taluka	About 900m.	600 to 900m	Below 600m
1	Satara	45.21	31.24	23.55
2	Wai	51.37	33.18	15.45
3	Khandala	34.76	30.50	33.74
4	Koregaon	27.17	32.86	39.97
5	Phaltan	30.20	25.45	44.45
6	Man	30.96	35.37	53.67
7	Khatav	32.02	36.12	31.86
8	Karad	21.36	28.03	50.61
9	Patan	50.72	37.17	22.11
10	Jaoli	62.44	30.46	09.10
11	Mahabaleshwar	100.00	--	--

Source : Based on S.O.I. Maps.

B) MAHADEO RANGE AND ITS OFFSHOOTS :

Mahadeo range is the important relief feature in the study region. The range bifurcates from the Sahyadri about 16 kms. north of Mahabaleshwar. It extends into east and south-east direction. It stretches northern and eastern part of the study region. There are many offshoots of the range stretched out from the main range towards the southward and eastward. There are many foothills comprising the whole region. The average height of the region is about 600 to 900 m. above mean sea level. The gradient is about 10 to 30 m. per km. When one considers talukawise relief divisions, it is found that except Mahabaleshwar all the talukas are having area of offshoots and hills. The variation of the offshoot area oscillates between 25.45 per cent in Phalatin and 37.17 per cent in Patan taluka. There are a number of rural settlements in this area. To serve these settlements there developed many market centres. There are altogether twentyone market centres which is 60 per cent of the market centres in the study region.

A hilly terrain steeper gradeint allows erosive action which affects the distribution of rural settlements as well as agricultural practices

and agricultural production. Paddy cultivation is dominant in the Jaoli and Mahabaleshwar talukas as well as in the Patan-Agashiv hilly ranges. Whereas remaining other areas having dominance of cereals and pulses because of less rainfall. These ranges affect on the development of specialized market centres.

c) THE RIVER BASIN REGION :

This is the most important region of the study region where major river valleys and its tributaries are located. There are four river basins as follow :-

- i) The Krishna Basin
- ii) The Nira basin
- iii) The Man basin
- iv) The Yerela basin

The Karad, Phaltan and Man talukas have mostly flat plain terrain as compared to other talukas like Mahabaleshwar, Jaoli and Patan. The river basins developed in these talukas are less flatted. Highly Fertile soils, availability of water, developed mode of transportation and agrobased industries, all these factors attract the people in such basin regions. So large size market centres are developed in these regions. There are 12 specialized market centres (i.e. 34.28 %) of the total specialized

market centres of the study region. Cattle markets are equally distributed alongwith these specialized market centres. But agricultural produce market centres are remarkable developed as they are located and developed in the agriculturally prosperous region.

3.4.2. DRAINAGE SYSTEM AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKETS :

Water resource is an important part of human life. From ancient time several civilizations are developed along the banks of rivers and even in the modern times river banks are very important for human settlements and their activities. So it is observed that more number of settlements are located near water resource. ( see Fig. 2.3 )

In the study region distinct drainage systems developed. They are as follows :-

- I) The Krishna river in the central part.
- ii) The Nira river in the north.
- iii) The Man river in the east.
- iv) The Yerala river in the centre-east part.

TABLE III-V  
SATARA DISTRICT  
DRAINAGE SYSTEM WITH AREA COVERED AND SPECIALIZED  
MARKET CENTRES AND CATTLE MARKETS

Sr. No.	Drainage System	Area covered Sq. km.	No. of Sq. mc's	% to total	No. of Cattle m
1	The Krishna	5720	19	54.28	15
2	The Nira	2510	8	22.86	3
3	The Yerala	1250	5	14.28	4
4	The Man	1004	3	8.58	2
	Total	10484	35	100.0	24

Source : Author.

The Nira river has demarcated the entire northern boundary of the Satara district. It rises in Sahyadri and runs into north-east and then to the east. Neary 2510 sq.km. area of the study region covered by the Nira basin. The region is highly fertile, along the river course. Due to introduction of canal irrigation the area is agriculturally developed and farmers for regetable farming and sugarcane cultivation Lonand, Phaltan, Barad and the most important specialized market centres developed and flourished. Lonand, Phaltan Dhavapati are the important cattle market centres of the region. Taradgaon, Vakhari, Shirwal, Khandala are secondary specialized market centres found in this region, which are not recognized. All the specialized market

centres contributed 22.86 percent of the total specialized market centres of the district.

The Man and Yerela river basins are non-perennial rivers flows two to three months in rainy season only. The Yerela river drainage system covers an area about 1250 Sq. kms. of the district. While the man river drainage system covers an area about 1004 Sq. kms. The Man river basin consists three specialized market centres among them two cattle markets are important. Mhashvad is one of the important cattle market of Man taluka; which serves Man taluka as well as the neighbouring talukas of Sangli, Solhapur and Pune district also.

The Yerela river basin consists five specialized market centres. Vaduj is the important specialized market centre where both the trading activities are carried while remaining four centres are purely cattle market centres. These cattle markets are famous for bullocks.

The Krishna river basin is the largest drainage system which is agriculturally well developed region. The Krishna river drainage comprises 5720 Sq. kms. area of the district Valaki, Kudali, Urmodi, Tarali, Koyana, Vasana, Venna are the important tributaries of the Krishna river which is cover by

highly fertile soil. Perennial nature of the streams in the catchment area, well developed irrigation facilities due to Koyana dam Dhom and Kanher dam. All these factors give impetus to agricultural development so agro based industries have flourished in this region.

This area is famous for the sugarcane cultivation, vegetables, cereals, pulses etc. There are several specialized market centres developed along the banks of rivers. Considering the agricultural development and causes of it there are 54.28 per cent of the specialized market centres are located in the Krishna river basin. That is either on the banks of Krishna or banks of its tributaries.

There are fifteen cattle market centres are located in the basin which are significant because no more technological and mechanical development in agriculture implements take place, everywhere in the district. Thus use of livestock is helped to develop such market centres in the region as a traditional way of cultivation in the rural areas.

#### 3.4.3. CLIMATE AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKETS :

Climate affects human life many ways. Climate is the principle aspect of physical

environment affecting the agriculture ( Symon, 1967 ). It also affects the human habitat, settlement pattern and economic activities. Thus development of the market centres is also indirectly depends upon climate; because it is primarily related with the agricultural products.

Satara district is also having varied climatic conditions. Whenever consider different aspect is found that difference in temperature, rainfall and other aspects influences more on human activities.

#### A) TEMPERATURE :

In the hot season temperature start rises from March and reaching highest in May. Mean maximum temperature is about  $34^{\circ}\text{c}$  while mean minimum temperature is about  $20^{\circ}\text{c}$ . Daily range of temperature is high all over the district. The mean daily relative humidity ranges from 31 to 40 per cent. Usually rainy season is start in second week of June; July and August are the peak months for rain. Thus in rainy season mean maximum temperature is about  $23^{\circ}\text{c}$  in cool season temperature drops to  $13^{\circ}\text{c}$  to  $17^{\circ}\text{c}$ . Occasionally it falls down  $4^{\circ}\text{c}$  at Mahabaleshwar hill station.

Variation in temperature is also found according to elevations. The temperature is



comparatively lower towards western side while in the interior eastern side it is high. Result of this found on cropping pattern of the region varies according to it. The crops sustaining in the hot climatic conditions grows in eastern part while hot and humid climatic conditions of the western part usefull to grow paddy in this region.

Thus agricultural production differs according to variation in climatic conditions and so distribution of specialized market centres took place indirectly with the same manner.

B) RAINFALL :

In the study region rainfall distribution is varied in nature. It is due to specific situation resulted due to undulating terrain of the region. Rainfall is highest in the western Sahyadrian ranges while decreases towards eastern part of study region.

Table III-VI shows that rainfall distribution in the study region and area covered and its relationship with distribution of specialized market centres. ( see Fig. 2.4 )

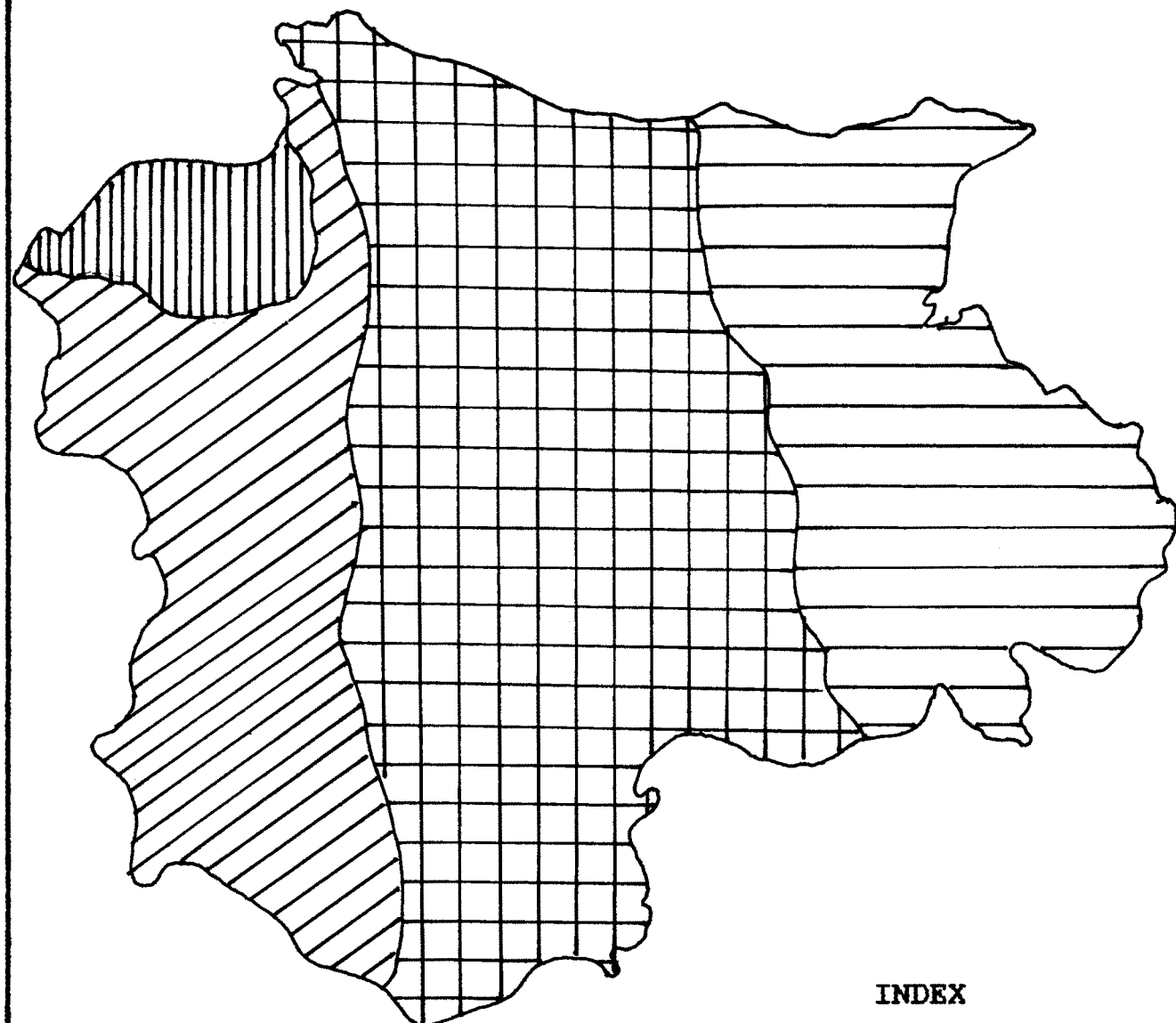
TABLE III-VI  
SATARA DISTRICT  
RAINFALL DISTRIBUTION, AREA COVERD, NUMBER OF  
SPECIALIZED MARKET CENTRES AND PERCENTAGE TO TOTAL.

Sr. No.	Rainfall (mm.)	Area (Sq. kms.)	No. of Specialized market centres	Percentage to total
1	Above 5000	276.00	1	2.86
2	1500 to 5000	2020.50	8	22.86
3	500 to 1500	5331.50	18	51.42
4	Below 500	2856.00	8	22.86
	Total	10484.00	35	100.00





Source : Author.

In the study region maximum rainfall occurs at Mahabaleshwar; it is more than 6000 mm. annually. The 5000 mm. Isohyte demarcates the boundaries of highest rainfall receiving area; it is about 276.00 Sq. kms. next to it hilly ranges receive more than 1500 mm. rainfall annually. Jaoli, Patan talukas receive more than 1500 mm. rainfall. 2020.50 Sq. kms. area of this talukas receive more than 1500 mm. rainfall annually. It means that rainfall is maximum and which influence paddy cultivation. Turmeric is other important crop cultivated on large scale in this region. Thus eight specialized market centres developed in this belt. Terrace Farming is dominating

SATARA DISTRICT  
RAINFALL DISTRIBUTION



INDEX

	ABOVE 5000 mm.
	1500 TO 5000 mm.
	500 TO 1500 mm.
	BELOW 500 mm.

N



SCALE

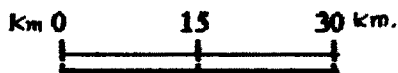


FIG.NO. 2.4.

feature in this belt. The whole belt is not developed technically and mechanically; thus use of livestock is special characteristic of the agricultural practices. Pachwad is most important cattle market centre flourished in this belt. Except Manewadi each centre is equally important as cattle market centre.

In central part of the study region receives rainfall between 500 to 1500 mm. annually. The central part accounts for 5331.50 Sq. kms. area. The flat basin structure helps to develop agriculture. Temperature is moderate which helps to grow different types of crops like cereals, oilseeds, pulses, vegetables too. Thus there are eighteen specialized market centres developed in this belt; which are famous for different kind of agricultural commodities according regional variations. There are 51.42 percent of the total specialized market centres situated in this zone.

The eastern part receives less than 500 mm. rainfall annually and covers 2856.00 Sq. kms. area of the district. Scarcity of water prevails to grow cereals like Bajara and Jowar. Pulses and groundnuts are also dominant as a cash crops. Onion is also produce in this region as one of the

important cash crop. Thus in this zone eight specialized market centres developed and flourished.

3.4.4. SOILS AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKET CENTRES :

The soils are directly concerned with the distributional aspects of specialized market centres in the study region; because it is directly affects the whole agricultural system of the region. It influences cropping pattern, productivity and thus agricultural production.

There are two major types of soils found in the region; they are regur of trap origin and laterite. ( see Fig. 2.5 )

Laterite soil is found in the western part of the study region, which covers major parts of Mahabaleshwar, Jaoli, Patan talukas. The percentage of laterite soil in these talukas are 100 per cent, 70 per cent, 65 per cent respectively. Laterite soil covers nearly 2520 Sq. kms. area of the study region, which is mainly usefull for paddy cultivation and horticulture. There are seven specialized market centres developed in this region. This area is an important for paddy, turemeric and groundnut cultivation. The market centres found in this zone are important for trading of agriculture commodities.

There are three cattle markets well developed in this region.

Black soil covers 7932 Sq. kms. area of the study region, which is 76 per cent of the total area of the district. It is observed that agricultural development mobilizes to marketing activity in this region, which is further resulted into development of specialized market centres there are 28 specialized market centres developed in this region, among them 21 are also engaged in cattle marketing activity.

3.5.0. ECONOMICAL, SOCIO-CULTURAL FACTORS AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKET CENTRES :

3.5.1. POPULATION DISTRIBUTION AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKET CENTRES :

Population of the region is closely related to the specialized market centres developed in that particular region. It is found that population served by each specialized market centres and cattle market centres is significant. These centres established and flourished because threshold population distribution in that particular area. ( see Fig. 2.6 )

Table ( III-VII ) shows that population distribution area cover and distribution of specialized market centres in the study region.

TABLE III-VII  
SATARA DISTRICT  
DENSITY OF POPULATION, AREA COVERD, ITS PERCENTAGE,  
NUMBER OF SPECAIALIZED MARKET CENTRES AND CATTLE  
MARKETS.

Sr. No.	Population Density persons/Sq. kms.	Area Sq. kms.	Percentage to total	No. of specializ- ed market centres	No. of Cattle markets
1	Above 400	1036	9.90	8	7
2	300 to 400	3272	31.20	9	7
3	200 to 300	2328	22.20	8	5
4	Below 200	3848	36.70	10	5
	Total	10484	100.00	35	24

Source : Author.

The study region is catagerised according to population density per Sq. kms. It is observed that the population density below 200 persons per Sq. kms. covers an area about 36.70 per cent i.e. 3848 Sq. kms. of the study region and accounts ten specialized market centres. The Mahabaleshwar taluka, western part of Wai taluka, Jaoli taluka and western part of Patan taluka belongs to this category.

SATARA DISTRICT  
POPULATION DISTRIBUTION  
1991

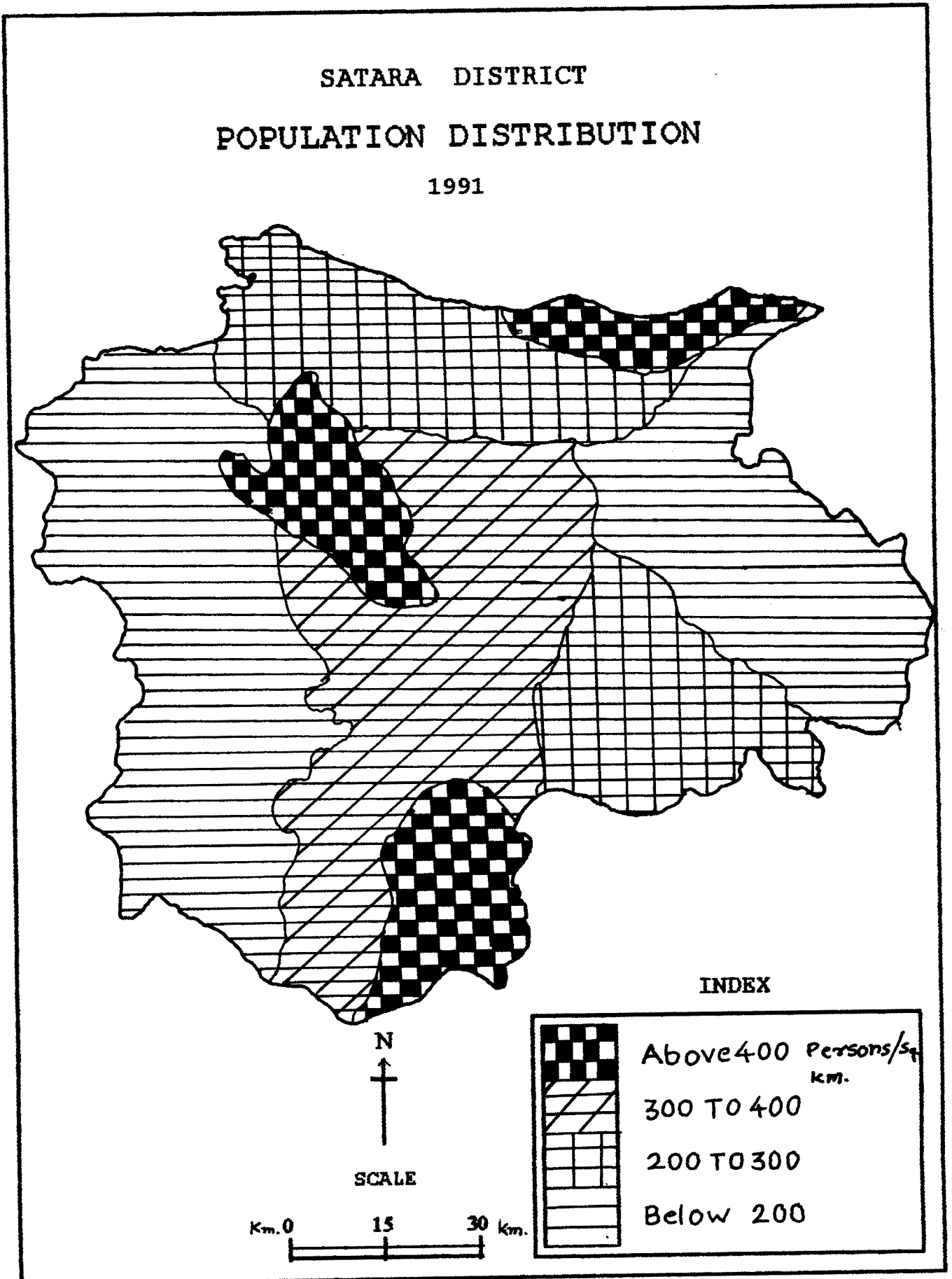


FIG. NO. 2.6.



Population density is low because of undulating terrain and unsuitable physical conditions for the human activities but the number of settlements are more and smaller size habitats is the characteristics of this zone. To provide services to large number of settlements significant specialized market centres are developed in this belt. Along with the agricultural produce market centres five cattle market centres are developed and serving capacity of the centres are remarkable ( see Table III-I ). Population plays supporting role in the development of the specialized market centres.

The population density between 200 to 300 persons per Sq. kms. is the second important category; which covers 2328 Sq. kms. area of the district. It is above 22.20 per cent of the study region. There are eight specialized market centres and five cattle markets located in this region. Khandala taluka, western part of Phaltan taluka, northern part of Koregaon and Khatav taluka belongs to this category. This region receives moderate to less rainfall and thus it is not agriculturally flourished as like other parts. There are more no of settlements which serves by these specialized market centres. Comparatively average number of settlements

served in this region is less. ( see table III-I). This is industrially less developed region so agrobased marketing major activity carried in this region which helps to flourish these centres.

The population density between 300 to 400 persons per Sq. kms. is another important category, which covers 3272 Sq. kms. area of the region which accounts for 31.20 per cent of the district. The central and southern part of the district characterises high population density. This region is highly agriculturally developed. Communication facilities are also remarkable developed. Industrial patches found in this areas attract more population. All these favourable factors helpful to developed specialized market centres as well as cattle markets. There are nine specialized market centres and seven cattle markets in this region. All these centres are larger in size with respect to collection, redistribution of agricultural produce, livestock and turnover too.

While south-west part of Karad taluka, northern part of Phaltan taluka and Central and southern part of Wai, Venna basin of Jaoli and northern part of Satara taluka belongs to higher population density category i.e. above 400 persons

per Sq. kms. It covers an area about 9.9 per cent of the total and accounts for 1036 Sq. kms. area of the study region. It is observed that this region is highly fertile, irrigated thus highly agriculturally prosperous. Educational facilities and communication linkage is also well developed. Agglomerated settlement pattern is found in this region. Agrobased industries, smallscale industries, subsidiary occupations like dairy farming is flourished thus resultant into large size specialized market centres are developed in this region. There are eight specialized market centres and seven cattle market centres; which play vital role in rural economy of the district.

3.6.0. LAND UNDER CULTIVATION AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKET CENTRES :

Agriculture is the most important activity in the study region. It is influenced by various physical, socio-economical factors; ultimately different types of cropping pattern are found in this region. As well as there is a variation in crop production so specialized market centres developed according to such variations. ( see Fig. 3.3 )

Table ( III-VIII ) shows land under cultivation and area covered as well as number of specialized market centres and cattle markets.

TABLE III-VIII  
SATARA DISTRICT  
PERCENTAGE OF LAND UNDER CULTIVATION, AREA COVERED,  
THEIR PERCENTAGE, NUMBER OF SPECIALIZED MARKET CENTRES  
AND CATTLE MARKET CENTRES.

Sr. No.	Percentage of land under cultivation	Area covered (Sq. kms.)	Percentage to total	No. of specialized market centres	No. of cattle market centres
1	Above 80	5628	53.50	18	9
2	60 to 80	3700	35.50	13	12
3	40 to 60	1046	9.90	4	3
4	Below 40	110	1.10	-	-
	Total		100.00	35	24

Source : Author.

In the study region land under cultivation can be classified in four categories and the distribution can be clarify. In the Western hilly region fo the Sahyadri which has steep gradeint and it is less important for agriculture. Especially hilly region of Jaoli taluka, western part of Patan is less important for agriculture. eastern part of Man taluka and South-East part of Phaltan taluka are also lake behind in agricultural development. Due to this there are only four specialized market centres

SATARA DISTRICT  
LAND UNDER CULTIVATION  
1991

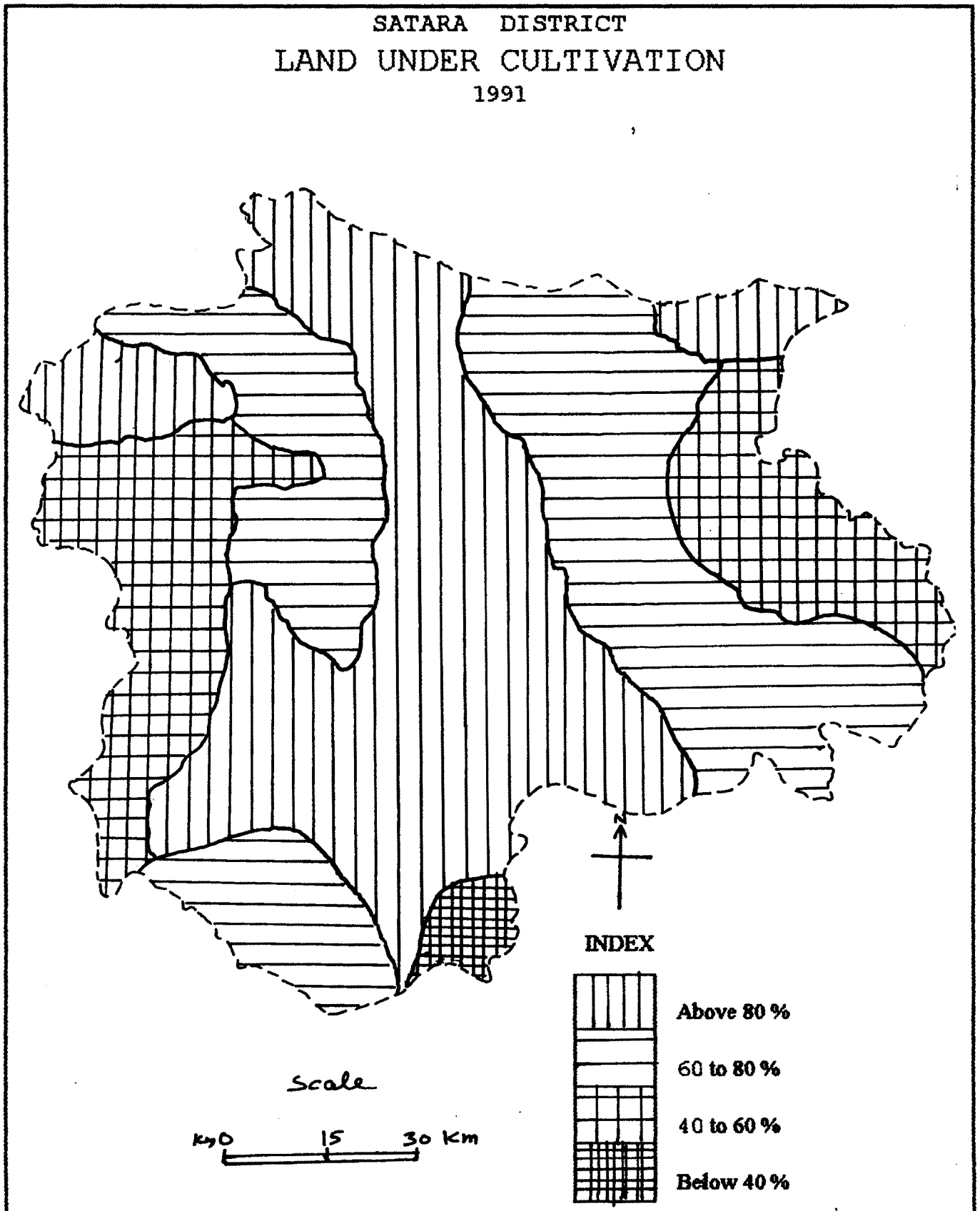


FIG. NO. 3.3.

and three cattle market centres developed. There are distinct relief and climatic conditions. In western side mountaineous terrain recieves more than 1500 mm rainfall annually which help to develop agriculture in small scale. Where terrace farming practices and paddy is the major crop cultivated. These area also familiar for ragi and pulses ( see Fig. 3.3 ). While eastern side where scarcity of rainfall becomes major obstacle in agriculture development. This whole region comes under rainshadow zone which is known as drought prone zone. This region is still important for the cereals like Bajara, Jowar, Maize, Pulses, where as in some parts cotton and onion cultivated as a cash cropps. So in this region smallre size specialized market centres are developed.

The Wai taluka, Satara taluka, Koregaon taluka and sauthern part of Patan, Canal irrigated part of Phaltan, east Khatav, Khandala taluka where land under cultivation is between 60 to 80 per cent which accouts for 3700 Sq. kms. area of the district. This region is most important because of well agriculturally developed. The people utilizes land intensively. Irrigation facilities developed; especially canal irrigation and lift irrigation is dominating. Agrobased industries are developed in the

form of sugar factories, Khandasaries, Ketchups and Sauses production units. Livestock farming is secondary occupation developed significantly. All these factors collectively affects on the development of specialized market centres. There are thirteen specialized market centres and twelve cattle market centres developed in this region.

In the northern part of Karad, southern Satara, central and southern part of Koregaon, south-western Khatav all these countributed to cover more than 53.5 per cent area of the district which accounts for 5628 Sq. kms. area of the study region. In this area meajority market centres are situated. There eighteen specialized market centres and nine cattle market centres situated in this belt.

The whole region is densely populated. Highly agriculturally developed. Dominance of sugarcane cultivation is found along with turmeric, garlic, ginger, potato, tomato like vegetables grows nicely. Cerials are cultivated where irrigation facilities are not developed. Livestock farming and dairy farming are vital in this region. Mechanization of agricultural practices gave impetus to whole region as progressive and standard of living is remarkable

uplifted. So large size specialized market centres are developed which able to provide services to large size settlements and more populations.

### 3.6.1. LAND HOLDINGS :

Next important point to be consider use a land holdings of the Satara district. It indirectly affects agricultural development, where average size of operational land holding is 1.38 hectares. It means that meajority farmers of the district consists one to two hectares of land. It intensifies the use of land. Land can be utilizes twice a year for different kinds of Kharif and Rabbi crops. Which resulted to more production of various kinds of agricultural produce. They use livestock for agricultural practices as well as for dairy purposes. Thus there is natural environment developed which is helpfull to develop the specialized market centres all over the district.

### 3.7.0. PERCENTAGE OF LAND UNDER IRRIGATION AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKET CENTRES :

#### 3.7.1. IRRIGATION SOURCES :

Irrigation plays key role in agriculture development. Satara district has large scale potential of development in irrigation facilities. There are



different sources which are used in different parts of the Satara district.

The table ( III-IX ) shows the land under irrigation by different sources.

TABEL III-IX  
SATARA DISTRICT  
IRRIGATED AREA UNDER DIFFERENT SOURCES  
1990 - 91.

Net area Irrigated		Total Net area Irrigated	Total Gross area Irrigated
Surface Irrigation	Well Irrigation		
42400	63900	106300	144100
Hectares	Hectares	Hectares	Hectares

Source : Directorate of agriculture Govt. of Maharashtra, Pune.

The Wai, Satara, Karad, Patan and some part of Phaltan talukas are familiar for canal irrigation. Instead of canal irrigation this talukas are also having river basin and thus lift irrigation facilities are developed in the Karad, Patan, Satara talukas. ( see Fig. 3.4 )

Table ( III-X ) shows percentage of land under irrigation and area covered by it. As well as distribution of specialized market centres in respect to it.

TABLE III-X  
SATARA DISTRICT  
PERCENTAGE OF LAND UNDER IRRIGATION, AREA COVERED ITS  
PERCENTAGE, NUMBER OF SPECIALIZED MARKET CENTRES AND  
NUMBER OF CATTLE MARKET CENTRES.

Sr. No.	Percentage of land under irrigation	Area covered (Sq. kms.)	Percentage to Total	NO. of Specialized market centres	No. of Cattle markets
1	Above 40	663.73	06.2	5	3
2	20 to 30	2012.92	19.2	8	4
3	10 to 20	2243.58	21.3	15	12
4	Below 10	5563.77	53.3	7	5
	Total	10484.00	100.0	35	24

Source : Author.

Percentage of land under irrigation can be classified into four categories. Thus the land under irrigation is less than 10 per cent covers 53.3 per cent area of the study region which accounts 5563.77 Sq. kms. area of the district. There are seven specialized market centres located in this area while five cattle markets are located in this area. The well irrigation is dominant especially in the eastern part of the study region. Jawar, Bajara like cereal are the important crops of this region.

The table ( III-X ) and ( fig. 3.4 ) gives clear idea about land under irrigation and

SATARA DISTRICT  
LAND UNDER IRRIGATION  
1991

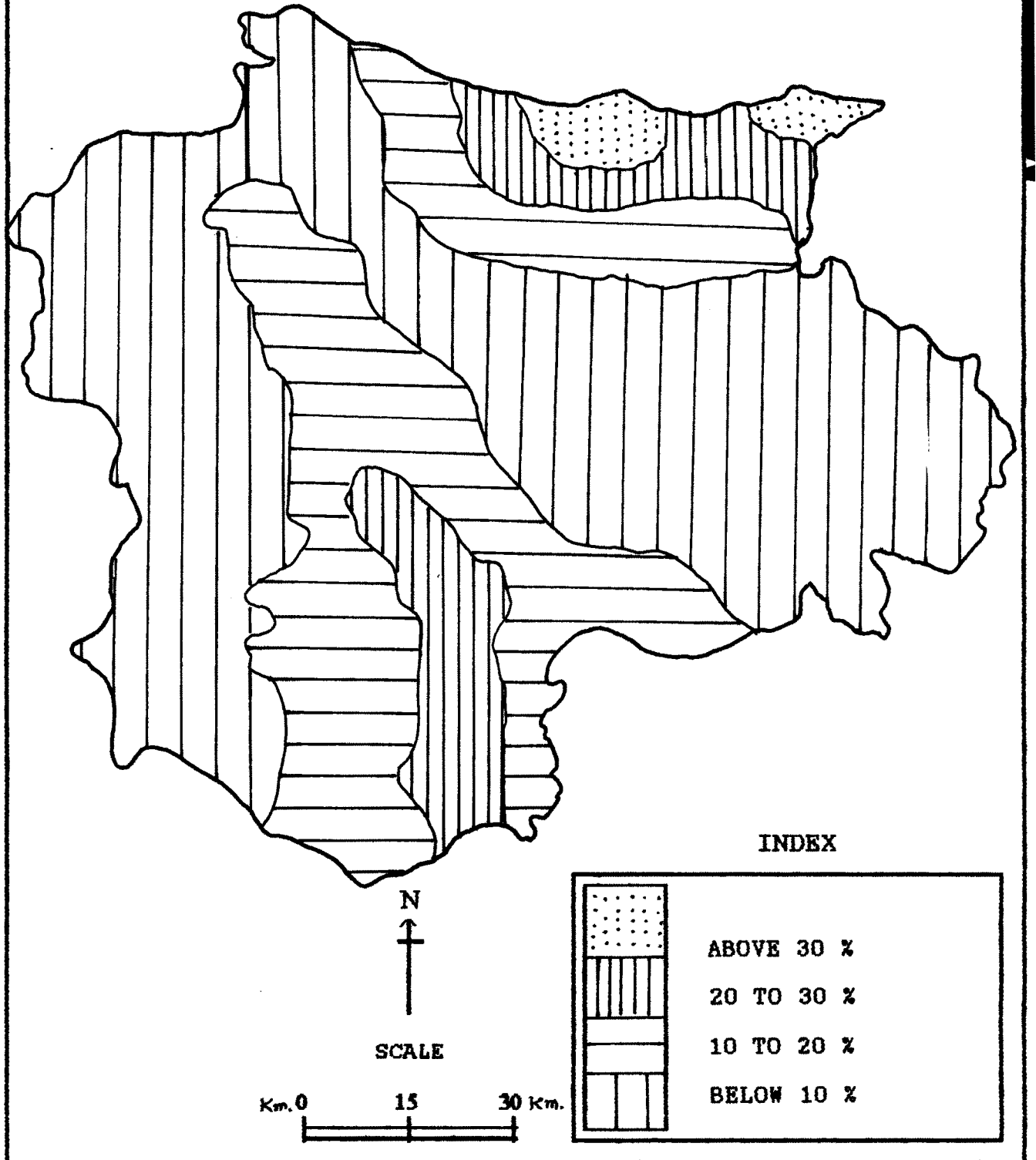


FIG. NO. 3-4

distribution of specialized market centres and cattle market centres.

Now a days due to introduction of various irrigation facilities in Wai, Satara, Patan, Koregaon and Phaltan talukas of the study region the land under irrigation increased so the land under cash crops increased. Still there is traditional bondings affects the cropping pattern. Vegetables cereals have not looses their importants. Number of market centres and its relationship bit able to discribe importants of varition in cropping pattern.

Number of market centres would be increases as irrigation potential increases.

TABLE III-XI

SATARA DISTRICT

IRRIGATION POTENTIAL CREATED AND ACTUAL IRRIGATED AREA  
JUNE 1990

( 00, Hectares )

Irrigation Potential				Percentage to total irrigated area
Major and medium projects	minor projects	lift irrigation	Total	
11413	1820	165	13398	49.03
Actual irrigated				
6252	317	-	6569	

Source : Directorate of Agriculture, Govt. of Maharashtra, Pune.

The table III-XI shows the irrigation potential and actual irrigation area. If it is increases according to potential there will be 49.03 per cent area under irrigation which is at present only 21.38 per cent, increase in irrigation helps to develop agriculture in the study region. Ultimately number of specialized market centres will increases or there will more progress in the specialized market centres and cattle markets.

3.8.0. DENSITY OF ROAD AND DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKET CENTRES:

Growth and development of any specialized market centre is solely depends upon the development in road transportation facilities. Because developing countries like India road transportation plays vital role is the development of rural areas. Ultimately specialized market centres are part of it and they also depends on it transport routes are the arteries they act as the links between specialized market centres. Specialized market centres normally develop at the nodal points. ( see Fig. 3.5 )

The distribution of road network and the specialized market centres shows district relationship. It is observed that, where the road network develop remarkably that part consists larger size rural

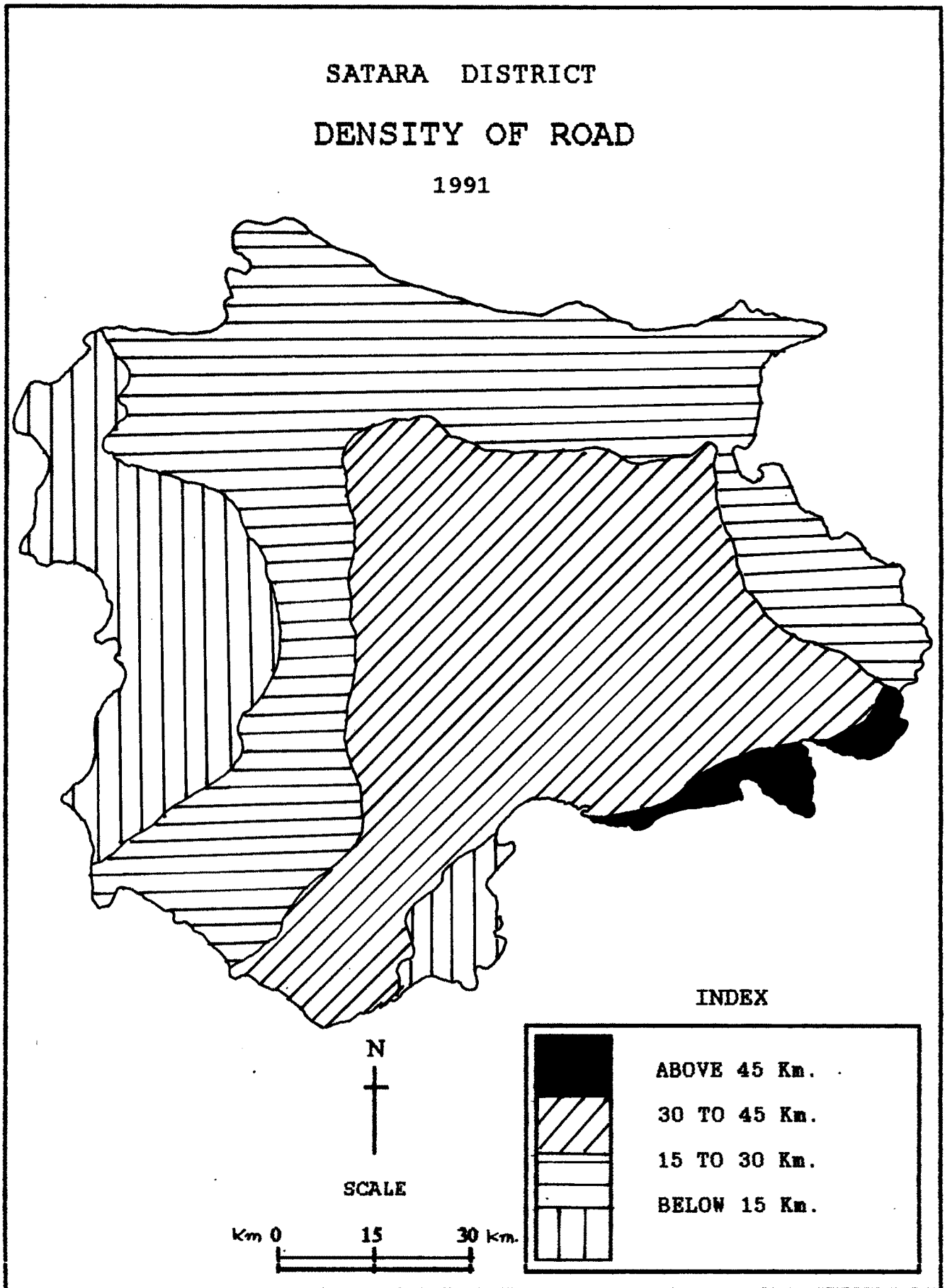
market centres. The density of road can be classified into four classes. The table III-XII and fig. 3.5 gives clear idea about the density of road per 100 sq. km. and distribution of sq. km. in the study region.

TABLE III-XII  
SATARA DISTRICT  
DENSITY OF ROAD PER 100 SQ. KM. AREA COVERED, NO.  
OF SPECIALIZED MARKET CENTRES AND CATTLE MARKET CENTRES.

Sr. No.	Density of Road/per 100 sq. km.	Area Covered	No. of SPMC'S	No. CMS'S
1	Below 15 km.	1600	3	1
2	15 to 30 km.	4564	15	14
3	30 to 45 km.	4240	16	8
4	Above 45 km.	80	1	1
	Total	10484	35	24

Source : Author.

The north western part of the Mahabaleshwar, western part of Jaoli, Satara taluka, South eastern part of Karad taluka of the study region have road density below 15 km. per 100 km. There are 3 specialized market centres and a cattle market centre is located in this area. The northern part, eastern part and western part of the study region have road density 15 to 30 kms. per 100 sq. km., covers an area about 4564 sq. kms. and accounts 15 specialized market centres and 14 cattle markets.



**FIG. NO. 3-5**

In the south central and eastern part of the study region have the road density between 30 to 45 km. per 100 sq. km. It covers an area about 4240 sq. kms. and accounts maximum number of specialized market centres as 16 and 8 cattle markets. This is most important part which have well developed transportation network, which creates impulses the region. which are helpful in development of specialized market centres. Very less part of the south east region covers 80 sq. km. area of the study region. There is a only cattle market centre developed in this part.

### 3.9.0 SPATIAL DISTRIBUTION OF SPECIALIZED MARKET CENTRES AND CATTLE MARKETS :

In the above discussion, it has been tried to know that the various factors influence on the distribution of specialized market centre and cattle market centres. Here an attempt has been made to study existing pattern of rural settlement with help of quantitative technique, 'Nearest-Neighbour Analysis.' (Clark and Evans, 1954).<sup>of</sup>

To find out 'Rn' values the following formula is used.

$$D_{ran} = \frac{1}{\sqrt{N/A}} ; R_n = 2 \bar{D}_{obs} \sqrt{\frac{1}{N/A}}$$

Where, 'N' is the number of specialized market centres.

'A' is the area of the taluka .



Table III-XIII shows that the 'Rn' value class and area covered with specialized market centres, cattle markets in the study region.

TABLE III-XIII  
SATARA DISTRICT  
THE 'Rn' VALUE CLASS, AREA COVERED AND DISTRIBUTION  
OF SPECIALIZED MARKET CENTRE AND CATTLE MARKETS

Sr. No.	'Rn' Value class	Area covered (Sq. Kms.)	No. of specialized market centres	No. of cattle market centres
1	Above 1.40	3669.50	12	11
2	1.21 to 1.40	2733.50	8	3
3	0.81 to 1.20	3450.10	12	9
4	Below 0.80	1120.90	3	1
	Total	10484.00	35	24

Source: Author.

The Study region is taken into consideration taluka as a unit and 'Rn' values from specialized market centre have been calculated with the help of above mention formula. From the 'Rn' values isopleths have been drawn to shown spatial distribution of specialized market centre. The 'Rn' values can be

SATARA DISTRICT  
SPATIAL DISTRIBUTION OF  
SPECILIZED MARKET CENTRES  
1990-91

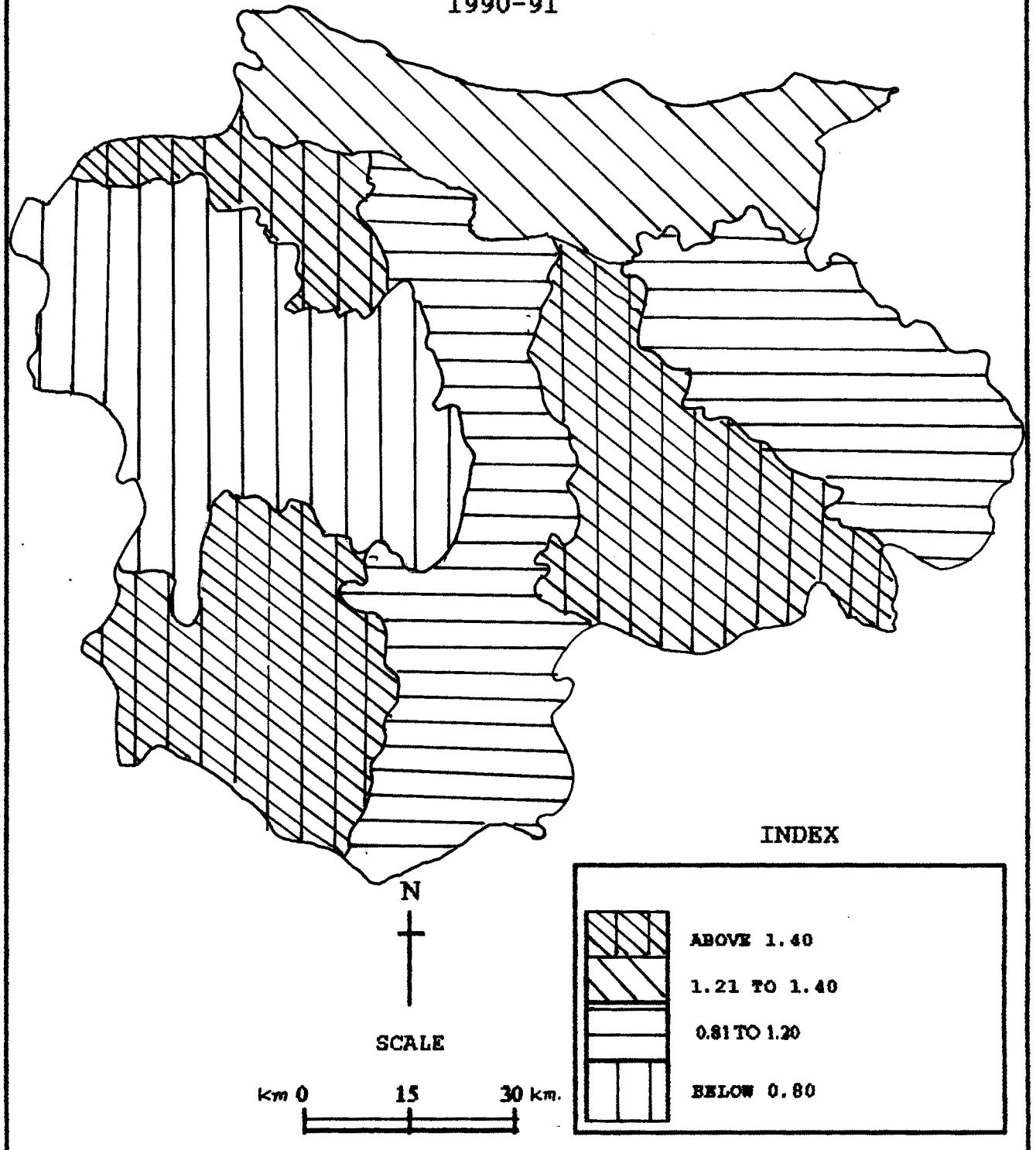


FIG. NO. 3-6.

classified into four categories. It is observed that Mahabaleshwar taluka have absolute clustered pattern of specialized market centre, while Jaoli taluka have random clustered pattern of specialized market centres and cattle markets. ( see Fig. 3.6 )

The complete random to uniform patterns of specialized market centres are found in Satara, Karad, Koregaon, Man talukas. They all combinedly covers 3460.70 Sq.Kms. of area of the study region and contribute twelve specialized market centres and cattle markets.

The uniform pattern of distribution of specialized market centres is observed in Khandala and Phaltan taluka. Which covers 2133.50 Sq.Kms. area of the study region. This region have eight specialized market centres with three cattle markets. The Regular pattern of specialized market centre is found in Khatav, Patan and Wai talukas of the study region. This region accounts twelve specialized market centres and eleven cattle markets.

These patterns reflects the location, site, sphere to influence of the specialized market centre, threshold area. All these shows the distinct characteristics of specialized market centre.

\* \* \* \* \*

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