

CHAPTER - IV

-:- FRINGE ZONE AND UMLAND OF ICHALKARANJI CITY -:-

- 4.1 Standard Urban Area (SUA)
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4.1 STANDARD URBAN AREA (SUA) :

The need to adopt a regional strategy for city development has been recognized and state government through their respective directorate of town planning delineated the city development areas which included in the city and its surrounding area. These areas have been officially designated as urban development areas under independent authorities. The rapidly industrializing cities also have drawn surrounding areas into their legal jurisdiction by extending their city limits and area notification. For census tabulation adjoining city and the rural areas are delineated as Standard Urban Area (SUA). But the SUA has not gained official or academic recognition.

The concept of Standard Urban Areas was evolved the Registrar General of India said about the SUA in collaboration with the town and country planning and other institutions adopted to the 1981 census. By this census record the statistics of urban is in one uniform in every ten years, and the same way the data is getting from the other countries.

Some important essential factors for the Standard Urban Area are given below.

- i) SUA should have a core town of a minimum population of 50,000.
- ii) The contiguous areas made up of other urban as well as rural administrative units, it should have close mutual socio-economic links with the core town.

- iii) The entire area of SUA should get fully urbanized within the period of two or three decades.

Among the above features of SUA is one of the main important aim which to supply the comparative data for certain and well demarcated areas of continuously for three decades.

The Standard Urban Area has been defined as it will be as projected growth area it would be in 1991 of a city or town having 50,000 or more population in 1981 census. The area having delineated in manner that takes into account not only the towns and villages which will include the internal urban area. Such a tract will include all extra municipal urban growth like suburbs which are included the industrial, and residential, railway colonies, civil lines, and contonment, towns and villages which are according to be urbanised by 1991. The SUA will remain as statastical reporting unit during which is namely city, town or village. The boundaries of SUA are the administrative boundaries of peripheral units.

There are the some characteristics of Standard Urban Area.

- i) Permanent urban land use;
- ii) The spread out of big villages with large proportion of the workers. These workers are busy in non-agricultural industrial division;
- iii) The anticipated urban growth as a result of locational decisions related to transport, communication, market, industry, services and administrative functions;

- iv) The centre of urban area as reflected in communication for the work and secondary education, city bus service, milk dairy, product, vegetable purchases, foodgrains, cloths, general provisions by consumers directly.

4.2 STANDARD URBAN AREA OF ICHALKARANJI :

The SUA of Ichalkaranji city includes two towns namely Ichalkaranji city and Kabnur, rural component which is namely Shahapur. The area of SUA covers of 38.12 sq.kms of which 32.80 sq.kms area is urban and 5.32 sq.kms area is rural in character. The rural area of Ichalkaranji SUA includes only one village, its name is Shahapur which is located in Shirol tahsil. The rural area of Shahapur is located in the northern part of Ichalkaranji city, and town Kabnur as urban component is located western part of the Ichalkaranji. The SUA boundary of this city located the north side of Korochi, Hatkanangale and Tardal and Yadrav, Sirdhon are at the east side. The south side boundary located at Panchaganga river side, this river flows from west to east.

The main urban area of Ichalkaranji SUA is located the west and north of this city municipal limits. The total Ichalkaranji SUA has a population of 170,369 persons of which 6,390 persons live in rural area and 163,979 persons live in rural area and 163,979 persons live in two urban centres of this region (1981). Most of the rural area has mixed character of urban and rural landuse. All area is well connected with Ichalkaranji city

centre by city bus transport which is undertaken by State Transport Corporation of Maharashtra. The SUA area of city shows in Fig.4.1.

4.3 FRINGE ZONE OF ICHALKARANJI CITY :

The sharp division between urban and rural is becoming increasingly less, and less perceptible today with development of technology, transport and communication systems with the urbanization of country side, and ruralization of the towns, the spread of suburban and growth of urban settlement and suburban villages, it is becoming difficult to draw the boundary where the urban stops and rural starts. Thus, a ' Rural-urban continuity ' is tending to emerge, but more in the post industrial countries than in the pre-industrial country.

In the modern era the word 'rural urban fringe' is most important in the study of urban-rural or regional development. So the fringe is used by Geographer.

According to Stevens (1946), " The rural-urban fringe is the area where the word 'rural' shows that rural population which is directly supported by the exploitation of land resources."

As suggested by Galpin in 1970 the word fringe is 'the partnership in between rural and urban community as associated with 'Social Topography' and regional structure are not just the product of rural and urban statistics. The size and structure of 'Urban Community' - 'Agro-urban Community' is economi-

STANDARD URBAN AREA OF ICHALKARANJI

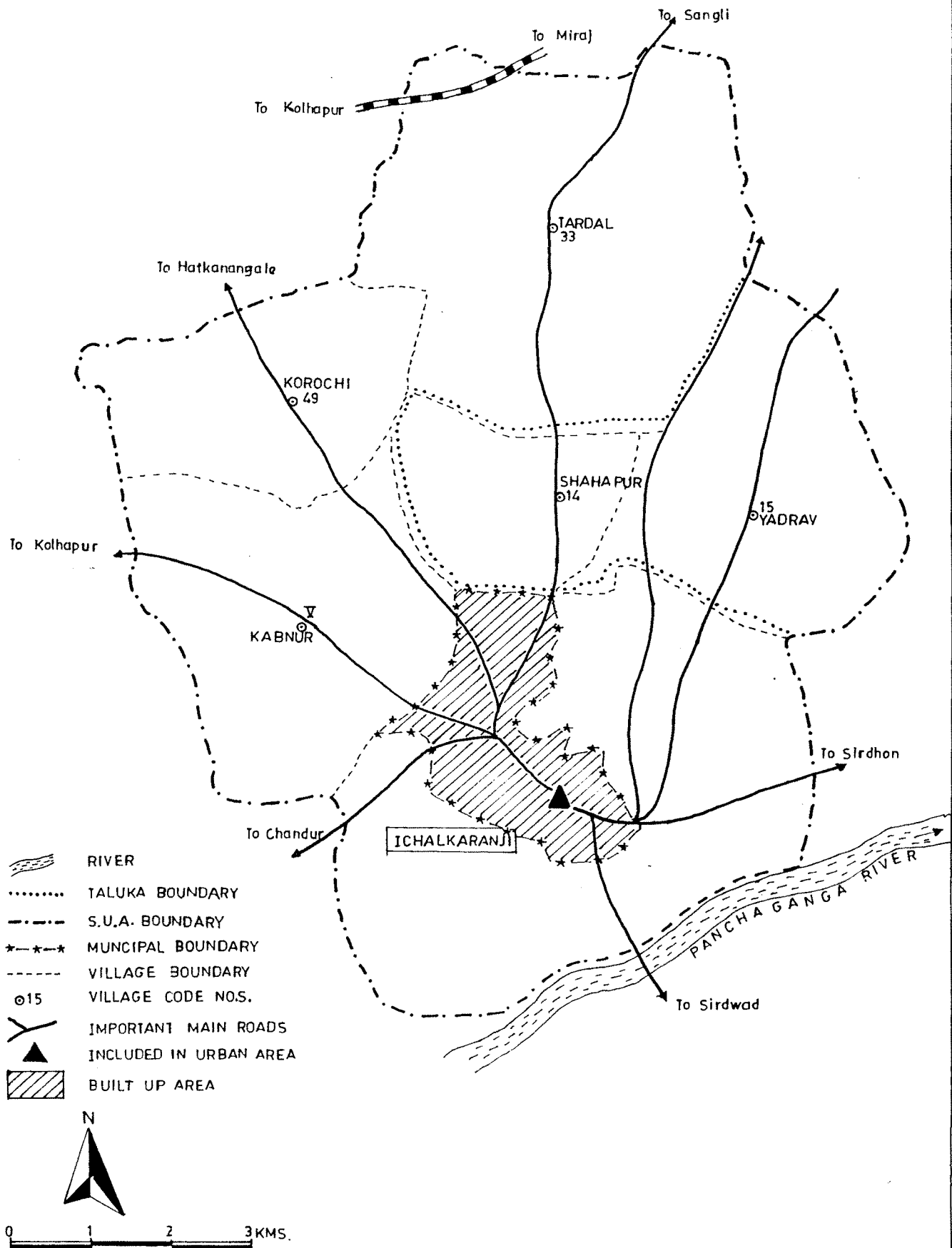


FIG. 4.1

cally distinct. The distinctiveness lies in the combination of urban and rural technology and institution, and urban / market oriented rural land use.

As per the opinion of Smith T.A. (1937), " The fringe means that the boundary between urban and rural landscape actually lies on the periphery of urban areas surrounding it and distinguishing it from the true rural area."

In 1965 Pahal R.E. suggested some important characteristics of fringe like -

- i) Segregation
- ii) Selective immigration
- iii) Commuting and
- iv) Collapse of geographical and social hierarchies.

Many geographers have tried to define the term fringe zone.

The urban-rural fringe is mixed zone where the common characteristics of rural and urban land use are found. It is the transitional area between well recognised urban land use and devoted area to agriculture. The rural and urban mixed land use is much smaller than the unland of city. Sometimes, it is smaller than commuting areas of the city.

The rapid growth of urbanization and development of technology and transport, quick spread of modern city outside

its political boundary and its real natural and cultural factors create several problems. So it is said that the fringe is a bridge between rural area on the one side and urban centre on the other side. These characteristics of rural and urban area are found in the fringe zone area.

The concept of the fringe which is recognised as a world wide phenomena, has its roots in the very complementary relationships between the rural and urban area. The term - city fringe, the city edge, the city periphery, near the city, the city out skirts, the city's environs, the city's adjoining area are interchangeable used. In the analysis of fringe is made between urban - rural inter-dependence along the accessible routes, a two way channel and urban impact of rural villages, this shows a sharp break in gradient at the rural urban fringe which is a transitional zone. The rural-urban fringe takes the form of a four tire zonation - the suburban wards, the fringe belt, the ribbon belts and interstitial village. The city fringe is smaller than the urban fringe.

In this way we can understand the importance of fringe zone in the study of city bus transport. The fringe zone of urban is changeable in nature with spread of city limits and changes in location of fringe zone area. In order to study the fringe zone of Ichalkaranji city and the changes in area from 1961. We have taken three periods for delimited the fringe |

zone of Ichalkaranji city. We have used the method for delimitation of fringe zone which is based on the collection of various records and field and field observation. Then, we have found out the past fringe zone and also have collected the agricultural land value records, studied the rural-urban mixed land use and development of various urban landuses, those are found in the fringe zone. For example - the water pumping station of city is generally located in the fringe area. Some 25 years back the old pumping station was out side the city area i.e. in the fringe area but at present it is in the interior part of the city. The second important example is that the spread of city area which is the location of octroi naka. With the development of city builtup area, the location of octroi naka have changed considering these factors, the fringe zone of Ichalkaranji has been delimited.

4.3.1 Delimitation of fringe zone - criteria :

In the present study the delimiting the fringe zone is essential for the study of Ichalkaranji city, because the study of fringe zone area is closely related to the city in respect of social, economic and cultural functions, services and the city bus transport services in the fringe zone area. Hence, the study of fringe zone is most important.

In the present study the expanding of fringe zone is for three decades from 1961 to 1981 has been delimited by some following factors.

- i) The level of transport
- ii) The degree of urbanism
- iii) Population density
- iv) Agricultural land value
- v) Percentage of non-agricultural workers
- vi) Non-agricultural land value
- vii) Observation of rural-urban mixed land use and cropping pattern changes

The data of the above mentioned factors (three decades - 1961 - 1981) has been collected through the census records, municipal records, S.T. Bus transport records and land records. The boundary of the fringe zone of Ichalkaranji city has been delimited for different periods and that is shown in Fig.4.2.

4.3.2 Analysis of Fringe zone :

In 1961 the area of fringe zone of Ichalkaranji city was 22.84 sq.km and there was only one settlement in this fringe zone area. The people from this settlement area were closely linked with this city for their daily work by S.T. Bus and city bus transport. The average density of population of this area was 2231.96 per sq.km. There were many urban land uses for example water pumping station, petrol pumps, water disposal areas, godowns located in this part (Fig.4.2).

At the second time due to expansion of city limit and growth of population the fringe zone of Ichalkaranji city spread

ICHALKARANJI CITY

CHANGES IN FRINGE ZONE AREA

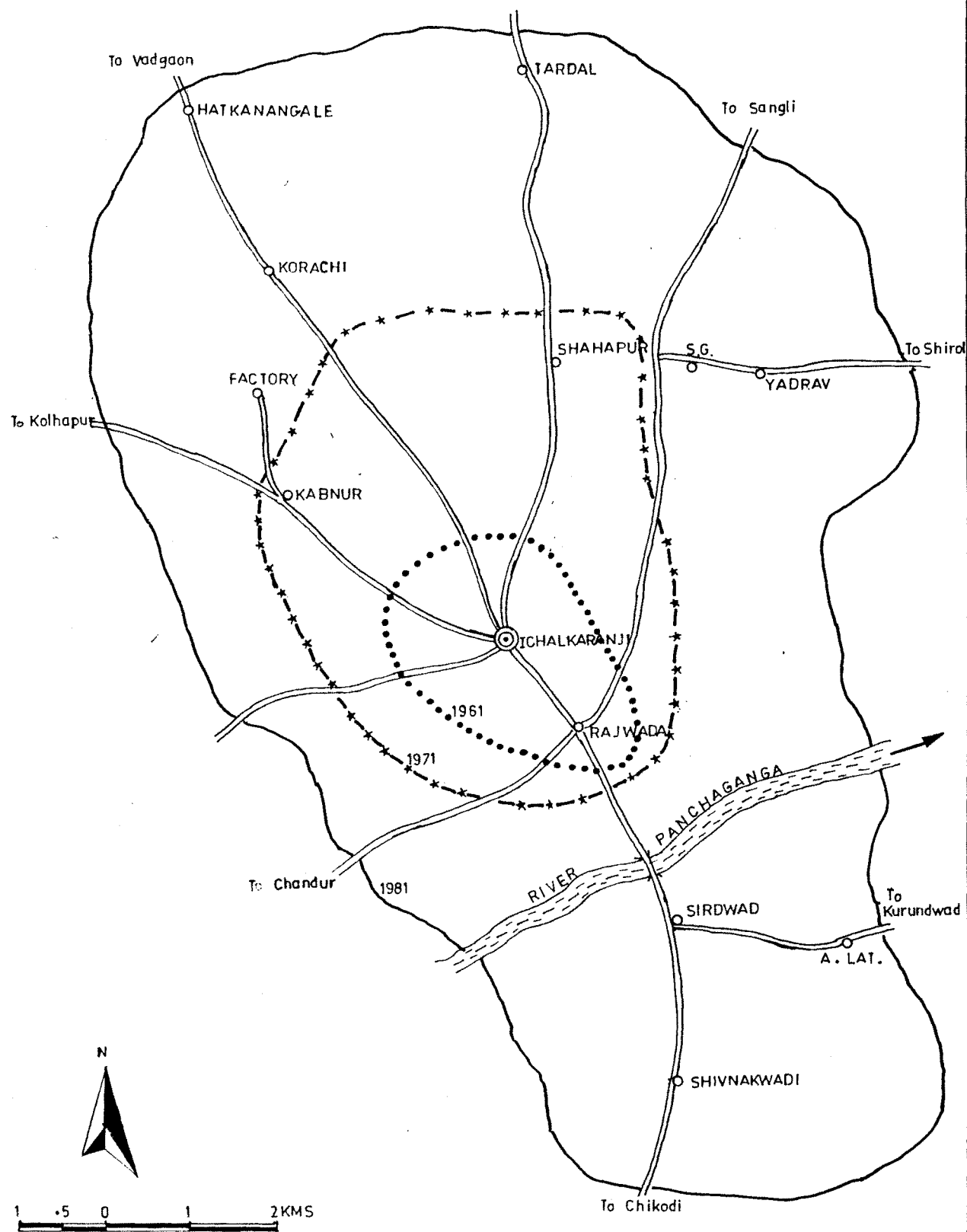


FIG. 4.2

out. The area of this zone extended nearly 3 to 4 kilometers from the built-up area. In 1971 about two settlements were established where added to the fringe zone of the city. The city bus transport services were extended to these settlements for transport facilities. However, the major part of fringe area adjacent to the city was occupied by many residential colonies, the zone has extended for industrial units, dairy, poultry, truck-farming.

Now in the passing of present years the fringe zone limit has been extended upto the distance of 4 to 6 km covering the total area of 123.71 sq.km and seven another small settlements adding of surrounding area. At present the land use for agricultural purpose, the fringe zone area has extended and shows that this area is changing and it is well connected with the city centre by city bus transport. It is shown in the Fig.4.2. Table 4.1 shows the fringe zone area, number of villages, population density and total population in the fringe zone during the three decades.

TABLE 4.1 : Fringe zone of Ichalkaranji city.

Sr. No.	Year	Area in sq.km	No.of establish-ment	Population density per sq.km	Total population
1	1961	22.84	1	2231.96	50,978
2	1971	15.39	2	2382.39	36,665
3	1981	85.48	7	447.12	38,220
Total		123.71	10	4961.47	125,863

4.4 UMLAND (ZONE OF INFLUENCE) :

For the planning of city region the task of preparation of plans is generally entrusted to the planning cell of municipal authorities. The municipal authorities are mainly concerned with providing public utility like roads, drinking water, electricity within municipal limits. A city is treated as an island devoid of any links with the world beyond. As a result of these limitations urban planning has so far proved to be failure as far as the solution of the long term urban problems is concerned. The planning authority has yet to realise and not only give lip services, that a city does not grow by itself.

The function of services are necessary for tributary area of urban character. There is a close functional link between the city and umland. Urban agglomeration do not produce their own food, milk, vegetable service, and producing units. It is the umland which is the source of these essential requirement of the city. The umland in turn derives several benefits from the city. The income of umland and economic growth by providing employment opportunities of city and area as the outlet for its products. It also provides services like hospital, schools, fire protection service, administrative services, justice, police, shopping centres, quick transport services, finance, enter~~t~~ainment etc. Thus, we find that both the city and umland are inter-connected coherent single organic whole.

There are many geographers who have defined the word 'Umland'. They are given below.

C.D.Harris (1940) - " The city is the regional capital for an area called the zone of influence." Stanley Dodge (1932) - " The umland is that such linkage in the region surrounded by a farming population, and the route used by a farming population, and the route used by the farmer and noted the character of the roads themselves." According to Shah Manzoor Alam (1962) - " The zone of influence of city is an area socially, economically and culturally linked with it." According to V.L.S. Prakashrao (1983) - " Umland means the area in which the region and city are culturally, economically and politically interrelated." R.L.Singh (1955) defines the zone of influence as " An area which supplies raw material, goods and services to the surrounding area of the city." P.D. Mahadev and D.C.Jayshankar (1969) defined the word umland as " The country surrounding the city set some tasks that has to be performed in central place." Or " The city not only serves the needs of it's resident but also caters, to need of the surrounding areas called the umland." According to Stilgenbaur (1901) - " Immediate rural land surrounding the metropolitan city is the immediate umland of city." R.L.Singh (1955) defines the zone of influence as " An area which supplies raw material, goods, and services to the surrounding area of the city." G. Taylor (1964) has defined zone of influence of a town as, " The area linked socially, culturally and economically to an urban

settlement." According to G.Taylor (1946) " The umland of city is that portion of surrounding country which is linked culturally, socially, and economically city as a centre."

Taking into consideration of region many factors under the economic influence the city bus transport zone, educational zone, vegetable supply zone, milk supply zone, night, S.T.Bus transport zone, newspaper supply zone are included under the social and cultural influence other essential services and administrative services of the city, deals with the political effects.

4.4.1 Methods of Delimiting zone of Influence :

There are some methods that determines the zone of influence of a city. Every city has two types of zone of influence. The zone of influence can be measured by the empirical and quantitative methods. The empirical methods have necessary more labour and field work; but results are given more correct by this methods.

There are some authors who have delimited the zone of influence by above given method.

Ujagar Singh (1969), he has studied the zone of influence of Allahabad city. He has considered the following factors.

- i) Vegetable supply area
- ii) Milk supply area
- iii) Higher education zone
- iv) Retail trade area
- v) Wholesale trade area

R.L.Singh (1955) - He has studied the zone of influence of Banaras city. He has mentioned some aspects of zone of influence as below.

- i) Labour and food supply to the city,
- ii) Fresh vegetable supply to the city,
- iii) Milk supply to the city,
- iv) Traffic telephone and newspaper supply zone,
- v) Educational supply zone,
- vi) Patient treated in city hospital zone,
- vii) Frequency of shopping trips,
- viii) Frequency and volume of labour migration to the city for work,
- ix) Vegetable supply zone and
- x) The volume of people commuting to city for entertainment and administrative and legal work.

Chauncy Harris (1940) : He has studied the zone of influence of salt lake city in Utah Wyoming Idaho and Nevada State in America. He has taken some selected services, delimiting the zone of influence.

- i) Retail trade
- ii) Wholesale grocery trade
- iii) Wholesale drug trade
- iv) Radio broadcasting
- v) Newspaper area
- vi) Religious sphere of influence

- vii) Telephone area
- viii) Bakery distribution
- ix) Oil distribution
- x) Few less important services.

Smailes A.E. (1944) : He has studied the town of Ireland and has given some factors for delimiting the zone of influence.

- i) Retail trade
- ii) School services
- iii) Health services of the towns

Harris C.D. (1940) : He has also studied the zone of influence of British towns.

- i) Wholesale trade
- ii) Retail trade
- iii) Wholesale of medicines
- iv) Religious impact of towns
- v) Telephone connection of towns
- vi) Circulation of local newspapers
- vii) Food production distribution and services

F.H.W.Green (1952) has taken into account bus transport services and their frequencies in the surrounding areas as an important indicator of the zone of influence. He has taken the survey of the number of buses leaving the city after 9 p.m. to the nearby places.

R.Dwidead (1962) has studied the same towns where he has added the following parameters :

- i) Bus transport area,
- ii) Newspaper circulation area,
- iii) Health services area and
- iv) Administrative services area.

As far as the Ichalkaranji city is concerned, the above mentioned facts regarding the zone of influence are very important. Hence, the field work has been conducted for collecting the data for the following factors.

4.5 UMLAND OF ICHALKARANJI CITY :

In the present problem Ichalkaranji city has been delimited by conducting a field work and collecting the data of following aspects.

- i) City bus transport zone,
- ii) Secondary school education service zone,
- iii) The vegetable supply zone,
- iv) State transport bus zone and
- v) Newspaper circulation zone.

i) City Bus Transport Zone :

With the vast growth of Ichalkaranji city the number of commuters coming and going out of this city has been growing because of development in transport such as bus services, the village which are in the range of 6 km are progressing.

There are total 12 villages covered by city bus transport services. They are as follows :

- 1) Kabnur 2) Ganganagar 3) Korochi 4) Hatkanangale
- 5) Taradal 6) Shahapur 7) Khotwadi 8) R.Kumbhar Nagar
- 9) Yadrav 10) Sirdwad 11) Abdul Lat 12) I.Co.Spinning Mill (Sivanakwadi).

These villages are well connected to the Ichalkaranji city by city bus transport service. This service serves the 201,229 rural population of surrounding region and average distance covered by city bus transport is about 6 km. It is shown in Fig.4.3 and Table 4.2.

TABLE 4.2 : Umland of Ichalkaranji city.

Sr. No.	Name of Zone	Area of each zone in sq.km	No. of villages	Total village population in each zone in 1981
1	City bus zone	106.87	9	201,229
2	Secondary education zone	318.89	29	132,700
3	Vegetable zone	285.04	32	166,444
4	S.T.Bus zone	273.05	34	133,665
5	Newspaper supply zone	455.67	38	790,582
Total		1,439.52	142	1,424,620

ICHALKARANJI CITY

• ZONES OF INFLUENCE •

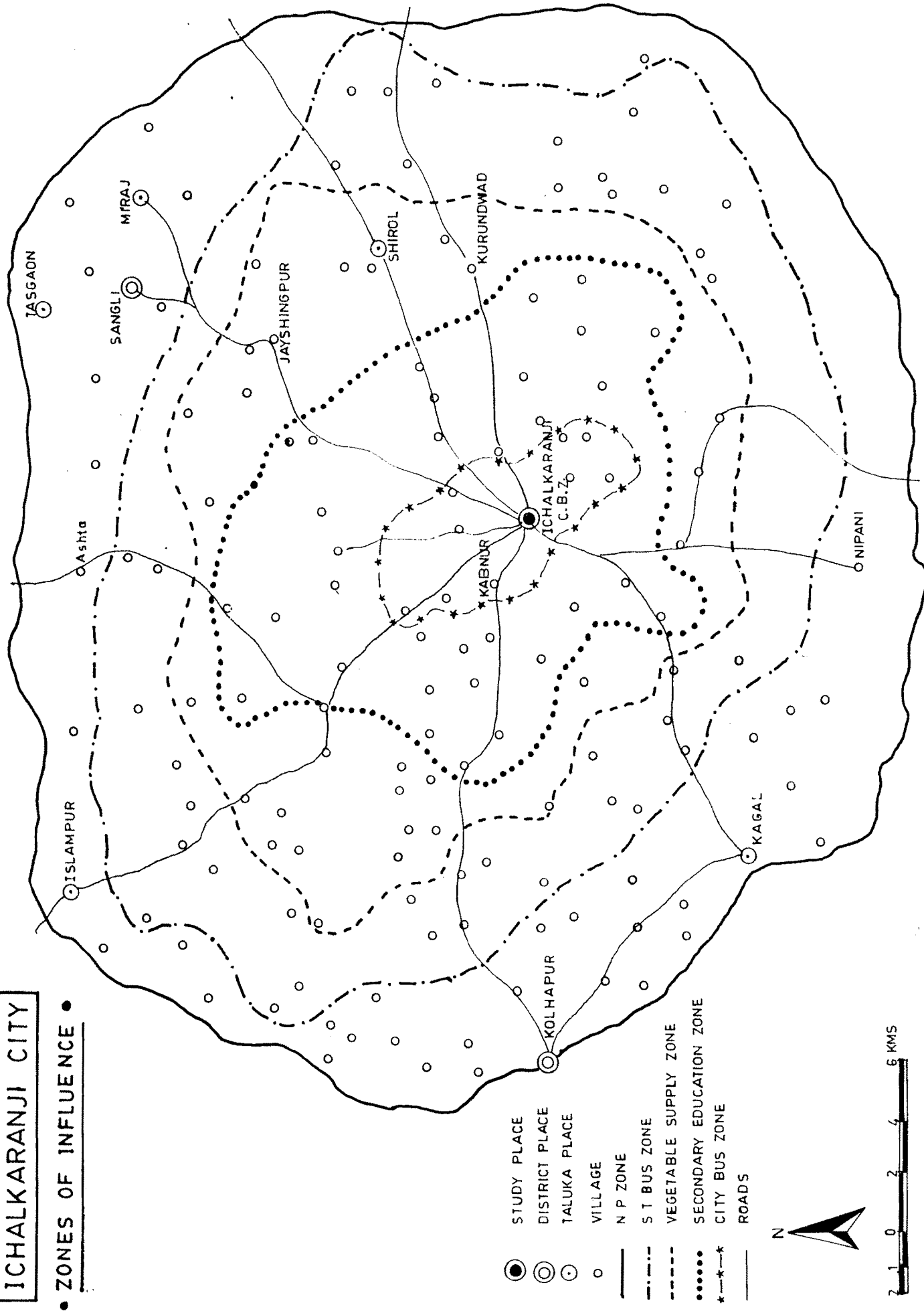


FIG. 4-3

ii) Secondary School Education Service Zone :

With the growth of city the educational institutes has established and it has acquired a new status as a city of education. All educational facilities except medical, and educational college have developed here and so the student come from the surrounding region. The student who come from farthest place are responsible for increasing rental levels of house. The data of education have been collected from the various educational institutes. The educational zone of Ichalkaranji city includes the 29 villages. These villages cover the area of 319 sq.km. Some of them are like Chipari, Nim-Shirgaon, Nandhi, Takwade, Jambhali, Shirdhon, Kumbhoj, Alate, Rukadi, Rui, Chandur, Rendal, Mangaon. They are also centres from where the student come to the city for the higher education. It is shown in Fig.4.3 and Table 4.2.

iii) Vegetable Supply Zone :

Ichalkaranji city has been basically an industrial and manufacturing city surrounded by the agriculture which is dominated by the commercial crops like sugarcane, tobacco etc. The villages which are less dominated by sugarcane cultivation supply vegetable to the city. Thus, the vegetable are brought from villages by cart - loads, truck, tempo, motor cycle, bicycle etc. The market day of the Ichalkaranji city is Friday and Tuesday. The growing population of the city needs vegetable in a large quantity. In this way the city provides

good market for vegetable. The vegetable supply zone of this city covers 32 villages some of them are Danoli, Kothali, Udagaon, Hupari, Savarde, Minche, Atigare, Herle, Pattan Kodoli, Ingali, Yalgud etc. These villages serve the area of 285.04 sq.km. This area has a population of 166,444 persons. Most of the vegetable supply area lies towards the eastern and western part of the city. It has maximum range of 20 km from the city centre. It is shown in Table 4.2 and Fig.4.3.

iv) S.T.Bus Service Zone :

If we consider the rapid growth of Ichalkaranji city we find the number of commuters coming to and going out for the various purposes, this city has been vastly increasing and thats why the state transport corporation services have been shouldering constant pressure providing the progressive service. There are number of S.T.Buses going out and coming from different villages which are in the surrounding region. The villages within the 25 to 30 kilometers range from the city are progressing. Now, we have collecting the data of S.T.buses going to nearby villages after 9 p.m. and the buses which take night halt at the villages like Kavathesar, Soni, Takali, Manpadale, Khochi, Khidrapur, Narande, Panhala, Kagal, Karadage etc. Taking into account these villages the zone of influence has been delimited. These places are closely associated with the social economic and cultural activities of the city. There are 34 villages which show the average distance of

25 to 30 kilometer with coverage area of 273 sq.km and with the 133,665 persons. The maximum number of buses are operated after 9 p.m. when we took the interviews of the people who travel by buses; they said most of people visit the city in the morning for the various purposes, and return their villages by night bus services. When we studied this zone of influence, we found the necessity of S.T. Bus services for recreation, attending the social functions. It is shown in Table 4.2 and Fig.4.3.

v) Newspaper Circulation Zone :

The literacy has increased in the rural area and corresponding political awareness has also increased, the newspapers have therefore become a daily need of the people. The village around the Ichalkaranji city have been getting and distributing the daily newspaper from the quick transportation services. So the newspaper from the view point have become recent features in the village development histories. A special feature of powerloom town of Ichalkaranji is that the daily newspaper are regularly published featuring the news position and exclusively devoted to the reports of textile industry, political awareness. There are some local newspapers such as i) Daily Soot Bazzar ii) Daily Mancher iii) Daily Kisan iv) Daily Evening 'Saptganga'.

'Manchester' is the one of the important newspaper among them. It has also been read in the district of Kolhapur,

Sangli, Belgaum (Sangli, Miraj, Jath, Asta, Islampur, Tasgaon, Kolhapur, Gadhinglaj, Murgud, Kagal, Chikodi, Nipani, Bedkihal, Borgaon, Yelgud, etc.) The coverage area of these villages is 456 sq.km around the Ichalkaranji city which includes 38 villages and 790,582 persons. It is shown in Table 4.2 and Fig.4.3.

The study of fringe zone area and umland of Ichalkaranji city shows that the spread of Ichalkaranji city and its functions have a great bearing on the development, integration and linkage of surrounding villages. The fringe zone and umland area of Ichalkaranji city shows a dynamic structure and the constant expansion of city limits changes and expands the fringe and umland zone of the city.

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