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**MORPHOLOGICAL CHARACTERISTICS AND FUNCTIONAL AREAS**

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- .....
1. Introduction
  2. Landuse
  3. Functional areas
  4. Residential areas
  5. Commercial areas
  6. Industrial areas
  7. Area under transportation
  8. The prominent landmarks of the city

References

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## 1. INTRODUCTION :

The process and progress of urbanization (The concentration of population and economic activities in cities and to the physical growth of the cities) and conditions governing the growth of urban development have received considerable attention from geographers and the researchers of different branches of the discipline.

Cities are expanding in size, number and relative importance in the most of the developed and developing countries of the world. The development of technology, industrial growth and expansion of urban transport links have given rise to several new problems among the internal form of the cities, while old problems have become increasingly difficult to solve. The morphological setup of various functions differ from place to place and time to time. It varies because it is the outcome of human creative instincts projected through the total setting of resources and cultures within the limits of time and space (Taneja, 1971).

Urban geographers are more interested in the study of complex areas possessing sharp internal differentiations in the urban settlements. Morphological study of towns and cities essentially consists of the study of the forms and structural patterns of the city, internal functional arrangements, ground layout and the urban built.

Dickinson (1964) is of the view that 'morphology' is concerned with the plan and built of the habitat, viewed and

interpreted in terms of it's origin, growth and function. ✓  
 Morphology of a urban place is a reflection of it's function and ideas of planning and building at each phase of its development. Thus, any morphological study involves the study of the factors leading to its development.

According to R.E.Murphy morphological studies often deals with development of forms and patterns of the urban settlement and its structural evolutionary account. A.E. Smailes (1953) has stated that 'Urban Morphology' is the 9 description of the nature of urban settlements, their functions and forms, their relative dispositions and social interdependence.

Urban geographers are mainly concerned with the structural morphology, functional morphology and social morphology of the cities. Structural morphology refers to the various internal forms and the structural patterns of urban built. Functional morphology includes different urban functions and their disposition and urban space used for the purpose of residential, educational, recreational etc. Social morphology may be interpreted in terms of social complexity of various castes, groups, communities and their dwellings and the way of life. Social morphology is well reflected in structural morphology of a city. The structural, functional and social aspects of city morphology have attracted the attention of urban geographers and researchers.

In view of the above the present chapter aims to highlight the salient morphological characteristics and functional areas of the Miraj city.

Miraj is a very ancient place having a typical geographical location and long historical background of its evolution. In 'Sahyadri Khandpuranas' it has mentioned that the ancient name of the place was 'Mirichi'. The place was ruled by Dravidians, Shakyas, Chalukyas, Mugals and Marathas. The imprints of these different cultural kings have been reflected in the various old constructions and buildings. Miraj ground fort figures as one of the most important of the historical relics. At present it is complete ruins except front gate. It is reminiscent of the history of the Adilshahi, Mugal and Maratha regimes. The general condition of the city centre so far as building constructions are concerned, majority of the structures are poor and constructed in unburned bricks and mud mortar. As the time progress the city has areally expanded outwards. The outward development is mainly observed along the Sangli and the Pandharpur road. Most of the structures are only ground floored. The newly coming developments are characterised with pakka construction and double stored buildings.

The intra-urban road pattern of this city is characterised by north-south orientation and the development of the constructions and the buildings are naturally governed by such orientation.

During the state regime Miraj saw many improvements, such as construction of Bandhara on Miraj Nala to provide water supply, construction of old market, establishment of Miraj Municipal Council, construction of Kalyan market, Mutton market and Town hall. The Miraj Municipality was established in 1975. It has an area of 42.68 sq.kms. under its jurisdiction. The opening of railways during the British empire is a new phase of development of city. Miraj is an important railway junction of Kolhapur-Pune broadguage railway line, having a key position in transport and communication facilities. The Latur-Pandharpur-Miraj narrowguage line connects the city to Latur. Pune-Belgaum rail route passes through this junction. This rail line connectivity to main commercial centres of Maharashtra, is mainly responsible for the commercial development of the city. The construction of Laxmi market, Timber market, Open market and agricultural commodity market etc. are the prominent additions in the city development.

The city is growing over a last few decades as a necessity to accommodate such city growth, the municipal limits were extended. After the independence good medical facilities, railway junction, office of the tahsil headquarter and industrial areas of M.I.D.C. are the prominent landmarks in a city landscape.

The internal structure of an urban centre depends upon the character of the functional areas and the nature of function

which is perform. The urban centre, however, owes much of its character to the needs of its service area and the functions it performs to meet such needs. The internal landuse pattern is the product and the result of the interaction of one functional area of a urban centre with the other. Such interactions and interdependence are reflected in the amount, direction, time and character of movement of persons and goods between various functional areas. Thus, in view of the above, a general picture of the structure of the Miraj is being dealt here.

## 2. LANDUSE :

Miraj is not a planned city. It is a fine combination of the old and new architectural styles, ancient and modern landmarks and a variety of commercial, economic, educational, cultural, medical and social establishments with their own identity and speciality. The city Miraj has a geographical area of 42.68 sq.km (4268 hectares) of which 721.73 hectares is developed. The landuse statistics represented in Table 3.1 clearly shows that out of the total developed area very high proportion of the land (34 percent) is devoted to transport and communication purposes. This is a good indicator that Miraj is a centre of transport and communication.

On the other hand very low percent (0.60 percent) of the land is under the use of playground, garden and open spaces.

TABLE 3.1 : Miraj - The distribution of land under various uses.

Type	Area in hect.	% to the total area	% to the developed area
Residential	160.40	3.7	22.20
Commercial	29.20	0.7	4.00
✓Industrial	216.70	5.1	30.00
Public/Semi public	58.63	1.4	8.10
Public utility	7.98	0.2	1.10
Playground, Garden, Open spaces	4.00	0.1	0.60
✓Transport/Communication	244.82	5.7	34.00
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Total developed area	721.73	16.9 ✓	100.00
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✓Agricultural	3325.00	77.9 ✓	-
Water-bodies	65.27	1.5	-
Vacant lands	156.00	3.7	-
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Total undeveloped area	3546.27	83.10	-
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Total Municipal area	4268.00	100.00	-

SOURCE : Compiled by the Author.

It is worthy to note that out of the total developed land 30 percent of the land is under the use of industrial activities. Thus, transport and communication facilities of the Miraj city are very

supplementary to the industrial activities. In fact these components are not competitive to each others, however, once development is at the cost of others and therefore, they are interdependent. The land under residential purpose share 22.20 percent to the total developed area (Fig.3.1). The area under commercial activities and business activities share only 4.0 percent, public and semi-public 8.10 percent, whereas, public utility shares 1.1 percent of the land of the total developed area of the city. The urban landuse analytical study shows that, out of the total geographical land of the city 83 percent land is undeveloped and merely 17 percent land is developed. This statistics shows a greater potentials for the development of urban land and its uses. Indian towns and cities are characterised with the mix of urban-rural landuse. Miraj is not an exception to this general conditions, as it shares nearly 78 percent of the land to the agricultural practices and hence it is very large undeveloped category of urban landuse. The various landuse categories are well represented in Fig.3.1.

### 3. FUNCTIONAL AREAS :

The influences which the city exerts on social and economic structure of the areas help in the formation of landuse patterns. The different functional characters are found concentrated at different places. Functional specialization is the key note to urban growth in modern times. The urban growth depends upon a number of factors like



# MIRAJ CITY

EXISTING LANDUSE ANALYSIS 1981

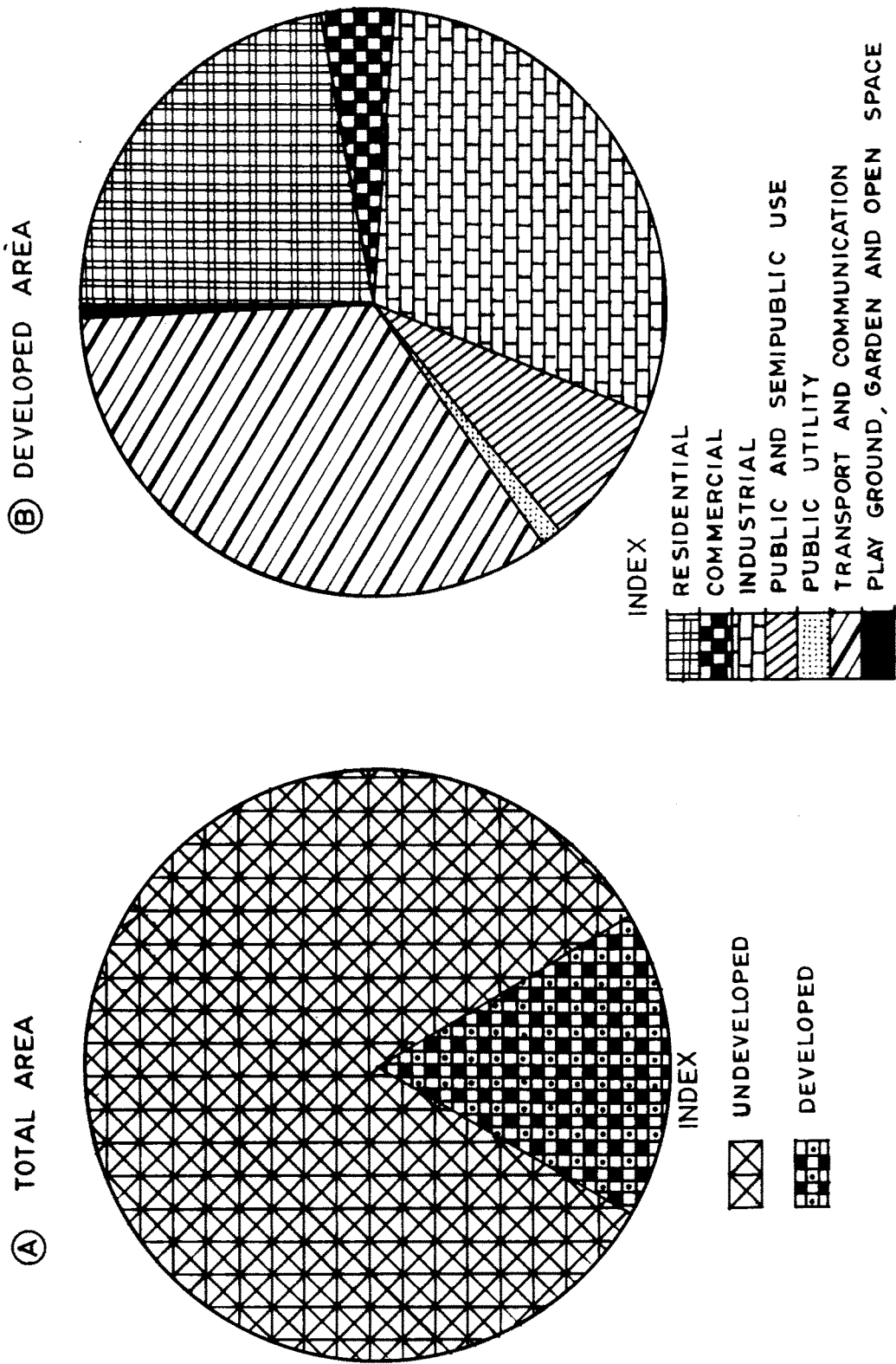


FIG. 3-1

topographical feature, economic, historical, socio-economic and political factors. These factors contribute to the aggradetional, segregational and sporadic functions in the growth of a city. According to Dickinson, " The use which can play the highest rent at a particular place occupies the land," (Dickinson, R.E. 'City region and regionalism, 1956, p.192).

It is a general tendency of encroachment of urban landuse over neighbouring agricultural land and open spaces. The process is termed as 'urban expansion'. In the Indian context most of the cities experiences the overcrowding of the functions and over-lapping of their zones within the city limits. Such patterns of the functional developments are visible in the Miraj city.

Out of the total geographical area of the city 721.73 hectares area is developed and 3546.27 hectares is undeveloped. The developed area is utilized for different functions. Out of the total developed area 22.2 percent area is devoted for residential use, 4 percent for commercial use, 30 percent for industrial activities and 34 percent for transportation and communication use. Very limited space is under the use of public utilities. Fig.3.2 shows the functional areas of the city.

#### 4. RESIDENTIAL AREAS :

The oldest residential area of the city is Brahmanpuri and adjacent area of the fort, founded in 13th century. This area forms the core and nucleus of the Miraj. City Miraj began

# MIRAJ CITY

FUNCTIONAL AREAS 1981

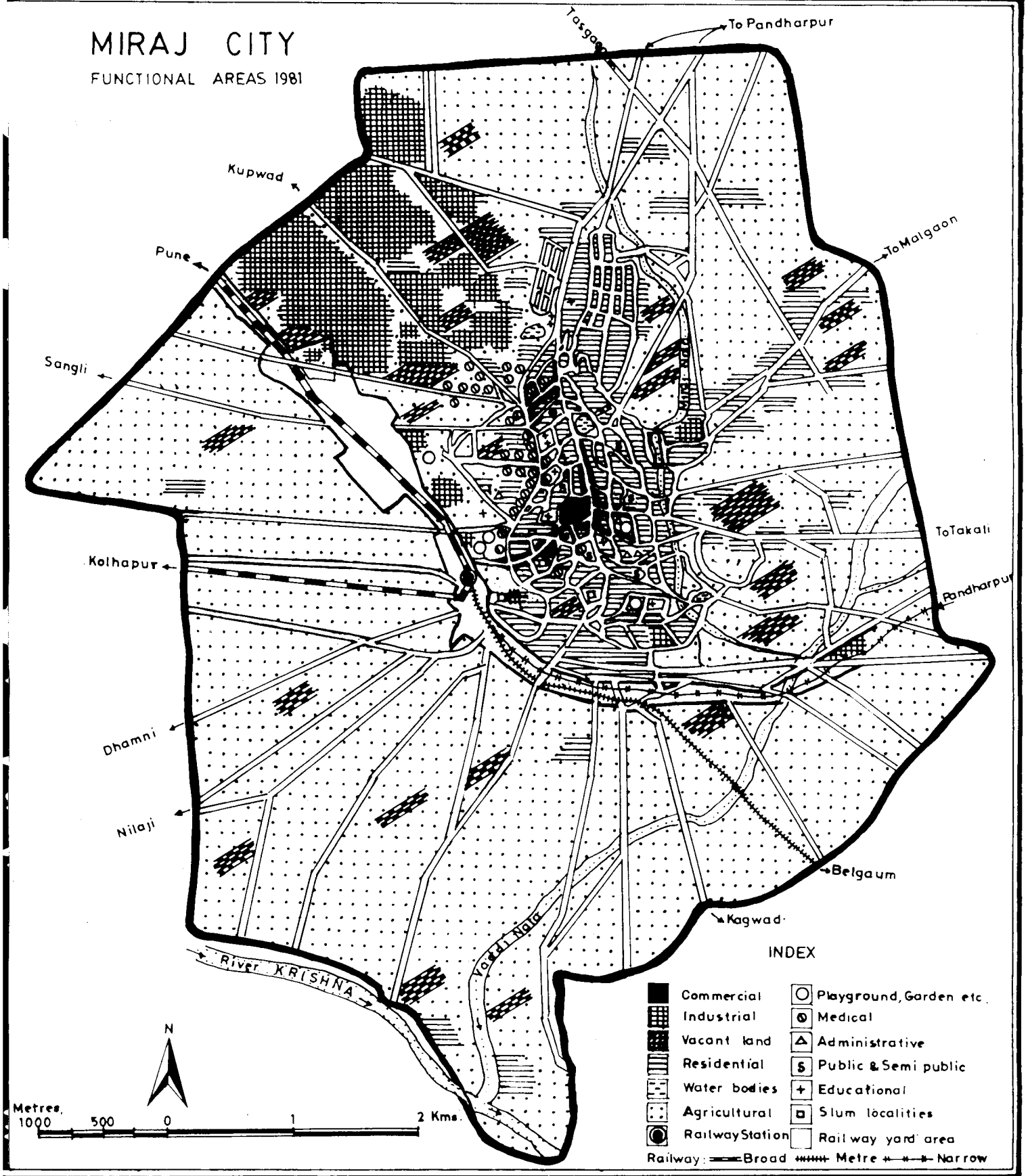


FIG 3.2

to spread from this nucleus and spreaded in the form that we find it today. This old core area is characterized with the traditional building styles of single stored with specious accommodations, builtd with big stone boulders, mud and lime. The residential area has considerably extended in north-south directions from the Old Brahmanpuri residential localities. Towards the north Tanaji Chowk, Shivaji Chowk, Tasgaon wes, Kaman wes etc. areas are residentially developed along the roads. Circular road (ring road) locally known as 'Chakkar Sadak' was altimate limit for the residential development upto 1950.

Towards the south of Brahmanpuri the residential localities like Budhwar peth, Nadi Wes, Mâisal Wes and Udgaon Wes are developed.

Very recently the development of new residential areas are found beyond the limits of ring road, it includes Sanmitra housing area, Ganesh housing area, Maji Sainik Wasahat, Indira Nagar etc., to north, along Miraj-Pandharpur road. Laxmi Nagar, Subhash Nagar, Sonali Nagar, Indira Nagar (M) along the Miraj-Malgaon road.

The multi-stored buildings with lodging accommodations are emerged along the west of the station road. The railway station road frontier is characterised by the concentration of tall constructions with medical functions like consulting counters, dispensaries and health care centre. It is worthy to

note that these buildings are surrounded by small stores of medicines and drugs. Sangli-Miraj road frontier is another attractive localities of residential areas. The modern bungalow of R.C.C. constructions are emerged in the vicinity of industrial area. Most of the officers employed in the industrial areas prefer to live in such bungalow type construction.

The rapid development of Miraj city during the last two decades has been reflected through population growth and areal expansion. The city became a attractive magnet for the countryside people as it offer an employment opportunities, educational facilities, commercial activities, the transportation and communicational employment and the employment in various economic, social, medical and industrial spheres. The cumulative effect of all these above factors is that, the city is growing by population size. It is not simply growing but overcrowding and due to this population explosion and implosion many residential problems are created. Acute shortage of housing creates the substandard housing pattern called 'slum localities'.

There are five slum localities marked on the existing landuse map. They are as below.

- i) Slum area near Mission hospital
- ii) Slum area near Nadi Wes road
- iii) Slum area near Baradari Masjid
- iv) Uttamnagar slum area
- v) Slum area towards the north of Maru



The housing condition in these slum areas are far from satisfactory. The hutments are very old, kachha and single room. There is no proper arrangement of sewerage and sanitation in these slum localities. The slum localities are devoid of social amenities. This is because of diverse functional conditions of the residents of these localities. One of the filthy slum area known as 'Uttamnagar' is located to the south of S.T. Depot is spreading into planned area of town planning scheme No.1 creating a problems of hygiene and sanitations which has finally resulted into moral degradation of residents who are inclined to the unhealthy business of prostitution. The slum areas are substandard living localities totally neglected from the provision of sanitation and basic amenities.

Miraj is described as a gateway to Karnataka as it is well connected by roads and railways. The transportational significance and nodality, administrative seat, centre for marketing, industrial neucle and regional growing centre tend to grow very rapidly in future. The potential residential growth is expected along the Miraj-Pandharpur road, Miraj-Sangli road and Miraj-Malgaon road.

Out of the total developed area of the Miraj 22.2 percent of the land is occupied by the residential use.

##### 5. COMMERCIAL AREAS :

This category includes the wholesaling, retailing, shopping centres, banks, commercial offices, godowns and

shopping activities as well as the business and commercial activity centres. The business area of the city is mainly lies and agglomerated near Laxmi market, Mission hospital, Railway station, Udgaon Wes and S.T.Stand. The important commercial localities are Shaniwar peth road, Vijapur wes road, Station road and Miraj highschoool road. The main roads and chowks are the localities where the dominance of commercial and business areas are observed. Laxmi market, Gavali Katta, Fodder market, Loni Bazaar and Udgaon wes are the perennial and daily market areas. Weekly bazaar is organized at Mangalwar peth (near Shivaji Chowk).

Miraj city is famous and carried reputation of manufacturing of musical instruments such as Sattar, Tamboras, Dholchi etc. However, the musical instrument shops which are found in a poor conditions are situated in Shaniwar peth fronting on an important road in the city. Timber depot and stalls are located to the south-east corner of the Fort. Grain market, Mutton market, Fish market, Vegetable market, Cloth market, Fodder market, Cattle market and stationary shops, these are some of the commercial activities associated with the market areas of the city.

From the very emergence of the city, the demand of the land for commercial activities has been highly related with the core of the densely settled residential zone. The hub of the city characterized with various commercial activities and

business types is known as the 'central business district'. The business activities are categorized into two broad branches i.e. non basic which cater the need of the city population and basic which serves to the people outside of the city, such activities looked as a major source of the income to the city.

In the context of the Indian cities C.B.D. is usually a oldest part of city though not centrally located in the present frame of the urban built. Miraj city centre is well representation of commercial core. Particularly Laxmi market and the roads radiating from this place are characterized by business establishments of various types. Fig.3.3 shows the nature of business establishments on station road, Shaniwar peth, Miraj highschool road and Vijapur wes road.

i) Laxmi Market Area :

It is worth mentioning that Laxmi market is constructed by municipality in which the internal space is used for vegetable stalls, whereas, the road frontage of construction has a variety of business types e.g. cloths, hosiery, leather goods, hard and soft goods, stationary stalls, tailoring, plastic goods etc. Retail shopping is main activity observed at this area.

ii) Shaniwar Peth Area :

Shaniwar peth road specialised in activities like hardware, shopping, paint stores, jewellery, musical instruments, retail and wholesale grain marketing.



# MIRAJ CITY

CENTRAL PART OF CORE OF THE CITY  
THE NATURE OF BUSINESS (COMMERCIAL)  
ESTABLISHMENTS OF THE MAIN ROADS.

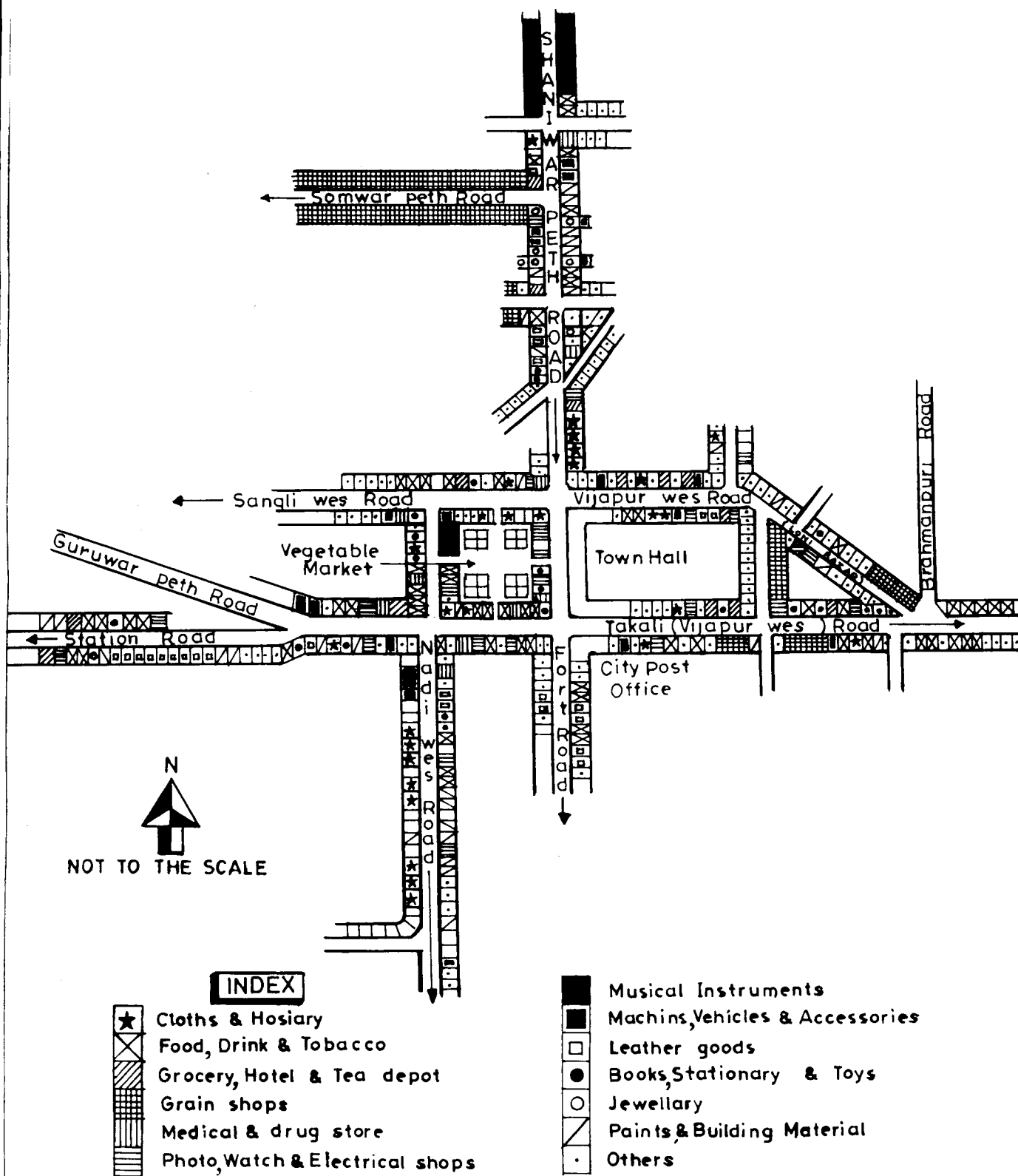


FIG 3-3

iii) Miraj Highschool Road Area :

This road is also included in the important commercial areas of the city. Cloths, stationary stalls, automobile spare parts, book stalls, hardware etc. are the specialized functions found along this road.

iv) Station Road Area :

Important specialized commercial areas are observed along this road. It possesses specialized activities like stationary stalls, radio and T.V.Centres, Bicycle shops and leather goods.

v) Gandhi Chowk Area :

This area is a well reflection of Wanless Hospital complex as it has large number of medical stores, stationary stalls, Bakeries and confectioneries, milk stalls, tea stalls, hotels and lodges. Fig.3.4 shows some of the business types at Gandhi Chowk Area.

Thus, it is clear from the above that in C.B.D. area the commercial landuse got specialized districts and lanes for various types of business.

Out of the total area, 29.20 hectares area is under the commercial use.

## 6. INDUSTRIAL AREAS :

The study of industrial structure of Indian cities has a significant importance in their overall appraisal. While the

# MIRAJ CITY

NATURE OF BUSINESS TYPES AT GANDHI CHOWK AREA

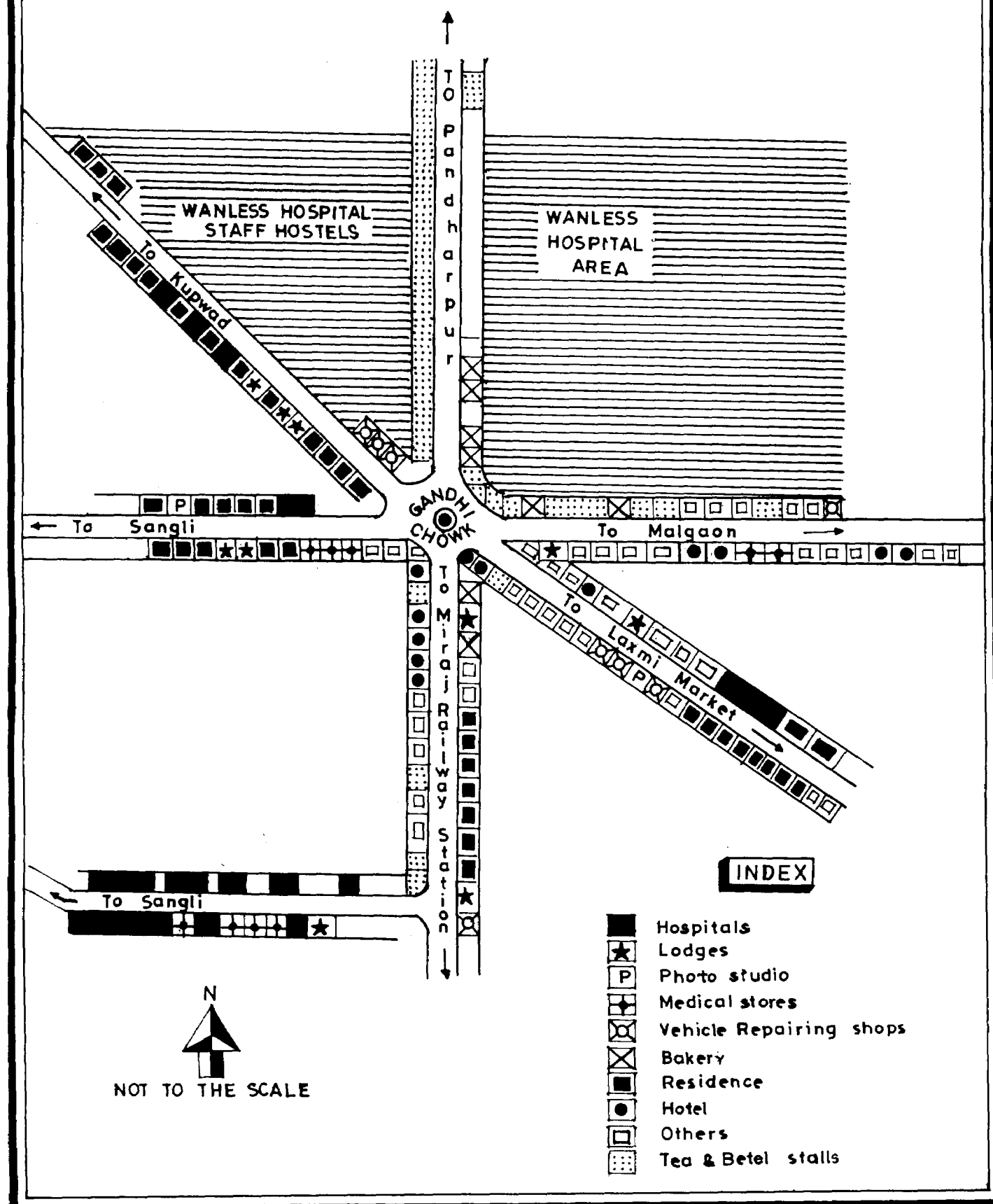


FIG 3.4

business areas tend to be centralize in the city centre i.e. in the inner side, modern industries have started in the outer portions of the city, and thus help not only balanced development of landuse but also the population and the urban activities. Industries play significant role in the city economy as they provide the basic export channels for organizing money.

Miraj city developed into growing urban complex because of intensive industrialization at the peripheral region. The urbanization and industrialization are the two sides of a coin and both the processes are complementary to each other. This factor provide by the development of the Miraj city. The growth of industries and area under industrial activity is the result of locational aspect of Miraj. It is located in a very good agriculture resource area and on a efficient transport and communicational lines. The ample supply of water through river Krishna is another factor for industrial growth of city. The industrial profile of the Miraj city shows that a variety of industrial and manufacturing units are florished at a considerable growth. The textile, cement pipe, medicine, chemicals, opticals, tiles and bricks, engineering and other heavy and light cottage industries are well developed in the city. The following are prominent industrial activities in the city which play important role as a base of a city.

Marathe textile industry :

It is established in 1943 with ginning and spinning processes. This industry having 5000 spindles providing an employment to 300 workers.

Kocil industry :

It is a Krishi organic chemical industry where fertilizers are manufactured. It is developed on 15 acres of land on the Miraj-Sangli road.

Industrial Estate :

It is developed on Miraj-Sangli road and comprises 15 acres of land where hundred industrial units are operative. It is one of the important industrial complex of Miraj city having various functions carried out.

Dairy Industry :

Miraj is a regional centre of the collection of milk. Various industries like Govt. Milk Supply Dairy, Krishna Khore Milk Supply Sangh and Vasant Dada Milk supply Co-operative Sangh are developed in the city. The collected milk is processed and refrigerated and send to Greater Bombay. This industry is remarkable landmark of the city.

Idomax chemicals :

This industry provides some medicines for the city and for outside areas.

### Oil and Flour Mills :

Oil and flour mills are the other important commercial establishments in the city. As the city is located in the heart of good agricultural land, the groundnuts, oil seeds are brought here and variety of the oil types are manufactured. The nature of distribution of establishment of oil mills, flour mills and dal mills are sporadic.

Recently M.I.D.C. (Maharashtra Industrial Development Corporation) has acquired about 170 hectares of land just on the north side of the city on the either sides of Miraj-Kupwad road, for systematic and planned development of industrial landscape of the city.

While studying industrial profile of the city it is found that industrial activities like brick, lime, poultry, tannery and textile which are scattered in the residential areas are harmful to public health. These industries should be as far as possible located away from the residential areas. Therefore, it is suggested to select a suitable site for such industrial units outside the municipal limits, specifically in the vicinity of M.I.D.C. area. This should be done with the consultation of public health department. The small industries scattered in the city may be shifted to the industrial area of M.I.D.C. The sizable industries such as Miraj cement pipe industry, Ajit medicine factory, Gavane cement pipe industry should be shifted to the M.I.D.C. area, as and when these

industries would be proposed for any extension programme. The shifting of such industries at far distance from residential localities would keep social tranquillity.

Thus, in the hierarchy of land use under various uses industrial use of the land stands at second rank with one third of total developed area (216.70 hectares) (Table 3.1).

#### 7. AREA UNDER TRANSPORTATION :

The transportation in the city can be viewed in two ways. One is the movement of people and commodities from the point of origin, over fixed routes, to the point of destination. The second deals with the type of land utilization in the urban centre. These two contexts are not mutually exclusive, however, since transportation routes utilize urban land.

Urban space for transportation exists in a variety of forms. Urban space is immediate in large amount of transport routes, public and private and for terminals, whether for commercial vehicles such as Bus Dept, rail road, stations, private vehicle parking, grounds etc. It is estimated by American census authority that, above 23 percent of the land area of American cities over one lakh population size is used for streets and roads.

In the context of Miraj city space utilization, 34 percent of developed area is under the transport and communication. Transportation lines (Intra urban and Inter urban) serve as the arteries of the urban organism which provide links amongst its various parts as well as regional contacts.

Nodality of the city Miraj is one of the factors for the rapid growth and areal expansion of present urban built.

External Transportation : ✓

Miraj is an important railway junction of the Kolhapur-Pune broad gauge railway line. This track has been completed in 1971 and it passes by the west of the existing Gaothan and connects the city to the important places like Kolhapur, Sangli, Jaysingpur, Karad, Satara and Pune. The Latur-Pandharpur-Miraj narrow gauge line connects the city to Latur, a main commercial centre of Maharashtra, it is also links with the other important commercial and market places like Pandharpur and Barsi. The Belgaum-Miraj metre gauge line terminates in the city. Thus, Miraj is an important railway transshipment centre, connecting all important railway stations in Maharashtra, Goa and Karnataka State. Keeping in view the strategic location and prominent situation of Miraj, the South-Central Railway Department has established a very large rail workshop and administrative office of South Central Railway.

In addition to railway network the road transportation is also a significant attribute in the growth of Miraj. It is well connected with important urban centres in the state by means of regional roads, the Ratnagiri-Kolhapur-Bijapur state highway passes alongwith southern margin of Miraj connecting the city with Ratnagiri, Kolhapur and Sangli districts of Maharashtra State and Belgaum district of Karnataka State.



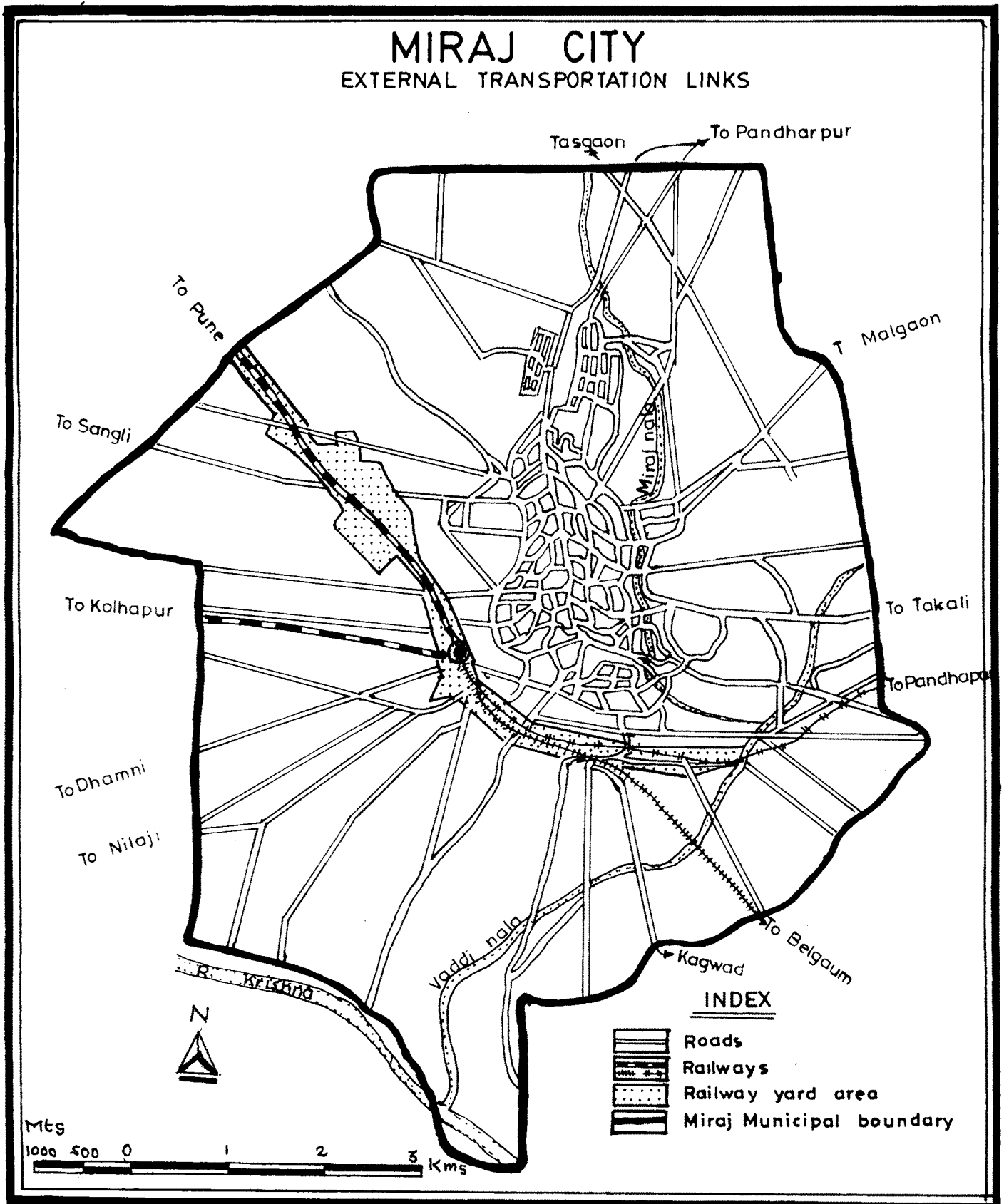


FIG. 3-5

Sangli-Pandharpur State highway also passes through Miraj and links to Sangli and Pandharpur. Further it connects the places of Pune and Marathwada region. By roads, city is also connected to the neighbouring villages like Bolwad, Takali, Bedag, Kupwad, Malgaon, Arag, Mhaisal etc. Fig.3.5 shows the important lines of transportation of the city.

#### Internal Transportation :

The internal mobility of the people and commodities is by means of roads, streets and narrow lanes, majority of which are metalled. The Chakkar sadak (ring road) runs along the verge of the old gaathan area which serves as internal ring road of the city. Its total length is about 8 kilometers.

The important circulation pattern within the city is associated with the inner ring road. Major roads are Tasgaon wes road, Shaniwar peth road, Nadi wes road, Kupwad wes road, Malgaon wes road, Zari gali road, fort road, Vijapur wes road and station road. The circulation pattern particularly in the central part of the city has been represented in Fig.3.6.

The internal city transportation and transportational transit are very significant in the growth and development of a city have very significant role in the present and potential development of the city. The city space under the transport and communication has largest proportion (34 percent) of the developed area.

As compared to the residential, commercial, industrial

# MIRAJ CITY

## INTERNAL ROAD PATTERN

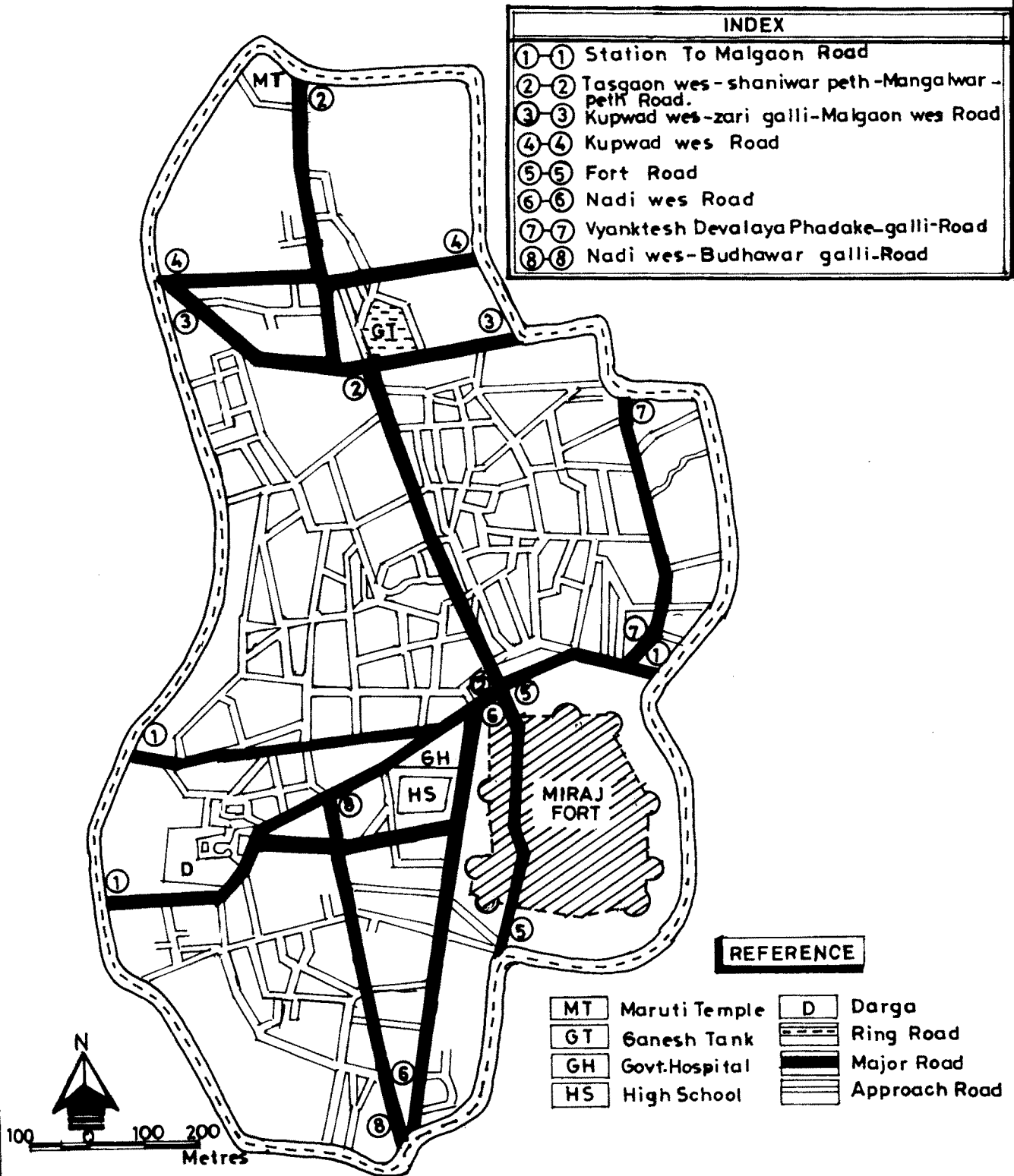


FIG. 3.6

areas of the city the area under public and semi-public activities (playground, open spaces, gardens) have little scope in overall developed area of the city.

#### 8. THE PROMINENT LANDMARKS OF THE CITY :

The prominent landmarks of the city includes Mission hospital, Wanless T.B. Sanitorium, Richardson Leprosy Sanitorium, Medical College, Nursing School, Degree colleges, Railway junction and railway yard. Government milk dairy, Petrol and diesel depots, Industrial complex (including private industries), private hospitals as well as modern buildings of lodges, hotels, banks, offices and other modern architectural construction. These important landmarks have added the beauty of the landscape of the Miraj city.

Concluding, in short, the distribution of nuclei in the Miraj city has the major impact in the formation of roads. In the process of the flesh development, i.e. the development of buildings in the city, the roads functioning as skeleton, which is very much governed by the terrain of the landscape.

The urban zones, as observed, are not distinct and continuous in their extensions. By and large the western urban landuse models like concentric landuse development, sectorwise landuse development are not suit in the context of Miraj city, like most of the Indian cities. The landuse zoning are characterized with the intermix of different landuses and hence the functional areas are described. The Miraj city structure has developed akin to the development in the Multiple Nucleia Model developed by C.D.Harris and E.L.Ullman.

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