

CHAPTER : VI

THE EVOLUTION AND DEVELOPMENT OF BARODA THROUGH THE AGES

A brief account of the evolution and development of Baroda city is been given below. This compilation has been done from the works of Sankalia and Karve [1944], Sankalia [1945], Zeuner [1950], Mehta [1951] and Subbarao [1952, 1953].

The cultural history of Baroda begins somewhere in the mid-Pleistocene period [about 2,00,000 years ago], when the early man lived on the banks of the Mahi river [Plate : 19] which must have formed the flood-plain during that age. The movements of this "food gathering" parasite on nature, living on the banks of the river, grubbing the roots and killing animals with crude stone tools made out of cobbles and pebbles available in the river bed, were necessarily controlled by the availability of convenient raw materials for his tools. There are evidences of the existence of the Early Man of the Palaeolithic or Old Stone Age in the Mahi river valley at a number of sites within 10 to 20 km to the north and north-east of present day Baroda. No evidences of the existence of this early man is found in and around present day Baroda. This may be due to the absence of gravels and cobbles in the Vishwamitri rivulet.

The next phase in the pre-history of Baroda witnessed the first human settlement on the right bank of the Vishwamitri river [Fig. 16 and 17] on a group of dunes resting on the alluvium of the river [present

PLATE 19 : CLIFF SECTION OF THE MAHI RIVER AT VASAD, WHERE
PRE-HISTORIC ARTEFACTS DATED ABOUT MID-PLEISTOCENE,
POINTING TO THE POSSIBLE EXISTENCE OF EARLY MAN.



day Inceptisols soils]. It also means that the humans had a knowledge about where to set up a settlement, as they had selected an elevated land. The Vishwamitri must have been prone to seasonal flooding even then. These people still belonged to the Stone Age, crafting their tools with fine-grained stones. From their material culture and physical environment, they seemed to belong to the same culture as those people whose implements were found in the Mahi river valley. This human settlement has been assigned an age of around 1000 B.C.

Some time later, this Vishwamitri river bank settlement might have been flooded, as seen from the archaeological finds in which a clean silt layer separates the debris of pre-historic and the early historic people.

Around the beginning of the Christian Era [about 3 century A.D.], a small township developed at the same spot as the above mentioned settlement on the right bank of the river [Plate : 20]. It came to be known as Ankotakka [Fig. 16 and 17] [present day Akota]. The mound on which this settlement was established came to be known as "Dhantekri". The entire settlement was developed by clearing grazing land and forest of ankhola, and covered an area of $1/2$ to $3/4$ sq.km. This is indicative of the presence of thick forests during those times. Due to its location on the ancient trade route between Gujarat and Malwa, this small township flourished into a commercial centre. There was a supposed commercial connection between this township and Rome.

The township of Ankotakka developed during the rule of the Guptas and Vallabhis. It was subjected to periodical heavy floods. But a severe flood which inundated the renovated public hall, forced the inhabitants to abandon this township and move away from the banks of the Vishwamitri river. This event occurred during 600 A.D. The inhabitants moved to the east of Ankotakka to another elevated portion located on the present Kothi area. This formed the nucleus of a new township which was named "Vadapadraka" [Fig. 16 and 17], possibly due to

FIG:- 16. MAP SHOWING THE HISTORIC DEVELOPMENT AND DIRECTION OF GROWTH OF BARODA , BETWEEN 1000 B.C. To 1500 A.D.

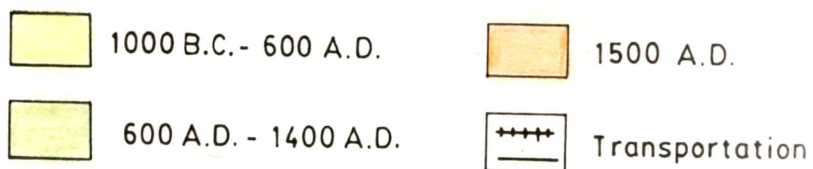
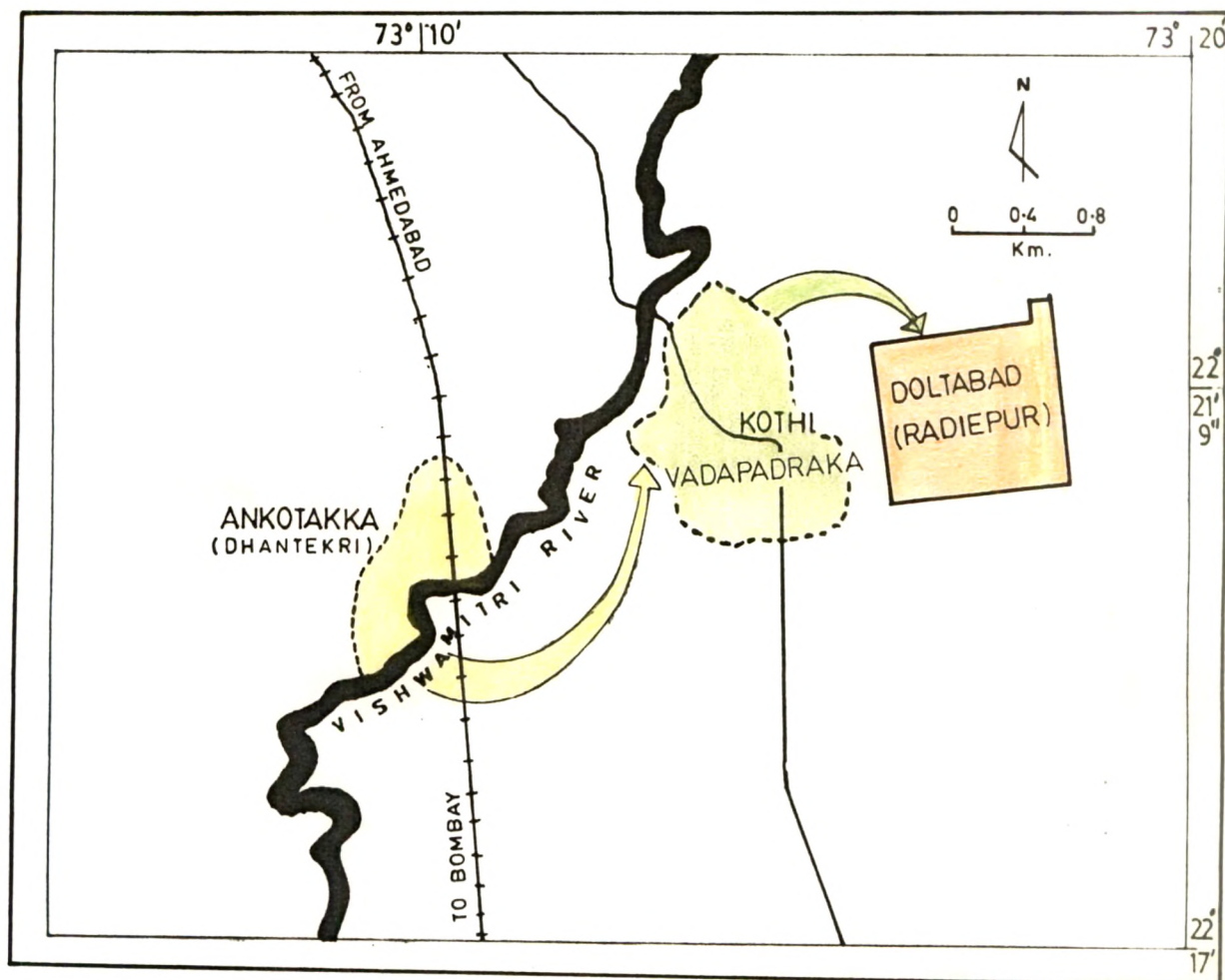
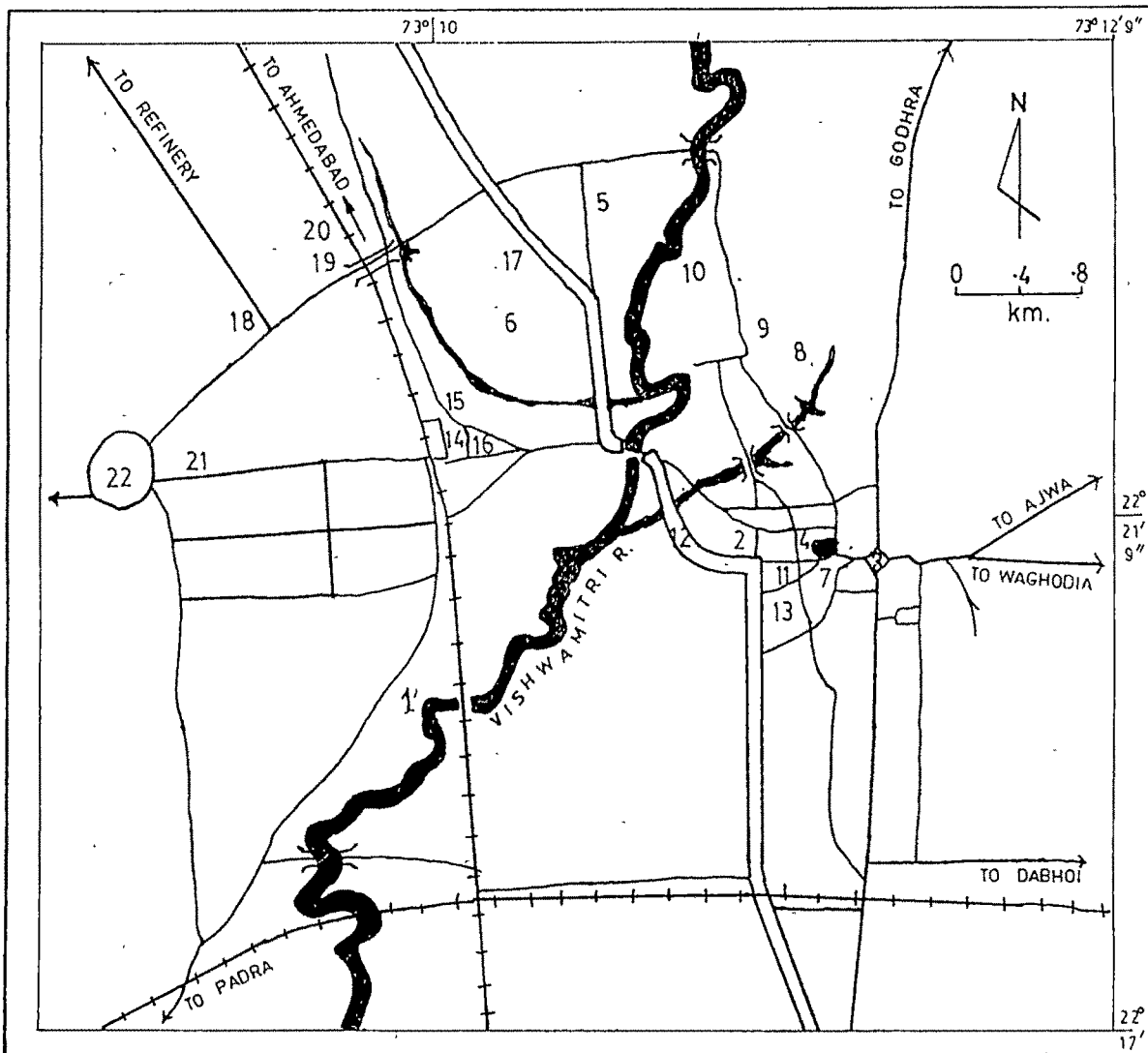


FIG- 17. MAP OF BARODA SHOWING IMPORTANT LANDMARKS DURING ITS GROWTH BETWEEN 1511 A.D. TO 1947 A.D.



LOCATION INDEX

1. AKOTA	9. MENTAL HOSPITAL	17. PRATAPGUNJ
2. KOTHI	10. SAYAJIBAUG	18. SARABHAI- CHEMICALS
3. MANDVI	11. DANDIA BAZAR	19. JYOTI LTD.
4. SURSAGAR	12. INDIRA AVENUE	20. ALEMBIC- GLASS
5. FATEHGUNJ	13. KHANDERAO MARKET	21. ALKAPURI
6. M.S. UNIVERSITY / (BARODA COLLEGE)	14. RAILWAY STATION	22. RACECOURSE
7. NYAY MANDIR	15. SAYAJIGUNJ	
8. KARELI BAUG	16. HIRAK BAUG	

PLATE 20 : PRESENT DAY AKOTA ON THE BANKS OF THE VISWAMITRI,
KNOWN AS ANKOTAKKA IN THE PAST.



PLATE 21 : PART OF THE WALL OF THE ANCIENT FORT BUILT BY
PRINCE KHALIL KHAN.



the profuse presence of banyan trees. This township occupied an area of around 2.5 sq.km. Between 6th - 10th centuries A.D., there was constant shifting of inhabitation between Ankotakka and Vadapadraka. From the beginning of 8th century A.D., Ankotakka became the headquarters of an administrative division with Vadapadraka as its suburban hamlet. The frequent shifting between Ankotakka and Vadapadraka must have been due to the flooding of Ankotakka and the elevational difference between Ankotakka and Vadapadraka, with the latter situated at a higher elevation.

From 11th century A.D., the development of Baroda continued with the Kothi area as the nucleus. This continued upto 14th century A.D., and the growth was towards the north.

In 1500 A.D., Vadapadraka [present Baroda] was given as a jagir by Mohammed Begra to his son Prince Khalil Khan, who mostly resided here. It is said that he founded a new town, and named it as Doltabad [Fig. 16 and 17] after he became Sultan Muzaffar Shah II in 1511 A.D. It seems that Prince Khalil Khan built the modern fort of Baroda [occupying an area of 0.6 sq.km] 1½ miles east of Vadapadraka. According to Wollebrandt Geleynseen de Jongh, an officer in the Dutch East India Company, this new township was called "Radiepur". The fort [Plate : 21] was strong and well built, and the inhabitants of nearby villages came and settled in "Radiepur" for safety purposes. This fortified township grew large with time and drew all the trade of Vadapadraka. All this contributed to the gradual impoverishment of Vadapadraka, so much so that it could no longer be termed as a village - "Radiepur" came to be known as Baroda by all travellers. After the construction of the fort, several lakes were constructed towards the north and east of the fort for the supply of water to it. The population of this fortified city grew so much that the area of the fort increased towards the east and south. Within the next two centuries, the area adjacent the fort also became inhabited. The development continued with the fort area as the nucleus. Vadapadraka was later inhabited during the Maratha

period as indicated by the coins and pottery.

The Maratha [Gaekwad's] conquest of Baroda in 1734 was celebrated by the construction of the Mandvi gate in 1736 [Fig. 17] by Malhara. Baroda was ruled by Fatehsigh, who died in 1786.

In the 18th century, one of the landmarks of present day Baroda was constructed, viz. Sursagar lake [Fig. 17 and Plate : 22] with an aim to increase the water supply to the western part of the city. Upto the end of the 18th century, Sursagar lake formed one of the main resources of water.

Due to a dispute among the Marathas, Arabs became turbulent and controlled all the four gates of the fortified city. In 1802, the Arabs agreed to leave Baroda peacefully, and a British Resident was posted.

With the accession of Sayajirao III, in 1875, a new chapter in the history of Baroda began. In an era which was marked by peace and order, there was great and constructive progress in Baroda. The development took place towards the west of Sursagar lake. In fact there was more development towards the west compared to the east and south. The western margin of development was marked by the Vishwamitri river.

In 1835, the first railway tracks were laid down connecting Baroda with Bombay and Delhi. Inside Baroda, the main mode of communications was by well marked dirt roads. The area now known as Fatehgunj came into existence during that time [Fig. 17].

The population of the Baroda city area in 1872 was 1,16,274 [Table : 16]. During 1876-78, the total area occupied by Baroda city was 12.70 sq.km [based on survey of India Toposheet No. 46.F/3, 4, 7, 1876-78 [Table : 17 and Fig. 18].

In 1882, the agricultural land owned by a certain Sureshwar Desai,

PLATE 22 : SURSAGAR LAKE IN THE HEART OF BARODA CITY, IT
WAS BUILT IN THE 18th CENTURY FOR WATER SUPPLY.



PLATE 23 : AJWA RESERVOIR COMPLETED IN 1890, FOR THE SUPPLY
OF WATER TO BARODA CITY.



TABLE : 16
STATEMENT SHOWING VARIATION IN POPULATION OF BARODA CITY
FROM 1872-2001

YEAR	TOTAL	MALE	FEMALE	DECADE VARIATION + / -	DECADE VARIATION in %	AREA OF BARODA CITY [BMC LIMIT] [in sq.km]
1872	1,16,274	63,524	52,750	-	-	12.76
1881	1,06,512	56,750	49,762	-9,762	-8.39	12.76
1891	1,16,420	62,871	53,549	+9,908	+9.30	12.80
1901	1,03,790	56,009	47,781	-12,630	-10.84	12.80
1911	99,345	53,616	45,729	-4,445	-4.28	12.80
1921	94,712	51,555	43,157	-4,633	-4.66	13.02
1931	1,12,860	62,744	50,116	+18,148	+19.16	13.21
1941	1,53,301	84,666	68,635	+40,441	+35.83	13.21
1951	2,11,407	1,13,518	97,889	+58,106	+37.90	16.91
1961	3,09,716	1,66,852	1,42,864	+98,305	+46.50	47.70
1971	4,66,696	2,52,080	2,14,616	+1,56,980	+50.68	57.50
1981	7,34,473	3,88,723	3,45,750	+2,67,777	+57.37	108.26
1991*	11,55,840	6,11,733	5,44,106	+4,21,367	+57.37	184.22
2001*	18,26,090	9,66,256	8,59,834	+6,70,250	+57.37	347.33

* Data based on Projections

Source : Statistical atlas of Baroda State [1946]

Census of India, Baroda district [1951, 1961, 1971, 1981 Part XIII A & B]

lying between the present railway station and Vishwamitri river was acquired and the Baroda College was built. The land adjoining this college was utilized as playing fields. With the expansion of Baroda College, buildings to house more educational departments and hostels were built at the expense of the previously mentioned playing fields. The population of Baroda city area was around 1,06,512 [Table : 16].

The construction of Ajwa lake, another land-mark of Baroda was started in 1885 and completed in 1890 [Fig. 20 and Plate : 23]. The sole purpose was for the supply of drinking water to Baroda city. The Surya river, a tributary of Vishwamitri was dammed up for this purpose, and the total capacity of the reservoir was enough to cater to the needs of nearly 1,16,420 citizens for 2½ years. The catchment of Ajwa lake lay in the Pavagadh hills, constituted by a series of lava flows which had undergone magmatic differentiation.

In 1885, several small-scale textile industries came into existence on the western bank of Vishwamitri river [west of the present railway yard]. It was during this year, that the underground drainage system of the then existing Baroda city, was commissioned.

In 1891, the population of the Baroda city had marginally increased to 1,16,420 as compared to 1881 [Table : 16].

It was in this year that the presently existing Nyaya Mandir building was built. There was a large playing ground on its western side, which has now been covered with buildings.

In 1898, the Mental hospital near the presently existing Karelibaug was built [Fig. 17].

The population in 1901 was 1,03,790, which was a decrease of 12,630 in comparison to 1891 [Table : 16].

In 1906, the walls of the old Baroda fort were broken and connecting roads were made in all directions. The area to the north of the present palace and residence of the erstwhile royal family, was covered by thick vegetation. The present road connecting Sayajibaug [Kamati Baug] and Dandia Bazar, now known as Indira Avenue, used to be a tree lined boulevard. In 1907, the first commercial building, Khanderao market was built.

In the period between 1907 and 1910, Baroda witnessed the setting up of the first major industrial concern viz. Alembic Chemicals [Fig. 17].

The population in 1911 was 99,345, which was a decrease of 4,445 in comparison to 1901.

In 1912, the presently existing Sayajigunj area near the railway station was developed. There was a sizable garden just opposite the railway station, but it has now cut down to a small patch and has been named Hirakbaug.

In 1921, the population was 94,712, which showed a decrease of 4,633, in comparison to 1911 [Table : 16].

In 1931, the population of Baroda was 1,12,860, which was an increase of 18,148 in comparison to 1921 [Table : 16].

During 1935, the area adjacent to the Baroda College campus in the north was developed. It was named Pratapgunj [Fig. 17]. There was a small garden called Nawabbaug at that time in that area.

In 1941, the population increased to 1,53,301 from 1,12,860 in 1931, with an overall increase of 40,441 [Table : 16].

In 1943, three large industrial concerns were established viz. Sarabhai Chemicals, Alembic Glass and Jyoti Limited. These along with Alembic

Chemicals which was set up in 1909 [Fig. 17], were located on the banks of a small tributary of the Vishwamitri river, to enable them to dispose off their effluents easily.

In 1947, India became independent and the princely State of Baroda was merged into the Bombay State. After independence, the growth of Baroda was very slow with no major industrialization apart from the four mentioned above. The residential area of Alkapuri came into existence during this time [Fig. 17].

The population of Baroda grew to 2,11,407 in 1951, an increase of 58,106, in comparison to that of 1941 [Table : 16]. The continuous increase in population of Baroda city from 1931 onwards, can be indicator of [i] the migration of rural population to the city, [ii] the attraction of some skilled citizens to Baroda due to the establishment of the three major industrial units mentioned above, and [iii] some population increase could also be attributed to the flourishing educational facilities available at the M.S. University of Baroda.

It was during the fifties, that Baroda City witnessed the making of macadamised roads. Nearly all the main roads in existence were relaid and macadamised. Before this period there was a 2 floored bridge connecting Kametibaug area with Fathegunj. This was broken down and a new bridge was built to cater to the needs of the growing Karelibaug residential area, connecting it with the Fatehgunj area.

In 1960, Gujarat became a separate state, and Baroda city became the district headquarters of Baroda district. The population of Baroda city in 1961 grew to 3,09,716, showing an increase of 98,305 in comparison to 1951 [Table : 16]. The area occupied by the then existing Baroda urban complex was 23.66 sq.km, as per the Survey of India Toposheet Nos. 46.F/3, 4, 7 [1959-60] [Table : 17 and Fig. 18]. This indicated an increase of 10.96 sq.km from the 12.70 sq.km area occupied by Baroda city in 1876-78. The rate of increase can be termed as slow,

FIG.18. DIFFERENT PHASES OF BARODA URBAN SPRAWL.

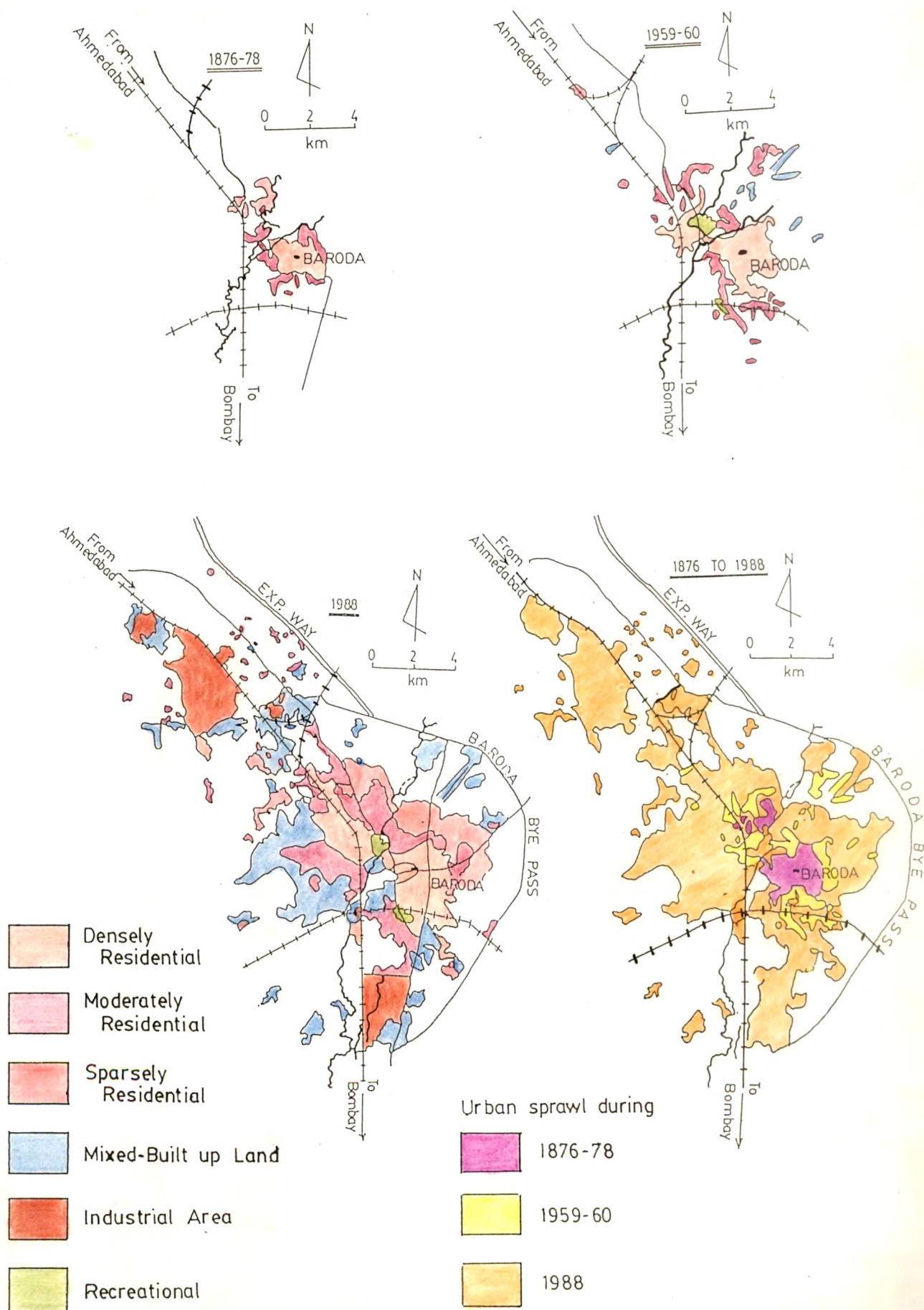


TABLE : 17

URBAN SPRAWL OF BARODA CITY

[INCLUDING RESIDENTIAL AND INDUSTRIAL AREAS, AND EXCLUDING OPEN VACANT LAND WITHIN THE STUDY AREA]

SR. NO.	CATEGORY [Area in sq.km]	BEFORE URBANISATION AND INDUSTRIALISATION		AFTER URBANISATION AND INDUSTRIALISATION
		1876-78 ⁺	1959-60 ⁺	1988 [*]
[A]	<u>Residential Area</u>			
	1. Densely populated	5.63	13.06	14.50
	2. Moderately populated	4.07	7.32	13.20
	3. Sparsely populated	3.00	0.50	11.02
[B]	<u>Mixed built-up Area</u>	-	1.18	20.50
[C]	<u>Recreational Area</u>	-	1.60	1.55
[D]	<u>Industrial Area</u>	-	-	21.56
	TOTAL	12.70	23.66	82.33

+ Based on Survey of India Toposheet Nos. 46 F/3, 4, 7 years 1876-78 and 1959-60.

* Based on SPOT-I HRV₂ MLA band B₁G₂R₃ dated 15th January 1988.

which was explicable, as there was little or meagre industrialization during this period. Hence the stimulus for human migration to Baroda was absent. The sixties saw the mushrooming of mega-chemical industries in and around Baroda. The first major chemical industry set up was the Universal Dyestuff Industries at Sankarda in 1960, some 10 km north of Baroda on the banks of the Mini river. The aim of locating this industry there seems to be the ease of disposal of effluents into the Mini river. The same aim seems to have influenced the setting up of the public sector Gujarat Refinery in 1965, the Gujarat State Fertilizers Corporation in 1962 [Plate : 1 and 24], the Indian Petrochemicals Corporation Limited in 1969. All these mega-industries have been and are responsible for not only large scale atmospheric pollution, but they have indiscriminately disposed off their chemical effluents into the Mini and Mahi rivers, thereby polluting the waters of both these rivers to nearly dangerous levels.

In 1967, the mega-Nandesari chemical industrial zone was set up [Plate : 1 and 25] just a few kilometers to the north of the above mentioned industries. A majority of the small-scale industries present in this zone were dependent on the earlier mentioned mega-industries for their raw material. The effluents from these small-scale industries were also indiscriminately dumped into nearby gullies and ravines.

In the south, on the highway leading to Bombay, another gargantuan industrial complex at Makarpura [Plate : 1] was set up in the mid sixties. There was a mixture of both engineering as well as chemical units in this complex, in contrast to the 100% chemical units present in Nandesari.

All this industrialisation was reflected in the mushrooming of the population of Baroda in 1971 to 4,66,696, an increase of 1,56,980 in comparison to a population of 3,09,716 in 1961 [Table : 16].

In 1974, the Atomic Energy Commission erected their Heavy Water Plant

PLATE 24 : THE GUJARAT STATE FERTILIZER CORPORATION WHICH
CAME INTO EXISTENCE IN 1962.



PLATE 25 : NANDESARI CHEMICAL INDUSTRIAL ZONE.



just adjacent to the Gujarat State Fertilizers Corporation.

The rapid industrialization was accompanied by a mushrooming population as is evident from the 1981 census figures which stand at a city population of 7,34,473. This represents an increase of 2,67,777 in comparison to the 1971 figure of 4,66,696. Between 1971 and 1981, many medium and large-scale chemical units have come up adjacent to the Nandesari chemical complex, adding their own atmospheric and chemical effluents to the already existing high and nearly dangerous levels.

In 1988, the Baroda urban sprawl as determined from SPOT-1, HRV₂ MLA Band B₁G₂R₃ Satellite imagery dated 15.3.1988, covered an area of 82.33 sq.km, as compared to the 23.66 sq.km in 1959-60. This shows an increase of 58.67 sq.km in a span of 28 years [Table : 17 and Fig. 18]. This is an stark contrast to the growth of Baroda city of 10.96 sq.km between 1876-78 and 1959-60, a time span of 82 years.

The projected population of Baroda city for the year 1991 is a staggering 11,55,840, while in the year 2001, the population is projected to reach 18,26,090 [Table : 16].