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ANALYSIS OF THE CHANGES AND TRENDS IN THE URBAN SYSTEM OF MAHARASHTRA . YEAR 1971-81

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India is the largest developing country of South Asia and is presently passing through a phase of relatively faster economic and social change. Modern technologies are being introduced in both the important fields of agriculture and industry, leading to an unprecedented economic changes in various parts of the country, though in an uneven manner. As a result of these processes the urban scenario, too, is changing fast and therefore, calls for analysis every decade.

A recent study concerning urbanisation has revealed that Western India, that is under the influence of Bombay, the economic capital of the country, is one of the fast developing regions of India. Significantly, Maharashtra State stands first in the country considering percentage of urbanisation and it is on this ground that it has been chosen for analysis, here.

Fig. No. 1, reveals clearly the nodal position of Bombay along the west coast of India. The inset map shows the five cultural regions of the area under study.

As is well-known, the modern era of industrialisation commenced a little before dawn of the present century at Bombay and the industrial growth has diffused inland along the arteries of communication by and by, since then. Modern industrial centres, thus, occur in the umland of Bombay,mainly along principal highways and railways. The net result of this process is the emergence of:

a) A well-defined national urban system converging on Bombay. The Bombay-Ahmedabad-Delhi, Bombay-Nagpur-Calcutta and Bombay-Pune-Solapur-Hyderabad railway routes and/or highways support the developing national urban system.[1]

Foot Note 1 : Form indicates the whole pattern or ordering of something, its' make up or constitution, or its enclosing surfaces. "Form" is the most general term applied in all these ways.

"Figure" suggests a characteristic form or set of outlines by which something is recognisable. Like shape, the word can refer to the human body, but with a greater emphasis on the total impression made by the relationship of part to part."

Foot Note 2 : The newly formed districts of Sindhudurg (South Ratnagiri), Jalna, Latur and Gadchiroli have not been considered by the Census Authorities for 1981 Census and, therefore, no mention of them occurs in the article.

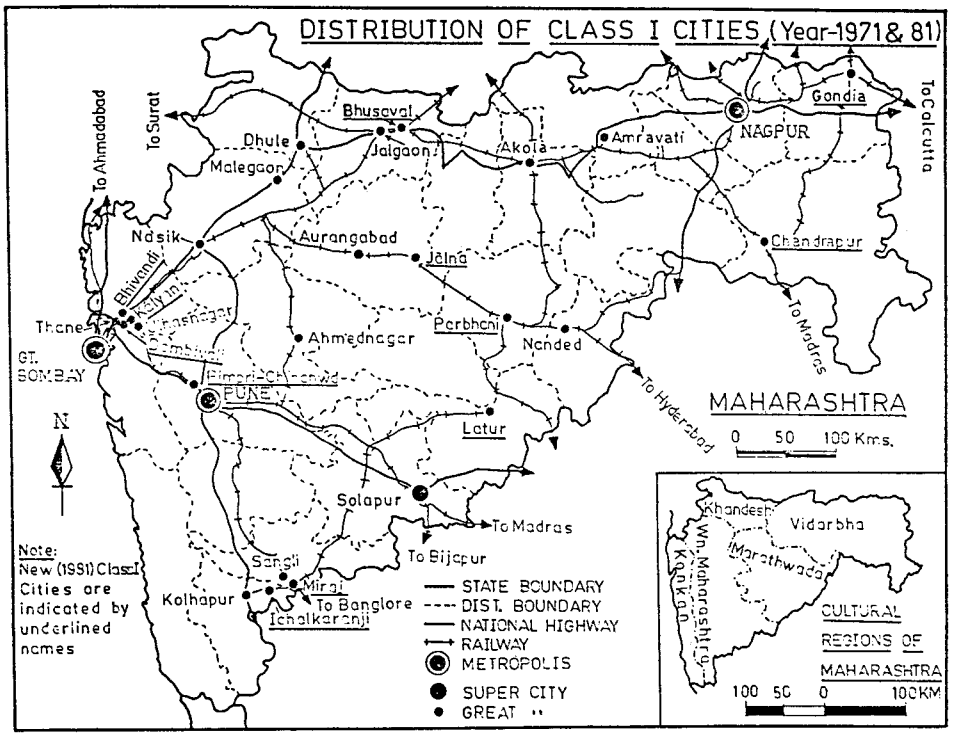

Fig. 1

b) Some regional urban systems are developing along the Pune-Bangalore highway through Satara and Kolhapur, whereas, the Manmad-Nanded and Manmad-Dhond systems are developing along railways.

c) Nagpur-Chandrapur and Bombay-Goa urban systems are likely to develop depending upon several factors like encouragement to industrialisation of Wardha, Yeotmal and Chandrapur districts and completion of the Konkan railway project respectively, in future.

The aspects of examination of urban growth behaviour[2] and the analysis of the settlement systems of Maharashtra[3] have been accomplished earlier and the present attempt thus, concerns itself with the structural changes that have occured during the preceding decade (1971-81), only. The structure of an urban system can be succinctly displayed in terms of a few indices viz. degree of urban population concentration, number, size, distribution and growth behaviour of urban settlements etc. These facts would be better understood on the background of the following information pertaining to the physical and cultural aspects of Maharashtra.

The urban systems of Maharashtra are conditioned by some significant physical factors, mentioned below:

i) The Western Ghat and its spurs form water divides between several river valleys in Western Maharashtra. The Satpuras in the north constitute an effective barrier between the Narmada and the Tapti river valleys. The modern transportation systems of these regions are considerably governed by these natural features.

ii) The longitudinally oriented semi-famine zone, occuring in the rain-

shadow of the Western Ghat, is a distinct climatic zone to be reckoned in the context of urban growth. The contrast between the irrigated and non-irrigated tracts, so far as growth rates of towns and cities are concerned, is striking.

The principal cultural factors that have been instrumental in guiding the growth of the urban systems are as follows:

a) The first urban settlements dawned in the upland districts of Western Maharashtra in the Pravara-Godavari valleys over three thousand years ago, as an extension of the Indus valley culture in the Deccan.

b) The establishment of various kinddoms during the following long period of history by Hindu and Muslim rulers gave rise to new urban centres at nodal points i.e. at cross-roads, confluences of rivers, commanding locations controlling routes through saddles in the mountains and sea ports along the Arabian sea littoral. Thus, Dhule, Nagpur, Pune, Junnar, Kolhapur, Nasik, Aurangabad, Ahmednagar, Nanded and the port towns of Sopara, Bassein, Thane, Kalyan, Chiplun, Rajapur and Malvan etc. were born to serve some discrete purpose during various historical periods.

c) The mediaeval urban system sustained a jolt with the introduction of the modern highway and railway systems under the British rule. Several former trading towns on the plateau viz. Balapur, Junnar, Jejuri and Dharangaon etc., as well as, sea ports as Dasgaon, Bassein, Rajapur, Chiplun, Jaigarh etc. lost their trading importance and fell into decay. New centres, however, rose into prominence along the new systems of highways and railways during the past one hundred years or so. The British rulers developed Bombay as a port city and made it a focus of highway and railway systems of the country. These advantages helped it to grow fast as a multifunctional urban magnet along the west coast. In fact, not unlike several modern coastal metropolises in the world, the diffusion of modern industries has occured from Bombay inland.

The principal processes that are responsible for infusing change in the urban system during recent times are as under:

1) The industrialisation of Pune, Thane and Nasik occured due to congestion of industries at Bombay. In fact, Pune and Nasik are outposts of Bombay and commuting between these centres is ever on the increase. Presently, industries are diffusing in the rural areas, occuring in the umlands of these centres, following highways and railways due to congestion of industrial units at these cities. Several erstwhile rural settlements in Thane, Raigad (Kolaba) and Pune districts have been up-graded as urban in the census of 1981, as a result of this process. Pune's industrial belt is expanding towards Saswad.

2) The process of induction of industries from Bombay inland continues unabated. The development of industries at Dhule, Jalgaon, Aurangabad, Satara, Ahmednagar etc. during recent times is a result of this process.

3) The recent discovery of oil-bearing structures off the coast of Bassein, Bombay and Ratnagiri in the Arabian sea has opened up a new vista of developing Petro-Chemical industries all along the Konkan coast. Though,

presently, they are located only in Bombay, more new units will come-up along the sea coast as the production of crude starts from more off-shore areas, in the near future.

4) The two-fold efforts of the State Government in triggering growth of modern industries in relatively backward areas as south and central Konkan, Marathwada and eastern Vidarbha etc., by offering incentives to private agencies, as well as, by developing new Industrial Estates through Government Department are also significant factors to note in this respect. The concept of "industrial estate" has been adopted throughout the world in recent decades, firstly in the industrialized countries and subsequently by the Third World nations.[4] The industrial estate concept now generally provides an important initial stage in the existing structural and spatial development of industry. Kudal, Ratnagiri and Roha in Konkan and several centres on the plateau as Dhule, Jalgaon, Nanded, Aurangabad etc. are examples of this sort.

5) Several rural pockets in Nasik, Ahmednagar, Pune, Satara, Sangli, Kolhapur and Solapur districts, where facilities of irrigation have been provided during the past thirty years or so, are experiencing relative economic prosperity and faster urban growth that is attributed mainly to the success of sugarcane culture and the consequent rise of industries and commerce etc. in those areas.

The profile of processes operating in Maharashtra presented above provides the necessary background for understanding the nature of changes in the urban system , discussed below:

Maharashtra continues to enjoy first position in percentage of urbanisation according to 1981 census.[5] The percentage has gone up from 31.17 in 1971 to *35.03 in 1981* for Maharashtra, whereas, for India it has improved from 19.90% in 1971 to *23.73 in 1981*. The first five urbanised states in the country are *Maharashtra* (35.03%), Tamilnadu (32.98%), Gujarat (31.08%), Karnataka (28.92%) and Punjab (27.72%). West Bengal has lost its position amongst the first five leading states in the country now. Consideration of absolute density, followed by that of variations in percentage of urbanisation and changes in the settlement system reveal the structure of Maharashtra's urban system. It also provides an explanation to its continued position as the leading urbanised-industrialised state in the country.

Gt. Bombay's density value (number of persons per sq. km.) has tremendously gone-up from 9,901 in 1971 to 13,644 in 1981, whereas in Thane district it has increased from 239 to 349, i.e. a net increase by 110. Pune district has registered a growth by 63 (203 to 266), Kolhapur district by 57 (254 to 311) and Nagpur district by 64 (196 to 260). All these figures suggest ever-increasing concentration of population in Gt. Bombay district, followed by Pune and others, due mainly to industrial and commercial development during the period under review. Lowest value of absolute increase in density is 9 for Ratnagiri district. It is significant, however, to note that Raigad (Kolaba) district, that is juxtaposed with the fast developing twin-Bombay, has registered a relatively higher value of 33. Nasik and Jalgaon districts enjoy efficient railway and road links with Bombay and have registered absolute increase in population density values by 40 and 43, respectively.

The spatial distribution of urban population in Maharashtra is, extremely

imbalanced. 38 per cent of the state's total urban population was concentrated in Greater Bombay according to 1971 census. The same figure obtains for 1981. If Greater Bombay, Thane and Pune, the three contiguous industrialized-urbanised districts are considered together, it is found that their combined share in the state's total urban population has increased from 51.72 per cent in 1971 to 53.17 per cent in 1981. It indicates that the trend of concentration of industries and commerce continued in the Bombay-Pune tract during the decade under review. One should bear in mind, however, that most of this development occured along the main arteries of communication, only. The eleven districts viz. Greater Bombay, Thane, Nasik, Jalgaon, Buldhana, Akola, Amravati, Wardha, Nagpur, Pune and Solapur, constituting the two segments of the developing national urban corridors, shared 77.41 per cent of the state's total urban population in 1971. This figure holds true for 1981, too. Evidently, it is due to the fact that most of the economic development was concentrated in these two tracts only, with the exception of some isolated pockets in Kolhapur, Sangli, Osmanabad, Parbhani, Chandrapur and Bhandara districts. The remaining fifteen districts are, thus, still relatively backward.

It is revealed that values of urbanisation exceeding 30 per cent, according to 1981 census, occur in Greater Bombay, Thane, Pune and Nasik districts towards west and Nagpur in the east. The Fig. No. 2 showing Variation in Percentage of Urbanisation (District-wise) during 1971-81, brings out that significant variations have occured in relatively developed areas, only. A remarkable, as well as, welcome feature is

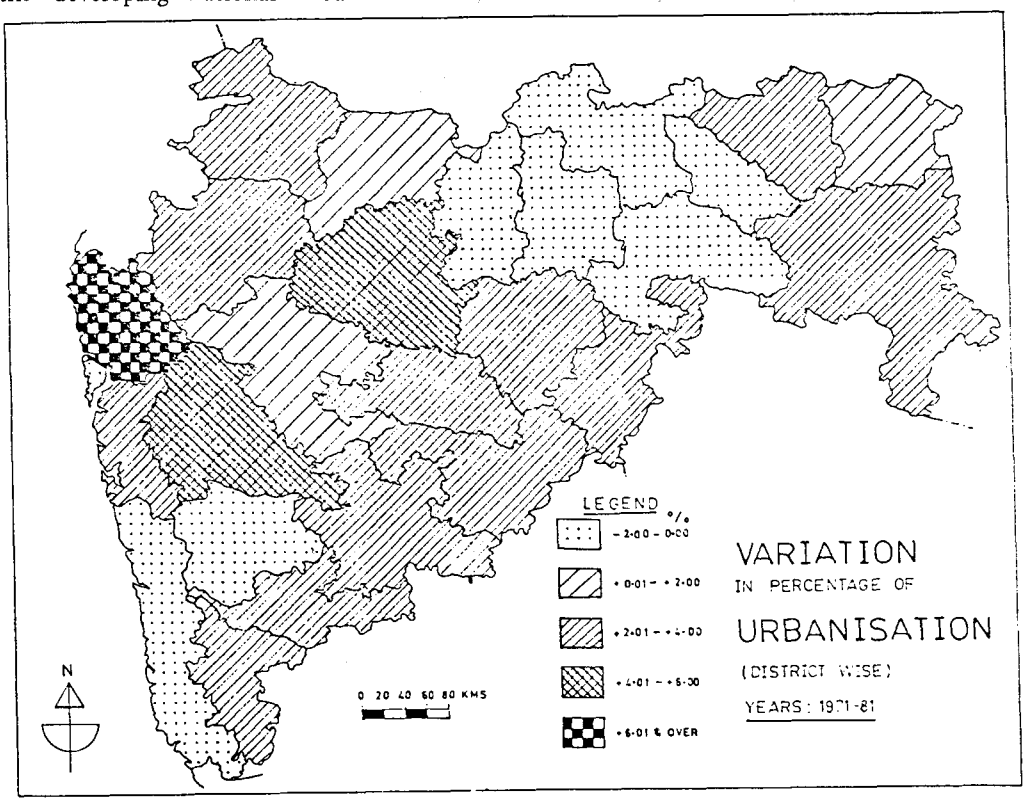

Fig. 2

the diffusion of urbanisation towards south of Bombay in Raigad (Kolaba) district due to proximity to Bombay and towards east in Aurangabad district due to induction of industries from Bombay. The emergence of a belt, occuring towards south-east of the more developed area, extending from Kolhapur in the south to Nanded in the east, with trend of increasing urbanisation consequent upon rural development, is a very important development.

As regards Variations in Percentage of Urbanisation (Tahsil-wise) for the decade 1971-81 it is found that significant variation is restricted to such tahsils where facilities of railways and highways exist. Aurangabad, Rahuri (Ahmednagar), Chandrapur, Haveli (Pune), Hatkanangle (Kolhapur), Thane and Busawal (Jalgaon) tahsils deserve mention in this regard. It actually hints at the current trend of diffusion of industries in the umland of Class I cities following transportation links.

The Fig. Nos. 3 and 4 showing the percentage of urbanisation (Tahsil-wise) in the relatively more developed districts of the state in 1971 and 1981 is very interesting. The existing Bombay-Pune tract of industrial and urban growth can be clearly noticed on them. Greater Bombay district, Thane, Kalyan, Ulhasnagar, Bhiwandi, Karjat, Khalapur, Maval, Pune, Haveli,

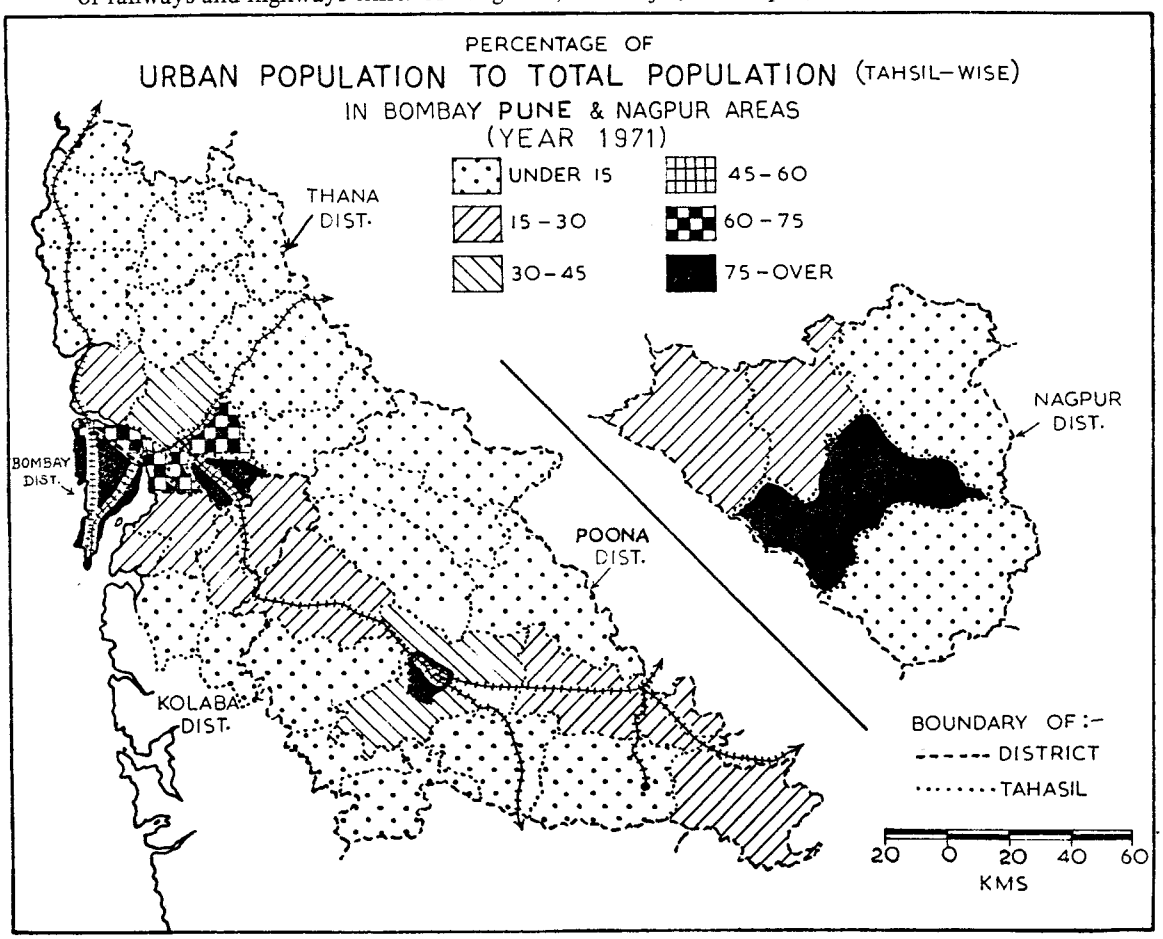

Fig. 3

and Daund (Dhond) tahsils constitute this belt. Significant variations have occured in Thane tahsil from 65.62 per cent in 1971 to 72.90 per cent in 1981, Bhiwandi from 32.34 per cent to 43.03 per cent, Uran from 17.68 per cent to 24.53 per cent and Khalapur from 25.14 per cent to 32.75 per cent etc. Haveli, Maval and Purandhar tahsils from Pune district deserve mention in this regard. Particularly, the expansion of the industrial belt southwards of Pune through Purandhar tahsil is a new feature to note.

The analysis of the number, size, growth rate and rank of cities throw light to a considerable extent with regard to the structuring of any settlement system. The intensity of interactions between rural and urban settlements has presently reached a stage of climax under the modern conditions of development of technologies, particularly in the industrially more developed areas. The villages from even remote areas are, these days, dependent upon cities to varying degrees, in a variety of ways. Thus, the consideration of the above noted aspects of towns and cities reveals the structure and state of a settlement system.

The total number of urban centres in Mahrashtra has increased from 257 in 1971 to 276 in 1981 registering a net increase by

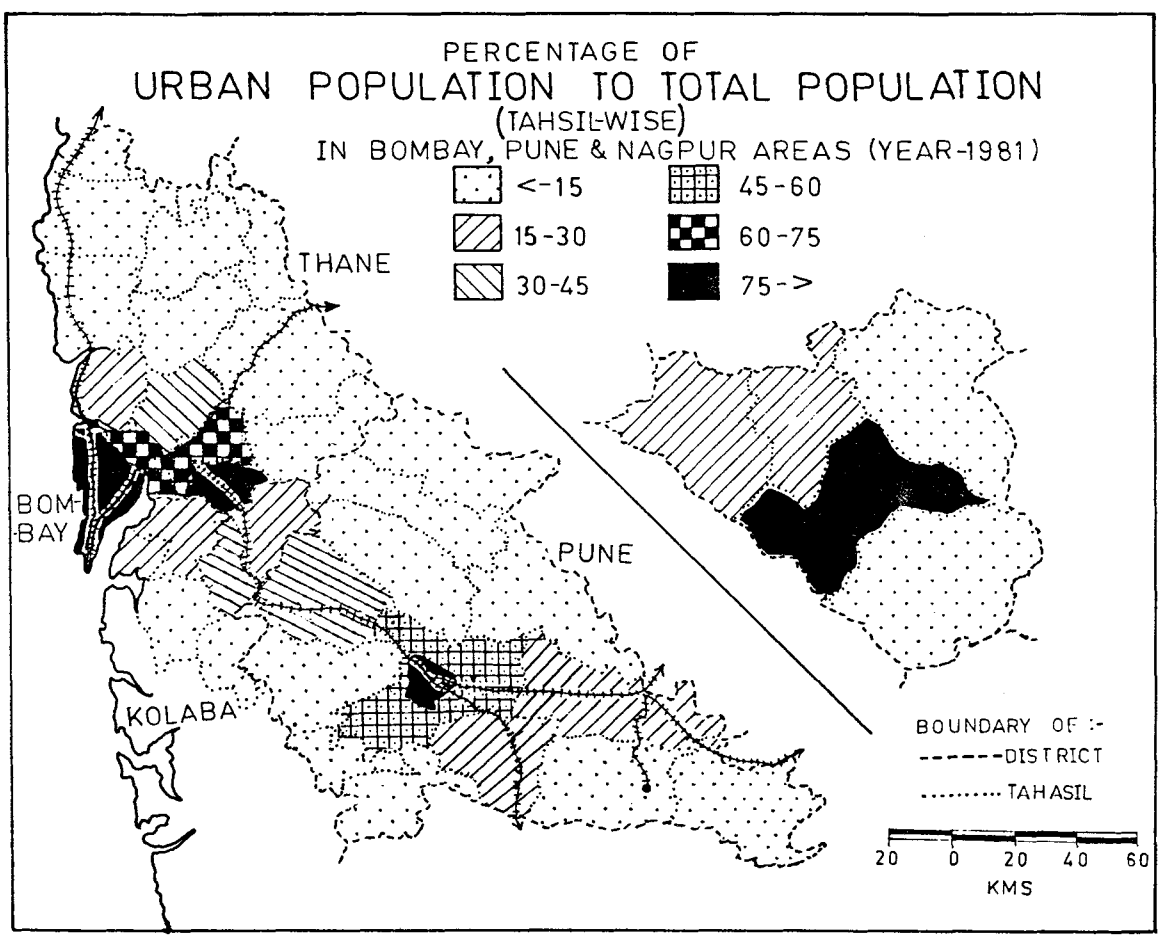

Fig. 4

19. A break-up of this number reveals that, as much as, ten of them occur in Thane district, and three each in Pune, Nasik and Nagpur districts. Thus, an overwhelming number of sixteen occurs in the immediate umland of Bombay, alone.

NUMBER AND CLASS-WISE DISTRIBUTION OF URBAN CENTRES

Class	Census Year 1971	Year 1981
I	17	25
II	17	20
III	61	81
IV	90	91
V	58	43
VI	14	16
Total	257	276

The structural changes in the classes of towns are clearly noticeable from the above table. The number of Class I cities (urban settlements with population of 1 lakh or more) was 3 in 1901, 4 in 1921, and also in 1941 and 13 in 1961. It increased to 17 in 1971 and according to 1981 census it is 25. This increase has occured at the cost of lower order settlements due to escalation. A decline in the number of class V towns, that are mainly rural service centres, is an adverse feature. Secondly, most of these class I centres occur along main arteries of transportation.

An examination of the class-wise distribution of the State's total urban population points to a specific trend. The class I cities shared 34.40 per cent of the total urban population in 1901, 40.34 per cent in 1931 and 65.91 per cent in 1961. The figure rose to 70.79 per cent in 1971 and it is 75.24 per cent in 1981. The trend of ever increasing power of the large-sized urban centres, both in number and the share of urban population, deserves attention of experts, as it is just opposite of the ideal. According to 1981 census, the share of urban population of all the classes of towns is as follows:

YEAR : 1981

(A) Large towns	Class	I Centres	75.24%
(B) Medium towns	Class	II Centres	05.65%
		III Centres	10.88%
(C) Small towns	Class	IV Centres	06.18%
	Class	V Centres	01.90%
	Class	VI Centres	00.25%
		Total	100.00

These values speak for themselves.

The Fig. No. 5 displays the spatial distribution of urban centres in Maharashtra as in the year 1971. The inset map "A" shows major railways and urban growth corridors in India and the inset map "B" shows the national, regional and potential urban growth corridors of Maharashtra. The developing urban corridors of 50 Kms. width occur along railways and highways, as mentioned earlier.[6] Significantly, out of 17 class I cities all except two, viz. Dhule and Ahmednagar, occur in these corridors. This map reveals several characteristic features as: (a) The covergence of urbanized-industrialized belts on Bombay, (b) the dense cluster of urban settlements around Bombay, Thane and Ulhasnagar; (c) relatively vacant areas in Konkan, Western Ghats, central drier tract and a large part of Berar (Varhad) and Vidarbha.

The large number of urban centres obtaining in the developing urban corridors are not only inter-related variously, but are in turn oriented towards Pune and/or Nagpur or are directly oriented towards Greater Bombay. The convergence of economic, transport and several specialised facilities on Greater Bombay, as well as, its' position as capital of the State has given it a commanding position and that is how it forms the hub of the national sub-system in the Western part of India.

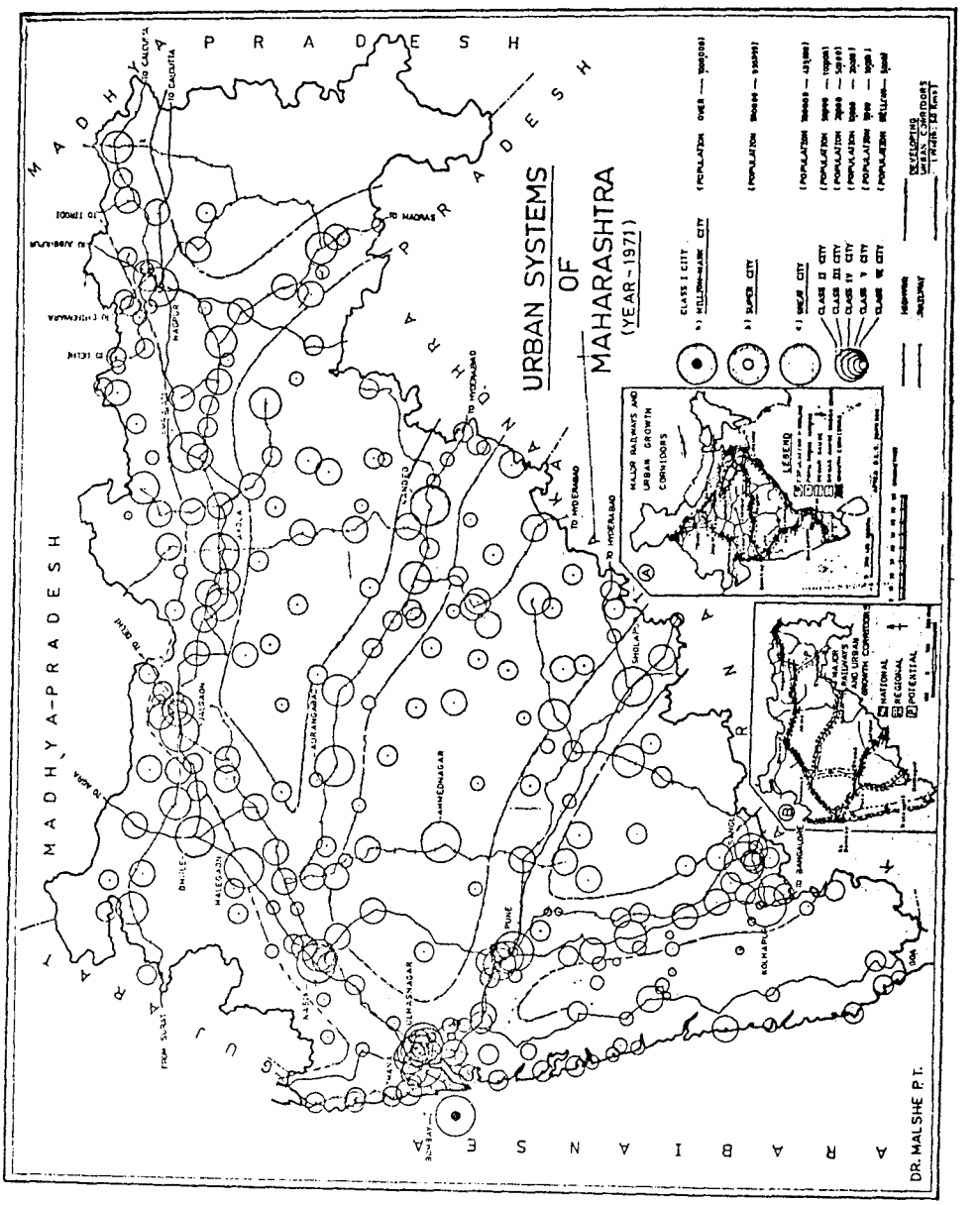

Fig. 5

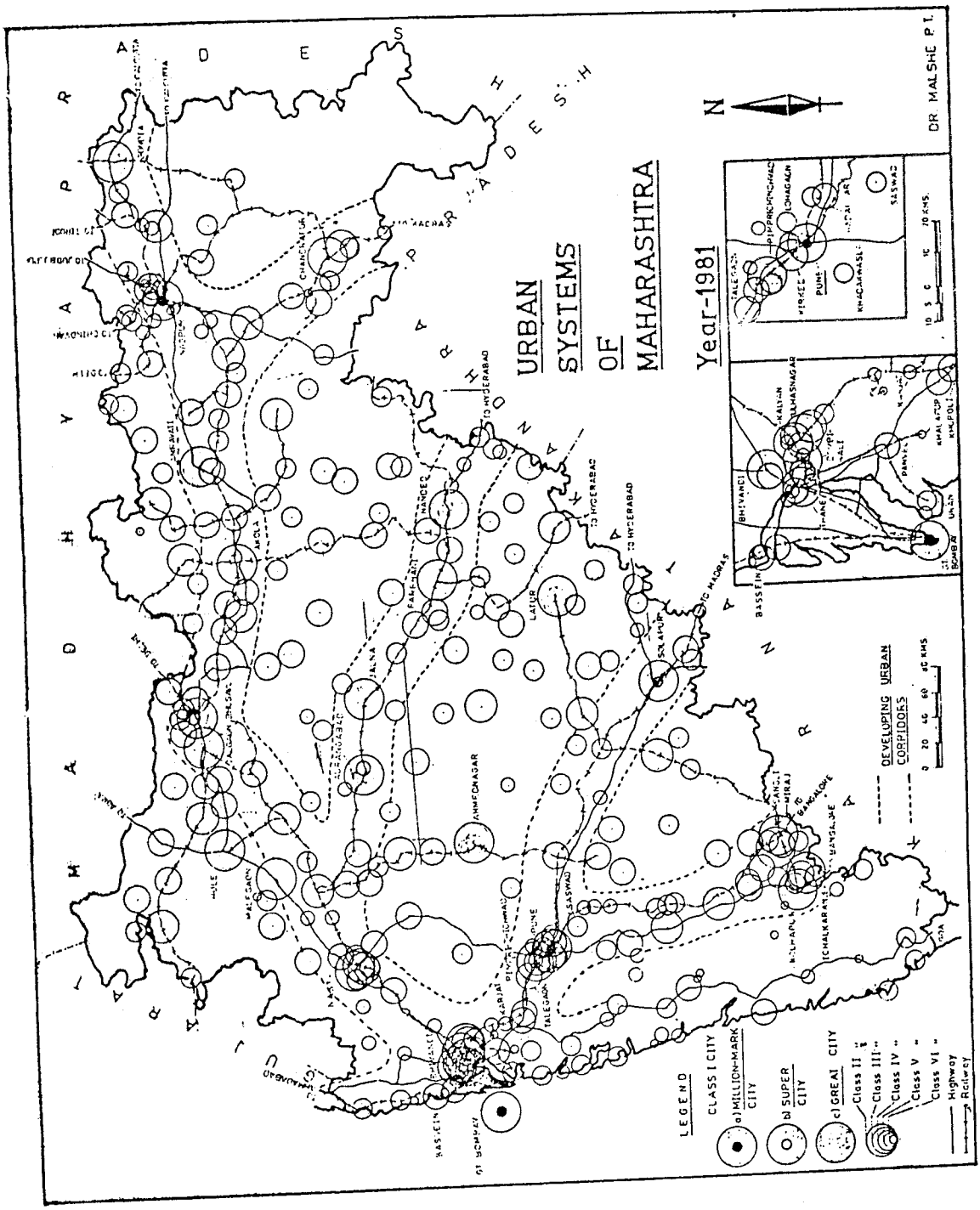
URBAN SYSTEMS OF MAHARASHTRA
Year-1981
N
DR MALSHE P.T.
LEGEND
CLASS I CITY
a) MILLION-MARK CITY
b) SUPER CITY
c) GREAT CITY
Class II "
Class III "
Class IV "
Class V "
Class VI "
Highway
Railway
DEVELOPING URBAN CORRIDORS
MADHYA PRADESH
KARNATAKA
ANDHRA PRADESH
GUJARAT
BOMBAY
PUNE
NAGPUR
AURANGABAD
NASHIK
SOLAPUR
SANGLI
KOLHAPUR
AHMEDNAGAR
JALNA
PARBHANI
LATUR
NANDED
AKOLA
AMRAVATI
WARDHA
CHANDRAPUR
BHANDARA
GONDIA
JALGAON
DHULE
BHIWANDI
KALYAN
ULHASNAGAR
THANE
PANVEL
KHOPOLI
PIMPRI-CHINCHWAD
DAUND
SASWAD
BARAMATI
TALEGAON
CHAKAN
KHADAKWASLA
WARANGAL
HYDERABAD
MADRAS
BANGALORE

Fig. 6

The Fig. No. 6 reveals clearly the conditions prevailing in the year 1981. Out of a total of 25 class I cities all except three, viz. Dhule, Ahmednagar and Latur, occur in the urban corridors. The regional distribution of the new eight class I cities is as follows:

a)	Khandesh	1
b)	Vidarbha	2
c)	Marathwada	3
d)	Western districts	2
	Total	8

It supports the previous observation that the recent agricultural and industrial development in Khandesh, Marathwada, Vidarbha and south Maharashtra has been instrumental in the growth of urbanisation in these areas, during the decade.

The map further features the increased clustering of urban centres at Bombay-Thane-Ulhasnagar, Pune-Chinchwad, Kolhapur-Sangli, Jalgaon-Bhusawal, Nasik and Nagpur. The relatively vacant areas mentioned earlier continue to remain as they were a decade ago. The two inset maps at the right hand bottom of Fig. No. 6 furnish the details of the first two clusters. Note the linear development on either sides of Pune, however, with a more pronounced development in the direction of Bombay. A sizable portion of Bombay's industrial-urban growth occurs in the area contained by Bassein, Bhiwandi, Ambernath, and Bombay. New expansions are occuring presently, on mainland around Uran, Panvel, and Khopoli.

The foregoing discussion can be summed-up as under, with a profound understanding that modern industrialization commenced from Bombay and that it has been diffusing from the sea coast to inland stations, as observed with respect to several leading coastal metropolises in the world, e.g. Scottish port cities.[7]

A number of secondary industrial centres viz. Thane, Shahad, Ulhasnagar, Ambarnath, Rasayani, etc. have cropped up in the environs of Bombay during the past two-three decades. However, the most significant development is the recent diffusion of industries beyond Nasik up to Jalgaon–Bhusawal following the Bombay-Calcutta railway line on the one hand, and the diffusion of industries beyond Pune towards Satara, Ahmednagar and Pune-Nasik highway following railway or highway, on the other. This speaks of the growing vigour of Bombay-Pune industrial belt, as expected.

Entire Maharashtra, Goa and Gujarat, portions of M. P., Rajasthan, A. P. and Karnataka constitute the umland of Bombay. Generally speaking, (a) The Bombay's urban district occurs within a radius of 50 kms. With the centre of the semi-circle located in the centre of Greater Bombay district. It is characterised by occurance of a large number of secondary industrial nodes, industries of various sorts, slums, problems of pollution and traffic, etc. that constitute modern chronic urban syndrome, (b) The immediate umland of Bombay occurs within a radius of 150 kms. from Bombay inland extending upto Mahabaleshwar, the celebrated hill resort, Pune, Nasik and Bulsar (Gujarat). It is characterised by intensive industrial growth at the two important outposts of Greater Bombay viz. Pune and Nasik and their environs. These are also the farthest points from where commuters consisting of trading people and workers perform journey to various places in Bombay's urban district; (c) The meso-umland of Bombay occurs within a radius of 400 kms. reaching up to Panjim (Goa), Bijapur (Karnataka), Parbhani, Malkapur, Khargone (M. P.) and Anand (Gujarat). The meso-umland is characterised by growth

of modern industries at various centres within it during comparatively recent times, as evidenced through the preceding discussion; (d) The farther umland occurs within a radius of 700 kms. extending upto Mangalore (Karnataka), Hyderabad (A. P.), Nagpur, Bhopal (M. P.) and Kota (Rajasthan). The farther umland is characterised by mainly trading and export-import dependence on Bombay. Direct bus and train services operate between Bombay and many of these places, too, to meet the demand of people. Areas even beyond this limit look to Bombay for these facilities owing to obvious reasons. Bombay's influence extends eastwards a little beyond Gondiya City, only.

INSTABILITY IN THE SYSTEM

The consideration of the state of an urban system involves time factor. The values of variables chosen for identifying the state of the system are taken at a particular point in time and, therefore, the "state" is a temporary aspect of a system. It may be transient or in a state of equilibrium. For measuring this aspect of the system a variety of variables could be used with facility, as population growth rates, migration levels, growth rates of higher order central places etc. individually or jointly, according to suitable spatial units i.e. according to districts or cultural regions. A fruitful comparison of values for the various spatial units throws considerable light upon the relative stability or instability of the urban system bringing out its existing condition. Such an analysis is extremely useful in an economically fast developing country from point-of-view of planning of urbanisation.

The variables used below for analysing relative instability of the urban system of Maharashtra are growth behaviour of class I cities/Agglomerations over a period of last eight decades. The choice of growth rate of city for measuring instability is of particular importance to Maharashtra as it directly reflects the socio-economic changes occuring in a settlement system, particularly of the developing countries.

Detailed examination of the trajectories of individual cities in terms of population size and rank position show varying amount of turbulence or instability in the growth process. A stable growth pattern could be defined as the one in which (a) All cities grow at exactly the same rate, and thus, (b) The rank-size position of each city is unchanged.[8] The more unstable or turbulent the growth pattern, the greater the variation in growth rates of individual cities and the more switching of rank positions occurs.

A perusal of the table appearing at the end, furnishing population data (lij) for various class I cities from 1901 to 1981 reveals that, the growth of population in various cities has occured at varying paces. A consideration according to cultural regions reveals that: (1) The population of class I cities of Konkan viz. Ulhasnagar, Thane, Greater Bombay and Bihwandi grew by approximately 36, 13, 7 and 8 times, respectively, between 1901–71. The population of Ulhasnagar grew at a phenomenally high rate earlier due to the influx of refugees from Pakistan in 1947-48, as well as, the subsequent growth of industries. It has been again almost, doubled itself during the past decade. Thane was a residential suburb of Bombay for quite some time and, therefore, the population did not grow much upto the year 1941. However, with growth of industries during the thirty years that followed the population of the city grew tremendously. It has almost doubled itself during the past decade. The rate of growth of population of Greater Bombay is also quite fast. Greater Bombay's population grew by 76 per cent between

1941-51, by 40 per cent between 1951-61, 43 per cent during 1961-71 and by 38 per cent between 1971-81, pretty high for a mammoth city.

(ii) The population of class I cities of upland districts of western Maharashtra seems to have increased at modest rates: Nasik (11), Malegaon (10), Pune (7), Sangli (6), Solapur (5), Kolhapur (5), Ichalkaranji (6), and Ahmednagar (4) times approximately, between 1901 to 1971. Pune, Nasik and Malegaon have witnessed substantial industrial growth during the past two/ three decades due to excessive concentration of industrial activities and the resultant degeneration of conditions in and around Greater Bombay. This factor resulted into excessive population growth during this period at these three places. These cities maintained their tempo of growth during the past decade.

(iii) The population of class I cities of Khandesh, Marathwada and Vidarbha grew, on the whole, at modest paces viz. Dhule (5), Bhusawal (6), Jalgaon (6), Aurangabad (5), Latur (7), Parbhani (6), Jalna (4.5), Nanded (9), Akola (6), Amravati (5), Nagpur (6), Chandrapur (4) and Gondia (12) times, approximately during the period from 1901-71. The growth at Aurangabad between 1971-81 has been tremendous owing to accelerated industrial and tourist activities, whereas, it slowed down at Akola. Parbhani has registered higher than normal rate of growth due mainly to rural development in the fertile tract around it. Latur also is growing fast.

The preceding discussion clearly indicates that the growth behaviour of cities was turbulent in north Konkan and those not far away from Bombay, whereas, it was modest in remote areas either in the south or in the east. Ulhasnagar ascended from seventeenth position to fifth place, Thane progressed from fifteenth to eighth rank, whereas, Greater Bombay retained its first position par excellance, throughout the period of seven decades from 1901-71. Ulhasnagar ascended to fourth and Thane to seventh position by 1981. Such class I cities nearer to Bombay from the plateau as Nasik, Pune and Malegaon, have also progressed in rank positions. The remaining cities have either lost their higher positions in the hierarchical pattern or just managed to retain their earlier ranks. Aurangabad has ascended from 13th to 9th position in 1981. The decline in the ranks of Ahmednagar, and Amravati is really spectacular.

For facility of more precise understanding of relative growth of class I cities in the urban system, the biproportional index method has been applied below. (Refer Fig. 7 and the tables at the end). The biproportional matrix in the table No. 2 shows the changing fortunes of the twenty five cities in an index standardized so that row totals equal 2,500 and column totals 900. Cell values of = 100 indicate that a city in that time period has changed in phase with change in the whole set of cities. Values above 100 indicate faster than system growth and vice versa. In other words, the variance of lij allows an overall estimate of the instability of growth paths to be gauged. Note the accelerated growth of Ulhasnagar, Thane, Nanded and Nasik, the relative stagnation of Pune, Greater Bombay and Nagpur and decline of Solapur and Ahmednagar between 1901-71. The growth rates of primate cities as Solapur Sangli, Amravati, Akola, Ahmednagar, Dhule and Aurangabad etc., all located on plateau, were faster than system growth before 1951. However, since 1951 onwards the main vista of economic growth seems to have shifted from the plateau to centres in north Konkan and smaller centres nearer to them. The primate cities of the plateau, away from Bombay, are generally

speaking, experiencing a hard time on this account. Thus, a shift in system growth is perceived from the plateau to Bombay-Pune tract.

The Fig. No. 7, however, reveals that some cities of Marathwada viz. Aurangabad, Parbhani and Latur, and Ahmednagar from Western Maharashtra have registered relatively faster rates of growth, recently. Only the first two have grown at above-normal rates, whereas, the other two just managed to reach the normal, for reasons discussed before.

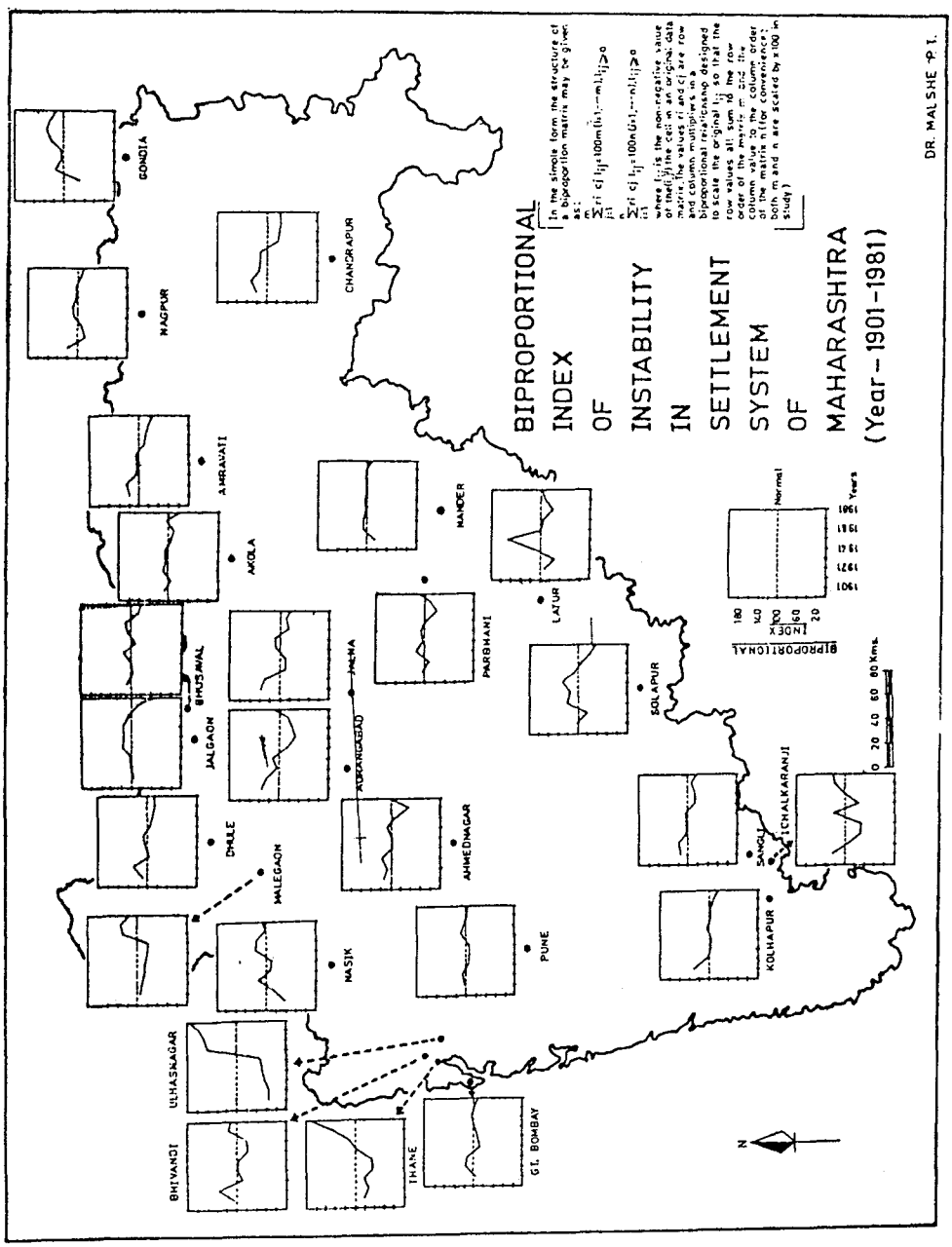

Fig. 7

GROWTH OF CLASS I CITIES IN MAHARASHTRA (YEARS : 1901–1981)

Population Data in '000 (lij)

Years	Greater Bombay City	Pune Agglo.	Nagpur Agglo.	Ulhas-nagar Agglo.	Solapur City	Nasik Agglo.	Thane Agglo.	Kolha-pur Agglo.	Auranga-bad Agglo.
	1	2	3	4	5	6	7	8	9
1901	812	164	166	11	75	24	16	54	37
1911	1018	172	118	12	61	32	15	42	35
1921	1245	198	165	18	119	57	22	52	37
1931	1268	250	241	26	145	57	21	67	37
1941	1686	324	328	31	213	74	29	93	51
1951	2966	605	485	169	277	157	67	137	67
1961	4152	790	690	247	337	215	109	193	98
1971	5970	1135	930	396	398	271	207	267	165
1981	8202	1685	1298	631	514	429	389	351	316

Years	Sangli Agglo.	Amra-vati City	Male-gaon City	Akola City	Dhule City	Nanded City	Ahmed-nagar Agglo.	Jal-gaon City	Ichal-karanji City
	10	11	12	13	14	15	16	17	18
1901	35	39	19	29	25	14	36	16	13
1911	37	41	19	26	30	18	34	17	10
1921	41	45	23	38	29	21	50	23	10
1931	53	57	29	48	39	27	57	34	12
1941	67	74	36	62	53	37	70	48	19
1951	90	102	55	89	77	65	105	68	27
1961	127	138	121	116	99	81	119	80	51
1971	201	194	191	198	137	126	148	106	88
1981	269	261	245	225	211	191	181	145	134

Years	Bhusa-wal Agglo.	Jalna City	Chan-drapur City	Biwan-di City	Latur City	Parbha-ni City	Gondia City
	19	20	21	22	23	24	25
1901	16	20	18	10	10	10	—
1911	15	19	20	13	8	9	6
1921	25	17	23	12	16	15	11
1931	28	22	28	16	31	17	15
1941	36	38	36	19	25	22	20
1951	54	58	41	26	35	33	37
1961	79	67	51	48	41	37	56
1971	105	91	75	80	70	62	78
1981	132	122	115	115	112	109	100

Class I City (Underlined) = Population 1,00,000 or more.

BIPROPORTIONAL INDEX (lij)

Years	Greater Bombay	Pune Agglo.	Nagpur Agglo.	Ulhas-nagar Agglo.	Solapur	Nasik Agglo.	Thane Agglo.	Kolha-pur Agglo.	Aurangabad Agglo.
	1	2	3	4	5	6	7	8	9
1901	96	102	121	34	102	64	81	129	135
1911	117	106	84	37	81	84	72	102	125
1921	111	95	91	45	123	117	82	98	104
1931	89	93	104	47	117	92	63	97	114
1941	94	94	110	49	133	91	65	104	85
1951	100	109	101	157	108	121	96	97	70
1961	102	103	106	167	94	121	112	99	75
1971	99	99	94	172	76	101	145	92	84
1981	92	99	89	192	66	109	184	82	108
Total	900	900	900	900	900	900	900	900	900

Years	Sangli Agglo.	Amra-vati	Male-gaon	Akola	Dhule	Nanded	Ahmed-nagar Agglo.	Jal-gaon	Ichal-karanji
	10	11	12	13	14	15	16	17	18
1901	115	119	95	109	110	85	114	97	126
1911	119	124	92	96	129	108	107	101	92
1921	104	106	86	110	98	107	118	104	70
1931	104	105	86	107	103	101	99	118	68
1941	104	107	82	108	110	105	100	115	123
1951	87	91	79	96	96	100	109	116	74
1961	88	88	129	90	90	102	91	106	101
1971	94	83	134	104	84	104	63	86	121
1981	85	77	117	80	80	88	99	57	125
Total	900	900	900	900	900	900	900	900	900

Year	Bhusa-wal Agglo.	Jalna	Chandra-pur	Bhiwan-di	Latur	Parbha-ni	Gondia	Total
	19	20	21	22	23	24	25	
1901	109	136	122	104	91	104	–	2500
1911	99	127	132	135	72	91	68	2500
1921	100	87	112	88	111	117	116	2500
1931	116	87	114	98	167	105	106	2500
1941	90	107	114	94	101	109	106	2500
1951	107	109	79	77	94	100	127	2500
1961	112	82	76	78	75	78	135	2500
1971	85	85	72	115	90	89	129	2500
1981	82	80	79	111	99	107	113	2500
Total	900	900	900	900	900	900	900	22500

A consideration of the growth behaviour of class I cities according to the (a) National, (b) Regional and (c) Potential systems reveals some interesting features. (Refer Fig. No. 5 – Inset Map – B). (a) The portion of the Bombay-Calcutta national urban system in Maharashtra is characterised by tremendous growth in and around Greater Bombay including Thane, Ulhasnagar, Nasik and Malegaon (Near Manmad). The pace of growth is however less than normal eastwards from Dhule and Jalgaon with the sole exception of Gondia city, as discussed earlier. The portion of Bombay-Madras system has registered above-normal/normal growth up to Pune, only. Solapur city from this system has registered below-normal level of growth for obvious reasons. (b) The Pune-Kolhapur, Manmad-Daund (Dhond), Manmad-Nanded and Nagpur-Chandrapur regional urban systems are characterised by less-than-normal growth rates due to relatively slow pace of industrial growth compared to that in Bombay-Pune tract. The exceptions to this general observation are Aurangabad and Parbhani for reasons indicated, earlier. (c) As regards the potential urban system of Konkan it would be enough to say that industrial development occuring in main-land – Bombay and up to Roha through Panvel is quite encouraging. However, further southward progress of this potential urban corridor depends upon the extension of the railway line from Diva and Panvel to Goa.

A passing reference may be made here to the invaluable contribution made by the Industrial Estates established by the M. I. D. C. mainly, in diffusing industrial growth during the past 20–25 years. The industrial estates established at Tryambakeshwar near Nasik, Savedi near Ahmednagar, Kudal in Konkan and Chikhalthan near Aurangabad are some of the earliest such ventures. Recently, new industrial centres established at Saswad near Pune, Latur, Nanded, Roha etc. are playing significant role in diffusing industrial growth either to the rural areas or the backward areas of Konkan and Marathwada. Diffusion of industrial growth in the immediate umlands of class I cities is yet another trend. Thus, the recent expansion of industries at Paud, Bhor–Shivapur, Narayangaon and Saswad around Pune can be explained like this.

The principal problems and future trends in the urban system may be indicated as under:

1) Considering the entire urban system it is expected that the current trend of concentration (rather than deconcentration) of economic and commercial activities at Greater Bombay, Pune and Nagpur, the leading metropolises, shall continue in future two decades. The other class I cities in the Bombay-Calcutta and Bombay-Pune-Bangalore corridors are also expected to grow further during this period. The five class I cities of Marathwada viz. Aurangabad, Jalna, Parbhani, Nanded and Latur have revealed considerable growth during the last decade. All these centres shall add in the near future to their energy consequent upon rural development activities and growth of rural economy. The Greater Bombay-Ahmedabad urban system through Surat, is also expected to strengthen further. Surat has already developed very close links with Greater Bombay, by now and is the northern outpost of the latter in Gujarat. In other words, the problems of transportation, housing and sanitation etc. shall be more serious in the near future owing to enhanced conjestion of economic activities and people at these places and even in some lower order centres, in these three important corridors of industrial and urban development.

2) The main problems facing the relatively fast growing cities as Greater Bombay, Pune, Nasik, Thane, Malegaon, Aurangabad,

Nagpur etc. are: (a) Evergrowing tendency of defying municipal laws and errecting unauthorised structures, particularly in the suburban areas. The proliferation of shanty "bustees" (Slums) is yet another urban cancer. The result is that the "good old cities" are being presently drowned in the midst of cordon of slums developing around their fringe e.g. Malegaon. The concerned municipal and government agencies find it difficult to check these processes due to political pressures. Naturally, the cities are becoming more and more filthy, these days.

3) Since road-widening is not feasible due to economic limitations and popular opposition to demolish houses in most growing towns these days, therefore, intra-urban transportation has already become a very serious problem in class I cities in Maharashtra. This problem will further aggravate as more people and more auto vehicles are added to cities with no checks on them what so ever. A very serious situation may well develop at least in some such cities or their parts, where drastic emergency actions would be called for, not in the distant future.

4) One thing is sure, many of these problems stem from what could well be identified as "crisis of human character" in modern Indian urbanites and, as a result of which, the finer aspects of the urban milieu are continually being eroded. One feels a lot of difference in the nature of cities between those of the year 1951 and 1981, considering the "quality of urban life."

5) Some relevant questions may be raised at this juncture. Are the concerned government ministries, administrators and urban planners sincerely willing to tackle these problems? Are the political workers and common people willing to work in this direction either? The answer is very well known to all.

In order to save the urban systems from further deterioration and to improve their health, if possible, it is pertinent that a positive outlook is developed in the agencies, indicated above including the common man. The development of popular awareness regarding the problems of urban settlements and their solutions would go a long way in paving the way for improving our cities. Secondly, monitoring the changes occuring in cities and urban corridors should be a continuous process. It will help tremendously in framing short-term and long-term policies of urban development.

According to experts, the percentage of urbanisation in the state is likely to rise upto 45 per cent by the end of current century. Thus, stupendous, as well as, sincere efforts are urgently needed: (1) firstly to arrest the current trend of concentration of urban growth in Greater Bombay, Thane and Pune districts and then, (2) secondly, to reverse it, if possible by encouraging growth of industries in other areas. But is it possible to do so under modern conditions of technology and economy? (3) thirdly, therefore, is there any positive answer to such question as, can Bombay be saved?[9] This question arises precisely because Greater Bombay's population is likely to exceed ten million mark by the year 1991 or 2001. Bombay's contemporary chronic problems concern traffic flow, housing, water supply, pollution and fast deteriorating quality of life. Where and when is all this going to stop? Pune-Chinchwad area is trading, presently, on the same path as of Bombay.

It is welknown that functions determine the "form" of any organic system. But it is also necessary to realise that care determines the "figure" of the system – a

city for example. And it is none else than the citizens themselves who can care better than any other agency for their own city.

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4. Haas, H. D. (1981). "The Effectiveness of the Industrial Estate Concept in Developing Nations, Taking the Caribbean Countries as an Example", *Applied Geography and Development*, Vol. 17, pp. 17-28.

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6. The average width of 50 kms. for the developing urban corridors is based upon field experience of the author. It has been observed while delimiting the immediate umlands of seventeen class I cities in Maharashtra, under a major research project sponsored by the U. G. C., that the class I cities serve their immediate umlands effectively within a radius of 50 kms. Other experts also seem to consider this as the reasonable limit of the zone of influence of a class I city. Please refer:

   i) Kusumlata Datt (1967). "Urban Zones of India", National Geographical Journal of India, Varanasi, Vol. XIII, Pt. 2, June, pp. 97-98.

   ii) Mary E. Jackman (1972). "Flying Doctor Services in Zambia", in Medical Geography : Techniques and Field Studies (Ed. By) N. D. McGlashan, Methuen and Co., London, p. 97.

   iii) Gerd Hennings and Others (1981). "The Promotion of Relief Poles", Applied Geography and Development, Vol. 18, p. 13.

   Since, however, most of the class I cities of Maharashtra occur in these belts, the average width of 50 kms. for the urban corridors considered here seems to be quite reasonable and justified.

7. O'Dell, A. C. (1941). "Port Facilities and the Dispersal of Industry : The Problem in Scotland", Geographical Journal, London, Vol. 97, No. 2, pp. 107-119.

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