

**URBAN DEVELOPMENT AND ISSUES  
OF PUBLIC HEALTH : A CASE STUDY  
OF INDORE CITY**

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**MASTER OF PHILOSOPHY**

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**CERTIFICATE**

Certified that this dissertation entitled **“URBAN DEVELOPMENT AND ISSUES OF PUBLIC HEALTH : A CASE STUDY OF INDORE CITY”**, submitted by me in partial fulfillment of the degree of Master of Philosophy is entirely my own work and has not been considered for award of any other degree either at this or any other university.

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*Dedicated*  
*to*  
*my parents*

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## **CHAPTER - I**

### **Introduction**

In modern India urban development has taken place under the heavy pressure of its colonial past, and thus considered to be bearers of "underdevelopment Syndrome", which is directly related to urbanisation as dictated by the colonial powers. They thus, led by the twin motive of empire building and mercantalism built the centres - Calcutta, Bombay and Madras, but the rest of India became the periphery serving the 'centre' without having any kind of development.<sup>1</sup>

Keeping in mind our self image of rural predominance, the pull forces of economic opportunity in the cities and push factors of rural poverty and unemployment influence urbanisation to the extent that this can be said to have the only explanation of the present state of urban explosion.

In the first 40 years of this century, India's proportion of urban population was less than 12%. Its urban population growth between 1981-1991 with 36.19% was much less than the decadal growth of the 1960s and 1970s, but most relevant the rate of growth has been much higher in urban areas than in rural areas.

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<sup>1</sup> Sinha, Dipankar "The State in Third World Urbanisation : Background and Strategy in the Indian Context", *Asian Studies* 7, (2), 1989, pp.14-30.

Particularly important is the fact that urban population increased almost 10 times between 1901 and 1991, and the number of urban settlements doubled in this period to some 3768. Since the beginning of this century, the urban population has steadily increased to 26% or 217 million in 1991. Among the urban areas, the small towns are somewhat stagnating while the 23 metropolitan cities (as per 1991 census) stand out very prominently as they accommodate about one third of total urban population.<sup>2</sup>

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<sup>2</sup> Singh, Kulwant and Stainberg, Florian: *Urban India in Crisis*, New Age International Limited, New Delhi, 1996.

**Table 1: Urban Population Concentration in India, 1901-91**

Census Year	All Classes	Class I*	II*	III*	IV*	V*	VI*	Total Urban Population (in million)	% Urban to Total Population
1901	100.00	26.00	11.29	15.64	20.83	20.14	6.10	25.85	10.84
	(1811)	(24)	(43)	(130)	(391)	(744)	(479)		
1911	100.00	27.48	10.51	16.40	19.73	19.31	6.57	25.94	10.29
	(1754)	(23)	(40)	(135)	(364)	(707)	(485)		
1921	100.00	29.70	10.39	15.92	18.29	18.67	7.03	28.08	11.18
	(1894)	(29)	(45)	(145)	(370)	(734)	(571)		
1931	100.00	31.20	11.65	16.80	18.00	17.14	5.21	33.45	11.99
	(2017)	(35)	(56)	(183)	(434)	(800)	(509)		
1941	100.00	38.23	11.42	16.35	15.78	15.08	3.14	44.15	13.86
	(2190)	(49)	(74)	(242)	(498)	(920)	(407)		
1951	100.00	44.63	9.96	15.72	13.63	12.94	3.09	62.44	17.29
	(2795)	(76)	(91)	(327)	(608)	(1124)	(569)		
1961	100.00	51.42	11.23	16.94	12.77	6.87	0.77	78.93	17.97
	(2270)	(102)	(129)	(437)	(719)	(711)	(172)		
1971	100.00	57.24	10.92	16.01	10.94	4.45	0.44	109.11	19.91
	(2476)	(148)	(173)	(558)	(827)	(623)	(147)		
1981	100.00	60.42	11.63	14.33	9.54	3.58	0.50	159.46	23.34
	(3245)	(216)	(270)	(738)	(1053)	(739)	(229)		
1991	100.00	65.20	10.95	13.19	7.77	2.60	0.29	217.17	25.72
	(3609)	(296)	(341)	(927)	(1135)	(725)	(185)		



**Notes:**

- a) Figures in brackets are number of settlements in each size class.
- b) Figures without bracket are percentage to total urban population.
- \*c) Census of India classifies a town according to population size, which are as follows:

Class I – 1,00,000 & above, Class II – 50,000-99,999, Class III – 20,000-49,999, Class IV – 10,000-19,999, Class V – 5,000-9,999 and Class VI – Less than 5,000 pop.

**Source:** *Census of India* – 1991. Statement 14 and 17, pp.30 and 32.  
Paper-2 of 1991, Provisional Population totals: Rural-urban distribution.

Of the urban population in many cities some 30-40% of citizens alone reside in slums and squatter settlements. For the year 2001, THE NATIONAL COMMISSION ON URBANISATION (1988) has estimated that some 75 million people will be living in slums under the conditions of multiple deprivation - non availability of affordable land, illegal land tenure, deficient environment and kutcha shelters. Despite this fact growth of the urban sectors of India either lacks or have a distorted developmental strategy.

**Table 2: Metropolitan Emergence and Concentration of  
Population Within Class I Cities, 1991**

<b>Population Size</b>	<b>No. of Urban Agglomeratio n Cities</b>	<b>Total Population in 1991</b>	<b>% of Population of Class I Cities</b>
Class I (Total)	300	1,39,730,050	100.00
M1 (Less than 200,000)	167	22,939,086	16.42
M2 (200,000-299,999)	40	9,606,814	6.88
M3 (300,000-499,999)	40	15,586,157	11.15
M4 (500,000-999,999)	30	20,936,734	14.98
M5 (1,000,000-above)	23	70,661,259	52.57
(i) 1,000,000-1,999,999)	14	17,175,849	12.29
(ii) 2,000,000-4,999,999)	5	16,260,762	11.64
(iii) 5,000,000 & above	4*	37,224,648	28.64

- Of which two (Bombay & Calcutta) have more than 10,000,000 plus population.

**Source:** *Census of India – 1991, Paper 2 of 1991, Provisional Tables, p.35.*

With the concept of development, health status of people has assumed a significant place in the development strategy, as development is viewed in terms of improvement in quality of life rather than increase in per capita income. As an important component of quality of life, better health status has become a major developmental goal. The impact of development process on

income distribution, poverty, rural-urban disparity, social inequalities etc. are increasingly seen in terms of their consequences to the health status of people. The growing importance of health in development planning is therefore, not only because of its linkages with economic growth but due to the changing perception of development itself.<sup>3</sup>

Thus the lack of consistent relationship between development and health status will obviously have health care services playing only a marginal role in determining the health status of people. As it indicates the crucial role of socio-economic development which directly contribute to better health through education, employment, nutrition, housing etc and also creates condition for improving the quality of health services.

Seeing the dynamic relationship between health status, health care services and urban development, the concept of public health as evolved in modern period is discussed here in general.

Since the beginning of eighteenth century a crucial factor in mortality decline in Europe was improvement in the supply of food and diet (UN 1973). While the improvement in food supply and diet played main role in the earliest mortality decline, sanitary reforms

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<sup>3</sup> Banerjee, D. (1980): "Political Economy in population control in India" in L.Bondestan and S.Bergstrom (eds.) *Poverty and population control*, Academic Press, London.

and public health movement made a significant contribution to further decline in the mortality rate after the middle of the nineteenth century.<sup>4</sup> The modern concern of public policy with the public health measures was an outcome of the sanitary reform movement, which came as a reaction to the evils of the industrial revolution in 19th century, which led to various public health measures like creation of public agency for sewage disposal and water supply which played a crucial role in the prevention of infectious diseases.<sup>5</sup>

Finally McKeown concludes that "the advances in health since eighteenth century has been due to: a rising standard of living, from about 1770; sanitary measures from 1870; the therapy during the twentieth century."<sup>6</sup>

Of late it is argued that until the middle of this century economic development was the necessity and sufficient condition for mortality decline in developed countries; medical care playing only a marginal role.

In developed world it was considered that the health problems have become independent of socio-economic conditions

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<sup>4</sup> Mckeown T and Record R.C. "Reasons for the decline of mortality in England and Wales during the Nineteenth Century", *Population Studies*, vol. 21 no.3, 1962.

<sup>5</sup> Narayana K.V. *Health and Development: Inter sectoral Linkages in India*, Rawat Publication, New Delhi, 1997.

<sup>6</sup> Mckeown T. *Medicine in Modern Society*, George Allen and Unwin London, 1965.

because there is no medical cure for the so called degenerative diseases like cancer, heart problems, diabetics, arthritis etc. But Doyal 1979<sup>7</sup> found that there are widespread social inequalities in the distribution of both morbidity and mortality from the so called above diseases, and established a close relationship between the role of socio-economic factors in determining health status, by revealing inequalities in the distribution of these health problems by unequal exposure to harmful environment.

Coming to the third world, various studies revealed that the mortality decline or improvement in the health status had become independent of local economic development because of the public health measures imported from the developed countries.

In the case of India the major source of mortality decline were said to be the control of Smallpox, Cholera, Plague, Malaria and T.B. through public health programmes, the extension of medical care services and with the education making marginal contribution<sup>8</sup> India, given the nature of health problems in the medical services can provide immediate relief to the individuals, but cannot alter the pattern and incidence of diseases as long as the diseases producing conditions are not eliminated. In addition,

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<sup>7</sup> Doyal, L. *The Political Economy of Health* Pluto Press, London, 1979.

<sup>8</sup> Cassen Robert "Development and Population" in *Economic and Political Weekly* no. 31-33, 1976.

accessibility to health care system is limited to a narrow section of upper and middle classes.

### **Urban Health**

The role cities play in the health status is an ambiguous one. On the one hand, they have the potentiality of producing healthier citizens due to the concentration of medical services, better water and sewage system and treatment facilities and so on. On the other hand, cities have the capacity for increasing the incidence of diseases due to their concentration of poor people in crowded unserviced slums and their attraction for transient people, after bearing diseases.

The urban environment itself is crucial to the health of the urban community, for example, in the spreading diseases (diarrhea, cholera etc.) or in the effect the condition of housing and density have on infant mortality and so on. In fact, a good deal of public health care spending goes into remedial action affecting the environment. Certainly the health status of urban population is a vital aspect of the quality of life of its citizens and health levels interact directly with a variety of other variables in the urban ecosystem.<sup>9</sup>

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<sup>9</sup> Diana, Baxter: "Health status and urbanisation in IIIrd World" in "Approaches to the study of the environmental implications of the contemporary urbanisation" Rodney White and Ian Burton, (ed) UNESCO, 1983.

Rao (1983)<sup>10</sup> argued that urbanization in India has at least four major facets, those based on metropolitization, industrialization. Commercialization and urbanization of countryside. These different patterns are analyzed at National, State, region and at city level. The impact of slum on the urban environment and the role of civic authorities in these issues are also analyzed in detail. A large proportion of urban population in every Indian city has been abandoned to instantiation, dirty-living, illiteracy poverty and congestion. Sinha (1985)<sup>11</sup> has brought to light the nature and extent of the problem of slums (a case study of Patna) the issues of rehabilitation should be taken into consideration for the better health, sewerage, water-supply electricity, sanitation, ventilation, covered drains, adequate streets, water facilities and for a large number of unattended areas. This study also suggests some remedial measures for the problem faced by city slum areas. He argues that the issues of urban redevelopment is a crying problem of the hour. Prasad (1990)<sup>12</sup> examined the renewal experience of nine out of twelve metropolises of India. He treated city as a living organism and therefore it has

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<sup>10</sup> RAO, V.L.S. Prakasa *Urbanization in India (Spatial Dimension)* 1983. Concept Publishing Company, New Delhi.

<sup>11</sup> Sinha, Satish, *Slums Eradication and Urban Renewal*, 1985 Inter India Publications.

lye-cycle of birth, growth and decline. As every city has its own culture, no city dweller, whatever be the challenges would like to compromise, to sacrifice the basic cultural values of the city He argues that planners should realize the cultural context and the social milieu of the city and formulate policies and programmes integrating renewal requirements accordingly. Dr. Ritu Priya (1993)<sup>13</sup> examined the role of planning process on the development of the city. With a view to provide public health coverage to urban poors and its impact on them. For whom, her findings reveal that planning meant nothing but the fruits of developments have been concentrated in fewer hands, only to create a greater divide between the rich and the marginalized. Prasad (1995)<sup>14</sup> analyses, in his study of Hyderabad, the inequalities existing between different social classes in the utilisation of health services in selected slums and the factors responsible for these inequalities. He argues that a large number of hospitals, dispensaries, clinic's and medical centres are found mostly in urban areas rather than in rural areas. Though the varieties of health services are available in our cities, not all sections of community are benefited by these facilities and

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<sup>12</sup> Prasad, D., Ravindra, *Urban Renewal: The Indian Experience*, Sterling Publishers Pvt., Limited, 1990.

<sup>13</sup> Priya, Ritu, "Town Planning Public Health and Urban Poor : Some Explorations from Delhi", *Economic Political Weekly*, April 24, 1993.

<sup>14</sup> Prasad, P. *Urban Slums: Health Education and Development*, Delta Publishing House, 1995.



found that there is a wide gap in the utilisation of health services across the various sections. Dr. Nayar (1997)<sup>15</sup> traces that since the beginning of the nineteenth century mortality decline was experienced with the improvements in housing condition adequate water supply and sanitary facilities.

Besides Europe, England and America this can be found true in the case of India too. Taking data from Census and other sources for ten states he supported his argument that there has been a significant progress in various aspects of health in the country. But this advancement has been uneven and restricted to few selected states only.

Due to urbanisation, life style have undergone change. There are more people with sedentary habits and they face more competitive and stressful situations. As a result, there is an increase in non-communicable diseases as diabetics, cardiovascular diseases and mental illness. At the same time communicable diseases like T.B., Leprosy and venereal diseases remain high. This reveals the relationship between disease patterns differing and changing rapidly with environment and social conditions.

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<sup>15</sup> Nayar, K.R. "Housing Amenities and Health Improvement: Some Findings", *Economic Political Weekly*, May 31, 1997.

It is sometimes argued that for given level of development the health status can be maximised through deliberate intervention in the form of better health care. As it may be contended that the development of the health care system is itself an integral component of overall socio-economic development. There cannot be a well developed health care system in a backward region. It is a cumulative process wherein the development in one sector stimulate and facilitate the development in others.

This assumption can be found true in the context of urban development and health status improvement in M.P. in general and in Indore in particular. For this a brief background of this region bears a necessary condition to mention.

The process of urbanisation in M.P. though slow in many parts in the state, is more or less on the pattern of the whole country-haphazard, unplanned, exploitative and dysfunctional. The class and towns have registered a decline in the decadel growth rate of population from 69.12% in 1971 to 62.23, although the number of towns in this class has gone up from 14 to 23. With the Gwalior, Ujjain, Jabalpur, Sagar, Bilaspur, Ratlam and Khandwa, Indore have grown at rates lower than the urban growth rate in the state.

Mills and Becker<sup>16</sup> estimated city growth; while discussing city characteristics in M.P., analysed the determinants based on a national sample of large Indian cities. They begin by determining which type of manufacturing output have been favoured in Indian industrialisation drive, and found that India has experienced heavy investment in intermediate and capital goods industries, some basic raw material industries and some high technology. But growth in investment in the traditional industries small scale manufacturing, textile and other light consumer goods has lagged. This suggests that cities with a predominantly large intermediate and capital goods manufacturing sector will enjoy a relatively higher growth rate.

Secondly they found that the rapid output expansion in the adjacent agricultural sector spur city growth. This model implies that cities with a dynamic rural hinterland experience relatively rapid growth rate.

The final factor which determine city growth rates for which information is available as per capita increments to infrastructure for industrial, commercial and household uses. As these public services are heavily influenced by government policy, their effect on

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<sup>16</sup> Mills S. Edwin and Becker Charles, M. : "Urbanisation and city characteristics in M.P.", in *Studies in Indian Urban Development*, pp.73-102, Oxford University Press, 1986.

population growth of particular interest to investigate in this study too.

On the basis of this analysis they revealed the fact that in 1971-81 average growth of the Class I and Class II cities of M.P. Slightly exceeded the unweighed average growth rates experienced by India's 20 largest urban areas,<sup>17</sup> these include the M.P. cities of Indore ranked 17th and Jabalpur ranked 20th. These 20 urban areas arranged a decadal growth rate of 43.2%.

This shows that the growth of the city is not so much a function of size as of their location, their economic base, but can be explained by national and regional factors operating through economic, demographic, social, political and institutional factors too.

The another study by Minocha & Yadava<sup>18</sup> pointed out that "Though M.P. recorded a higher rate of urban population growth during 1981-91 that the national average 36.18%, has manifested a deceleration in decadal growth rate from 56.03 in 1971-81 to 44.98% in 1981-91. This deceleration in the decadal growth rate of Class I cities in 1981-91 is a peculiar phenomenon to be observed in M.P. and needs to be thoroughly probed. They cause this

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<sup>17</sup> The ranking is by 1981 population.

<sup>18</sup> Minocha, A.C. and Yadava, H.S.: "Small and Medium Towns and Their Role in Regional Development", Gian Publishing House, New Delhi, 1989.

phenomena more due to increase in the number of towns and extension of limits of municipal areas and less due to increase in the population of existing towns caused by economic development. The Director Of Census Operations, M.P. observed that there seems to be the end of the "urbanisation cycle" in class I cities of M.P.

**Statement of The Problem:**

A review of relevant literature suggests that few works are exclusively concerned with public health as such, rather they tend to examine the issues as part of the larger urban studies. There is a paucity of material on aspects such as distribution of public health services and the variations at regional level as well as the problem of urban development in the context of services provided in the field of health development and welfare and the quality and quantity of urban health services.

The study proposes to make an interpretation of public health problems and urban development in the city of Indore. The specific aspects of the study may be stated as follows:

- i) A detailed study of Urban Services provided in the field of health services and different initiatives taken by public and private bodies.

- ii) The impact of programmes of development and urban basic amenities on health status improvement and provision of basic services to urban poor.
- iii) The negative impact of the urban poor on the environmental condition of the city.

The present is an exploratory study. It attempts to inquire following questions in a city:

1. What is the extent and nature of health & medical care services.
2. What is the condition of poor and what extent they have access to these services.

To serve this purpose a field study of the a particular slum area of Indore has been made. The main crux of the dissertation is thus based on the field work on that particular area. A study of the slum conditions and the public health facilities thus can help us to understand the urban development of the city in General. Since slum has the worst living condition of a city.

It has been felt that before determining the nature of public health infrastructure of Indore, an identification and delimitation of such areas is required. Certain parameters would be taken into consideration for the identification of the areas which include

- i) Diseases pattern.
- ii) Mortality pattern.
- iii) Main causes of disease.
- iv) Spatial distribution of hospitals and health centres.
- v) User's income, education level and their perception about diseases and their cures.

The method of the research consists of group interview, formal interview and our observation during the field work.

Chapter II "Demographic Profile of the City" deals with geographical settings, historical development of Indore, its industrial base and past trends. With this background the analysis of the future development of the city and the problems this metropolis is likely to face in the years ahead will be done.

With the objective of conceptualising the dynamic relationship between health status, health care services and socio-economic development the concept of public health as evolved during the urban development process is described in Chapter III.

In Chapter IV, the empirical findings of the study are presented. The major findings relate to the health status variations in various aspects of socio economic development and the intersectoral linkages in health status development.

In Chapter V the basic findings of the study are summarized and tentative conclusion drawn.

## **CHAPTER - II**

### **SOCIO-ECONOMIC & DEMOGRAPHIC PROFILE OF THE CITY**

Before discussing the peculiarities and problems of Indore city, it is important to analyse the geographical setting of the city, its origin and growth, so that the location of the city, its evolution and phenomenal growth in recent past, which have a profound bearing under study could be seen within a wider perspective.

#### **Historical Development of the City**

Indore first became important as the capital of the princely State and is today the "Mini Bombay of Central India." It is a prominent Industrial and commercial city of moderate size, with the diverse population of 1,109,056. By Indian standard it is comparatively new, dating back only two and half centuries. Situated in the historic region of Malwa, Indore lies about 300 miles directly south of Jaipur and 200 miles east of Ahmedabad to Delhi in the North and West of the Bhubneswar, amidst fertile agricultural land.

After 1948, the city came under the jurisdiction of M.P. government. Despite the change in the administrative structure, and despite the fact that the major cities of M.P. have been changing their ranks rather frequently, Indore has maintained an



edge over its competitors (i.e., Bhopal and Jabalpur) since 1930s and maintained its status as a super centre of civic amenities and services.

### **Earlier History**

The founder of the Indore dynasty was Malhar Rao Holkar. Indore was nominal but not the official capital of the Holkar state until 1818. In this year Indore came under the control of Britishers. It became the centre of radiating British Imperial influence in the area and a magnet for princely emissaries whose job it was to detect such shifts in British policy as might affect the interests of their State.

The British started modernising Indore. They insisted Holkar rulers to invest in Railways, postal services and road construction. Tukoji Rao Holkar II, (1852-86) is termed as the “Booster of the city”. By 1877, Indore was linked to the Bombay-Baroda and Central Indian Railways.

The Holkar government between 1864-66 installed the first textile factory, known as the State Mills, in Indore the expansion of industries gave rise to increase in population. By 1901, Indore already had 98,000 population, but due to plague in 1911, the population lowered just over 54000. Falling from its nearly a lakh population at the turn of this century to half as much in 1911, it

more than recorded the loss during the second decade and has grown consistently since then at an average rate of about 40% per decades, which in the recovery years following The World War II was even higher.

**Table 3**

**Indore: Population Growth during 20<sup>th</sup> Century**

Year	Population	%Decadal Change	Pop. Rank among Towns of M.P.
1901	97,804		2
1911	54,142	-44.64	4
1921	1,05,317	+94.52	3
1931	1,42,524	+35.33	1
1941	2,03,695	+42.92	1
1951	3,10,859	+62.61	1
1961	3,94,941	27.05	1
1971	5,60,936	42.03	1
1981	8,29,327	+47.85	1
1991	11,04,056	+33.72	1

Source: Census of India, 1991.

Its growth rate had slackened due mainly to shift of focus of urban development to Bhopal, but has picked up its pace in recent years due to industrial spurt in the near by towns of Dewas and Peethampur. Indore is actually a city of Western M.P. and serious competition and challenge to the premier position of Indore had come from Bhopal which is possibly surpassing Indore in population by 2000 AD.

The growth of Indore City, can be traced in terms of the parameters generally accepted to connote urban growth. It may be

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variation in the urban population of a region overtime, or increase in the proportion of urban population to total population, in the number of urban places, expansion of their areas, betterment of urban life, enhancement of urban dominance over the life of the society.

Regarding the growth of Indore city, there are several aspects or dimensions of city size, in which variation over time may be pursued to effect the study of its growth. Some of the more important aspects are summarised below.

**Indore's en-route position:**

Indore occupies from historic times an important 'enroute' position between the Gangatic plains in the North and the Deccan and its important seaports on the south west. The Agra-Bombay National Highway is the cardinal artery of road network and is essentially the old route between North India and the Deccan. Most of the other important routes generally are in North-South direction. Even at present except Sagar-Bhopal-Indore route, there is no significant East-West transport line.

**Rich Hinterland:**

Indore stands in a rich and extensive agricultural and agro-industrial region, i.e. Malwa Plateau which has a single rock formation of Deccan Traps made of the Basaltic rocks. On theme

has developed a typical iron-rich loamy black soil, which is very water - retentive and fertile, particularly for wheat, gram, groundnut and above all cotton. Valleys and extensive uplands are equally rich agriculturally as well as in human settlement, communication network and hardworking labour force. Even though rich in Agro-industrial raw materials, this region is devoid of practically all major industrial and power resources.

The above are the principal traits of geo-historical personality of Malwa Plateau, which forms the hinterland as well as resource base of Indore. Indore mostly has agro-industrial and light engineering type industries, such as cotton, textile and vegetable oil; its service industries include mostly the road transport and related repair and body building facilities, enhanced due to the very poor railway transport development. Some of the nearby towns and villages have emerged as industrial centres using the financial and managerial infrastructure of Indore. The city is thus poised to grow into an extensive urban industrial agglomeration and to function as a catalyst in regional development.

### **Economy**

The first cotton mill was started by the then Holkar State as early as 1866. Plants for vegetable oil, light engineering products, glass and ceramic products also came up thereafter. Indore's

commercial base and manpower made it imperative for industries for Dewas and Peethampur to open their Headquarters in Indore. By a simple count of factories, food industries and cotton textile industries share about 1/5th each, while transport related and miscellaneous industries share about 1/8th each and the metal product account 1/10. Wool and leather products are other important groups.

The total population of the city was 1,109,056 in 1991. Of them Indore Municipal Corporation, has 29.6% i.e. 323,592 persons constituted the main workers. Over a quarter of these workers, were engaged in manufacturing activities; another quarter in trade and commerce and the third quarter in other services. Other occupational groups accounted for about 20% of the workers.

**Table 4**

## Indore-Occupational Structure -1991

		Total No.	Percent
A	Total Population	1,109,056	--
B	Total Main Workers	323,592	29.64
	1. Cultivators	3,892	1.20
	2. Agriculture Labour	2,770	2.86
	3. Livestock, Forestry, Fishing, Hunting Plantation, Orchards, etc.	1,517	0.47
	4. Mining & Quarry	88	0.03
	5. Household Industry	4,202	1.30
	6. Manufacturing	86,031	26.59
	7. Construction	18,763	26.50
	8. Trade & Commerce	85,763	26.50
	9. Transportation, and Communication	309,282	9.36
	10. Other services	90,973	28.36
C	Marginal Workers	3,2273	1.30*
D	Non-workers	764,809	70.06*

Source: Census of India, 1991.

**Table 5****Employment**

Workers participation rate	1991
All	34.39%
Rural	44.0%
Urban	30.0%
Share of Primary sector %	34.3%
Share of Secondary Sector	22.8%
Share of Tertiary sector %	42.9%

Source: Human Development Report, M.P. 1998.

The principal locational advantage for the long-range growth and development of Indore continues to be the Agra-Mumbai highway. This national highway keeps it well connected with distant places. Indore's hinterland is, therefore, elongated following

the road alignment. A multiplicity of higher order manufactured goods and medicines etc. are imported mostly from Mumbai and much less from Delhi. Groundnuts, pulses, rough cotton cloth move out. Two lesser roads keep Indore in active interaction with South Rajasthan in the North West a Westerly route via Ratlam and Chittorgarh to Ajmer, and the other north-bound route via Ujjain and Kota to Ajmer.

Recently the east-west road from Ahmedabad in the far west to Bhopal in the east, however, has become quite important. Ahmedabad and places like Anand in Gujarat have enhanced Indore's interaction in this direction. Tankers of petroleum and truck-loads of tobacco etc. are continuously moving from Gujarat towards Indore and further east. On the other hand movement of truck-loads of coal is also brisk from east towards Ahmedabad via Indore. As noted elsewhere, railway connections are very poor and inconvenient, and are therefore by and large inconsequential in the growth and functioning of Indore. One more lesser road strikes obliquely down the valley of Narmada towards Nemawar, and the product of rich middle Narmada valley also move up the tortuous Vindhya-chal slopes to Indore and the manufactured goods in the reverse direction along this road as well as along Khandwa road. Interaction with Ujjain in the immediate north is surprisingly low.

### **Growth Trend of Urban Population (1901-91)**

During past nine decades the total population of the city has increased from 97,804 in 1901 to 11,09,056 in 1991 i.e. 2.77% of M.P. population. The increase is slightly higher than that of the state but the increase was higher almost in all decades. Indore has neither experienced strains of sudden growth nor the experience of decline except two consecutive Census decades from 1901-21, when its population decreased by 45% due to the degree of sensitivities of epidemics suffered by the state and then suddenly increased by 95%. After this its growth pattern has been almost normal. During the period 1951-61 growth rate was rather low (27.05%). This was mainly owing to the formulation of M.P. with Bhopal as its capital in 1956, which entitled shifting of various offices to Bhopal. However, the city recovered from this temporary set-back because administration was not the main function of the city. During 1961-71 it again recorded a growth of 45.19%. In 1981 the growth rate was 47.85% and in 1991 it has increased in decreasing order. For this period the growth rate was 33.13.

Future growth of the city now depends on the growth of trade and commerce and industries. "At present growth is conditioned by the different water supply situation experienced by the city."<sup>1</sup> As

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<sup>1</sup> Jain, J.L., *Development and Structure of an Urban System*, Mittal Publication, New Delhi, 1994.



soon as this impediment is removed the city is likely to experience higher rate of growth.

i) Degree Of Urbanisation

Indore with 11,09,056 persons (1991 census) is the largest of the 24 class-I cities of M.P. The city has grown enormously from its initial site around a rail-road junction which now serves as the core of the city. The industrial and commercial composition of city's working population is largely responsible for its fast growth.

**Table 6**

**Indore: Urban Concentration**

(No of Urban Centers)

State/ District	Classification	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991
M.P.	Total	127	120	124	150	178	203	210	232	-	-
	Class-I	1	1	3	3	3	5	8	11	-	24
	Class-II	3	3	-	3	7	5	5	11	-	26
	Others	123	16	121	144	168	195	197	210	-	415
Indore	Total	2	2	2	2	2	2	4	6	-	-
	Class-I	-	-	1	1	1	1	-	1	-	-
	Class-II	1	1	-	-	-	-	-	1	-	-
	Others	1	1	1	1	1	1	3	4	-	-

Source: Census of India, 1991.

As evident in the last table 8, there are a large number of medium and small towns around Indore and the urban population is distributed all over the district. The area around Indore can be said to be properly urbanised and therefore has potentialities for dispersal of industrial activity. Keeping this in the mind the policy of government to encourage industrialisation in backward districts may provide impetus for industrial growth in adjoining districts like Dewas, Ujjain and Dhar, which is likely to check abnormal influx of population to Indore.

**Table 7**

**Indore : Urban Content  
Percentage of Urban Population total Population**

State/ District	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991
M.P.	8.6	6.7	7.5	8.3	9.8	12.0	14.3	16.3	N.A.	N.A.
Indore	44.3	30.8	40.4	45.6	52.5	59.8	60.0	62.7	-	-

Source: Census of India, 1991.

ii) Migration and Urbanisation

“Historically it is the city of immigrants. Census data on place of origin reveals that fully half of the 1931 population of the city identified their birth-place as outside the Holkar State”.\*

[Rashid, Census 1931. Holkar State, Part II, pp.16-17.]

Migration constitutes the very foundation of the process of urbanisation and is considered Chief Mechanism by which urban

centres continues to grow. The population growth in an urban area depends partly on natural rate of growth of population and partly on migration from other areas - rural and urban.

The higher percentage of migrants of urban areas is mainly due to higher percentage of urban migrants to Indore and rural migration lower compared to urban. The push of rural areas due to varied rural development appears to be very little whereas pull of urban areas appears to be more marked in respect of migrants to Indore.

### **Sex Ratio**

According to 1991 census the city had 900 females per thousand males, which is almost equal to the State average of 932 female per thousand population. A comparatively lower female ratio indicates difficult housing situation prevailing in the city. The migrant worker has a tendency to leave his family behind unless he is hopeful of obtaining a house.

Sex Ratio in M.P. and Indore District 1901-91

**Table 8****Sex -Ratio in M.P. and Indore District-1990-1991**

Year	M.P.		Indore	
	Total	Urban	Total	Urban
1901	990	937	N.A.	820
1911	986	913	891	754
1921	974	878	848	735
1931	973	872	838	740
1941	970	882	861	767
1951	967	907	900	856
1961	953	856	882	848
1971	941	868	880	857
1981	941	884	898	883
1991	932	N.A.	906	900

Source: Census of India, 1991.

The figures for Indore district shows an irratic trend. The sex-ratio had a declining trend from 1911-31 and thereafter during the later two decades of 1931-41 and 1941-51 an increasing trend is observed. The improvement is due to influx of displaced persons which constituted a higher proportion of female population. With the administrative shake-up which come as a result of the Reorganisation of State there was change scale movement of popuation. This resulted proportionately moreover in the male population which further created the sex-imbalance. It is in 1991 census, that the sex-imbalance has reduced to a considerable extent.

**Location**

INDORE, the premier city of Madhya Pradesh and Divisional Head Quarter, is situated almost centrally on the fertile Malwa Plateau with its cardinal points 22.43'N, latitude and 76.42'E longitude with altitude as 1805 ft. above mean sea level.

Indore is linked by the three modes of transportation viz. Road, Rail and Air. While it's road connections are many and extensive, the railway connections are conspicuously inadequate and ineffective. The Agra-Bombay National Highway (NH.3) passes through the city's habited area.

**The Physical Settings**

The Khan and Saraswati Rivers divide the city from the three sides. The Khan river flows from South-East and it joins Saraswati in the Centre of Indore and then flows to north. The Railway line from Bombay and Mhow enters the city in the South-West and crosses Khan river and then runs north through the Railway station.

The M.G.Road (Mahatma Gandhi Road) is the main traffic artery. Juni Indore is the oldest settlement of the city and is located south and east of the rivers. West of the Saraswati river is the old commercial centre of the city. Between Jawahar Marg and M.G. Road the population and settlement is very congested and

dense. The newer areas north and east of the bend in the Khan river has mixed character which include commercial administrative and labour.

### **Natural Drainage**

The drainage consists of mainly two rivers Khan and Saraswati which are tributaries of Chambal in the North. Narmada river flows 40 km South of Indore. Khan river rises 11 km from south of Indore from a village known as Umaria. It has been claimed near the Naulakha Garden, where it intersect Agra-Bombay Road (N.H.3). After flowing 3 km it joins Saraswati. Confluence of it is in the heart of the city, known as Rajwada area. This place is always prone to flooding during rain so it is wasted area though it is very important. Some places are occupied by slums. This area (20130 acres approximately) can be utilised for multipurpose activities like commercial, panking, road widening open space etc.

Due to its peculiar drainage pattern two main problems arises i.e., both the rivers apart from rain water also carry storm water from the city and from its hinterland upto 10.15 km. It is, therefore, impossible to provide underground drainage.

Secondly the city and the hinterland around the city drain into Khan and Saraswati rivers, which ultimately drain into River Khipra and Pollute the only water supply source of the city of

Ujjain. This is a great health hazard and affect adversely the religious activities of the people of Ujjain. This in a nutshell, leaves no scope for further industrial development associated with waste disposal units. Of this is very much economically necessary, then there are several alternate ways for disposal of waste into drainage system or untreated/ partially treated waste with drainage water can be utilised for agriculture. But the problem is that the treatment of industrial waste is not always possible and is too costlier. So the industries should be located along Dewas-Bhopal Road. So that the industrial waste can be dumped into Choti Kalisindh.

### **Climate**

This part of the Malwa region is famous for its temperate climate which promotes normal activities all the year round. The corresponding hottest months and coolest months are April-June and December-February respectively.

Temperature records also reveal that the mean maximum temperature ranges between 30.7°C and 39.3°C while the lowest mean maximum temperature ranges between 17.5°C and 18.1°C.

Higher residential density can, therefore, be planned.

**Rainfall**

Rainfall observations indicate that normal rainfall in the area is around 1000 mm (40"). Rains are in full bloom from July-August and October receive intermittent rains.

**Wind-Direction**

From March-September the city receives westerly winds. During this period wind-speed is relatively high. From October-February the city receives wind mainly from North-East. This period wind-speed is very low. Thus it is calm months. Locations of obnoxious, and Air polluting industries will have to be considered from this angle also.

**Mineral Resources**

There are no major mineral and power resources, nor are there large ground water aquifers. The hinterland of the city is all block cotton soil which is rich and water-retentive having depth ranging between 4' to 10'.

**Building Material**

Due to presence of block soil in the city manufacturing of good bricks are not possible good soil for bricks is available along Sanwer Road (between Sanwer and Ujjain) and Dewas. So the city remains dependent outside supply. Similarly sand is also scarce.



Gadha Tekri is the only source of supply of stones for building and road-work. The only source for morrum is Bhuri Tekri.

Thus it has been found that the urban development in Indore had it's historicity in the colonial period. The regions geographical location and industrial potentiality led to the urban growth, which is gradually increasing with the industrial development and other developmental factors. Earlier the growth trend of population took place with the establishment of first textile factory, State Mills in 1866. The population growth in Indore is not a conspicuous one, rather a fluctuating trend is observed. The major fluctuations observed in 1901 and 1951 mainly due to epidemics and shifting of Capital to Bhopal, respectively. Once again the growth rate of city is faster than the state. The reason is obviously the migration from the nearby rural areas due to push factors operating in rural areas and nearby urban areas for its occupational opportunity in the industrial and commercial sectors.

## **CHAPTER - III**

### **DISEASES AND HEALTH CARE FACILITIES**

Before we start our discussion on health care facilities available to the people of Indore a knowledge of the diseases of the city is necessary. Hence following is an attempt to know the historicity of the diseases of the city.

#### **Historicity of The Diseases Common to the City**

The disease of common occurrence in Indore are Malaria, Tuberculosis, diseases of the eye and skin troubles.

#### **Malaria**

Until the beginning of this century malarial fever was the most prevalent disease in the city.

During the Holkar regime, anti-malarial measures consisted of free distribution of cincona and quinine to the public. From 1903-04, marked improvements was noticed in curbing its incidence in the city consequent on the reclamation of the river-bed, whereby a large body of water replaced the stagnant pools in which myriad's of anopheles mosquitoes used to appear. Training in anti-malarial work and malarial survey was also given in 1943 to the District Health Inspector at the Mhow Cantonment Military Hospital. Measures under the National Malaria Control Programme, such as, spraying of houses with DDT solution,

distribution of paludrine and mepacrine tablets etc., were extended to Indore City and its suburb in 1951-52. Later, a separate Anti-Malaria Unit was established at Indore for conducting anti-malarial work. Although, the city continued to be an endemic area for malaria, the reliable statistics about its incidence are available from 1953-54 in which year there were 61,611 seizures. This number decreased considerably during the next five years, and in 1958-59 there were only 2,152 seizures. The year 1959-60 and 1960-61, however, recorded 12,438 and 19,127 seizures, respectively.

In pursuance of a division of the government of India, the Malaria Control Programme was taken over to Malaria Eradication Programme from the 1st April 1959.

Together with DDT spraying, surveillance operations were also launched from 1960 to comb out the residual infection in the community.

### **Tuberculosis**

T.B. is very common amongst the urban women population. "Specially the females of some castes such as the Vaishyas, Bohoras, and others who rigidly adhere to the purdah system.<sup>1</sup>

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<sup>1</sup> Indore State Gazetteer, 1931, Vol. I, p.69.

Until the late 30s, the figures for T.B. in the city were not correctly compiled, because more than 59% of the deaths were classified as due to "fever of unknown origin".

A BCG campaign was launched in the district as early as in 1950 under the auspices of the WHO, which was reorganised with the new M.P. state on 1st Nov. 1956, when the organisation was divided into zones with headquarter at Indore for western zone.

Since 1959 the T.B. clinic, Malharganj has started testing and vaccination of the contacts of T.B institutions (Rao Sanatorium, T.B.Clinic, Malharganj and Manorama Roje T.B. Hospital) of the city, 82 persons died of T.B. in 1961. The death fall went up to 150 in the following year. However, in the year 1965, this figure was recorded as 140.

In pursuance of a suggestion from the Government of India, a scheme for the collaboration of private medical practitioners with T.B. clinics has also been introduced at the Indore since 1962-63 on an experimental basis.

### **Trachoma**

It constituted a major public health problem faced by the entire state. In order to assess the incidence of trachoma, the State Government undertook a State aid survey in 1959 with the assistance of ICMR. The incidence of trachoma has been found to

be ranging from 14 to 76 per cent in the State, the percentage in Indore city being as high as 54.

### **Epidemic Diseases**

Cholera and smallpox were the most common epidemics in Central India during the second half of the last century. Of these, the former was by far the most dreaded epidemic and used to take a heavy toll to human lives. Smallpox also was quite prevalent then. The present century saw the addition of plague in the list of epidemics which was further added to the epidemic of influenza.

Indore Epidemics Act (No.IV of 1928) conferred upon the government power to take special measures and prescribe temporary regulation for the prevention of any dangerous epidemic diseases.

### **Cholera**

The earliest reference available to the occurrence of this disease in the city of Indore is of 1872-73, during which year there were 215 seizures resulting in 189 deaths in Indore City.

Cholera appeared again in Indore City at the end of September in 1877-78 when the average number of deaths was about 10. The disease, however, did not last and disappeared from the city in the middle of October of the same year. Mild outbreaks of cholera took place in the city during 1881-82 and 1882-83. In

the former year the disease lasted from August, 1881, to October, 1881, during which period there were 181 seizures with a mortality of 52. In the latter 200 cases occurred with 50 percent mortality. In the subsequent years of the nineteenth century, cholera continued to ravage the city almost every year. The position, however, changed from the beginning of the present century when both its frequency and severity were reduced.

Cholera broke out in some parts of the city in 1912 and 1913, its origin in the latter year having been traced to a mela at Ujjain.

The next notable period was June, 1927, when cholera reappeared in Indore City. In spite of preventive measures, such as, permanganation of drinking water in wells and tanks, inoculation of people, destruction of unfit edible stuff, etc., the number of seizures and deaths in the city was 856 and 269, respectively. Cholera broke out again in the city in 1930 when all the parganas were affected.

Though the disease did not reappear in the city in an epidemic form until 1942, its incidence in 1942 and 1945 resulted in 69 and 58 deaths, respectively. Thereafter the city was almost free from cholera.

## **Small-Pox**

Small-Pox ravaged Indore City with periodic regularity until the beginning of this century, when its frequency declined. In the 1929 there was a severe outbreak of small-pox, the epidemic being at its height in the tehsils of Indore and claiming 257 souls in Indore City alone. Its subsequent reappearance in 1935-36, 1943 and 1946 resulted in 313, 686 and 230 deaths, respectively.

However, the successful implementation of preventive measures checked its incidence in the following years, and in 1961-62 only four cases were reported which included one death.

Vaccination, the only effective measure to stamp out small-pox, was introduced in the then Indore State in the 'seventies of the nineteenth century.

Several measures were adopted to make the people realise the necessity of vaccination and periodical re-vaccination. These included lectures, free distribution of leaflets on the prevention of small-pox, etc. The District Health Officer and the vaccination Superintendents toured their respective districts to supervise the vaccination work done by Health Inspectors and vaccinators. Further, whenever large scale infection of small-pox was noticed, an additional staff of vaccinators was employed and vaccination

and revaccination operations were pushed on vigorously in the affected areas.

These operations have been further intensified during recent years, particularly in the Plan period.

### **Plague**

The incidence of plague in the then Indore State can be traced back to the year 1902-03. Indore City was twice visited by plague during 1903-04. In the first outbreak which lasted from February to May, the daily death-rate reached 40. The second outbreak appeared during the rainy season in most virulent form and the death-rate was appalling, 1,277 deaths being registered in August, 4,300 in September and 3,085 in October. By December the city was free, but the disease then spread to other parts of the District. Indore City was again visited by plague in 1904 when the epidemic lasted for 17 weeks. The number of total deaths was 5,021 as against 9,015 in the previous year. Severe and prolonged attacks of plague again occurred in Indore City in 1906 where there were 6731 seizuers out of which the number of deaths recorded as 5019.<sup>2</sup>

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<sup>2</sup> District Census Handbook, Indore, 1961.



It, however, reappeared in 1909, 1911, 1915, 1916 and 1917, taking heavy toll of lives. From 1918 the District can be said to have been more or less free from its visitation.

The preventive measures against plague during the epidemic of 1902-03 included disinfection of houses, evacuation of people to segregation camps, inoculation, erection of a Plague Hospital in Tambu Bag, inspection of passengers alighting from the Railway, etc.

With the spread of the disease to other parts of the city a special Plague Department was created which enforced the measures strictly.

### **Influenza**

Influenza broke out in an epidemic form in the then Indore State in 1918 when it claimed many lives in the city. A sum of Rs.48,000 was placed by the Ruler at the disposal of the Medical Department to fight the epidemic. Temporary dispensaries were opened at various places all over the city under qualified doctors and a large amount of money was also allotted to private Ayurvedic and Unani dispensaries. Influenza reappeared in a much milder form in the years 1919 and 1920 also.

The city was free from this epidemic until 1957 when the country-wide influenza had its sway here also claiming many seizures.

There was no second wave of influenza in the city in subsequent years, but for sporadic cases in 1958.

### **Development of Medical Care Facilities in Indore**

Indore State was the first among the states of Central India to introduce the western system of medicine, the origin of which can be traced back to the year 1848, when a medical institution called the Indore Charitable Hospital was started in the Indore Residency area at the suggestion of the then Residency Surgeon, Dr.E.Impey.<sup>3</sup> The hospital was built with funds contributed by the Ruler Tukoji Rao II. In 1852 he made a grant of Rs.500 p.m. to this hospital on condition that the resident would maintain a dispensary connected with it in the city. This dispensary, called the Indore City Dispensary was located near Ambari Khana, close to the old palace.

Almost about this time, the much felt want of a Leprosy hospital at Indore was met by the Ruler of Dhar, who donated a sum of Rs.12,500 for the purpose. The Leprosy hospital building, which completed in 1873-74, was erected outside the compound of

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<sup>3</sup> Central India Agency Report, 1881, 82 p.89.

the Charitable hospital but close to it so as to secure its management by the staff of the latter. At the same time efforts were also made to provide maternity services and to popularise the European system of midwifery.

The Charitable hospital, apart from affording medical relief, also served as an institution for the training of Medical Licentiates since 1878. This training marked the beginning of the Indore Medical School, which later became a very important institution on Central India. A Lunatic Asylum was in existence as early as in 1879-80. In 1887 the hospital extended itself by a ward for exclusive accommodation of female patients. This hospital was the first in India to adopt the modern operations of lithority at one setting, the same year saw the opening of a new hospital, known as Holkar Hospital, provided accommodation for 100 in-patients and was equipped with an operation theatre.

The 20th century, witnessed considerable progress in the growth of medical services in the city. A Central State Hospital, called the Maharaja Tukoji Rao hospital was opened at Indore in 1901. In 1905 the Indore Government decided to build a women's hospital in the city with modern amenities. This 24 bedded hospital called the Maharani Hospital, was opened in 1910.

In order to provide ample medical facilities in the interior of the city, Ayurvedic dispensaries were opened up. For various purposes the Charitable Hospital and the Medical School were eventually re-christened as King Edward Hospital and King Edward Medical Hospital respectively, with the facilities included the building of an Operation Theatre, a tuberculosis ward and for equipment of the pathology laboratory and X-ray department.

During the second decade of this century, the medical department of Indore was reorganised, and in order to utilise the services of the Residency Surgeon, he was appointed an Advisor to the Govt. in medical and sanitary matters. Another notable event was the opening of Shri Sawai Tukojirao Tuberculosis Sanatorium at Rao near Indore in 1914. This 20-bedded institution owed its origin to public donations and was taken over by the Indore government.

Besides the medical institutions maintained by the State, there were several private and charitable dispensaries and hospitals. The most notable among the private institutions was the Canadian Mission Hospital which was primarily meant for women. The others were the Nandlal Bhandari Maternity Home, the Kalyanmal Nursing Home and the Khurda Mission Hospital.

A medical council was established under the Indore Medical Act, No.II of 1936, for the registration of medical practitioners. In 1937, a new Infections Disease Hospital was opened near Malwa Mills. At about 1940 the State Army Department started a 20-bedded maternity home of its own at Indore. An Orphanage and Secret Accouchement House also existed in the city during this period. In 1940 the government established a pharmacy at Indore where Ayurvedic and Unani medicines were manufactured and supplied to the dispensaries.

Maharaja Yashwant Rao Hospital is the premier medical institution of the city. The construction of this hospital was completed in 1955. The eighth storeyed hospital building with 31 general wards, 60 private wards, 6 operation theatres, an assembly hall, central and ward laboratories, Central Sterilisation Section, Electric Kitchen, laundry, Canteen etc. was constructed at the cost of 66 lakhs.<sup>4</sup> This hospital was also used for clinical teaching. It specialises also in radiology, Clinical pathology, dental services, physio-therapy, occupational therapy, Ear, Nose, Throat and the diseases affecting chest and women health.

The year 1951-73 saw a rapid increase in the field of medical services and establishment of several government hospital and

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<sup>4</sup> Indore District Gazetteer 1961, pp.596-97.

institutions, due to launching of five year plans. The increase is from 42 to 73. The distribution of hospital and dispensaries are as follows:

1.	Hospitals (Teaching, District and Civil)	4
2.	Dispensaries (Civil, Graded, Ungraded and subsidised)	21
3.	T.B. Hospital	2
4.	T.B. Sanatorium	1
5.	T.B. Clinic	1
6.	Leprosy	1
7.	Mental Hospital	1
8.	Maternity and Child Welfare Centre	2
9.	Maternity Wards	4
10.	Primary Health Centres	4
11.	V.D. Clinic	1
12.	Family Planning Centres	17
13.	Ayurvedic Dispensaries	15
	<b>Total</b>	<b>73</b>

Source: District Gazetteer Indore, 1970.

The analysis of data of 1991 Census regarding health infrastructure, health status, shows a much rapid increase in number of hospitals/ dispensaries and no. of beds has also increased significantly.

#### **Health Care Services of Indore City - 1991**

<b>Sl. No.</b>	<b>Medical Institution</b>	<b>Units</b>	<b>Beds</b>
1.	District Hospital	1	148
2.	Urban Civil Hospital	1	22
3.	Community Health Centre	1	30
4.	Urban Civil Dispensary	1	30
5.	Primary Health Centre	27	46
6.	Sub Health Centre	111	N.A.
7.	Other Hospitals	7	105

Source: Census of India, 1991.

### **Health Status of the City**

Total Health Centres per 100 sq.km	-	4.7
Total Beds per lakh population	-	559
Class-I doctors per lakh population	-	19
Class-II doctors per lakh population	-	160
Female Multi-purpose Health Workers	-	276
Male Multi-purpose Health Workers	-	335

Source: Human Development Report, M.P., 1998.

### **Public Health Services in Indore**

Compare to medical services, the Public Health Services in Indore State were very meager for a long time. Sanitation in Indore, the largest city in Malwa was so neglected that in 1871-72 the city was described as "The filthiest and most sickly".<sup>5</sup> Although the city's sanitary arrangement figured in 1867-68, it could not be brought into operation in an effective manner owing to a lack of adequate finance. These conditions began to change in 1874-75, when the Ruler secured the services of an English engineer, metalled roads and bridges were constructed and well designed drains were also made throughout the greater part of the city. An efficient staff of sweepers with carts was also maintained for the removal of all refuse. However arrangements for protected water

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<sup>5</sup> Central India Agency Report 1871-72, p.3.

supply were far from satisfactory. The arrangements for water supply were changed and later on it was derived from the tank at Piplia on the south of the city. Several other water works were under construction at that time, in 1913. By this time a system of conservancy was introduced. Indore municipality began a scheme of proper drainage and water supply.

The earliest attempt at town planning of Indore City was initiated in the year 1903-04, when with a view to opening up congested locality of new suburb was laid out. A fresh impetus was given to the city improvement scheme when first H.V.Lancaster, A Town Planning Expert of New Delhi and later, in 1918 Prof. Patrik Geddes were invited to suggest measures for the improvement of Indore city, who have given an extensive as well as an interesting report on the subject. With the continued growth of population and increasing industrialisation of the city, the problem of planning the town on modern sanitary lines resulted into the formulation and implementation of a well coordinated scheme of extension and improvement of Indore City, befitting the capital of the state, the government passed an act called "The City of Indore Improvement Act" in 1924.

A concrete beginning in the provision of public Health Services in Holkar State in an organised manner was made in



1926, when a new department of public health and sanitation was created with a director with its head. The Director was also member of the Indore City Improvement Trust Board as well as of committee which was appointed to enquire into the housing condition of mill labourers; and other poor classes in the city. Its function, also include vaccination, registration of vital statistics, prevention of epidemics, sanitation and other works, relating to health of the people, and health propaganda and advices to local authorities including municipalities and organising general sanitation of public and private places.

After the formation of Madhya Bharat the administrative set up of the medical department on the Public Health Side the district level consisted of the District Medical Officer of Health, an Assistant Health Officer, a Sanitary Inspector and ten vaccinators. The District Medical Officer of Health was mainly responsible for all activities pertaining to Health and Sanitation in the city of Indore and Dewas with headquarter. He also acted as an adviser in public health matters to all the municipalities except the municipality of Indore which had a separate and well organised staff for this purpose. Besides, he was holding the administrative charge of the Primary Health Centres.

The District Medical Officer (DMO) was the chief responsible officer pertaining to health and sanitation in the city. He was also adviser in public health matters except the municipality of Indore which had a separate staff for this purpose. But the overall responsibility rests with the Public Health Department, the principal activities includes:

- to undertake suitable measures for the maintenance of public health at annual fairs.
- sanitary arrangements, preventive measures against out-break of epidemics.
- the provision of medical facilities in rural areas through a mobile dispensaries.
- health promoting activities and medical relief.

#### **Indore Municipal Corporation and its role in Health Care.**

The first municipal self government was introduced in Holkar State at Indore in 1868, with a grant of Rs.12,000 from the State and permitted to collect revenues from taxes on rented houses in the city, which was estimated to yield Rs.36,000/- every year.

In 1874, a regular programme of constructing masonry drains in the city was undertaken which continued from year to year. An additional trade tax and special drainage tax were introduced to meet this extra expenditure. The responsibility of

maintenance of vital statistics was assigned to the Indore Municipality. It began to keep a register of deaths. A tentative beginning was made in the last quarter of the 19th century when, consequent on the introduction of census operations from 1881, certain general statistics were required to be collected. These included figures for birth and deaths which were recorded village-wise in the Chaukidars Handbook by the Police Stations. The figures of births in particular were, considered 'not altogether correct' for want of rules requiring compulsory registration. In 1891 the City Municipality was placed by the control of a Board and the members were partly elected and partly nominated. The president was appointed by the government.

Indore being the capital, the Maharaja continued to make special grants for water works, roads, bridges, construction of markets and opening up of the congested localities. The Electric Power House (1906), Fire Brigade (1909) and Water Works Scheme of Rs.10 lakh were all funded by him.

In 1912, scheme of taxation came up to improve the finances of the city municipality. It was during the years 1914-25, there was an enormous growth of the city and the city water supply and electric supply was inadequate to meet the requirements of inhabitants. The municipality was running shortage of funds to

improve these facilities. Therefore, the State Government drew-up scheme of Gambhir Water Works (1928) and it was constructed at the cost of about 70 lakhs. The Glancy Power House was also constructed by the State Government in 1929.

It was during this time the constitution of the Indore City Municipality (1920) partly introduced the elective principle. The Municipal Committee consisted of 30 members of whom 15 were nominated and 15 elected. Thus there was 50% representation from the local public. But the President was still a State Officer. The first Municipal elections also took place in 1920. The franchise was limited to house owners, member of learned profession and well placed Government Servants.

The second Municipal Elections was due in 1924 but the Municipal Committee expressed its inability to meet the election expenditure. The Municipal Act was further amended, in 1928. In 1939 the number of councillors was increased from 30 to 34 out of whom 22 were elected. Thus for the first time, the Indore City Municipality had a majority of elected members and the council elected its own President.

In 1940 the income of Indore Municipality had risen to more than Rs.8 lakhs, the increase was due to levy of Octroi and Water Tax and also increase in House and Wheel Tax. The various

external and internal development during the period 1940-47 had their effect on the municipal life. After independence, it had its first election on the basis of the adult suffrage on 19th March 1950. The city was divided in 22 wards, but this demarcation of the wards was uneven. The area covered by the Municipality was 13.195 sq. miles. With Independence and Partition of the country came the problem of refugees and their rehabilitation. There were a large number of refugees from Sindh and Punjab, thus the need arise to built new localities for them. Trade and Commerce took a new trend and there was a quick turn-over. There was an increase in Municipal Revenue from Rs.1.7 lakhs to 36 lakhs, it came from House Tax, Water Tax, Cycle Tax and Motor Tax.

In 1951, when the census took place in the district; the census commissioner of Madhya Bharat and Bhopal was not in a position to fully deal with the topic "Natural Increase in Population - Birth and Deaths" in his report. The staff of the public health centres established during the plan period also make efforts to improve the method of collection of vital statistics. The Health visitor and midwife have to ensure that all births are recorded in the village birth register. They are also required to check the register once a month. Similarly, the Sanitary Inspector and Medical Officer are to see that all births and deaths, which come to

their knowledge, go into the register. The morbidity record of the diseases prevalent in the areas of the Health centre and its sub-centres is required to be maintained accurately as possible in the health centre register for further analysis and use.

It was in 1954 that the Indore City Municipality raised to Class I. Municipality, by the Madhya Bharat City Municipality Act. It was the largest and wealthiest municipality in the Madhya Bharat State. According to this Act, the city was divided in to 35 wards, including 5 wards for SC/STs. Then the number of elected members was raised from 22 to 40 and number of nominated member was reduced from 12 to 10.

Indore Municipality was raised to the status of a corporation with effect from 30th Oct. 1956, under the Madhya Bharat Corporation Act. (Notification No.75/12.HA 150). The first Mayor of the Corporation was elected on 7th Nov. 1956. Further the area covered by the Corporation was 21.56 sq. miles and population covered as per 1961 census was 304, 941 with 213, 346 males and 181, 595 females.<sup>6</sup>

In this year Indore City Municipality had an income of more than Rs.60 lakhs. According to the Corporation Act of 1956, there are 7 special committees each consisting of not less than 5 and not

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<sup>6</sup> Census of India, 1961, Vol.VIII.

more than 7 councillors. These are Public Works Committee, Public Health and Market Committee, Social Education Committee, Hospital Committee, Water Works Committee, Law, Revenue and General Purpose Committee and Public Relations Committee. Uniformity in the Administration of Municipal Corporation of Indore was brought by Madhya Pradesh Municipal Corporation Act 1960, which came into force on twentieth May 1961. At that time the area of the Municipal Corporation extended to 26.09 sq.miles. The localities were included in 45 wards on the basis of 8000 population for each ward.<sup>7</sup>

The income in 1963-64 increased by 62.83 percent over that in 1956-57. The corporation had an authority to levy taxes such as Octroi tax, property tax, conservancy tax, water tax and cess on animals and goods, brought within the city for sale, consumption etc., in addition to the above, it may also impose taxes as vehicle tax, terminal tax, toll tax and taxes on theatre.

The State Government every year pays to the Corporation from consolidated fund of the State Government a grant-in-aid approximately equal to the extra duty realised.

In 1991 the following was the total receipt and expenditure of Municipal Corporation.

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<sup>7</sup> M.P.Gazetteer, Part I, dated August 30, 1963.

## **Indore Municipal Corporation, 1991**

### **(Receipt in Rs. '00)**

1.	Receipt through taxes etc.	483,448
2.	Revenue apart from taxation	51,554
3.	Government Grant	85,370
4.	Loan	125,000
5.	Advance	127,972
6.	Other Sources	980,115
7.	Total Receipt	1,823,656

### **(Expenditure in Rs. '00)**

1.	General Administration	420,959
2.	Public Safety	370,790
3.	Public Works	286,388
4.	Public Institution	2,242
5.	Others	935,624
6.	Total Expenditure	2,002,475

Source: Census of India, 1991.

The main functions of Indore Municipal Corporation are discussed below.

#### **Drainage and Sanitation:**

In 1807 Indore Municipality prepared a scheme of drainage with expected expenditure of Rs.12 lakh. In 1898 the first underground drainage system was implemented. It served a population of 15,000 only. It was revised in 1934. A plan was formulated between the years 1936-40 as per suggestion of M.Vishweshwarayya. Main features of the schemes are:



- i) Laying down the under ground sewage line to the extent of 42 miles (67.62 kms)
- ii) Construction of low level pumping station which pump the sewage into the sewage disposal works.
- iii) Construction of sewage disposal works where the sewage and sullage are collected in settling tanks of 3 chambers. From here it is again pumped to agriculture farms for irrigation.

Except some new colonies the city don't have underground drainage system at present. The disposal and collection of garbage is more or less manually and based on traditional methods. Out of 226 colonies only 87 had connected with city sewage system, 123 have common septic tank 5 have individual septic tank.

There is no concrete arrangement for disposal of waste from septic tank. The primary collection of garbage is done by sweeper by remaining garbage from roads and streets in community dumping, from there garbage trucks collects it and take to the dumping ground that is situated 7 km from Rajwada near to Devagaradia village. There is no facility available for the treatment of wastes.

Industrial wastes drained in the two rivers Khan and Saraswati eventually pollutes the water of the river.

The Public Health Engineering Department Government of M.P. has taken up a survey to prepare an overall system of sewage and sullage disposal.

### **Water Supply**

In 1860 the first water supply was done from the tanks Shirpur and Bilawali. In 1893-94 this work was handed over the Indore Municipality. Initially it was through open masonry conducts but soon it was replaced by iron pipes. However, this facility was a complete failure as it was fully relied on rain water. In 1927 the government employed the service of an engineer of Poona division for preparation of drainage and water supply. According to this plan Indore City was supplied water from Gambhir River. In 1932 Yashwant Sagar Water Supply Scheme was started and was completed in 1938. This is the job of M.Corp. to redistribute the water supplied to it to consumers. Despite all these arrangements the present day Indore is still thirsty due to in-migration, increased population haphazard planning etc. and industrial and commercial development in the past-independence period.

The M.Corp arranged the following sources of water supply.

1. Tube-wells	43	15,87,000 gallons
2. Well	36	4,10,000 gallons
3. Hand Pumps	248	

But these hardly caters to the need of the localities and the M.Corp has to supply water by tankers.

### **Storm Water Drains**

New colonies which have sprung-up in un-coordinated manner do not have proper drainage. Apart from the problems of disposal of rain water created by disjointed development of colonies proper drainage to carry storm water has not been provided. Residential areas which are facing acute problem of flooding are mostly located either near to 'nullahs' or river banks.

### **Housing**

In higher and middle-higher income groups in Indore have the privilege of having best residential facilities but side-by-side the city has worst slums thriving amongst these residential localities. Unauthorised colonies seems most threatening cause for unorganised housing development. A study of the residential density at Indore reveals that the highest density in the city is 647 persons per acre in ward no.30 and the lowest density is 60 persons per acre in ward no.9

### Indore: Residential Density Ranges

Density Range Persons per acre	Ward No.	Locality
1	2	3
601-650	30	Sarafa, Bajajkhana, Bohra Bakhhal
551-600	23, 26, 36	Toda, Ara Bazar, Yashwant Road, Krishnapura
501-500	25	Nandlalpura, Kabutar Khana, Reshamwala Lane
451-500	24, 27, 29, 32, 42, 47	Hathi Pala, Nihalpura, Jawahar Marg, Udapura, Shakkar Bazar, Juna Pitha, Manik Chowk, Malharganj, Kadaoghat, Naya Pitha, Chhipa Bakhhal, Tamoli Bakhhal
401-450	18, 21, 31, 38	Jail Road, Ganja Compound, Kacchi Mohalla, Rajwada, Moti Tabela, Karlalpura, Sikh Mohalla, Naliya Bakhhal, Lohar Patti, Chhipa Bakhhal, Tamoli Bakhhal.
351-400	3, 22, 33, 43, 44, 46	Pancham and Goma ki Phel, Khatipura, Ranipura, Yashwantganj, Gorakund, Daliya Bakhhal, Raj Mohalla Old, Jangampura, Biyabani.
301-350	4, 10, 16, 20, 28, 37, 41, 45	Nehru Nagar, Sanyogitaganj, Murai Mohalla, Raoji Bazar, Nayapura, Harsiddhi, Imli Bazar, Juna, Risala, Malganj
251-300	2, 15, 24, 39	Pardesipura, Pagnispaga, Sadar Bazar, Jinsi, Shankarganj
201-250	7, 14, 19, 48	Patnipura, Juni Indore, Luniapura, Snschalataganj MOG Lines, Jairampur Colony
151-200	1, 35, 40	Clerk's Colony, Vrindawan Colony, Shankar Bagh.
101-150	5, 6, 8, 11, 13	Nanda Nagar, Vallabh Nagar, Parsi Mohalla, Sajannagar, Kibe Compound, Gwaltoli.
60-100	9, 12, 17	South Tukoganj, Palasia, Residency, Manormaganj, Shreenagar, Roopramnagar, Premnagar, Barathi Colony.

From this table it is known that 18 per cent of the residential area has high density, and it constitute for 37 per cent of total population. Whereas 34 per cent of area is under average density, constitute for 42 per cent of the total population of the city. Only

10 per cent area is under low density covering 11 per cent of total population.

This has created problems of inter-communication, water-supply, drainage, transportation and provision of other amenities.

Thus the chapter discusses the historicity of diseases, and the subsequent development of medical care and public health services in Indore city. The role of Municipal Corporation is also discussed here. Since the, recent data regarding above these factors are not available, the chapter could not do justice with the analysis of the problem faced by the city at present time.

## **CHAPTER - IV**

### **Slum-Dwellers' Perception on Health and its Related Issues**

The poor socio-economic conditions under which low income urban group exists are probably more important as determinants of levels of their health than health care services. They live in high residential densities. They are malnourished. They do not have adequate water supply and sanitation. All these facilitates the spread of communicable diseases. Unless these conditions are rectified, curative and other health services even if undertaken in a large scale are unlikely to have sustained success.

Better preventive services can reduce the need for expensive periodic treatment. The main aim of a periodic health check-up is to identify the inimical symptoms and diseases before their manifestation and to take steps to control or eradicate the incipient disease.

The perception for the need for health check-up tends to be low among all the social classes in India whereas the slum dwellers who are mostly illiterate are not aware of the ideas of a health check-up itself. Furthermore the poverty of the slum dwellers forces them even to postpone the treatment of their illness.

## **Slum Population**

The UNITED NATIONS, urban land policies reported slum as, a buildings or areas characterised by overcrowding, deterioration, unsanitary condition or an absence of amenities which because of these conditions or any of them endanger the health, safety or morals of its inhabitants or the community.<sup>1</sup>

As per 1991 census, the city has 1109056 of total population, out of it, 305808 belongs to slum population. The proportion of slum population to total population is 27.57 and the total area is 44,147 sq.km with density of 6927 per sq.km. Slums exist not only in the heart of the city but also new and well planned colonies.

Maximum number of slums in Indore are situated in the mill area which account for more than 50 percent of the total slums of the city. About 90 percent of the slum dwellers in the area work in mills and only about 10 percent are engaged in other services. As these people belong to the low income group, they cannot afford the expenses on the transport and therefore want to live close to their workplace. This is the main locational factor for the emergence of this slum settlement in the heart of the city.

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<sup>1</sup> Rao, M.S.A., Bhat C. and Kadekar L.N., *A Reader in Urban Sociology*, p.315.

Ward No.31 Vikas Nagar (Amer Tekri Area) is one such area which was visited in order to ascertain the potential problems confronted by its citizens. This locality has 14,000 of population comprising 6,500 families mainly dominated by SC population, as per the information made available by the Ward Commissioner. This locality came into existence before 100 years due to the presence of Malwa Mill and other big and small mills. The area belonged to one Jagirdar namely Sikandar Abdul Rajid. This was his private property. Dispute is still going-on between his heirs and the government. M.Corp took the area under its jurisdiction in the year 1984. Initially for the period of five years IDA looked after this locality and developed it. This area comes under the an industrial belt of the city.

Apart from IDA and M.Corp different national, international organisation and agencies work here for the upliftment of the people and the development of physical infrastructure. This area is also benefitted by different planning efforts in the past which has been carried out in the city towards proper and planned development. The works of Sir Patric Geddes and H.V. Lancaster<sup>2</sup> is very significant because of their contribution towards the improvement in the sanitary conditions of residential areas. Sir

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<sup>2</sup> Quoted in District Census Handbook, 1961, Indore.



Patric<sup>3</sup> Geddes especially prepared drainage and water supply scheme, industrial development schemes, suburban development housing schemes, landscaping etc.

### **Data Base**

To know about the level of development, living condition and availability of infrastructural facilities of this slums area, observations of the field work is necessary. Primary data relating to the following aspects is elicited from the households of the slums area where the field work had been conducted.

To identify the physical, economic and social characteristics of slum households, types of houses, plinth area, size of the household, income, migration status, duration of residence of households in the slums, age of the head of the household and literacy status.

Information is also collected on aspects relating to the usefulness of the physical and social environment. Development and health improvement programmes i.e. awareness of the households about the programmes and proper utilisation of amenities so provided, i.e. Community latrines, Dustbins, Anganwadis, Balwadis, health clinics and Immunisation Programmes etc.

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<sup>3</sup> *Indore Development Plan*, Town and Country Planning Department, M.P., 1973, p.11.

The type of health centres utilised by different social classes on slum dwellers vary from one another. Private health services used by the upper and middle classes, whereas government health services are mostly utilised by the lower classes. Some of the factors discussed are:

- a) Number of persons ill in the family during the survey.
- b) The number of persons who utilised the health services provided by the government.
- c) The cost of treatment.
- d) The level of satisfaction of different caste regarding the health services rendered by different types of health centres for treatment and
- e) The reasons for not utilising government health care services.

### **Rate of Illness**

The general health conditions of the people serve as a good indicator of their standards of living. An attempt is made to know the health status of family members in the selected slum households which we visited.

Out of 50 households we visited, 24 households had experience of illness during our visit on the month. From them 9 males and 18 females were reported to be sick. A majority of them were SC households.

### **Source of Treatment**

Among the slum residents, Government hospitals are most frequently used for treatment and this source is followed by that of the private doctors. A few of the patients did not receive any medical treatment and this may be probably because of the minor nature of illness. The percentage of sick persons who did not receive any medical treatment is the highest among the SC followed by that of the OBCs. Proportionately a majority of persons in all the castes availed themselves of the government hospital facilities.

Yesudian<sup>4</sup> in his study also found that “a majority of high and middle class patients went to private health centres and majority of low and very low class patients used public health centres”.

### **Opinion on Services**

Opinion about the health services is revealed by the level of satisfaction among people in relation to the health services

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<sup>4</sup> Yesudian, C.A.K. *Health Services Utilisation in Urban India*, Mittal Publications, Delhi, 1988.

available. Various studies have given reports regarding the opinion of people on health services in India.

For instance, Yesudian<sup>5</sup> in his study observed that most of the patients were dissatisfied with the health services rendered by the government hospitals. Some of the complaints made against the government hospital were like lack of good treatment, favouritism and doctors advice of the patients to come to their private clinics.

The findings of the survey conducted for this study also confirm the results of the above mentioned studies indicating low satisfaction derived from health services by lower class people and among slum dwellers.

A question was posed to the respondents who had treatment either at the Government hospital or by a private doctor as to whether the respondent was satisfied with the treatment obtained for the illness during the preceding month.

The information reveals that nearly four out of ten of the respondents were satisfied with the treatment obtained at the Government hospital, while a majority of the respondents expressed satisfaction over the treatment obtained from the private doctor. Our impression is that there is no difference across the

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<sup>5</sup> Ibid.

castes in terms of their level of satisfaction or dissatisfaction from the services.

In other words, we did not find that scheduled castes slum dwellers were not less satisfied with the services than non scheduled castes.

### **Reasons For Not Utilising Government Health Services**

The extent of utilisation of Government health services by the slum dwellers indicates that majority of them utilised the Government health services.

The main reason for those who do not utilise Government health services is that they feel that the Government doctors do not attend on patients properly. The second important reason is that in the Government hospitals substandard medicines are given. Some of the respondents said that they were not going to the Government hospital because it is far away from the slum. A few felt that the doctors would take a lot of time to attend on patients.

### **Health Services For Women And Children**

Mothers and children are considered to be vulnerable groups in the community as they are susceptible to certain health hazards. Mothers are exposed to various risks during pregnancy such as miscarriage and German measles which may result in congenital deformity of the child, difficult child birth which may include

Caesarean operations and post-delivery complications. On the other hand, children are exposed to a number of childhood illness, communicable diseases and disorders caused by nutritional deficiencies.

These special health problems of the two groups call for special health services. In many health service systems, the services related to maternal and child health problems are administered as a separate category. In the urban community, one may often find separate maternity hospitals, children's hospitals, maternal and child centres (MCH) and child welfare centres (CWC). The health personnel are also specialised in fields like gynaecology and paediatrics to deal with the health problems of these two special groups.

Maternal and child health services are rendered by both public and private health agencies or individuals. Though public health services are available free of cost to the poor, often they are not aware of these services. Even if they are aware of these health services, many do not feel the need to utilise these health service. The ill-informed poorer sections of the community feel that maternal health services are not necessary for a normal pregnant woman, and that children do not need health checkup, when they are apparently free from diseases. This poor perception of need for

maternal and child health care acts against their utilisation of these health services.

In this section, an attempt is made to understand how far different caste groups of the slum-dwellers perceive the necessity for maternal and child health services, and also to what extent they attempt to meet these needs, if perceived. The following subsections give the data and analyse in this respect.

### **Antenatal Care**

A question was asked to the households whom we visited and in group discussion to find out whether the pregnant women had antenatal checkup (medical examination) which is important for the health of the mother and the fetus. We got impression that more than three fourths of the pregnant women had antenatal medical examination. The percentage of women who had medical examination during pregnancy is higher among non SCs and OBCs . This indicates that the awareness of the need for antenatal medical checkup is not as much as it should be. Approximately, as many as 22 to 32 percent of the pregnant women do not feel the need for utilising the available health services during pregnancy.

### **Tetanus Toxoid (TT) Injection During Pregnancy**

A component of the immunisation programme is to provide tetanus toxoid (two injections) to a pregnant women during 16 to

36 weeks of pregnancy to protect the new born from tetanus. Regarding the distribution of pregnant women according to the number of doses of TT received by them, over one-third of the pregnant women did not receive any TT injection during pregnancy. Such a situation is observed in all the caste groups. Regarding the number of doses, all the women had taken two doses which is the prescribed norm. There is striking difference between pregnant women who had taken TT is higher among Backward Castes than among Scheduled Castes and others.

#### **Place of Last Delivery**

We learnt from our observations and informal interviews that more than half of the eligible women had their last deliveries in Government hospitals, some had their last deliveries at home under consultation by a private doctor.

#### **Reasons for Delivery At Home**

It would be interesting to know why the slum-dwellers preferred child delivery at home. Almost half of them stated that they could not go to the hospital at the last moment. Hence, the child delivery was at home. Nearly one fourth of them said that it is their family custom to have child delivery at home. Some mentioned that they had no money to go to the hospital and few expressed that if they went to hospital no one would be at home to



look after their younger children. The mothers who stayed at home for child delivery had to do so mainly due to some unavoidable circumstances but not totally due to ignorance.

### **Immunization**

Immunisation against communicable diseases is an important aspect of preventive health care in the country. Though the slum-dwellers are more exposed to communicable diseases due to their poor living conditions and unhealthy environment, they still fail to perceive the need for immunisation against communicable diseases. Health experts hold the opinion that since communicable diseases are more prevalent in slum areas, slum-dwellers are in a greater need for immunisation care. But how far the importance of immunisation is perceived by the slum dwellers is a matter of concern. It is necessary to find out whether the slum-dwellers are aware of all the immunisation measures against communicable diseases. Even if they are aware of these measures, it is important that they go voluntarily for immunisation. In this connection, the education of the parents, that of the mother in particular, plays an important role. Hence the mother's literacy level was also considered as a variable for the purpose of this study.

The information collected covers whether the children received Vitamin "A" syrup, Deworming tablets, besides BCG, Oral Polio Vaccine (OPV) and measles immunisation. We asked the reasons for not receiving immunisation in the case of the children who were not immunised.

### **Awareness About Immunization**

Immunisation of their children against the disease is expected to be of high concern to the parents. That is parental awareness about immunisation is a significant factor for the success of any immunisation programme. Hence, some questions were asked about immunisation to elicit information from the mothers on source of immunisation, when immunisation has to be done and number of doses to be given.

Over half of the respondents had mentioned that friends, relatives and neighbours as the source of information on immunisation, the next important source being TV and Radio. Less than one fifth of the respondents mentioned doctor as the source of information. The Auxiliary Nurse Midwives and untrained Midwives have played a minor role in the dissemination of information of immunisation.

Most of the women were ignorant about the time for immunisation. Only one tenth of the women know the correct

position regarding when immunisation is to be given. Similar is the position with regard to the number of doses to be given in each type of immunisation.

### **Rate of Immunization**

There is an important association between the level of mother's education and the percentage of children who had received all types of immunisation. The children whose mother's education is of middle or high school level had received a higher percentage of immunisation than the children of mother's with primary education, while those children whose mothers education is nil had received the least percentage of immunisation. Such a situation can be observed in all types of vaccination. We can say that the tendency to receive immunisation is greater where the mother's education is of a higher level. This is probably because the educated parents having a greater awareness of immunisation sought the vaccination for their children. That is education plays a significant role in the awareness towards immunisation.

### **Immunization Status**

Children who had received one dose of BCG, 3 doses of DPT, 3 Doses of OPV and one dose of Measles vaccine were treated as fully immunised, while those who did not receive any immunisation

were treated as not immunised and the rest were partially immunised.

We found that a very few children have been fully immunised. Around four out of ten children seem to have received one or more doses of immunisation. A majority half of the children have not received any immunisation at all.

It was found that the main reason for not receiving any one of the different kinds of immunisation was that the children had only minor illness such as cold and cough at the time of the visit of the medical team for immunisation. Further, those who had not received all types of immunisation said that they did not know that immunisation should be given to the children to prevent ill health. Some of them also mentioned that they were afraid of immunisation because the immunised children would get fever immediately after immunisation and such a situation would force them to stay at home thereby preventing them from going to their usual work which is essential for livelihood.

### **Family Planning Programme**

Awareness of the need for family planning and its implementation are pointers to urbanisation and social change. This variable is therefore important to understand the process of social change in the slum-dwellers.

We asked the respondents whether they had heard about family planning. It was observed that exposure to family planning knowledge is total among the slums dwellers. We also inquired about the source of their information about family planning.

About one-fourth of the respondents had reported Doctor as the source of information on family planning. Almost an equal number mentioned relatives and neighbours. Some reported TV and Radio as the sources. Some also reported Auxiliary Midwives as the sources of information on family planning. Most of the respondents from among the Scheduled Castes and Backward Castes reported relatives as well as doctors as the main source of information on family planning.

A question was asked whether a large family was a problem for them. Almost all of them responded in the affirmative in view of their meager and insufficient income. Most of the respondents said that having three children is an ideal family size. Some mentioned that having two children is an ideal family size. However, there were also few who expressed that having four children is ideal.

### **Adoption of Family Planning**

We found that some of the eligible couple adopted the widely known methods of family planning such as Tubectomy (operation for women) and Vasectomy (operation for men). Some eligible

women adopted loop to control the family size. Further it was found that some of the eligible couples are using other techniques such as Ayurvedic and other medicines to contain the size of their families.

Furthermore, a question was asked whether they had any plan to undergo family planning operation in the near future. A few of them replied in the affirmative. The reasons given by them for their decision are inability to afford another child and bringing the existing children well.

#### **Reasons For Non-Adoption of Family Planning**

A contradictory feature observed in relation to the family planning is, there is no correspondence between the slum-dwellers' awareness of family planning which is total and their practising of family planning which is less.

The main reason for non-adoption of family planning is that they want to have a male child. Besides, that, their unwillingness to undergo family planning method which are fear of health complications, religious superstitions, beliefs and that they can afford to have another child. This indicates that the craze for male child and religious superstitions as well as baseless fears about health played an important role in discouraging the slum dwellers to opt for family planning.

We also asked slum dwellers the most important problem that they were facing. According to them the chief problem was water and related amenities. They said that there is no time schedule for the supply of drinking water and above all the water supplied is not enough for consumption. Acute shortage of water was felt by 94 per cent of the respondents.

Besides this, most of the respondents complained about inadequate facilities of drainage, toilet and about dirtiness. There is no regular cleaning of drainage. One playground is being used to dump the garbage.

The rate of unemployment is third largest problem due to the closure of Malwa Mill as most of the people were associated with it.

The next problem faced by them can be categorised as the problem regarding inadequate health facilities. Although the first Aanganwadi unit of the city was started here but there is only 2 PHCs, which are ill-equipped and visited occasionally by private doctors only. 74% of the respondents were not satisfied with the existing facilities.

Encroachment also poses a serious problems for the residents. There is no proper mapping and consequently people are ignorant about the encroachment, limits which further hinders infrastructure development.

Several respondents felt inadequate facilities regarding road repairing and widening. However, a few respondents had no answer or they were not very clear about the problem. Moreover, the problem of housing is not very acute, it can also be categorized because a majority respondents were dissatisfied with the prevailing housing condition.

Most of the inhabitants originally belonged to this place and are not immigrant.



## **CONCLUSION**

The subsequent growth of cities in modern India inherits its colonisers macro-politics of developing port towns as a response to mercantile colonialism and subsequently to industrial colonialism. As a result the massive suburbanisation took place in the form of mushrooming unauthorized colonies that surrounded our metropolises of today, leaving urbanites at the interface between underdevelopment and industrialization, and their diseases pattern reflect the problems of both. From the first they inherit a heavy burden of communicable disease and malnutrition. While the second brings them its typical spectrum of chronic and social discourse.

India's urban growth was assessed as over-urbanized even in the 1950s, as it was found that at a comparable level of urbanization it is much less industrialized than developed countries in the past. Since 1901, the number of town/urban agglomeration, in India has become twofold, while the urban population multiplied eight fold at a growth rate of 2.4% during 1901-91. It was 1.8% during 1901-51 and 3.2 during 1951-91. Thus, India's urbanization process that gained momentum after independence is now slowing down during the eighties as the annual growth rate

declined from 3.8% during 1971-81 to 3.1% during 1981-91. The same was the case with M.P., though it recorded a higher rate of urban population growth during 1981-91 than the national average (36.19%) has manifested deceleration in growth rate of population in 1991 compared to 1981. The deceleration is mostly taking place in response to increase in the number of towns and migration from rural to urban areas due to push factors and not due to healthy economic development.

The trend is likely to show further imbalances and distortions unless we formulate an urbanization policy. Urbanization is thus seen to be inextricably linked to economic planning and our growing cities, instead of being viewed as passive consequences of development.

There is a close relationship between both health and development. The degree of association between health and development is already demonstrated by, for example, Mckeown in his well known analysis of mortality statistics for England and Wales from the years 1838-41 to the 1970s (1976) similar observations have been made by, McKinley, using statistics from the U.S. (1977).

India in the absence of an integrated strategy of development, resulted the public services monopolized by well-to-do sections of

society. Thus the distributive aspects of development process has farsighted implications, other than the fact that the variations in health status are only a manifestation of disparities in overall development process itself.

The study is limited to class-I city of M.P., Indore, that had rather inconspicuous beginning without any strong favourable factors for its location. Its situation on an important highways has always been a decisive force behind its growth. Whereas its hinterland is agriculturally rich (particularly in cash crops) it is devoid of any notable industrial mineral and power resources.

Commercial activities still adheres strongly to the city core, rendering it all more choked with congestion. With this the most acute problem is the lack of any adequate water source, again underlain by great thickness of extrusive basaltic rocks not having any possibility of ground water resources too. As we see its urban future solely depends on its geographical advantages. Town planning needed a thrust on a health care system whose priorities should be in accordance with the health needs of people. Indore had the benefit of consciousness of Holkars and the Civic authorities towards proper and planned development---

Until the middle of this century, Indore enjoyed better living conditions than most of Indian cities of its Cadre, eventhough it

was a fairly density packed city. Housing conditions, distances to place of work, and social amenities were convenient and in harmony with the personality of the city. Since then, the inner city has deteriorated and outer fringe has grown rather haphazardly. Nala beds in the city are particularly neglected with callous indifference, even starkly miss-used for dumping sullage and refuse. Core areas have residential densities of over 700 people per acre. Outer areas, however, have steeply declining densities. Thus unlike the modern western city, Indore still presents highest density in the city-centre not in the 'second concentric zone'. (Jain J.L.)

At the same time the Industrial/mill area of the city and surrounding slum areas have in the course of urban growth not only ceased to provide healthy living environment but have in fact turned to be physical impediments for further developments.

The corp. has very limited role to play, having all the typical reasons for its inefficiency, e.g. it has not been able to convert all the drains of the city into underground drains. It's firstly, because of scarcity of water, secondly because of lack of funds and thirdly, it requires deep excavations and in some city areas, the foundation of buildings are not deep enough and it is feared that they may collapse due to crack in the walls caused by the excavations.

Although health services have expanded distinctly more than in any other cities of its size and stature, it has total fertility rate as high as 3.81 for the year 1991. Having crude birth rate which was 31.2 which is slightly lower than the previous decade for which the rate was 35.0. Child mortality indicator also shows a slight decline which was 94 for the 1991. It may be classified under 3 categories, i.e.

### **CHILD MORTALITY INDICATORS, 1991**

City	q <sub>1</sub>	q <sub>2</sub>	q <sub>5</sub>
Indore	Persons 71	Persons 75	Persons 72
	Males 74	Males 77	Males 94
	Females 69	Females 72	Females 89

q<sub>1</sub> - Probability of dying between birth and age one. This can be used as approximate value of infant mortality Rate (IMR) which gives the ratio of number of deaths in a year of children aged less than one year to the number of births in that year.

q<sub>2</sub> - Probability of dying between birth and age 2.

q<sub>5</sub> - Probability of dying between birth and age 5. This indicator is also known as under 5 mortality Rate (U5MR).

Source: Census of India, 1991.

Infant mortality has also declined slightly i.e. 80 in 1981 to 75 in 1991. The overall gender ratio in the city is 900 which in

quite below the state gender ratio. It is obvious from the fact that life expectancy of females at birth is 61.9 whereas this ratio is 69 for the girl child upto 1 year of age, upto 5 years of age this ratio again shoot up to 97.

Though in terms of Human Development indices – 1998, Indore stood first the real Scenario shows contradictory images. As per 1991 census total number of households in urban areas were 208, 230 constituting 66.10% permanent 29.89 semi-permanent and rest 4.01 as temporary households. Apart from these the serviceable households constitutes only 2.56% Homeholds without access to safe drinking water is 11.0%, without toilet facility 51.6% and without access to electricity in 24.4%. Together all the three constitute 2.6% of the households.

Before discussing the findings of the level of amenities, health infrastructure facilities and availability of medical institution in the slum area which has been taken for this study. As the population census of India does not cover the persons living in the slums, it is difficult to present the extent of population concentration in this metropolitan slums at the same point of time.

No concrete efforts have been made by any local authorities including municipal corporation to systematically gather information on the growth of slum settlements and the number of

people living in the slums. The heavy concentration of slum population in this area, serves as employment centre, attract and act as a catalyst for further slum concentration.

Our observations suggest that the population growth rate among the poor is high and no systematic efforts has been made to restrict the growing slum concentration/population. There is no clear integrated approach which can encompass social, physical and economic aspects of improving the quality of life of slum dwellers.

With their increase in income, the slum dwellers were found willing to pay for the services at least marginally, their preference is for the community level facilities and services rather than for private one's if the government can initiate different levels to provide services and facilities taking into consideration of the existing slums and slum dweller's affordability.

Inspite of the concentration of health facilities in the urban Indore, the relative proximity of hospitals and other medical facilities, the standard of health care falls far below reasonable minimum level for slum residents. Priorities for them should be set on the basis of the most important causes of mortality and morbidity, prevailing epidemiological and socio-economic conditions.

Thus, the provision of primary health care services (like immunisation, control of diarrheal diseases, acute respiratory infections, malaria, T.B., and provision of anti-natal and post natal care are important in the short run intervention that focus on the underlying causes of ill health are much more significant in the long run.



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