

**A SOCIOLOGICAL STUDY OF THE IMPACT OF
INDUSTRIALIZATION IN BHOPAL ✓**

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CERTIFICATE

This dissertation entitled, "A Sociological Study of the Impact of Industrialization in Bhopal" by Shri Raj Kishor Meher for the degree of Master of Philosophy has not been previously submitted for any degree of this or any other University. We recommend this dissertation should be placed before the examiners for their consideration for the award of the degree of Master of Philosophy.


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CHAPTER - I

INTRODUCTION: Industrialization and Social Change: Theoretical Perspectives.

Industrialization is a world-wide phenomenon. Most developing countries emerged after the II World War from a long colonial era with great aspirations for economic and social development. They pinned their hopes on industry to stimulate accelerated economic growth. The experience of industrialization of the developed countries demonstrated the possibilities for economic growth and social transformations. Generalising from the Western experience, Clark Kerr and his co-authors argued in a book which subsequently became highly influential, that "The world is entering a new age -- the age of total industrialization. Some countries are far along the road, many more are just beginning the journey but everywhere, at a faster or slower pace, people of the world are on the march towards industrialization. They are launched on a long course that is certain to change their communities into a new and vastly different societies whose forms cannot but be clearly foreseen. The twentieth century is a century of enormous and profound world-wide transformation."¹

What is industrialization? : Industrialization refers to the change in methods of production i.e. from the use of traditional tools and crafts to produce goods and services for the need of a society to the beginning of modern factory-based production of goods and services by the application of science and technology. In a nutshell, we can say 'Industrialization' refers to the process of change in technology used to produce goods and services. Clark Kerr et al aptly say, "By 'industrialization' we have meant the totality of relations involving workers, employees and society as they develop to make use

1 Kerr, Clark et al. Industrialization and Industrial Man (Penguin Books, 1973) P.29

of the new machines, processes and services that modern technology has made possible."² From this statement it is evident that the term is used as a short-hand for the social change that accompanied 'industrial revolution' in the West. Although it is difficult to clearly define industrialization, it broadly refers to the change from a society in which a predominant majority was dependent on agriculture to a society in which a preponderant section is dependent on industry.

Similarly, in Marxist economic literature the term 'industrialization' has been defined in two different ways. In the narrow sense it refers to developing the production of the means of production whereas in the broad meaning it signifies the completion of the industrial revolution and the transfer of the economy to industrial methods of production.³ This means the former refers to the initial stage of industrialization when heavy industries are begun to set up for the production of the means of production i.e. capital goods industries, whereas the latter refers to the final stage of industrialization when the entire economy is transferred to the mechanized methods of production.

Thus while Clark Kerr's definition of industrialization takes into account the changing socio-economic factors and their adjustment processes caused mainly due to the effects of industrialization on society, the Marxist definition puts emphasis on the development of the mechanized methods of production through systematic planning of the economy.

Effects of Industrialization on Society

Industrialization though basically an economic process, has also become the prime mover for cataclysmic changes in policy and society. The large scale factory-based production brings a large number of workers under one roof and puts them to work on machines operated by

2 Ibid. P. 279.

3 Shirekov, G.K. Industrialization of India (Moscow, People's Publishing House, 1950) P.7

incarnated sources of energy. It requires the investment of vast sums of money as fixed capital in the form of plant and machinery, buildings etc. This calls for a class of entrepreneurs who can raise the necessary capital and bear the risks involved. The worker is separated from the ownership of his tools and converted into a wage labourer.

Industrialization thus creates a class of entrepreneurs and proprietors on the one hand and one of wage labourers on the other.⁴ The production of goods and commodities in large factory leads to the division of labour with a high level of inter-dependence between the tasks performed by different categories of workers like technicians, artisans, semi-skilled and unskilled, etc. and to co-ordinate the tasks of different workers in several sections or departments a class of professional managers trained to orchestrate the efforts of others comes into being. Again, production in the large enterprises leads to the formation of an impersonal market operating by the forces of demand and supply. This sets off the process of monetisation and commercialization resulting in the operation of impersonal market forces changing tastes and preferences and fluctuations in demand begin to exert considerable influence in the production process. Thus, the secular forces like division of labour in society, the creation of three different classes viz. wage labourers, managers and entrepreneurs coupled with production for an impersonal market and bureaucratization of the workplace result in the structural transformation of society.

It is assumed by sociologists that the introduction of industrial system has certain institutional imperatives pushing the society from a static, ascribed-status-ridden, tradition-bound, primary-group-oriented, particularistic and fatalistic society to one that is rapidly

⁴ Ramaswamy, E.A. and Ramaswamy, Uma, Industry and Labour: An Introduction (Delhi, Oxford University Press, 1981) P.34

changing achieved-status-dominated, progressive, secondary group-oriented, universalistic and aspiring. In fact, the factory is presumed to be replacing the latter set of characteristics, replacing thus the traditional, static, social structure for modernization. Clark Kerr et al. say, "this is a common logic to industrialization that can be seen in every society using the new technology regardless of its historical background or current political orientations. This is the common denominator of new and more diverse skills, large scale productive endeavours, more large cities and much else. Industrial societies despite their differences, are more like each other than they are like pre-industrial society."⁵

The various social institutions are affected by the progress of science and technology, which are the products of industrialisation. The social scientists have noted that the factory is not merely a place of work but also a community. Informal relationships develop among the workers because of close and constant interaction in and outside the factory premises. Relationships among the workers develop more on the basis of occupation than on the basis of caste or primordial identity. The workers belonging to different trades or occupations form their own associations to protect their professional interests. This leads to the formation of class on economic ground thus breaking the traditional social order. Because of the specific types of skills required by the factory, the traditional caste or class based occupations lose their significance and workers are recruited on the basis of their education, skill and merits than on the basis of their birth in a particular family, caste or class.

There is not much place for extended or joint family system in industrial society. The family unit becomes nuclear consisting of husband, wife and the unmarried children in order
[to facilitate

5. Kerr, Clark et. al 'Industrialism and Industrial Man' in Meir Gerald M. (ed.) Leading Issues in Economic Development. (New York, Oxford University Press, 1976, p.662).

migration among the workers. Further^{more}, the function of a family as a unit of social security is considerably reduced and the family business is substantially replaced by professional management. Due to open nature of industrial society, there is wide scope for social mobility both horizontal and vertical coupled with inter and intra - generational mobility. The different types of jobs or occupations followed by the members of a family leads to the dis-integration of joint family and the family is no longer considered as an economic unit because of the separation of house from the place of work. Thus talking about the nature of mobility in industrial society Clark Kerr et al say "The industrial society requires continual training and re-training of the work forces, the content of an occupation or job classification is seldom set for life, as in the traditional society. Industrialization tends to produce an open society, inconsistent with the assignments of workers or Managers to occupations or to jobs by traditional caste, by racial groups, by sex or by family status. There is no place for the extended family, the function of family under industrialism is constricted, the primary family is largely a source of labour supply. The Society is always in flux and in motion"⁶.

Education is the hand-maiden of industrialization. The type of education predominating in industrial society is functionally related to the skills and professions imperative to its technology. Education is not primarily concerned with conserving traditional values or perpetuating the traditional religious based learning. Universities, research institutes and laboratories become the primary institutions of a secular educational system.

(6) Kerr, Clark et al. *Op cit* p.45

The industrial society is an urban society. Although urban centres existed earlier in many countries, industrial development has provided the major impetus for urbanization. Because urban infrastructural facilities are well-developed, industries concentrate in urban areas even when they are ~~has~~ removed from sources of raw materials and of labour supply. Moreover, ~~Industrialization~~ industrialization of rural areas has given rise to urbanization in many places like Jamshedpur, Durgapur, Rourkela in India. So Clark Kerr et al rightly say, "The industrial society is an urban society concentrated in metropolitan areas with their suburbs and satellite communities..... Rapid means of transportation and communication reduce the variance of sub culture, particularly of those based on geography and the contrast between farm and city"⁷.

Besides, the initial effects of industrialization has been felt on the demographic structure. The traditional pre-industrial societies characterised by high birth as well as death rates gives place to a new society having high birth rates but low mortality rates at the initial stage of industrialization, thus giving rise to dramatic rise in population. This happens because of improvement in health facilities and control of dangerous diseases. But over a period of time the fertility rate starts falling down mainly because of the evolution of contraceptive technology and changes in the family norms and values, i.e. high fertility is in compatible with such urban industrial values as individualism, mobility and economic rationality.

(7) Ibid. p49.

Above all, industrialization produces major changes in the economy. The work force moves from subsistence to predominantly commercial activity. The vast majority of the working population becomes involved in economic activity that is explicitly aimed at earning a profit. Due to the monetization of the economy, agriculture becomes commercialised and itself becomes an industry. Apart from that the paternal type relationships prevailing in agriculture in pre-industrial times is replaced by the contractual type of relationship.

The theory of the impact of industry in effect, spells out the social correlates of industrialization which should either exist as preconditions or follow as consequences. According to the propagators of the theory of uniform sequence: (i) there is a linear sequence of industrial development that is essentially the same wherever it occurs. The complete version of this sequence is provided by the history of industrialization in England.

(ii) This sequence is started, maintained and accelerated by a specific complex of values and motives necessary for a functionally integrated industrial society and its associated "Culture pattern".

(iii) Most of the developing countries are deficient in the required values and motives in this complex and are characterized by pre-industrial and non-industrial value patterns, which are inconsistent with it.

(iv) If the newly developing countries are to follow the sequence of industrial development, they will need to adopt the values of the industrial culture and get rid of their traditional value patterns. The experience of many countries including Japan, China and India provides that there is no linear sequence of industrial development. The idea that industrialization is necessary antithetical to traditional social forms has itself come under challenge. Criticising the argument that traditional social institutions are an 'hindering factor' for

For industrial development, Singer argues:

" To set up requirements for industrialization that are highly idealised extrapolations from the most advanced industrial societies as measures for industrialization in newly developing countries is surely to put the process on too remote a pedestal. Where in the older industrialised societies are the integration and total commitment that this construct projects?.....The incompatibility (of the industrial system) with pre-industrial societies is further exaggerated when it is compared not with existing situations in these societies but with a hypothetical and idealised construct of 'traditional Society' and 'traditional values' which are never supposed to change. Specific failures of industrialization in these societies are immediately referred to some features of this hypothetical traditional social system; and the diverse, concrete resistances are generalized into a monolithic conservative force of 'traditionalism'. The battle between this force and 'industrialism' is a clash of hypothetical constructs, which does not realistically reflect obstacles to economic development⁸.

Moore⁹ argues that the survival of the joint family in India even after its members have migrated in search of employment is one of the factors responsible for low commitment to industrial work. But the empirical findings of Therner¹⁰ and Morris¹¹ revealed that

- (8) Singer, Milton "Changing Craft Tradition in India" in W E Moore and A S Feldman (eds) Labour Commitment and Social Change in Developing Areas. (New York: Social Science Research Council, 1960) pp 262-63.
- (9) Moore, W E - Industrialisation and Labour (Ithaca, Cornell Univ. Press, 1951)
- (10) Therner, D. "Casual Employment of a Factory Labour Force: The Case of India: 1850-1939", The Economic Weekly Vol. 9, Annual Number.
- (11) Morris, M.D. "The Labour Market in India" in Moore and Feldman (eds) Labour Commitment and Social Change in Developing Areas (New York: Social Science Research Council 1966).

phenomena like absenteeism and turn-over were not good indicators of lack of commitment. The argument that joint family or extended family is dysfunctional in an industrial society and that a new kinship system centred round the nuclear family is to develop has been proved wrong. In India, the joint family has survived the onslaught of industrialization and urbanization. Even when members of the family have to move out, they remain in touch with their wider kin group by means of joint ownership of property, visiting them on social or religious occasions. In his study of leading industrialists in Madras City Singer finds that the joint family pools resources to give some of its members the specialised educational and technical training necessary for starting and running industries.¹² Ames finds that the traditional Indian family by making its boundaries elastic and obligations negotiable facilitates the adjustment of workers to the demands of industrialism. This adaptability of family provides room for individual mobility as well as familiar net works, mutual aid and security¹³. Sheth has also argued that industrial employment actually helps workers to better fulfil their obligations. ^{Members} of the extended family left behind in the village take care of workers' interests at home¹⁴. In his study of India's joint family and industry, Singer asserts that the modernising families and individuals studied by him 'employ certain adaptive strategies' of compartmentalising their activities in industry from their traditional mutual and social obligations which in turn, reduce the conflict between these two spheres and

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- (12) Singer, Milton. When a Great Tradition Modernizes (New York): Praeger, 1972) pp 786-98.
- (13) Ames, Michael M 'Modernization and Social Structure: Family, Caste and Class in Jamshedpur'. Economic and Political Weekly, Vol 4 (28, 29 & 30), 1969, pp. 1217-24.
- (14) Sheth, N.R. The Social Framework of an Indian Factory (Delhi): Oxford University Press, 1968).

facilitate their mutual adjustment.¹⁵ Similarly, in his Jamshedpur study, Ames observed that in the factory and the city, the workers behaves in accordance with modern values but in the village follows the traditional patterns of behaviour. Thus, he avoids the potential conflicts between these two different cultures by compartmentalizing his life styles.¹⁶

Furthermore, industrialization theory maintains that subsistence peasant economies are ill-suited to traditional employment as it restricts mobility of workers and keeps them attached to other traditional employment. But it has been found that the workers feel no contradiction between industrial employment and their deep attachment to the land. Indian worker has always migrated to distant areas in search of employment, leaving it to his kinsmen to take care of the land. On the other hand, according to Sheth's findings the city-born workers with no long link with the land are immobile as they want to keep link with their extended family and kin groups living in the city by earning their livelihood from factory employment.¹⁷

So it is not that all industrial societies would eventually move in the direction of the western social system which was regarded as the most developed and rational. Industrialization may follow different patterns in different countries although some characteristics like technology, factory-based efficient production are common to all. Moreover, industrialization may take different courses depending upon the role of the elite and state in the process

15 Singer, Milton. 'The Indian Joint Family in Modern Industry' in Milton Singer and Bernard S. Cohn (eds.) Structure and Change in Indian Society (Chicago: Aldine Publishing Company, 1968)

16 Ames, Michael M. OP. cit,

17, Sheth, N.R. OP. cit,

of industrializing a society.

However, ever since the beginning of industrialization on the western societies, scholars have drawn attention to the negative social effect of industrial organizations. Marx emphasised the alienation of workers in the industrial society and their exploitation by the capitalists. While developing the ideal type of rational behaviour and organization in modern society, Weber also saw the uneven distribution of advantage in a formal bureaucratic society.

More recently, several observers of the industrial scene in different countries have painstakingly identified various types of negative effects of industrialization. Some have expressed concern about the organization man who is overcommitted to his concern and hence suffers from physical and mental agonies, while ostensibly enjoying higher status and greater material happiness. The growing 'technicisation' of human life has made man a slave to his creation i.e. technology, rules and procedures at the cost of his other cherished values. Besides, the development of nuclear energy coupled with atomic weapons, a product of developed industrial society and also the reckless exploitation of natural resources, thus creating ecological imbalances, have posed a threat to the very existence of man.

The Logic of Industrialization: Ever since the beginning of industrial revolution in Europe, every country in the world has been drawn into the great race to industrialize themselves in order to provide more material comforts to their human population. Some people may argue that industrial technology will destroy the valued social and political institutions, but opposition to industrialization is generally futile. Even the Marxists believe in the upliftment of the mankind through industrialization

although they emphasize on the state ownership of the means of production, so that the exploitation of the labour class by the capitalist will cease and the benefits of industrialisation will reach to the whole population of the society. So once begun, industrialization transforms pre-industrial societies substantially.

In 19th Century, while studying the social institutions of the capitalist societies, Marx apprehended that industrial technology would lead to the redundancy of human skills and workers would be reduced to simple machine-minders, aimlessly performing repetitive, monotonous tasks. But the experience of industrialization has shown that the growth of technology has led to the greater differentiation of skill levels and skilled manpower such as technicians and managerial personnel is a main pre-requisite for industrialization. Industrial society creates demands for new skills even as old skills become obsolete. The workforce ~~is~~ structured along a hierarchy of skills and reward is determined accordingly.

The workforce has to be mobile in terms of skill-occupation and place. The dynamism of Science and technology will produce a society which is always in a flux. According to the change of technology, ~~the workers have to~~ ~~the change of~~ technology, the workers have to adapt themselves. Roles, responsibilities and rewards in this society are conferred on the basis of merits and efficiency, not on sectarian grounds such as caste, class, race or sex. The education system will become more and more secular and technical-oriented and the general educational level will rise in society because education will be the principal means of upward social mobility.

Social institutions also undergo a definite change. Industry tends to concentrate in urban areas where infrastructural facilities are highly developed such as transport, communications, housing and educational institutions etc. Agriculture itself will become an industry due to the mechanization of production system and the proportion of population engaged in agriculture will steadily decline.

Irrespective of its ideology, the government will have an increasingly important role to play on industrial society. The old laissez faire policy will give place to state control and intervention over key industries and public utilities. Since the government is basically concerned with socio-economic development of its population in an industrial society, it cannot remain indifferent, if any factor like strikes etc. disrupt the functioning of the economy.

The dominant feature of the new society is the mass production of goods and services. The authority structure of the organizations will give some the powers to command and others the responsibility to obey.

The Problems of Industrial Society and the Future:-

The problems of industrial society are associated with the stages of its industrialization process. They are:

(1) Problems associated with the transition from a pre-industrial to an industrial order. Epidemics caused by inadequate facilities in new and expanding cities, mass cyclical as well as structural unemployment resulting from insufficient control of economy, oppressive conditions of work because of a lag between the breakdown of traditional regulations and the emergence of modern legal regulations; certain types of crime directly attributed to poverty and unsettled conditions in cities and over population are some of them. Although these problems are mostly related to early stage of industrialism, many of these still persist in industrially developed societies.

(2) The second type of problems is increasing pollution leading to ecological imbalances mainly due to the growth of slums, insanitary conditions, emission of poisonous gases to air and discharge of industrial effluents to water.

(3) The third type of social problems is that which becomes worse as industrialization matures viz. alienation, monotony, boredom, meaninglessness, etc. which are very difficult to wipe out.

Future:-

Thinking about the nature of matured industrial society, social ~~scientists~~ scientists have used the available data and indications to predict it. According to Clark Kerr et al the road ahead is one of pluralistic industrialism. The term refers to an industrial society which is governed ~~neither~~ neither by one all powerful elite (monistic model) nor by the interaction of innumerable small groups (atomistic model). It will be a brave new world where the individual will be a pluralistic individual with more than one pattern of behaviour and one dominant allegiance.¹⁸

Daniel Bell in his illumination study visualized post industrial society which emphasized the growth of theoretical knowledge as the axis around which new technology, economic growth and the stratification of society will be organized. Bell does not agree with Wilbert E. Moore²⁰ who argued in their central future as all industrial societies are becoming alike because of the common requirements of factory production, the relation of education to occupation and the character of technical knowledge. He admits that the idea of a post industrial society like that of industrial society of capitalism has meaning only as a conceptual scheme. According to him, the 'design' of a post industrial society is a game between persons in which an intellectual technology based on in-

18 Kerr, Clark et al. Op. cit.

19 Bell, Daniel. The Coming of Post-Industrial Society. (London, Heinemann, 1976)

20 Moore, Wilbert E. The Impact of Industry. (Englewood Cliffs: Prentice

information rises alongside of machine technology. The post industrial society is primarily service-producing, not goods-producing. The occupational structure of the society changes in accordance with the change in principle and structure, basic resource, technology and product. White-collar workers replace blue-collar workers as the single largest group in the labour force and white-collar work is dominated by the professional groups such as managers, technicians and scientists.

The post-industrialism theory is largely based on macro-statistical data. In the nineteen-fifties and nineteen-sixties, the countries like the United States and the United Kingdom respectively showed a majority of their population working in tertiary sector such as finance, health, recreation, transport and government. The fact that employment in services has outstripped employment in manufacturing and the share of tertiary sector in the gross national product has steadily increased over a period coupled with increasing allocation of finance on higher education and research in the most industrialized nations. This has been construed to mean that theoretical knowledge is the central organizing principle of such societies.

Bell contends that post-industrialism offers a solution to many problems which beset industrial society. "The fact that individuals now talk to other individuals, rather than interact with a machine is the fundamental fact about work in post-industrial society."²¹ Bell thinks of a new person who performs an interesting and varied job in pleasant surroundings devoid of monotony, alienation and boredom.

21. Bell, Daniel. op. cit,

This rosy picture of the post-industrial society depicted by Bell has evoked sharp reactions. According to the view of Marxists, the root cause of alienation is the private ownership of the means of production and as post-industrialism offers no escape from capitalism, it is quite unlikely that it will find a solution for workers' alienation. Moreover, the expansion of employment in the service sector does not mean the increase of white-collar workers only. Many tasks involved the provision of services such as catering, cleaning, entertainment and transportation are of a manual and even menial kind. Besides, the majority of white-collar workers are clerks who have been herded into large impersonal offices. The repetitiveness, division of labour, fragmentation of tasks and monotony that are characteristic of industrial employment are to be found here as well. Finally, it is doubtful that the professional like engineers, technologists and other scientists employed in post-industrial society enjoy freedom on the job, and exercise knowledge, discretion and ingenuity in its performance as professionals are expected to do.

The Objectives of the Present Study :

There can be no two opinions on the enormity of the social change triggered by industrialization, but it is very difficult to speculate the precise nature of the change. Various opinions have been expressed regarding the essence of industrialization process. Blumer believes that:

industrialization, by its very make-up, can have no definite social effect. It is neutral and indifferent to what follows socially in its wake. To attribute specific social effects to it is to misread its character; to seek in its causes the specific social happenings is to embark on a false journey²².

22. Blumer, Herbert, "Early Industrialization and the Labouring Class" Sociological Quarterly, Vol. 1, 1960, p.q.

Smelsor and Herskovits are also sceptic of efforts to lay down the precise social structure of industrial society. There are two major dimensions to the problems of the social implications of industrialization in-between the developed and developing countries as well as the political divide between the free market economies of the West and the Socialist economic system led by the Soviet Union. If industrialization is universal in its consequences, there ought to be essential similarities between developed societies regardless of political differences and it is easier to predict the changes the developing societies will face, on the basis of the experience of industrialized societies. But, actually it is not so. Several critics have pointed out that there are found to be fundamental differences rather than uniformities between social structures of industrial societies, for in some industrialization has been guided by a deliberate social policy while in others it has not.

It is to be noted that the developing countries like India entered into the modern industrial scene during the colonial rule. Moreover, after her independence, India followed the concept of mixed economy i.e. co-existence of both public sector and private sector, in order to bring out rapid socio-economic transformation. So the state guided method of industrialization along with the existence of private sector industries since the time of colonial rule has created different impacts on different parts of the country as well as on the population. India is a very big country and its different states or regions are not equally endowed with natural resources and technical manpower to promote rapid industrial growth of the country. So the macro objectives of public sector industry in India is to promote balanced growth of the region; generate investible surplus

for the further industrial growth of the country and to provide large scale employment to its increasing labour force in order to reduce pressure of population on land. The Government of India has deliberately located its public sector and heavy industries in backward regions with a hope that such units will develop the infrastructural facilities of the region and become a pioneer of industrialization of the region through their 'linkage effects'.

The present study is a study of the social effects of industrialisation in Bhopal where a public sector key industries like Heavy Electricals Equipment Plant of BHEL (Bharat Heavy Electricals Limited) is located. In order to assess the effects of industrialisation in Bhopal region different surveys were conducted in 1983 on the surrounding villages, slum areas and the industrial units in Bhopal by separate questionnaires and interviews. As the study of the impact of industrialization is to be understood in the light of broad theoretical perspectives and the course of industrialization in India, the present study comprises four chapters, viz:

1. Introduction: Industrialization and Social Change: Theoretical perspectives;
2. Industrialization in India: A Brief Historical Account;
3. Impact of Industrialization in Bhopal; and
4. Conclusion: The Bhopal Experience in comparison to the impact of Industrialization in other regions of India.

CHAPTER IX

Industrialisation in India : A brief Historical Account

EARLY INDUSTRIALISM IN INDIA : ARTS AND CRAFTS :-

Although the term industrialization is associated with the birth of 'Industrial Revolution' in Western Europe in the middle of the Eighteenth Century with the beginning of modern factory based production of goods and commodities, prior to that India had a strong base of industrial sector for centuries together. Since the Vedic times, there was a tradition of guild organizations of trades and the handicraft industries had a distinctive guild organization of its own. During the Moghul period, the handicraft industries producing textile fabrics, cotton, silk and other industrial goods like Saltpetre and indigo were exported to Europe and other parts of the world where they were held in high esteem. Gujarat, the Coromandel Coast and the Indo - Gangetic valley were the most industrial regions while Surat in Gujarat, Masulipatnam on the Coromandel Coast and Hooghly in Bengal were the most outstanding commercial centres. Summarizing the economic position of India at this period the 'Report of the Industrial Commission 1916 - 1918' aptly stated that:

"At a time when the West of Europe, a birth place of modern Industrial system, was inhabited by uncivilised tribes, India was famous for the wealth of her rulers and for the high artistic skill of her craftsman. And, even at a much later period, when the merchant adventurers from the West made their first appearance in India, industrial advancement of this country was, at any rate, not inferior to those of the more advanced nations".¹

1. Kuchhal, S.C, The Industrial Economy of India, (Allahabad: Chaitanya Publishing House, 1970) p.28

The industries were scattered both in rural and urban areas. In rural areas, there were cottage industries serving the needs of the local population whereas in urban areas the industries were highly organised with superior craftsmen to serve foreign markets².

The Decline of Traditional Industry :- The decline of traditional industries in India started during the eighteenth century mainly due to two reasons; (i) the death of Emperor Aurangzeb in 1707, threw the country into confusion and spread insecurity in Indian trade and industry; and, (ii) the 'Industrial Revolution' of England made a significant impact on the economy of India. Before the birth of modern industry in England, Indian textile goods like cotton, silk and calicos were sold in England as well as in the continent without any difficulty because of the high demand for Indian made goods. But when England began to produce these goods in its modern factory, high duties and tariffs were imposed on Indian goods in order to protect its infant industries from the competition of superior quality goods produced by India with a high demand in European market. Moreover, the new inventions and innovations in industrial sector led to the production of cheaper goods with their superior quality and the Indian products which were mostly handmade and expensive could hardly compete with them. Even at home, owing to the free trade policy followed by the colonial rulers the Indian markets became flooded with cheaper British goods. Thus, by 1880 the decline of handicrafts was an accomplished fact and many artisans ^{were} forced to enter agriculture by migrating into rural areas being deprived of their ancestral ways of livelihood.

2. P. Gisbert, S.J. Fundamentals of Industrial Sociology,
(New Delhi: Tata McGraw Hill, 1982) pp. 17-18.

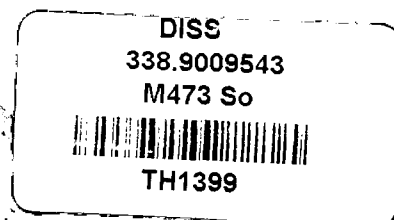
Development of Modern Industries in India: Despite its prosperous handicrafts and other artisan works flourished both in rural and urban areas, India had never been an industrial country in the modern sense of the term. The credit for the establishment of modern machine-based industries in India goes to the colonial rulers.

The evolution of modern industries in India can be traced back to 1850: when the first cotton and jute mills were opened and a railway line was inaugurated connecting Calcutta - the then imperial capital of India - with the coal fields of Bihar and Bengal. Railway and road transportations experienced a considerable growth subsequently, which greatly influenced the socio-economic life of the country. As the well known Historian Vincent Smith wrote:

"The advent of railways was decisive for Indian economic development. the chronic transport bottleneck of Indian industry was broken. The way was thus paved for the development of large scale industries. It was no accident that the development of the jute and cotton, the coal and iron, and the plantation industries progressed slowly before 1850 and occurred in quick succession thereafter. Transport is the life-blood of industry and without railways it lacked the arteries through which to flow".³

The new industrial activity in India took two forms: (i) plantation (ii) factory industry. The plantation industry was first to be introduced into India. It was from the very beginning owned, managed and controlled by the Europeans and former employees of East India Company.

3. Smith, Vincent A. The Oxford History of India (Oxford: The Clarendon Press, 1964) P. 28



TH-1399

The Europeans became interested in Indigo, tea and coffee plantation since they provided easy and high return on investment.

Till the middle of the 19th century the Europeans took little interest in factory industry in India, may be because of the restrictions placed on Englishmen for acquiring land permanently in India, the trading monopoly of the East India Company till 1833 and lack of internal communications. Real and satisfactory progress in the factory industries took place only after 1875 and during the next two decades two textile industries - cotton and jute flourished.⁴

The evolution of modern industries in India can be better analysed by dividing it into three sub-periods, viz (1) period I 1850-1914, (2) period II, 1915-1939, and (3) Period III, 1940-1950.

(1) Period I (1850-1914) - During this period the British rule had consolidated and stabilised in India. The development of railways, transport and communications coupled with the destruction of capitalistic urban handicrafts and village artisan industries and the growth of the great mercantile centres like Bombay, Ahmedabad, Kanpur and Calcutta etc. facilitated the development of modern industries in India. The construction of railways in India was primarily undertaken to meet the raw material and market requirements for the British industries. Their construction also gave scope for the investment of British capital and sale of the products of the Britain in India. Furthermore, the establishment of railways and the accumulation of sufficient savings in the hands of the Indian merchant class to serve as basic capital, made possible the creation of the Indian owned modern industries in India.

4. Kuchal. S.C. op. cit,

Regarding the role of Railways in this development, Karl Marx wrote:

"When you have once introduced machinery into the locomotion of a country, which possesses iron and coal, you are unable to withhold it from its fabrication. You cannot maintain a net of railways over an immense country without introducing all those industrial processes necessary to meet the immediate and current wants of railway locomotion, and out of which there must grow the application of machinery to those branches of industry not immediately connected with the railways. The railway system, will therefore become in India truly the forerunner of modern Industry⁵.

Railway building and maintenance had effects more far reaching than the opening up of the interior and exposing agriculture to the market economy. It released some of the latent forces for industrial advance. The coal industry could grow and expand; the development of engineering firms was geared to railway needs. Railway workshops had to be founded and these workshops subsequently developed as important centres of modern mechanical engineering.

It was between 1850 and 1855 that the first cotton mill and a few jute mills were started. In 1879, there were 56 cotton mills in India. The number of jute mills mainly owned by the Europeans, rose to 20 in 1882. In 1880, 56 coal mines were working in the country. These were the only three principal industries in India in 1880.

5. Marx, Karl, 'On India, p. 62. ——— in Desai, A.R. Social Background of Indian Nationalism (Bombay Popular Prakashan, 1974) p. 104.

Between 1880 to 1895, though no important new industries were developed, the number of cotton mills increased to 144, jute mills from 20 to 29 and the number of coal mines from 56 to 123. During the period 1895 and 1905, the rate of growth of the Indian industries especially the cotton industry, slowed down, mainly due to serious deterioration of the economic condition of the agrarian population as a result of two disastrous famines and further, due to American speculation in cotton in 1902 which led to the shooting up of the prices of cotton, thereby adversely affecting the Indian mill industry.

However, the Swadeshi movement of 1905, gave a momentum to the expansion of Indian industries. ^{Between 1890 and 1914, new industries like those of petroleum, manganese, mica and saltpetre came into existence.} Some rice and timber mills were also started. In addition, 'Engineering and Railway Workshops, iron and brass foundries also grew rapidly.'⁶

D.H. Buchanan describes the expansion between 1890 and 1914 thus:

"The growth from 1890 until the World War ^{was} fairly steady in all fields. Cotton spindles more than doubled, cotton power looms quadrupled, jute looms increased four and a half times and coal raising six times".⁷

Notwithstanding this steady advance, the level of Indian industrial development was low in 1914. Progress was achieved primarily in the cotton and jute industries only. Heavy capital goods industries were conspicuously absent. "Engineering was only represented by repair workshops, chiefly for the railways; the barest beginning with iron and steel was just being made on the eve of the 1914 war; there was no production of machinery."⁸

2. Period II (1915 - 1939): During this period a number of events occurred that shaped and conditioned the pattern of Industrial development in India. Among them, the most important were the first world war (1914 -18) the post-war boom (1919-20), the fluctuating exchange rates (1921-27), the world-wide depression of 1929-33, the adoption of new constitution of

6. Gadgil, D.R. The Industrial Evolution of India in Recent Times (Calcutta: Oxford University Press, 1933) pp. 117-18

7. Buchanan, D.H. The Development of Capitalist Enterprise in India (New York: Macmillan, 1934) p.139

8. Dutt, R.P. India Today (Calcutta: Monisha, 1947)

India in 1935, and the formation of Congress ministries in many provinces. It was during this period that the Industrial Commission (1916), the Fiscal Commission (1922), the Royal Commission on Labour (1929), the Central Banking Enquiry Committee (1930), the External Capital Committee (1925) and the Taxation Enquiry Committee were appointed by the British Government to make a thorough enquiry into their respective fields.

Upto the First World War, the opposition of the British government to industrial development in India was open and unconcealed. But the difficulties faced during the war regarding foreign imports brought home the need for developing India industrially. Again, the promises for economic and political concessions made by the British government during the time of war to secure cooperation of the Indian people led to the appointment of the Industrial Commission and the Munitions Board. The Munitions Board helped the progress of the indigenous industries in various ways such as (i) a direct purchase of India made articles and materials of all kinds needed for the army, the civil departments, and the Railways; (ii) the diversion of all orders from the United Kingdom and elsewhere to manufacturers in India; (iii) assistance to Indian firms in importing plants and technical experts from abroad. In fact, the Board gave considerable stimulus to certain established industries like cotton, jute, iron and steel, leather and the like.

But once the war phobia was over, the concessions in favour of industries were withdrawn. By the middle of the 1920s industries were again subjected to the full force of competition. The Fiscal Commission (1922) recommended a policy of discriminating protection in case of only 13 industries and this enabled a few of them to establish themselves on a sound footing.

However, a considerable progress was recorded in industrial production and the total number of factories increased from 2,936 in 1914 to 11,613 in 1939 and the number of workers engaged in them increased from 9,50,000 to 17,50,000. Some of the important new industries starting production for the first time during World War II were (i) ferro alloys like ferro silicons and ferro manganese (ii) non ferrous metals and metal fabricating industries like copper, copper sheets and wires and cables (iii) mechanical industries like diesel engines, pumps, bicycles and sewing machines, machine tools and cutting tools (iv) a few items of textiles like tea and oil processing machinery and (v) chemicals like caustic soda, chlorine, superphosphates etc., besides the development of industries like iron and steel, match, cement, paper and paper board, glass, vanaspati, soap, sugar etc. during the period of 1915 to 1939.

(3) Period III (1940 - 1950): The second World War gave a considerable impetus to the development of industrial potential. In 1940, the government announced that industries started during the war would be adequately protected if they were organized on sound business lines. Those industries which were already in existence worked to full capacity. New plants were added in several cases and a few basic industries were established. It was during this period that industries like manufacture of hydrogenated oil, transport and electrical equipments, machine tools, basic chemicals, power, synthetic resins and plastic which until then had been almost non existent in the country were started.

Despite this progress in the diversification of industries, there were some adverse effects on the industrial economy mainly due to the excessive use of plant and machinery during the war period to increase production which led to the wear and tear of machineries. So the immediate problem for industry after the war was to make up the damage cau-

sed by excessive wear and tear and lack of maintenance. But worldwide shortage of machinery and shipping, political disturbances and blocking of sterling balances made it difficult to launch any major industrial expansion after the war.

Pattern of industrialization on the eve of Planning:

On the eve of planning India was one of the top dozen industrial countries of the world. Despite this the percentage of population deriving their livelihood from agriculture was quite high. The relative backwardness of industrial development could be judged from the fact that in 1948-49, factory establishments accounted for only 6.6% of the total national income. The total labour force engaged in ~~the~~ establishments was about 2.4 million or 1.6% of the working population in the country.

A prominent feature of the industrial pattern that evolved during the British rule was the pre-dominance of consumer goods industries while the development of capital goods industries lagged far behind. Because of the colonial and imperial policies of the metropolis, there was a haphazard growth of industries and the speed of industrialization remained at a very low ebb. So while making a study of industrialization in India, Shirokov¹⁰ observes that during the colonial regime industrial revolution involving a transition from manual to machine production was, even in industry itself, incomplete. In 1951, only 9.6 per cent of the gainfully employed population were engaged in industry.¹¹ Within industry there continued to be a dominance of what he calls "lower forms of production". The share of organized mining and manufacturing (consisting of the factory sector) was 41.2 percent of the national income produced by all industries, the share of the lower forms was 58.8 percent. So, commenting

10. Shirokov, G.K. Industrialization of India. (Moscow, Progress Publishing House, 1973)

11. Ibid, p.13

upon the state of industrialization in India Shirokov says, "In the multistructural economy of the colonial period, modern industry was loosely connected with the country's other major economic structures."¹²

Reasons for the lop sided and slow growth of Indian industries:

There were a number of reasons for the slow, retarded and lop sided growth of Indian industries. The Indian industrialization took place under the influence of a colonial regime and that too only after the establishment of powerful industries in countries like England, Germany, USA and others. This made it difficult for the Indian industries to compete successfully against the industries of the developed countries in the market. Furthermore, the industries of those countries had the active support of their respective states, whereas India under the British rule followed the principle of free trade and the industries could not get any great degree of protection till 1924 to compete with the industries of the developed countries.

The absence of considerable well-established heavy metallurgical and machine producing industries in the country acted as an hindering factor as these industries were a vital precondition for free, balanced and rapid industrial development of a modern society.

Another obstacle to the growth of modern industries was the immense poverty of the agricultural population which constituted about 80 percent of the Indian people and who represented a potential market for industrial goods. Owing to the colonial policy of the government, agriculture was in a very backward stage and a number of factors such as debt, rent and revenue burdens, together with the declining income from agriculture had brought about serious impoverishment of a great majority of the agrarian population. Thus, the low purchasing power of the majority of the popu-

12. Ibid. P.52

lation kept the demand for industrial products at a very low level.

Apart from that the meagreness of Indian capital due to the low savings and improper utilization of income by the higher income groups; led to the dependence of Indian industrial development on British finance capital and the resultant penetration of Indian industries by British capital and adversely affected that development. Financial aid had often been given on condition that Indian industrialists purchased industrial plant and machinery from British firms and to those industries which did not come in conflict with similar British industries in the market.

Above all, industrialization requires certain institutional imperatives which are instrumental in transforming a traditional agriculture-based economy into a modern industrial economy. The social factors responsible for the rapid industrialization are: (i) the rise of open entrepreneurship among the indigenous population of a country; (ii) the growth of a committed labour force; and (iii) the existence of a value system which encourages ~~thrift~~ innerworldliness of life and a universalistic achievement-oriented norms instead of particularistic prescriptive norms in society.

Since India was a caste-ridden particularistic, tradition-bound society with a strong attachment of its population, land and village community life, it failed to provide a strong committed labour force to the industrial sector at the early phase of its industrialization. Secondly, industry requires a strong cadre of technicians and skilled personnel. But the inadequate supply of cadres of technicians and skilled personnel due to insufficient institutions imparting technical education was another factor which worked as a handicap to the growth of industry.

Moreover, the supply of entrepreneurship in the early phases of industrialization was confined to the traditional Bania castes like

Jains, Agarwals and Parsis community and often these people had business interests like commerce and moneylending as these were more profitable and less risky than entrepreneurship. Thus caste and family based entrepreneurship in course of time, led to the phase of concentration and monopoly of Indian industries, which resulted in slower and lop sided industrial development of the country.

Industrial development in post-independence period:

It is, actually, after gaining her independence, sincere efforts were made by the government of independent India to accelerate industrial development with the express purpose of obtaining self reliance and 'a socialist pattern of society'. The accent on heavy industry, the deliberate policy of encouraging the public sector to control the commanding heights of the economy, regulation of the private sector through a spectrum of controls including industrial licensing policy, monopoly and restrictive trade policy, the various labour laws to protect the interests of the industrial workers, were all measures aimed at transforming a predominantly agricultural economy into a predominantly industrial economy.

Industrial Policy: The attainment of independence by India on August 15, 1947 made a tremendous difference to the industrial landscape. In view of the need to step up production and counter-inflationary tendencies, it was essential to announce an industrial policy which would create conditions of economic security so very vital for the growth of the industrial structure and thus provide a climate for stimulating investment in industry. Thus in April 1948 the government of India announced its first 'Industrial Policy' which contemplated a mixed economy reserving a share for the private sector and another for public sector. The industries were divided into four broad categories:-

(a) State Monopolies which include such strategic industries as the

the manufacture of arms and ammunition, the production and control of atomic energy and the ownership and management of railway transport.

(b) Basic and key industries such as coal, iron and steel, aircraft manufacture, shipbuilding, manufacture of telephone, telegraphic and wireless apparatus and mineral oils. It was laid down that the state would be exclusively responsible for the establishment of new undertakings in these industries while existing units would be allowed to operate for a period of ten years at the end of which the position was to be reviewed.

(c) The third category was made up of industries of such basic importance that the central government would feel it necessary to plan and regulate them. It comprised certain basic industries of importance including salt, automobiles, tractors, prime-movers, electric engineering, heavy machinery, machine tools, heavy chemicals, fertilisers, electrochemical industries, non-ferrous metals, rubber manufactures, power and industrial alcohol, cotton and woollen textiles, cement, sugar, paper and newsprint, air and sea transport, minerals and Others.

However, the central government could take over any industry vital to national drive.

(d) The residual of industrial field was left open to the private enterprise, individual, as well as cooperative.

Besides this, the resolution indicated lines of policy regarding the role of cottage and small industries and role of foreign capital.

The main thrust of the 1948 Industrial Policy was to lay the foundation of a mixed economy in which both private and public industries would march hand in hand to accelerate the pace of industrial development.

In order to keep pace with the national goal of a 'socialist pattern of society', a second Industrial Policy Resolution was adopted in

1956, replacing the Resolution of 1948. The resolution laid down three categories which bear a close resemblance to the earlier classification but were more sharply defined and were broader in coverage as to the role of the state. These categories were:

- (1) Schedule A: Those which were to be an exclusive responsibility of the state;
- (2) Schedule B: Those which were to be progressively state-owned and in which the state would generally set up new enterprises, but in which private enterprise would be expected only to supplement the effort of the state; and
- (3) Schedule C: All the remaining industries and their future development would in general be left to the initiative and enterprise of the private sector.

The schedule A contained a list of seventeen industrial units such as arms and ammunition, atomic energy, iron and steel, heavy castings and forgings of iron and steel, heavy machinery required for iron and steel production, for mining, for machine tool manufactures, etc., heavy electrical industries, coal, mineral oils, mining, iron ore and other important minerals like copper, lead and zinc, aircraft, air transport, railway transport, shipbuilding, telephone, telegraph and wireless equipment, generation and distribution of electricity.

The Schedule B comprised twelve industries like other mining industries, aluminium and other non-ferrous metals not included in Schedule A, machine tools, ferro alloys and tool steels, the chemical industry, antibiotics and other essential drugs, fertilizers, synthetic fibres, carbonization of coal, chemical pulp, road transport and sea transport.

The Schedule C included the rest categories of industries which had to fit into the framework of social and economic policy of the state and be subject to control in terms of the industries (Development and Regula-

Despite this clear-cut grouping of industries under three schedules these categories were not water tight compartments and room for exceptions could be made. In appropriate cases private industries might produce an item in category A for meeting the industry's own requirements or as by-products. Further, heavy industries in public sector could obtain some of their requirements of higher components from the private sector and vice-versa.

Besides this, the Government formulated new industrial policy in 1977 and 1980, upholding the basic principles of industrial policy resolution, 1956 in order to accelerate the pace of industrial development of the country by correcting the lacunas learnt from the past experiences.

There is a sound rationale for putting much emphasis on the establishment of key and basic industries in the public sector. The public sector units in India have few multi dimensional objectives at the macro level and they are:

- (1) to capture the commanding heights of the economy by sharing the burden of the country's industrialization programme;
- (2) to give an adequate return to the nation on investments;
- (3) to generate additional employment and also help in protecting employment in cases of sick industrial units taken over from private sector;
- (4) to promote balanced regional development of the country and
- (5) to help in the development of ancillary industries, small-scale units etc.

Thus from the above industrial policy resolutions and the main objectives of the public sector units in India, it can be said that the Government of India is clear in its objective of achieving the status of 'socialistic pattern of society' by accelerating the pace of industrialization. Through the implementation of its Five year plans, the government has taken various steps to reduce regional imbalances of the economy by

deliberately locating large, key and heavy industries of the public sector in backward areas of the country with the expectation that these industries will help industrial development of the region through both 'forward and backward linkages'. Apart from that the Government in the states as well as in the Centre, provide various incentives like supplying capital at concessional rates of interest; construction of work sheds and industrial estates; supply of raw materials and marketing of industrial products through organized agencies at concessional prices and above all sales tax and excise reliefs on the products to promote the development of small scale industrial units in backward areas and also to absorb its increasing labour force in the expanding industrial sector of the country.

The level of industrialization in the post-independence phase can be gauged from the works of many economists and sociologists working on industry as well as from the various reports of the Annual Survey of Industries (ASI). According to the ASI, data the number of factories in 1978-79 stood at 86,077 compared to the figure of 11,961 in 1947.¹³ Furthermore, it is important to note that according to CSO (Central Statistical Organization) estimates the unregistered manufacturing sector (which roughly tallies with Shirokov's lower forms of production) contributed about 37 - 38 percent of the national income originating in the manufacturing sector in the 1970s compared to its share of 56.8 percent in 1951. This indicates a trend of growth of the organized manufacturing sector since independence. It is also noteworthy that the non-corporate sector consisting of factories owned under partnerships and more especially proprietorships registered a remarkable increase.¹⁴ Similarly, the share of secondary sector which was just 17.1 percent in 1948-49 increased to 24 percent in the 1970s.

13. Shetty, S.L. "Industrial Growth and Structure: As seen through Annual Survey of Industries", in *Economic and Political Weekly*, Vol. 17, October 2 & 9, 1982 and Shirokov, G.K. Op. cit. pp 40-41

14. Ibid. Shetty, S.L. P.1612

So, due to the efforts made by the Government of independent India, India has come under the rank of first tenth industrialized countries in the world. At present the industrial production of India consists of both types of industries, i.e. consumer goods industries and capital goods industries. Through its policy of 'import substitution' and 'export promotion' the country has been able to diversify its industrial products coupled with the attainment of the goal of self-reliance.

Conclusion

Although the establishment of modern machine based industries in India started during the British rule, the industrial sector could not get a chance to develop properly mainly due to the colonial policy of the alien ruler. The colonial government developed those types of industries which were mainly mining and primarily goods industries to subserve the industrial interest of the British. Moreover, few consumer goods industries and capital goods industries which developed during the period of two World Wars subserved the interests of the foreign capital and Indian capitalist class only. Thus, at the time of independence, India had a very poorly developed industrial structure to meet the increasing demand of goods and services of its rapidly growing population and also to raise their standard of living and by providing employment to the growing labour force.

The actual development of industrial sector began only in post independent India through the implementation of Five Year Plans. The Industrial Policy Resolutions of 1948 and 1956 provided the guidelines

for rapid industrialization of the country by putting much emphasis on the development of public sector industries in order to capture the commanding heights of the economy and to reduce regional imbalances and income disparities.

CHAPTER III

THE IMPACT OF INDUSTRIALIZATION ON BHOPAL

Geographical Surroundings of Bhopal City

Bhopal is the State capital of Madhya Pradesh. The city is one of the rare examples of man-made city which is surrounded by small hills and lakes from all sides. Like Delhi, the city of Bhopal comprises both planned localities like BHEL township, Tantya Saheb Nagar, New Market, Arera Colony, Habibganj, Jawahar Chowk and unplanned localities like Jahangirabad, Ibrahimnagar, etc. The city is situated at a height of about 600 metres above the sea level and being connected by rails, air, and roads to all important parts of the country, it has developed into an important industrial and commercial centre of India over the years; especially after the establishment of a big public sector unit like BHEL's Heavy Electrical Equipment Plant and the state capital of newly constituted Madhya Pradesh in 1956. Since the year 1954-55 its interland has expanded considerably and most of the fringe villages have been brought under the municipal boundary in order to accommodate the expanding city population. The city's population registered an increase from 1,02,333 in 1951 to 6,42,329 in 1981 clearly dramatising its new status as an industrial, commercial and political centre.

Historical Background and Present Setup of Bhopal:

The name of Bhopal is said to be derived from Bhojpal or Bhoja's dam referring to Raja Bhoja of Dhar, one of whose ministers is believed to have built the great dam. On the other hand, according to Dr. Fleet the name of Bhopal was derived from Bhupala, the king. Be that as it may, as the tradition goes the city stands on the site of an old town founded by Raja Bhoja of Dhar. However, the foundation of modern Bhopal was laid

down by Dost Mohammed, the founder of the Kingdom of Bhopal. On 6th July, 1722 he built Fatehgarh Fort and Walls of the present city.

At the beginning of the 20th Century Bhopal was a class II town with a population of 77,023 persons and it was not before the next fifty years that it crossed this mark. On the other hand, the city was reduced to the status of Class-III town in 1921. However, it could attain the status of a Class-I town only in 1951.

Before the reorganisation of states in 1956, Bhopal was a separate state and during British rule it was a princely state ruled by the Nawab. Moreover, despite its status of capital city till the year 1972 Bhopal was a part of Sehore district and the district headquarters were located in Sehore town. In October 2, 1972 Bhopal was constituted as a separate district with two tehsils of former Sehore district, namely, Huzur and Berasia. According to the 1981 census, Bhopal district has a population of 895,815 out of which only 212,641 persons are rural and the rest 683,174 persons being urban. Thus the district has a majority of the population living in urban areas and out of this Bhopal city itself has a share of about 96 per cent of urban population. The urban areas of Bhopal district comprise two towns only, namely Bhopal and Berasia. The present city of Bhopal consists of three different townships, viz. Bhopal city, Bairagarh township and BHEL township. The Bhopal city consists of the old Bhopal town and the new localities like Jawahar Chowk, Tantya Tope Nagar and the secretarial area. Bairagarh township developed mainly after 1947 because of the rehabilitation of refugees from West and East Pakistan who came to India on the aftermath of partition. The BHEL township which has a population of approximately one lakh persons at present is a planned town established in the late fifties in the localities of Govindpura, Berkheda and Habibganj due to

the establishment of India's first heavy electrical equipment plant in the public sector.

The rural areas of Bhopal district consists of 305 villages in Huzar tehsil and 308 villages in Berasia tehsil respectively, according to 1971 census.

INDUSTRIALISATION IN BHOPAL:

The process of industrialization in Bhopal started just after the establishment of a heavy electrical equipment plant in the public sector in 1955 and the establishment of state capital of newly constituted Madhya Pradesh in 1956. Prior to that Bhopal was a small Class-I town with a population of 102,333 in 1951 and there was hardly any development of industrial sector except two medium scale units like (i) The New Bhopal Textile Mills established in 1939 and (ii) M/s Straw Products, Bhopal established in 1939 in the organised sector and a few more units in the unorganised sector, mainly due to the initiative taken by the Nawab of Bhopal state during the colonial rule. The Bhopal region was very backward because of the feudal government headed by a Muslim ruler during the British days. Apart from that, there was hardly any mineral resources available and infrastructural facilities to encourage industrialization were lacking. But with the establishment of heavy electrical plant followed by the new state capital at Bhopal, the land scape of Bhopal soon began to change.

As its importance increased Bhopal was connected by rails, roads and air to different parts of the country. Further, inducements provided by BHEL unit to small scale units through its import substitution programme to reduce imports substitution programme to reduce import components in its products and facilities like tax concessions, supplying of sheds and workshop in the industrial estate and industrial area of con-

cessional rents and concessions in water and electricity charges provided by the State Government of Madhya Pradesh to the industrialists acted as catalysts for the rapid industrial growth of the Bhopal region. The nature of impact of a key public sector unit can be felt in two ways, viz. directly and indirectly. The direct impact can be felt mainly in the shape of demand for men and materials created by the operation of the unit and the concomitant increase in production. The indirect impact can be assessed through 'multiplier effects' and 'propulsive nature' of the unit. The multiplier effect is the increase in demand for men and materials as a result of increased incomes of the direct beneficiaries of the unit and the propulsive nature of the unit generates activity in the sectors linked to it either as suppliers of inputs or as consumers of its output. The quantum of the propulsive nature of the unit depends on whether the unit requires inputs from other producing units and whether its product is amenable for further processing or can be used as an intermediary product in other units.

The extent of industrialization in Bhopal can be visualized from Table 3.1 and 3.2 presented below. From the tables it is seen that compared to Madhya Pradesh, Sehore district is highly industrialised and Bhopal is more industrialised than any other part of Sehore district according to 1971 census. It can be seen from Table 3.1 that Madhya Pradesh had a share of only 4.11 percent of total units and 3.80 per cent of total employment in the manufacturing and repair division of non-household industrial sector in India although it had 7.60 per cent of total India's population in 1971. Whereas Sehore district had a share of 5.35 per cent of total units and 5.57 percent of total employment in the non-household industrial sector as a whole in Madhya Pradesh in 1971 notwithstanding its share of only 2.60 per cent of total Madhya Pradesh's population during

Table - 3.1

**Percent of Nonhousehold Industrial Units and Employment
Classified by Industry Total Manufacturing Units and
Employment in 1971.**

40-A

Table-3.1

Major Groups	MP's Share in India		Sehore's Share in MP		Bhopal's Share in Sehore	
	% of Unit	% Employed	% of Unit	% Employed	% of Unit	% Employed
20-21 Food Products	4.71	3.50	3.92	4.98	64.01	46.79
22. Beverages & Tobacco	3.94	6.69	3.68	2.11	72.73	69.00
23. Cotton Textiles	2.35	5.10	2.88	2.20	52.85	89.03
24. Wool, Silk & Synthetics	0.89	3.93	0.00	0.00	0.00	0.00
25. Jute, Hemp and Mesta	0.90	0.33	0.00	0.00	0.00	0.00
26. Textile Products	5.26	4.20	6.17	5.36	69.62	72.59
27. Wood & Wood Products	4.40	4.93	5.48	4.21	66.80	62.52
28. Paper & Paper Products	2.86	2.99	8.09	7.02	86.30	92.54
29. Leather & Fur Products	4.45	2.98	4.92	5.99	76.92	76.54
30. Rubber, Plastic, Petroleum and Coal Products.	2.76	1.48	8.36	3.60	96.77	97.26
31. Chemicals	2.78	1.99	4.64	6.83	54.84	73.85
32. Non-Metallic Minerals	2.80	2.39	1.98	0.39	45.00	35.09
33. Basic Metals and Alloys Industries.	2.34	7.22	10.23	7.45	66.67	32.83
34. Metal Products & Parts	3.24	2.96	5.44	13.13	70.59	19.47

Contd.....

Table-3.1

402B

Major Groups	MP's Share in India		Shore's Share in MP		Bhopal's Share in Shore	
	% of Unit	% Employed	% of Unit	% Employed	% of Unit	% Employed
35. Machinery & Machine Tools.	1.97	3.22	8.93	6.91	61.02	7.82
36. Electrical Machinery & Items.	0.98	3.05	21.54	70.47	42.86	1.55
37. Transport Equipment & Parts.	1.95	2.33	5.76	0.46	90.91	90.62
38. Other Manufacturing Industries.	3.47	2.36	2.85	2.37	70.00	74.19
39. Repairs.	4.94	5.02	8.27	7.16	77.68	86.99
Div. 2-3 Manufacture & Repair.	4.11	3.86	5.35	5.57	70.60	44.95

Source:- Census of India, 1971. Series 1 & 10 (India and MP) Establishment Tables,
Part-III-B(ii) and Part-III (B).

Table 3.2

Percent of Units and Percent of Employment Classified by Industry to Total Manufacturing Units, 1971.

Div. 2-3 Major Group	Madhya Pradesh Total (R + U)		Sehore Total (R+U)		Bhopal Total	
	% of Units	% of Employment	% of Unit	% of Emplt.	% of Units	% of Emplt.
20-21.	12.75	12.36	11.66	12.00	16.67	14.11
22.	12.28	15.15	2.08	4.20	7.18	9.12.
23.	5.02	11.95	3.41	6.74	1.62	14.30
24.	0.77	0.72	0.01	0.003	-	-
25.	0.04	0.09	0.01	0.003	-	-
26.	10.67	7.41	15.74	8.48	18.58	10.07
27.	16.61	13.31	21.35	11.78	7.75	5.55
28.	0.27	1.11	0.74	2.28	2.56	6.74
29.	13.59	8.55	15.43	7.73	3.77	2.64
30.	0.11	0.25	0.31	0.25	1.22	0.77
31.	0.29	0.85	0.50	1.66	0.85	3.77
32.	9.62	9.58	8.01	5.25	1.66	1.04
33.	0.03	1.20	0.09	2.71	0.24	2.86
34.	8.83	6.89	6.58	8.82	6.04	4.97
35.	0.23	1.59	0.68	3.29	1.54	0.85
36.	0.02	0.71	0.14	15.24	0.24	0.76
37.	0.13	0.84	0.19	0.15	0.49	0.36
38.	4.72	3.29	3.77	1.98	3.41	1.71
39.	4.01	4.16	9.80	7.43	26.17	19.57
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

Source:- Census of India 1971 series 10 (M.P) Establishment Tables, Part III-B(11).

the same year. And above all, Bhopla city had a share of 70.60 per cent of total units and 44.95 per cent of employment in the manufacturing and repair division of non-household industrial sector in Sehore district despite its share of 35.47 per cent of total districts population in 1971.

Similarly, from Table 3.2 it can be seen that Bhopal had a high concentration of the following broad categories of units of manufacturing and repair division (Division 2-3 in Table 3.2) in 1971:

(i) food products (ii) beverage, tobacco and tobacco products, (iii) textile products including the wearing apparel other than footwear, (iv) paper and paper products and printing, publishing and allied industries, (v) rubber, plastic, petroleum and coal products, (vi) chemicals and chemical products, (vii) basic metals and alloy industries, (viii) machinery, machine tools and parts except electrical machinery, (ix) electrical apparatus, appliances and supplies and parts and (x) repairs. Thus out of 19 broad categories of census classification of industrial units (both household and non-household) 11 were concentrated relatively to the states and Sehore districts share of units and employment in 1971.

In India, Maharashtra is the most industrialized state. Whereas compared to average Indian standard even Madhya Pradesh is less industrialized not to talk of Maharashtra. At current prices in 1980-81 the percentage distribution of Madhya Pradesh net domestic product (NDP) consisted of 57.4 percent in primary sector, 18.9 percent in secondary sector and 23.7 percent in tertiary sector. Whereas in India as a whole the shares of primary sector, secondary sector and tertiary sector in NDP were approximately 42 per cent, 24.00 per cent

Table 3.3

A1-A

Percentage Distribution of Workers in Primary,
Secondary and Tertiary Sectors in 1971.

Sl.No.	Country/State District/Tehsil/ City	Percentage of workers in Primary Section.	Percentage of Workers in Secondary Sectors.	Percentage of Workers in Tertiary Sectors.
1.	India	72.56	10.69	16.74
2.	Madhya Pradesh	81.75	7.47	10.78
3.	Sehore District	59.57	14.44	26.00
4.	Hazur Tehsil	21.20	27.18	51.61
5.	Bhopal City	3.23	32.83	63.94

Source:- Census of India, 1971 series '1' and '10' (India and Madhya Pradesh)
General Population Tables, Part II (A).

N.B.: Here the primary sector includes cultivators, agricultural labourers and workers in mining, forestry, livestock and allied activities, the secondary sector comprises workers in household industries, non-household industries and construction and the tertiary sector includes persons in trade and commerce transport storage and communication etc. and other services.

Table 3.4

41-B.

Levels of Education among the population and workers in Urban areas in 1971.

Educational Levels (1)	Madhya Pradesh		Sehore District	
	Population (2)	Workers (3)	Population (4)	Workers (5)
1. Illiterate	50.44	10.03	48.62	9.08
2. Literate (without educational level)	19.13	5.30	17.41	3.70
3. Elementary	18.30	6.45	16.90	5.96
4. Matric	9.43	4.53	12.43	6.47
5. Diploma Holders (Technical and non-technical)	0.16	0.11	0.65	0.55
6. University Degree (General)	2.12	1.42	3.20	2.08
7. Technical Degree	0.44	0.34	0.79	0.62
Total	99.99	28.18	100.00	28.46

Source: Census of India 1971 series 10 (Madhya Pradesh), Economic Tables Part II B(11).

and 34.00 percent respectively. This clearly shows the industrial backwardness of Madhya Pradesh. But although Madhya Pradesh is industrially very backward, the districts like Bhopal, Durg, Gwalior, Indore, Jabalpur and Ujjain are industrially quite advanced according to the categorisation of districts of Government of India as well as by the State Government of M.P. for concessions given by them for backward districts' industrial developments. Till the year 1972 Sehore was counted as an industrially advanced district mainly due to the inclusion of Bhopal region there. So it is clear from the tables 3.1 and 3.2 as well as from the Governments' classification of industrially advanced and backward districts, Bhopal region is industrially quite advanced in Madhya Pradesh.

The Impact of Industrialisation in Bhopal City:

The government had many goals such as the creation of employment opportunities, acceleration of the pace of development and the like in encouraging industrialization in India. It is, therefore, necessary to evaluate to what extent these objectives are served in case of Bhopal. Hence an assessment of the overall impact of industrialization in Bhopal is proposed to be made in this chapter.

In an over populated economy as the expansion of the primary sector is limited to raise the standard of livings of its population, real economic development can take place only through the expansion of secondary and tertiary sector. Moreover, the expansion of industrial units in secondary sector leads to the mechanization of agriculture and allied activities i.e the primary sector and above all the mechanization of production processes increase the productivity of labour, thus resulting in higher earnings for the workers. As productivity as well as the earnings of workers increases when the expansion of secondary and ter-

tiary sector in the economy take place, the extent of development of a particular region or place can be assessed by the participation of workers in primary, secondary and tertiary sectors. If we see the structure of work~~ing~~^(Table 3.3) force in Bhopal, Huzur tehsil where Bhopal is located and Sehore district from this angle it can be found that the percentage of workers employed in primary sector is far below the state and national figures, whereas the percentage of workers employed in secondary and tertiary sectors is far higher than the state's and national figures. In 1971, the percentages of workers employed in primary, secondary and tertiary sectors in Bhopal city were 3.23, 32.83 and 63.94 respectively; 21.20, 27.18 and 51.61 respectively in Huzur tehsil; and 59.57, 14.44, 26.00 respectively in Sehore district. This high rate of participation in secondary and tertiary sectors clearly indicates that Bhopal region is highly industrialized compared to the state's and country's level of industrial development.

This industrialization of Bhopal region has been followed by the social development of the region also. It was found from 1971 census data presented in Table 3.4 that Sehore district's urban areas (of which Bhopal was a part in 1971) had a large percentage of educated workers compared to the urban areas of the state as a whole, although it retained a low literacy rate compared to the state's urban areas. The district's urban areas had a higher percentage of matriculates, technical and non-technical diploma holders, general university degree holders and technical degree holders compared to the state's urban areas as a whole.

Increasing industrialisation of the region has resulted in large scale migration to the city and its peripheral areas. It can be seen from Table 3.5 that in 1971, Sehore district's urban areas had more than 42 per cent of population who were born outside the district as compared

state's population which was only 30.00^{per cent}. Similarly, in rural areas of Sehore district there was about 12 percent migrants compared to about 8.5 percent in state's rural areas. As Bhopal city had a share of 85 percent of district's urban population, it is most likely that the migrants are attracted towards Sehore district because of the highly industrialised economy of Bhopal city. One may question the findings that inter district movement of population has nothing to do with migration because it may happen due to marriages even. But, nevertheless, Sehore district had enumerated about 24.00 percent of the population in urban areas in 1971 who were born in other states of India and foreign countries. It seems that these people probably come to Bhopal city because of the establishment of a heavy electrical equipment plant of BHEL and the establishment of other large, medium and small scale units over the years which required a large reservoir of skilled manpower. The enumeration of people born in foreign countries in the rural areas of the state as well as of the district is mainly due to the rehabilitation of refugees from West and East Pakistan who migrated to India on the aftermath of partition. The large number of presence of migrants belonging to different regions, linguistic groups and different cultures and religions have made a cosmopolitan impact in a medium-size city like Bhopal. Due to the diversity of cultures, religions and languages among its population, the city looks like a 'mini-India'. In the BHEL township of Bhopal, people belonging to different cultures, religions, regions and linguistic groups live together harmoniously. There are different religions and regional societies functioning simultaneously in BHEL town without causing any sort of social tension among the inhabitants. One can have an idea of people belonging to different religions and linguistic groups living in Bhopal Urban agglomeration and in BHEL town in 1971 from Tables 3.6 and 3.7. It is most likely

Percentage of Migrants to Madhya Pradesh and Sehore District in 1971.

Category of Population (1)	Madhya Pradesh		Sehore District	
	Rural Population (2)	Urban Population (3)	Rural Population (4)	Urban Population (5)
1) Born in place of Enumeration	67.47	57.45	67.62	53.69
2) Born in Somewhere in District of Enumeration.	24.00	12.73	20.04	3.77
3) Born in other Districts of one State.	5.66	13.51	11.31	18.48
4) Born in Other States	2.37	14.02	0.92	20.14
5) Born in Foreign Countries	0.50	2.28	0.12	3.92
Total	100.00	99.99	100.01	100.00

Source: Census of India 1971, Series 10 (M.P), Migration Tables Part II-D(i).

Table 3.6

AA-3

Religious Affiliation of Population in Bhopal City and BHEL Township in 1971.

Sl.No.	Religions	% of population in Bhopal City (Urban Agglomeration)	% of population in BHEL Township.
1.	Buddhists	0.68	0.91
2.	Christians	1.67	5.23
3.	Hindus	64.91	82.27
4.	Jains	1.76	1.11
5.	Muslims	29.68	7.44
6.	Sikhs	1.29	3.03
7.	Other Religions	0.005	-
8.	Unstated Religion	-	-
	Total	99.995	99.99

Source:- Census of India 1971 Series 10 (M.P) Social and Cultural Tables, Part II-C(1).

Table 3.7

Distribution of population by languages in 1971.

Sl.No.	Name of the Language	Ehopal Urban Agglomeration (% of population)	B H E L Township (% of population)
1.	Assamese	0.03	0.12
2.	Bengali	0.98	4.38
3.	Gujrati	0.53	0.71
4.	Hindi	47.80	51.47
5.	Kannada	0.16	0.18
6.	Kashmiri	0.02	0.08
7.	Malayalam	2.05	8.10
8.	Marathi	6.92	12.12
9.	Oriya	0.05	0.24
10.	Punjabi	2.52	5.39
11.	Sanskrit	Insignificant	0.00
12.	Sindhi	8.02	2.20
13.	Tamil	1.19	5.73
14.	Telugu	0.64	1.88
15.	Urdu	28.39	6.14
Total		99.30	98.74

Source: Census of India 1971, Series 10 (M.P) Social and Cultural Tables, Part II - C(1).

that migrants belonging to different linguistic groups come and settled in Bhopal City and BHEL town because of the demand for skilled man power in industries. Moreover, as Sehore district retained a large number of migrants from other states and foreign countries compared to the State's corresponding figures, it is quite possible that the district and Bhopal city have also a large percentage of persons belonging to different religious and linguistic groups compared to the state's figures for the same.

In order to know whether the benefits of industrialization have percolated downwards, an attempt has been made to find out the level of participation of Scheduled Castes and Scheduled Tribes workers from 1971 census. It is observed from Table 3.8 that the percentage of Scheduled castes and Scheduled Tribes workers employed in secondary as well as tertiary sectors was quite low compared to the all workers employed in these sectors in Sehore district although the State level figures do not show such high variation. Nevertheless, in Bhopal city percentage of workers belonging to Scheduled castes and scheduled tribes employed in secondary sector is quite high, compared to the total percentage of all workers in the same sector. But the percentage of scheduled castes and scheduled tribes workers employed in tertiary sector is very low compared to the all categories of workers in this sector; and the percentage of scheduled castes and scheduled tribes workers employed in primary sector was quite high in all cases (i.e. Bhopal city, Sehore district, M.P and India) compared to the percentage of all categories of workers employed in the same sector. Moreover, it was found that the level of literacy among scheduled castes and scheduled tribes was not only lower than the whole population group in all cases but also the level of literacy among these two communities was too low in Sehore district compared to their average level of

Table 3.8

Literacy rate of Scheduled Castes and Scheduled Tribes Population and Distribution of Scheduled Castes and Scheduled Tribes workers in primary, secondary and Tertiary sectors in 1971.

Sl.No.	State/Dist. and City.	% of Literates.	% of Workers in primary sectors.	% of workers in Secondary Sectors.	% of workers in Tertiary Sector.
(a) <u>Scheduled Castes:</u>					
1.	Madhya Pradesh	12.49	82.89	10.16	6.94
2.	Sehore District	9.03	82.56	8.50	8.94
3.	Bhopal Urban Agglomeration	21.96	2.81	44.52	52.67
(b) <u>Scheduled Tribes:</u>					
1.	Madhya Pradesh	7.62	96.88	1.41	0.71
2.	Sehore District	4.76	92.64	3.58	3.78
3.	Bhopal Urban Agglomeration	21.69	10.74	49.57	39.69

N.B: Here the primary sector includes cultivators, agricultural labourers and workers in mining, forestry. Livestock and allied activities, the secondary sector comprises workers in household industries, non-household industries and construction and the tertiary sector includes persons in trade and commerce transport storage and communication etc. and other services.

Source: Census of India, 1971. series 10 (M.P), Social and Cultural Tables, Part II C(1).

literacy in the state'. As employment in secondary as well as tertiary sectors requires more formal kind of education, it is mainly due to their lack of literacy these two communities' percentages representation in these sectors are quite low. The high percentage of scheduled castes and scheduled tribes workers employed in secondary sector in Bhopal city compared to the percentage representation of all workers does not that these two communities have benefitted a lot from industrialization of Bhopal City.

Due to their low level of literacy, very few of them might have been employed as skilled workers'. So it is most likely that quite a significant number of them are employed as unskilled worker in the informal section like construction and other petty manufacturing activities'. If this is so, then it is just a case of horizontal and spatial mobility for them and the group as a whole has derived least benefits from the industrialization of Bhopal city or region.

In order to assess the impact of industrialization in Bhopal city and its periphery, a survey of 115 households living in Bhopal city and also a survey of 24 villages located around Bhopal in Huzur Tehsil were conducted in 1983. According to an information in the slums improvement Board, Bhopal, about 30 per cent of the Bhopal's population live in slums and according to the survey of slums improvement Board, there were 24 localities of slum dwellers in Bhopal city including BHEL township area. Out of these 24 localities the survey of slum households was confined to six localities like (i) Anna Nagar (ii) Arjun Nagar (iii) Beg Ferhat Abja (iv) Lal Tanki (v) Subhas Nagar and (vi) Sudhama Nagar. The main reason for doing survey in these localities was their nearness to the industrial areas of Bhopal like BHEL factory, Govindpura Industrial area and Hubibganj industrial belt. All these

households were surveyed by questionnaires. Similarly, a survey of 24 villages located within a radius of about 20 kilometers from Bhopal city out of about 305 villages in Huzare tehsil was conducted. To assess the impact of underindustrialization in these villages, one questionnaire was canvassed per village where the main informant was then concerned village headman followed by its verification from other educated persons in the village. Similarly, a survey of about 50 non household industrial units including the ancillary units of BHEL, Bhopal was conducted to know about the socio-economic background of entrepreneurs in Bhopal city and the types of workers employed by them as well as their process of recruitment. In addition to all these things I informally interviewed about 150 workers in BHEL factory and other small, medium and ancillary units in Bhopal.

From the survey of slum dwellers in Bhopal city it was found that about 51 (44.35%) households in the sample were from the scheduled castes and scheduled tribes category and out of these 51 households only two households were from scheduled tribes origin. Again out of my survey of 115 households 8 (6.96%) households belonged to the upper caste such as Brahmins and Rajputs. 12 (10.43%) households were from the category of middle castes like Banio, Sindhi, Kayastha etc, 22 (19.13%) households were from lower castes like Kumhar, Lohar, Yadav, Ahir, and the remaining 22 (19.13%) households were from non Hindu communities like Muslims and christians. Among these 22 households of these non-hindu communities only 4 households were christians.

It is tautological to say that most of the slum dwellers

live below the poverty line. Nevertheless, I found about (53.91%) of the households in sample living below the poverty line and about 54.78% of sample household has assets worth below thousand rupees. Similarly, only 12.7% households in the sample had assets worth about two thousand rupees; According to 1977-78 prices, people having less than Rs.75/- per capital per month in Urban areas are considered to be living below the poverty line. Since price level has been increasing every year and the cost of living is quite high in Nepal compared to the urban areas in India as a whole, I have taken households having below Rs. 100/- per capital, per month as living below the poverty line. But in order to know whether the background of caste and religion has got to do something with poverty or not, I divided my sample households into five broad categories like (i) Upper castes (ii) Middle castes (iii) Lower castes (iv) Scheduled Castes and Schedules tribes. In the sample I found that none of the upper caste households living in slums was below the poverty line and out of eight households only one household in this category had assets worthy below one thousand rupees. Similarly, among the middle caste households, there were only 16.67 per cent of the households, living below the poverty line. Similarly, among the lower caste, scheduled tribes, and non hindu communities were 54.55%, 64.74% and 68.18% respectively. Apart from this, it was found that the lower castes and non Hindu communities had less valuable assets worth below one thousand rupees. So it can be said that among the slum dwellers in Nepal, the distribution of income is subsumed under the caste status i.e. higher the status of the caste,

higher the income and lower the status of the caste, lower the income. Similarly, compared to the Hindu households in slums, the non-Hindu households have a very poor and miserable living conditions in the slums of Bhopal. Moreover, I found from the sample that the extent of poverty among the households is a function of category of employment in those households i.e. very few households having a source of livelihood in the organized sector like BHEL and other industrial units are found to be having less than Rs. 100/- per capita monthly income. I found that people working in tiny informal sectors or in road construction and similar other activities as daily wage earners had miserable living conditions and these people mostly belonged to low caste and non hindu groups. But notwithstanding this it was found that out of the total workers in surveyed slum households there were about 40.93% non household industrial workers out of which 2.82 per cent were BHEL employees, 24.35 per cent were tertiary sector workers and only 34.71 per cent were daily wage-earners.

Besides the living conditions and caste and religious background of slum dwellers it was found that level of literacy in the slums was quite low compared to the average city literacy rate i.e. about 44.80 per cent and the per centage of technically qualified persons and graduates was only 2.29. Similarly, the percentage of school going children was only 16.58 although the persons in the age group of 0 to 15 were found to be 48.26 per cent on the sample. And above all, there was only 1.06 per cent college-going persons in sample.

This low rate of school going and college going persons was accentuated in the case of women. In the sample compared to the male literacy rate of 57.74 per cent the female literacy rate was only 29.18 per cent. Similarly, as a whole in the sample, there was predominance of large sized households (i.e households having more than 5 persons) and the per centage of households having less than five persons was only 42.61.

The extent of mobility among the slum dwellers was quite high. In the sample, there were about 62.83 per cent of the households from outside M.P. and most of prominent among them were people from the neighbouring states of Maharashtra and Uttar Pradesh as well as from Tamil Nadu and Kerala. But despite the fact of their spatial mobility, vertical mobility among them is very low. Before their migration to the city of Bhopal about 66.09 per cent were employed in agricultural sector either as daily labourers or as petty cultivators, while 13.91 per cent were employed either in household or manhousehold industry and only 20.00 per cent of them were in the tertiary sector.

In the survey of 40 industrial units in Bhopal excluding the core public sector unit of BHEL, it was found that the entrepreneurship was confined to the upper castes. In the sample there were 16 (32.80 per cent unit) upper caste entrepreneurs who were mostly Brahmans, 16 (32.00 per cent) middle caste entrepreneurs belonging to Khatris, Banias and Marwari castes, 6 (12.00 per cent) lower caste entrepreneurs and 2 units (4.00 per cent) belonged to public and joint sectors category, ^{besides 10 non Hindu entrepreneurs} Not a single entrepreneur in the sample was found to have scheduled caste or scheduled tribe

background. In order to confirm whether these patterns follow in task of public sector unit, I studied a list of names of 36 top most executives in BHEL, Bhopal. There also it was found that about 52.78 per cent of them were from higher castes like Brahmins and Rajputs, 27.78 per cent were from middle castes like Jains, varjias and Kayasthas. 13.89 per cent were from minority communities like Muslims and Christians and only 5.5 per cent were from lower castes back ground.

Notwithstanding the higher castes background of entrepreneurs it was found that there was a structural change in the industrial sector of Bhopal. Unlike earlier patterns of industrialization where the role of entrepreneurship was being played by the business community in India without having any background of technical education; in the sample it was found that out of 50 units about 34 units had proprietors having either technical degree or diploma. Of course, this may be due to the high concentration of engineering goods, electrical and electronics goods and chemical goods units in the sample.

The impact of industrialisation on the peripheral Areas of Bhopal :-

In order to assess the impact of industrialisation in the periphery of Bhopal city a survey of 24 villages located within a radius of 20 kilometers from Bhopal city was made during my stay at Bhopal. According to 1971 census, it was found that almost all these villages had a very low rate of literacy compared to the city. although quite a large number of these selected villages had a high per centage of literacy rate ^{compared to the literacy rate} of 15.5 per cent in the rural areas of Huzur tehsil where all these villages are located. Still there were about seven villages which had very low literacy rate compared to the average, literacy rate in the tehsil.

In the rural areas of Huzur tehsil, in 1971, there were about 86.47 per cent of male workers employed in primary sector, 6.73 per cent in secondary sector and 6.76 per cent in tertiary sector. But in the sample of 24 villages, compared to the average tehsil figure of rural areas the percentage of male workers employed in the primary sector was quite low and the percentages of male workers employed in secondary and tertiary sectors were quite high except in case of five or six villages which were very far from the city and also from the industrial area of Bhopal.

Besides, this, it was found from 1971 census data that although these villages economy was largely agricultural by nature, the percentage of irrigated land in these villages was quite low compared to the average state and district figures. Again there was a very high percentage of cultivable waste lands out of the total area in these villages except the case of five or six villages in the sample. Despite their nearness to the city about 15 villages in the sample did not have electricity facility at all and out of the remaining villages only six had electricity available for irrigation as well as for the industry. Except one village called Hatai Kheda, rest of the others did not even have easy access to drinking water and they were dependent upon well water only. Regarding the provisions of educational and medical facilities, it was found that almost all these villages did not have any type of medical facilities available within the village. Only Hatai Kheda had one family welfare centre. In case of educational

it was found that 4 villages facilities available in these villages, in the sample did not have a school at all and there were six villages in the sample having a population of more than one thousand in 1971, but none of them had a High School and there were only seven middle schools. Similarly although these villages were a part of the capital region of Madhya Pradesh only 14 villages in the sample had pucca road for communication purposes.

Thus, in a nutshell, it can be said that these 24 villages were a part of the unchanging rural India in 1971 despite their nearness to the capital region and an industrial belt of Madhya Pradesh. (More details about the work force structure, level of literacy and amenities available in these villages are presented in Appendix - 1 and 2 at the end of the chapter).

Apart from the census findings of these villages in 1971, more detailed information has been gathered from the survey of these villages during my field study in Bhopal.

From the findings of village survey, it seems that most of the households in these villages are still attached to agriculture and allied activities. There are very few nonhousehold industrial workers and the percentage of households deriving their livelihood from primary sector is mere 85 per cent and the remaining 15 per cent of the households derive their livelihood from secondary and tertiary sectors. The only impact of industrialization of Bhopal city on these villages was in terms of employment opportunities provided by public sector units like BHEL. But there is hardly any worker employed in the private sector industrial units of Bhopal hailing from these villages. Moreover, most of the workers in these villages are found to have

employed as semi-skilled and un-skilled workers. Out of about 515 BHEL workers in the sample villages about five workers in the sample village found to be artisans and there was only one foreman. Not a single man from these villages was found in the higher employment categories. Similarly, due to the low rate of literacy in these villages very few people have got chances to get themselves absorbed in the expanding tertiary sector of the Bhopal region.

Agriculture in these villages has remained at a very low ebb. Due to industrialization and the expansion of Bhopal city, quite a significant portion of cultivable land in adjacent villages was lost. The amount of compensation paid to the villagers was so low that neither they could buy land in other places nor could they start any other independent source of livelihood. According to the information provided by the villagers in Khajuri Kalan, Hatai Kheda, Bar Kheda, Pathani, Pipaliya, Ponden Khan, Bag Sewaniya and Laharpur, most of the cultivable lands of these villages were acquired by the Government in 1955 for the construction of BHEL factory and its township as well as the industrial estate at Govindpura and the amount of compensation paid to them was only Rs. 200 per acre which was far below than the existing market rate of that time. Similarly, few other villages like Bhaenri, Jamosiya, Chhir, Barkheda, Nathu, Bhainsa Khedi, Bithar Khedi, Bikheda, Gara, Hatai Kheda, Barkhedi Kalan and like, lost a part of their cultivable land because of the expansion of the Bhopal lake to supply water to the increasing population of Bhopal city. That is why agricultural economy in these villages is found to be at the subsistence levels.

Of course, it is not that these peripheral villages have not gained anything from the industrialization of Bhopal region. In the village sample, it is found that quite a few households in these

villages grow vegetables and a few others have started keeping milched animals like cows and buffaloes due to the high demand for vegetable and milk and milk products generated by the people in Bhopal city. In addition to this few people have adopted animal husbandry like keeping goats and sheep in addition to their agricultural activities. But the commercialisation of agriculture has not significantly influenced the marginal and small farmers due to their poverty and ignorance. On the contrary, there was a few cases of alienation of land from the hands of small and marginal farmers and large farmers in the villages seem to have gained at the cost of the former groups because of the introduction of mechanized agriculture in rural areas.

The villages in the peripheral areas of Bhopal seem to have been affected by the "backwash" effects of industrialization. People used to complain that they have been deprived of their only source of livelihood i.e. agriculture because of increasing industrialization and urbanization of Bhopal. Furthermore, they say that they had to lose their lands because of the location of big public sector unit like BHEL in Bhopal whereas the benefits gained from the existence of BHEL factory went into the hands of the people of Bhopal city as well as to the outsiders. In many cases, I found people belonging to upper castes and classes in villages complaining that their sons and daughters could not get any type of job in BHEL factory although they had to sacrifice their lands for the construction of the factory and its townships. But from the detailed enquiry in these villages it was found that in the beginning people belonging to upper caste were not prepared to take up small, unskilled type jobs in the factory which

was derogatory for them. Secondly, owing to the prevalence of ~~mass~~ illiteracy among the villagers very ^{few} people were absorbed in the factory as the type of personnel employed in BHEL are highly skilled and technically qualified. Thirdly, lower caste people who were working as daily labourers at the time of construction of the factory and township were given preference when recruitment for permanent jobs in the unskilled and semi-skilled categories was made in BHEL. Most of them had migrated from outside the region. Hence, the representation of the local people in even the lower category jobs was low.

Nevertheless, it can be said that "backwash effects" of industrialisation has been perpetuated in the region. There is very little scope of employment in these villages. People hardly get six months work in a year. In spite of wide spread poverty among the masses, very few people think of taking a job in the industrial units of Bhopal mainly because of the following hindering factors ;

- (i) The communication facilities in the peripheral areas of Bhopal seems to be in a very backward stage. There is no easy access to Bhopal city. So that workers in these villages could commute everyday to earn their livelihood.
- (ii) The transition from agriculture to industry or service sector requires some skill or formal education which is largely absent among the villagers (iii) in addition to this, workers brought up in a traditionally paternalistic type of environment in rural areas probably never dare to switch from agricultural based occupations to industrial types occupation where

there is mainly prevalent of contractual norms based upon the market forces of demand and supply.

However, even the small proportion of people in these villages who are ready to work in the Industrial sector fail to get employment in the private sector industries mainly because of lack of skill among them and the presence of large number of migrants in Bhopal city. While discussing the process of recruitment of labour with the industrialists I found that although they get workers from general local sources having some elementary skill of casting, moulding and welding etc., ~~they~~ they prefer migrants in Bhopal City to local workers because the work commitment among the migrants is quite high and it is comparatively easy to evict a migrant worker rather than a local worker at the will of the owners. The industrialists say that local workers are dull, lazy and quite quarrelsome in their behaviour and ~~also~~ during the cropping season they go back to their native places to cultivate their fields.

From the above findings of field study in slum areas, industrial areas and peripheral areas of Bhopal, it seems that there is a multiple impact of industrialization^a in Bhopal. While talking to the 150 workers in different industrial units in Bhopal, I found that the job security among the workers was quite low in private small scale units including the ancillary units of BHEL. Although there are several restrictions imposed by the government to check illegal retrenchment the rules and regulations are scarcely obeyed by the industrialists. Trade union activities ^{are found} to be quite low among the workers in private small scale units. According to the information provided by the workers in different units ~~there~~ every strike led by the trade unions in Bhopal in the private small scale units has resulted

in closure of the units followed by the illegal retrenchment and discharge of worker: activist at the time of opening of the units after a compromise is arrived at. Among slum dwellers, I found that a few workers were discharged illegally by the owners of factories including ancillary units of BHEL. In order to get justice they moved to the court against their illegal discharges. But they could not obtain proper justice in time despite the legal aid provided to the poor by the government. Like typical poor agricultural worker in rural areas, the industrial worker in smallscale units in Bhopal feels helpless and he thinks that his boss is almighty who can save or mar him at his will. Despite this fact, the skilled worker has more job security than the unskilled worker in small scale units as they are limited availability of skilled personnel in Bhopal. So in these situations all the workers in secondary sector in Bhopal cherish a desire to become a public sector employee i.e. to get employment in BHEL factory. Unlike Holmstrom's¹ findings of workers in Bangalore city, where public sector workers see the contrast as one between public sector security and private sector opportunity. The worker in the organized sector of Bhopal have got only option i.e. to choose job security in the public sector. This may be due to the low concentration of big private sector units in Bhopal and the presence of a big old key units like heavy electricals factory which provides attractive facilities like good housing, township and health facilities besides a decent salary compared to the facilities provided to other public sector employees in New Bhopal Textile Mills and joint sector employees like Madhya Pradesh Electricals Limited. So it can be said that the attraction of workers towards the public sector unit like BHEL in Bhopal is not due to the socio-economic security alone but also due to the availability of perks such as

1. Holmstrom, South Indian factory workers. (London: Cambridge University Press, 1974.)

housing and the like. Apart from this, ² the average workers salary in the BHEL factory is Rs.1300 per month and money of the Senior unskilled workers take home a salary of around rupees eight to nine hundred per month.

It is not that the consequences of industrialization in Bhopal has resulted in degradation of peripheral areas followed by the development of Bhopal city only. As a matter of fact the large scale presence of informal and small scale units in Bhopal compared to the big organised sector units, there is very little change in the economic position of the workers migrating to the city. Even in the small scale units of organised sector the benefits of industrialisation have been concentrated among the industrialists only. Because of the low bargaining strength of workers the benefits of industrialisation has not percolated downward. In the study of workers on slums, industrial units and peripheral villages it has been found that there is hardly any change in the position of castes and their statuses in the industrial hierarchy of Bhopal like Lambert's² findings among the factory workers in Poona. But despite all these facts, there is some positive impact in the society of Bhopal and its periphery. Although the industrialisation of Bhopal has not been able to transform the traditional caste structure society into a modern class structure society, like Niehoff's³ findings in Kanpur, there is a significant change in inter-caste relationships mainly due to the :

(1) Employment of different castes in the same factory doing

2. R.D.Lambert, *Workers, Factories and Social Change in India* (Princeton, N. J. 1954)

3. Niehoff, *Factory workers in India*. (Milwaukee: Public Museum. 1954)

the same job;

(ii) Crowded housing conditions in the city compelling people of different castes to live together and;

(i) ...
...
...

(iii) the anonymity factor of city life making people least bothered about the caste origins of individuals.

At the time of field study it was found that people belonging to different castes in slums live together although the pattern of settlements in slums was determined broadly by the linguistic and regional groups in general. In rural areas of Bhopal even the rate of untouchability has gone down significantly although the factor of untouchability has not gone down in case of inferior occupations like scavenging and sweeping, etc.

Thus, in brief, it can be said that the industrialisation^a of Bhopal region has resulted in bringing about multiple changes in the socio-economic structure of Bhopal although the factors of changes have affected the city and the periphery on both the aspects i.e. positive and negative.

Summary of the Findings:-

Thus it is seen from the industrialization^a in Bhopal that the type of Industrial units which have come up over the years have failed to distribute the gains among the majority of the population. The caste based social hierarchy still perpetuate^a in case of

poverty and industrial employment. Entrepreneurship is confined to the upper caste people only and even in public sector unit like BHEL the topmost executive posts are cornered by the high caste people. Besides that the benefits of industrialization have gone into the hands of outsiders and very few local people could get employment in the modern small scale units as well as in the public sector unit like BHEL (which are highly mechanized and they require large number of technical and skilled personnel) due to their low level of formal education. Moreover, the existence of a big public sector unit like BHEL where the average salary, perkings facilities and job security of workers are quite high in contrast to the small scale units in Bhopal, the small scale units hardly attract the attention of local people.

On the other hand, the survey of peripheral villages indicates that the industrialization in Bhopal has exerted "backwash effects" in the periphery. Despite a large number of semi-skilled and unskilled type jobs are provided to the local people by the public sector unit like BHEL. People have been alienated from their lands due to industrialization of Bhopal city without making any alternative arrangements for the losers by the government to earn their livelihood.

CHAPTER - IV.

CONCLUSION: THE BHOPAL EXPERIENCE IN COMPARISON TO THE IMPACT OF INDUSTRIALIZATION IN OTHER REGIONS OF INDIA.

After her independence, India has experienced rapid industrial growth both in size and diversity. Since Indian Society consists of different races, castes, religions and linguistic groups, industrialization has had a various impact on the various communities. The large scale industrial system and its corollary of mass production made human relationship in the production system functionally specific, universalistic, rational and impersonal. It relaxed the monopoly of certain groups over certain occupations. It made human relationship in the factory confined to the technical demands of the occupational role. Occupational and work place lost their affective and sentimental appeal which characterized them in the pre-industrial era.¹ In the countries of Asia including India which already exhibit high population density in rural areas, the problem of finding employment opportunities for the growing labour force is especially pressing, because fragmentation of holdings and the exploitation of marginal lands sets limits to a further extension of employment in agriculture.

1. Moore, W.E. "Social consequences of Technological change", International Social Science Bulletin, UNESCO, IV(2), Summer 1952, P.285.

In order to get rid of all these problems, the Government of independent India took recourse to planning, so that the potential resources of the country could be utilized to its full extent and the existing regional imbalances of the economy could be removed gradually. The first 'Industrial Policy Resolution' passed in 1948, devised the concept of a mixed economy, where the government and the private capitalists would work side by side for the rapid industrial development of the country. Besides, it was thought that by leaving the development of the key and basic industries at the hands of the state sector, the government would be able to reduce the concentration of economic power in few hands and spread the benefits of industrialization among all sections of people. To develop backward regions a deliberate attempt was made to locate key and basic industries there.

In the light of all these above objectives, if we evaluate the effects of industrialization in Bhopal, it seems it has not come upto the expectations. As it has been discussed in the previous chapter (Chapter III) the benefits of industrialization have gone into the hands of outsiders and richer castes and classes of people in Bhopal. From the study of the effects of industrialization in rural areas, it has been found that there is widespread poverty

and unemployment in the villages of Bhopal region, people have been evicted and alienated from their lands with the establishment of public sector units like BHEL and industrial estates in Govindpura. The government could also not absorb these people in the expanding industrial sector of Bhopal. Whatever land is left in these villages that has been gradually acquired by the rich farmers, as the traditional methods of cultivation with fragmented holdings is becoming uneconomical. Apart from this, the large presence of migrants in the industrial sector of Bhopal both from outside the State and the district where Bhopal is located clearly indicates that the benefits of industrialization have gone into the hands of outsiders simultaneously, the sprawling slums in which one-third of the city's population lives, speak of unequal distribution of the gains of industrialization. So it appears that the development of few modern industrial units in Bhopal has not been able to transmit stimuli to other segments of the economy to a satisfactory extent. More or less, they have remained enclaves.

These observations regarding the impact of industrialization in Bhopal has been corroborated by similar studies conducted in different regions of India. In his 'Chittaranjan' study Mohammad Mohsin² finds that the

2. Mohammed Mohsin. Chittaranjan. A Study in Urban Sociology, (Bombay) : Popular Prakashan, 1964).

establishment of the railway locomotives plant, in fact arouses feeling of animosity and frustrations in the minds of a large sections of natives i.e. Santhals. It means to a great many of them who have been forced to relinquish their claims over land which has provided them with livelihood where they and their ancestors had lived and worked, humiliation and betrayal. The Chittaranjan loco township was previously composed of light santhal villages. But the natives who once inhabited these parts are completely uprooted; except a few of them who have settled in nearby villages. Despite the extravagant promises which the project authorities are alleged to have made, like in BHEL in Bhopal, at the time of acquisition of these lands, it was reported by the natives that only a few of them got themselves absorbed in the permanent labour force of the plant. Many people in the nearby villages are found to be idle and unemployed and the money compensation paid to them was so low that it could hardly suffice. Though agriculture is the main source of livelihood on the nearby villages - because of their small holdings and poor soil conditions they can not support themselves on the products of land for a greater part of the year. They have to seek work in Chittaranjan as casual labourers and also in the collieries nearby. A bleeting glance through the Report on a preliminary inquiry on the growth of Steel Towns on India⁽³⁾ further lends support to these

(3) UNESCO Research Centre, Calcutta, 1959.

observations. According to the Report in all the three cases, that is, Rourkela, Durgapur and Bhilai, the establishment of government sponsored plants exhibits a spectacular example of displacement of natives without absorption. In a survey of Durgapur Steel townships in 1958, Ramakrishna Mukherjee finds that only one in every 200 households belonged to the local people living previously within a distance of ten miles of the site of the township. They are found taking a partial share in the ancillary production and services to the townships. A large bulk of these activities are in the hands of non-natives and non-Bengalis (4) Similarly in the Panna Diamond Mines Project it was found that the mechanization of mines led to the deprivation of source of livelihood for many families and because of the lack of technical knowledge and mechanized skill they could not ^{get} absorbed in mines. Prior to the mechanization of the project, cutting and polishing was earlier a household industry in Panna and about 250 families were also engaged in this profession. Moreover, out of a total of 1426 persons employed in the Panna mining project in January 1971 only 969 persons were local and that too only in the contingent and casual workers category. (5)

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- (4) Mukherjee Ramakrishna. "Socialists and Social change in India Today", Sociological Bulletin, Vol. XI, March - Sept. 1962, P. 8.
- (5) Satyanarayan - J. et al. "Socio-economic Impact of a Public Sector Unit : A case Study", Lok Udyog, June, 1973, Pp. 5 - 14.

It is not that planned industrialization in India has not brought out any significant development of the backward regions. In a case study of Bharat Aluminium Corporations' project (BALCO) in Korba in Madhya Pradesh it was found that maximum employment opportunities created by the project had gone into the hands of local people of Chhatisgarh region and also to the weaker sections of the Society such as Scheduled Castes and Scheduled Tribes. Out of 5607 persons employed in Korba project in 1979, about 2962 persons were from Chhatisgarh who were quite new to industrial culture and 733 persons were from other regions of M.P. Thus a total of 3695 persons i.e. about 66 percent were from M.P. (6) Similarly, in ^{an} another study of Ludhiana, H.N. Pathak (7) finds that the development of small scale industrial units like engineering goods and textile goods solved the problems of refugees who were displaced from West.Pakistan after Partition of the country in 1947. The Hindus and Sikh refugees having their traditional skills and artisanal background could easily get themselves absorbed in the industrialization programme by establishing small scale units to manufacture Cycle parts, produce wooden hosiery, readymade garments and the like.

(6) BALCO, Lok Udyog, December, 1979

(7) Pathak, H.N. "Small Scale Industries in Ludhiana", Economic and Political Weekly, V(28), July 11, 1970, Pp. 1091-97.

In a study of Rourkela Steel Plant and its impact on the regional economy, Nirmal Sen Gupta et al.⁽⁸⁾ found that compared to the states per capita income of Orissa the region and the Sundargarh district where the project is located had a very higher per capita income and in terms of employment the region and the state had a leverage over the adjoining states as well as other parts of India. Further, the expansion of service sector like trade and commerce, transport and communications and other services which has taken place due to the steel plant, the major benefits accruing through it has gone into the hands of local people as well as to the state people. But in terms of class distribution of gains it was found that the richer and land owning sections had occupied better paid jobs in the steel plant and other industrial units which have come up due to the linkage effects of the plant. The power and landless labourers were employed in very low-paid and casual type of jobs only. Nevertheless, unlike UNESCO's study on Steel plants in India,⁽⁹⁾ although the authors did not say anything about displacement and alienation of labour from ~~agricultural~~ land, like the case of Bhopal they found that agriculture on Panposh Tehsil area where the steel plant

(8) Sen Gupta, Nirmal et al. Regional Distribution of Economic Benefits arising from a steel plant: A case study of Rourkela Steel Plant (Patna: A.N. Sinha Institute of Social Studies, 1975), Mimeographed.

(9) UNESCO Research Centre, 1959, Op. cit.

is located, was still backward, Commercialisation of agriculture had so far, not taken place. Very few people grew vegetables and other commercial crops by using HYV seeds and chemical fertilizers, notwithstanding the high demand for vegetables and pulses in Rourkela market. Compared to the market wage rate in Rourkela, the wage rate in Periphery is so low that the landless labourers fall into the hands of money-lenders who are mostly rich landlords and being unable to repay their debt and interest, they become attached labourers to them, thus, pushing down the wage rates further. Another study by that of Atul Industrial Township by K.M. Kapadia and Devdas Pillai⁽¹⁰⁾ corroborates the fact that the industrialization of a particular region provides maximum employment to the local people. At the time of their study they found that, about 66 percent of the workers in three units, namely, Atul Products, Cynamid and Attic Industries came from Bulsar and Pardi talukas of the district and moreover, nearly 53 per cent of the workers in the sample consists of kolis, 19 percent dublas, Dhodiyas and Naikas and 9 percent of artisans and other backward castes which clearly indicates that backward sections have been largely benefitted from the opportunities of employment in

(10) Kapadia, K.M. and Pillai Devdas. Industrialisation and Rural Society: A study of Atul Bulsar Region, (Bombay) Popular Prakashan, 1972).

Atul-Bulsar region. On the other hand, another study on the same region points out the cases of polarisation within the rural polity. (11) The modernization and mechanization of agriculture has led to two important phenomena. In the first place it appeared that small farmers profited much less from this development than big farmers, and in the second place it appeared that the position of labourers who do not possess land was further weakened by the contractualization of labour relations. In the rural areas there are numerous middle groups viz. households of farmers and craftsmen who manage to intensify their agricultural production and to add to their income, too, by gaining access to industrial jobs or government offices. In general it can be stated that although these middle groups do not have full share of new possibilities i.e. mechanization and modernization of farm sector along with industry, they do manage to consolidate their positions and sometimes to improve it to a certain extent, But the case of landless labourers is different. Although they work outside agricultural field as unskilled labourers and go to other places to do seasonal work their annual income is so low that as a group they have to face more and more miserable and hopeless

(11) Breman, Jan and Hommes E.W. "Social change in South Gujrat - An Introduction", in Pillai Devdas S. and Baks Chris (eds) Winners and Losers: Style of Development and Change in an Indian Region (Bombay: Popular Prakashan, 1949)

conditions. Industrialization has manifested itself in and around Bulsar in two fundamentally different ways. Firstly, there is the parachuted industrialization of an enclave-like nature, concentrated in Atul Complex. A few big chemical industries are involved in this, but although they provide employment on a large scale in Bulsar they have little influence on the economic transformation of the area since they do not produce emanation effects. These factories are, of course, very important in a social sense because they created an industrial labour power. The management of these companies hardly keeps in touch with the localities. Besides this parachuted industrialization there is an extensive local industrialization, large in numbers but often very limited in production. The entrepreneurs in this group appeared to be heterogenous in origine. A large number of traders and members of higher castes predominate the industries although there are a few craftsmen who joined the industrial sector as a result of mechanization in their own line of business.

The most striking observation in the retrospect on the past ten years of industrialization in Bulsar is in fact the stagnating nature of development. The entrepreneurship is confined to limited number of groups of persons basically from the richer sections of society. There is hardly any real expansion of small enterprises.

So from the above findings, it can be said that industrialization in India has manifested itself in two fundamentally different ways. In the first place there is the parachuted industrialization of an enclave-like nature concentrated in places like Bhopal and Chhittaranjan which have very little influence on the economic transformation of the area, although they have got national importance by making significant contribution towards country's industrial growth rate and by providing large scale employment to the people. Secondly, there is an extensive local industrialization, large in number but often very limited in production as is the case in places like Ludhiana etc. by utilizing locally available resources such as entrepreneurship, manpower and raw materials, etc. Probably large and heavy industries involving sophisticated technology fail to spread the benefits to a wider population. Their impact will be more 'indirect' than 'direct' on the given locality. Of course, it does not mean that big key sectors' units are of enclave-type in nature. Whenever core sector units like iron and steel, heavy electrical or engineering units are established they help in further industrial development of the region through their linkage effects ! But their scope in providing large numbers of employment to the local people or getting themselves integrated with the local economy is limited, since they require a large proportion of skilled personnel and moreover,

the resources utilized by them or the products produced by them may not be confined to the region only.

Besides creating employment opportunities for a growing labour force and bringing out all-round development of the economy, industrialization in India is expected to reach to a significant transformation of the existing inequitable socio-economic order. In sociological terminology industrial society or modern society is an open, universalistic and achievement-oriented society, whereas pre-industrial society is a close, particularistic and ascribed-status-oriented society. So most of the sociologists expect that industrialisation in India will lead to the erosion of the caste system and monopoly of occupations based on birth in a particular caste. But contrary to the assumptions, the findings of the case studies conducted in various places and factories reveal that caste in India still holds its sway over factory employment. From his study in Poona, Lambert finds that the hierarchy of employment in the factory is a replica of caste hierarchy almost, although it is not very difficult to find low caste men employed in higher executive posts. Nevertheless, it was found that higher caste people were highly represented on white-collar type occupations and the blue-collar type of occupations were predominated by the lower caste people.

His findings have also been corroborated by the findings of Niehoff (13), Baldev R. Sharma (14) and others. Furthermore, networks are also important in recruiting labourers. N.R. Sheth has shown how the factory management manipulated caste net works to recruit loyal workers.⁽¹⁵⁾ Klass Vander Veen studying Bulsar districts finds that unskilled labourers get recruitment on various jobs in the government and in factories through the articulation of patron - client ties and neighbourhood ties⁽¹⁶⁾ John Harris⁽¹⁷⁾ study of labour recruitment in Coimbatore also support this thesis. So the impact of industrialization in Bhopal is not an exception and probably the industrialists prefer loyal workers than efficient workers although the criterion of efficiency is not by-passed altogether in their selection of workers. It was found that even among the slum dwellers in Bhopal City the degree of poverty is subsumed under caste status, so do the occupations and the earnings capability besides the employment and job positions of workers in factory like BHEL.

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- (12) Lambert, R.D. Workers, Factories and Social Change in India (Princeton, New Jersey: Princeton Univ. Press, 1963)
- (13) Niehoff, A. Factory Workers in India (Milwaukee: Publications in Anthropology, Public Museum, 1959)
- (14) Sharma, Baldev R. The Indian Industrial Worker.
- (15) Seth, N.R. Social Frame Work of an Indian Factory (Delhi Oxford University Press, 1968)
- (16) Harris, John "Character of an Urban Economy" Small Scale productions and Labour Markets in Coimbatore (I & II) in Economic & Political Weekly, June 5 & 12, 1982, Pp 945-54 and Pp 992-1002.

This social network of caste is also found among the entrepreneurs in India. It is possible to notice the preponderance of certain trading castes and communities, such as the Marwaris in Calcutta, the Gujrati Banias and Jains in the West, the Chettians in the South and the Agarwals and Bania Communities in the north. While this may fit the classical pattern of merchant becoming a capitalist, evidence of certain artisans, craftsmen and lower castes people becoming industrialists is not conspicuously absent. Sabarwal has shown that low caste people such as the Ramgarhias in Punjab took to entrepreneurship when they found opportunity and resources to do so⁽¹⁸⁾. Another case is that of the Jatavas of Agra who have taken to shoe manufacture⁽¹⁹⁾ and the Mahisyans of West Bengal, a traditional farming community who has used its traditional culture and recently acquired skills to respond to new structures of economic opportunity in the expanding engineering goods industries in Howrah⁽²⁰⁾. But like our findings about entrepreneurship in Bhopal, the study of 54 manufacturing entrepreneurs in Vishakhapatnam, Nafziger finds that these industries are dominated by high and business castes people only. He writes "The weight of evidence suggests that industrial business activity in India,

(18) Sabarwal, Satish. Mobile Men: Limits to social change
~~Excluded~~ in Urban Punjab (New Delhi: Vikas, 1976)

(19) Dynch, Owen, M. "Rioting as a Rational Action" in E.P.W.
Nov.28, 1981, Pp. 1951-56.

(20) Owens Raymond L and Nandy Ashis. The New Veisyas
(Bombay: Allied Publishers, 1977)

rather than being a path of substantial upward socio-economic mobility is a way of maintaining or defending privileged status and enhancing or consolidating the high economic position of the family (21) Nevertheless it has been found from our Bhopal study that there is a structural change in the process of entrepreneurship and more and more people having technical and professional qualifications have shown interest in entrepreneurship, contrary to the earlier dominance of trading castes without having any technical or professional knowledge of management. Yet it can be said that entry and success of industrial entrepreneurs is related more to their 'Social standings and net works' as the findings by Panini (22) on Faridabad and Saberwal (23) on Modelpur reveal.

Thus from the findings of Bhopal as well as other parts of India, it can be said that industrialization in India has produced different socio-economic effects in different regions according to the types and degree of industrial development. It is important to recognise that the impact of industrialization depends on the local conditions, the level of technology imported or used and the like.

(21) Nafziger, E.W. Class, Caste and Entrepreneurship - A study of Indian Industrialists (Honolulu: The Univ. Press of Hawaii, (1978) P.85.

(22) Panini, M.N. "Networks and Styles: Industrial Entrepreneurs in Faridabad, Contributions to Indian Sociology, Vol. 11 No.1 Jan-June, 1977 Pp.91-115,

(23) Saberwal, Satish, Op. Cit.

Certainly in an industrially developed region like Maharashtra or Gujrat the impact will be different than in an area like Bhopal where there was no reservoir of skills, industrial infrastructure and the like. Notwithstanding this, there should be no room for complacency regarding the distribution of gains emanating from industrial development. If as in Bhopal the local population does not share the benefits of industrialisation and if the 'outsiders' are cornering most of those benefits ultimately it would create a 'sons of the soil' consciousness - this in itself strengthens primordial loyalties instead of dissolving them. Moreover, the economic gains arising from industrialization should percolate downwards cutting across caste, class or ethnic groups. The large scale growth of slums alongwith unhealthy and inhuman livings of a significant percentage of population in urban and industrial areas of India and other developing countries indicates that the gains arising from industrialization are not percolating downwards. It has been found from our study as well as from other studies, most of the poor people from rural areas migrate to urban and industrial areas mainly not because of the higher earnings and healthier and comparatable livings. On the contrary, it is due to the lack of employment opportunities in rural areas coupled with perpetual scenes of drought and famines compel people to migrate towards urban areas with the expectation that they would be able to earn their livelihood there. So the

development of the industrial sector should not be at the cost of agriculture. On the other hand, there should be balanced growth of agriculture and industry as the growth of the industrial sector depends upon the growth of agricultural sector. Besides this, the government should be more cautious and careful about the 'backwash effects' of industrialization in the hinterland as it has been found in case of Bhopal, Chittaranjan, Durgapur etc. It is the duty of the Government and of the concerned authority to provide employment to the displaced people who sacrificed their lands for the establishment of a particular project. Once a project is established in any region whether backward or advanced, it becomes essential for the project to get itself integrated with the local or regional economy. Any deviation from it means the project is exploitative by nature and retarding regional growth. Thus national level gains without their "Spread effect" at regional level may prove disastrous to a balanced growth of the economy.

Hence, to cure all these evils and to save the rural economy from a disastrous end, the government should take proper steps towards the industrialisation of rural

areas through the process of secondary industrialisation. In most of the villages it is not impossible to find traditional artisans engaged in blacksmithing, carpentry or working as masons or making pottery, leather goods or foot wear or doing tailoring business. Some effort and guidance to help them in the choice of better materials and slightly better handling and processing technology with guaranteed off-take of their entire production could be one of the most important planks for improving the rural economy. For example, many of the industrial units have large requirements of simple tools such as hammers and chisels, crowbars, pick axes and shovels. Their production could be developed in a decentralised manner in the rural sector by giving necessary guidance to the village blacksmith in the choice of steel or its processing. All these items can be brought back for use in the organised engineering plants. Likewise, simple wooden furniture, door, and windows required in the organised industry, in the schools, hostels, hospitals etc. could be produced in villages following the same technique and approach. Production of uniforms and simple clothings as also footwears, particularly, where it is distributed by the management to the workers could easily be organised in the villages in the same manner. Similarly, agrobased industries like oil mills, rice huller, dal mills and other food processing units could be easily developed in rural areas by encouraging farmers to adopt high yielding varieties

of seeds and to grow cash crops like cotton, jute, soyabean, groundnut etc. Apart from, the vegetables as well as milk which has a high demand in urban areas can be easily produced in the peripheral areas. If such activities pickup, rural areas will also prosper like urban areas and the people those who fail to get employment throughout the year in a subsistence economy would be able to improve their living standards by working in these industries at the time of lean season. Moreover, these activities will stop migration of the rural people towards urban areas and the rural economy could develop simultaneously by absorbing its most efficient population, those who usually migrate, in its rural sector.

Appendix - 3.1

Sex Ratio, Literacy, Percentage of S.C. and S.T. Population as well as Industrial Classification of male workers in Sample Villages at Huzur Tehsil in 1971.

Appendix-1

Sl. No. Name of Place.	Sex Ratio	% of S.C. pop.	% of S.T. pop.	% of Literacy	% of male Workers	% of male Cultivator	% of male Labor.	% of male in Mining etc.	% of male in Household Industry	% of male in Non-hold. Agriculture	% of male in Cotton etc.	% of male in Trade & Commerce	% of male in Transport & Communication	% of male in other services.
1. Lambakhedla	907	18.05	-	23.57	55.87	31.28	33.33	5.07	2.17	-	0.72	2.90	5.07	18.24
2. Palahi.	921	0.27	-	30.52	53.40	26.47	54.90	-	-	-	0.98	2.94	0.98	13.72
3. Badbeni.	839	22.69	9.00	19.49	53.97	29.41	36.13	13.44	3.78	7.56	1.26	1.26	-	7.14
4. Jalam Nagan	827	10.17	0.69	17.59	50.87	44.27	42.72	1.55	1.55	0.31	0.93	0.62	0.31	7.74
5. Hatani Khedi.	865	38.34	14.74	18.50	49.00	17.35	29.39	7.14	8.16	2.04	8.16	16.33	-	11.22
6. Khajur Kalan	842	21.22	-	18.64	54.56	58.51	13.73	0.30	1.79	3.78	0.85	0.90	15.52	4.78
7. Borkheda Nagan	918	26.07	0.35	19.15	52.85	27.73	46.38	2.10	3.36	26.47	4.20	2.52	1.26	3.46
8. Palahiya Tendukhan.	875	19.17	-	16.25	50.40	39.06	25.00	1.56	3.12	25.00	-	-	-	6.25
9. Bag Saraniya.	940	36.34	-	9.28	56.50	37.17	16.81	2.65	0.88	13.27	-	2.65	1.77	24.78
10. Ahmadpur Kalan.	723	13.58	-	18.52	48.94	21.74	43.48	-	4.35	4.35	4.35	8.70	8.70	4.35
11. Karhad Kalan.	854	22.25	-	29.86	49.93	29.42	32.12	2.92	2.92	0.73	1.46	3.65	-	16.79
12. Bhainda Khedi.	931	40.24	-	19.82	53.71	31.91	44.68	1.06	2.13	2.13	2.13	9.54	-	6.38
13. Bhainda.	879	10.92	1.07	25.06	52.52	51.10	21.15	1.65	7.97	1.10	4.64	3.85	1.92	6.59
14. Jamoniya Chhap.	883	20.17	-	21.01	46.21	45.90	42.62	-	1.64	-	1.64	1.64	-	6.56
15. Naalhad.	952	37.98	6.62	16.03	57.14	42.86	23.57	3.57	4.76	-	5.95	10.71	-	3.57
16. Munapliya Chhap.	890	15.46	-	12.04	50.53	52.88	25.13	2.62	10.21	2.62	0.78	1.23	-	3.93
17. Dil Kheda.	908	29.01	-	18.57	38.83	67.50	23.75	-	-	-	-	1.25	-	2.50
18. Bithankhedla	856	23.16	-	6.12	59.85	51.90	43.04	1.27	-	1.27	-	-	-	2.53
19. Borkheda Nagan	897	26.04	-	13.73	54.05	61.82	27.27	-	-	1.54	-	1.82	0.45	4.09
20. Godra.	772	20.13	-	1.98	59.06	66.34	33.66	-	-	-	-	-	-	-
21. Borkheda Kalan	811	17.67	-	2.42	56.14	66.41	30.47	-	-	-	0.72	-	-	2.34
22. Babadiya Kalan	901	14.51	4.00	23.73	56.52	27.16	26.92	11.30	3.61	8.89	9.37	2.16	5.74	4.81
23. Bag Munapliya.	842	31.22	-	17.93	52.09	44.64	29.46	0.89	1.79	15.18	0.89	-	0.89	6.25
24. Loharpur.	1162	17.69	-	16.33	61.76	57.14	25.71	-	2.38	-	-	-	-	4.76
Huzur Tehsil (Rural)	880	21.84	3.13	15.51	54.55	54.65	29.78	2.04	3.41	2.05	1.27	1.57	0.20	4.39

Source: District Census Hand Book, Sehore, 1971. Series 10 (M.F) Village and Town Directory, Parts X-A & B.

Appendix 3.2

**Aminities available in selected 24 villages located around
Bhopal City in the year 1971.**

Sr. No.	Name of Village	Total Area (Acres)	% of Irrigated Land	% of unirrigated Land	% of Cultivable Waste	% of Forest	Distance from Bhopal City (km)	Communication	Education	Medical	Power Supply	Drinking Water
1.	Lombakheda	1335	4.49	72.21	16.78	6.52	8	P.R.	Mid.S.(I)	-	E,EI,EIN	W
2.	Palasi	552	6.34	70.65	18.66	4.35	5	P.R.	PR (I)	-	E	W
3.	Badhni	1862	5.76	53.92	15.75	28.57	8	KR	PR (I)	-	-	W
4.	Islam Nagar	2743	16.26	55.49	12.14	16.11	10	PR	PR, Mid.S.(I)	-	E, EIEIN	W
5.	Hakraikheda	1476	2.78	15.65	55.28	26.29	17	PR	Mid.S.(I)	F (I)	-	T, W
6.	Khajurkalam	3578	2.79	47.37	27.42	22.41	12	KR	PR (I)	-	E, EIEIN	W
7.	Barkheda Pathani	1833	0.49	33.93	20.02	45.55	14	PR	Mid.S.(I)	-	-	W
8.	Pataliya Pandarkam	404	1.24	27.23	20.54	50.99	14	PR	PR (I)	-	-	W
9.	Bag Senamija	963	0.00	39.67	12.56	47.77	11	PR	PR (I)	-	-	W
10.	Ahmadpur Kalam	420	1.67	62.14	14.05	22.14	10	PR	-	-	E, EIEIN	W
11.	Karhad Kalam	499	0.40	88.18	1.00	10.42	3	PR	PR (I)	-	-	W
12.	Bhainsakhedi	1107	1.63	28.00	4.34	66.03	10	PR	PR (I)	-	E, EIEIN	W
13.	Bhaonri	3669	0.38	62.11	16.65	20.85	14	PR	Mid.S.(I)	-	EI	W
14.	Jamoniya Chhiv	604	2.98	59.77	11.42	25.83	16	PR	Mid.S.(I)	-	EI	W
15.	Nelbad	1082	0.00	40.85	56.38	2.77	17	KR	-	-	-	W
16.	Mungaliya Chhiv	3266	2.82	71.62	18.43	7.13	19	KR	Mid.S.(I)	-	-	W
17.	Bilkhedi	1372	0.73	22.81	14.29	62.17	9	KR	PR (I)	-	-	W
18.	Bishamkhedi	1395	0.21	29.89	6.52	63.27	9	KR	-	-	-	W
19.	Barkhedi Nathni	1727	1.45	74.52	5.27	18.76	11	KR	PR (I)	-	-	W
20.	Godra	1121	0.36	60.48	2.14	37.02	6	P. KR	PR (I)	-	-	W
21.	Barkhedi Kalam	513	0.00	72.32	11.89	15.79	8	P.R.	PR (I)	-	E, EIEIN	W
22.	Babadiyakalam	2562	4.80	58.55	16.51	20.14	14	PR	PR (I)	-	E, EIEIN	W
23.	Bag Mungaliya	851	0.59	67.10	1.06	31.26	14	KR	PR (I)	-	-	W
24.	Laharpur	412	0.73	28.64	0.74	71.66	15	KR	-	-	-	W

PR = Pucca Road; KR = Kutcha Road, PR = Primary School, MidS = Middle School;
E = Electricity, EI = Electricity for Irrigation, EIN = Electricity for Industries;
W = Well Water; T = Tape Water.

Source:- District Census Hand Book Sehore, 1971.
Series 10 (H.P) VIII. & Town Directory.

APPENDIX - 3.3

QUESTIONNAIRE

The Impact of Industrialization in Bhopal

SLUM ECONOMY : HOUSEHOLD QUESTIONNAIRE

1. Locality : _____
2. Head of the Household : _____
3. Respondent : _____
4. Religion : a. Hindi
b. Muslim
c. Christian
d. Sikh
e. Other (specify)
5. Caste/tribe :

6. (a) Details of Family members

Sl. No.	Name of family	Relation-ship with the Head	Sex: Male-1 Female-2	Age*	Educa-tion*	Occupation Main/Subsi-diary	Month-ly in-come (in Rs)
1.	2.	3.	4.	5.	6	7. 8.	9.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Codes

<u>Age</u>	<u>Relationship with the Head</u>		<u>Education</u>
1. Less than 5	1. Self	7. Sister	1. Illiterate
2. 5-9	2. Wife	8. Brother	2. Primary
3. 10-14	3. Son	9. Son-in-law	3. Middle
4. 15-34	4. Daughter	10. Daughter-in-law	4. High School/ Secondary
5. 35-55	5. Mother	11. Nephew	5. Intermediate/ Higher Secondary
6. 60 & above	6. Father	12. Niece	6. B.A., B.Sc., B.Com., etc.
		13. Other (specify)	7. M.A., M.Sc., M.Com., etc.
			8. Technical (specify)

6. (b)

Sex	Total	Adults above 15 years		Others below 15 years	
		Earners	Non-earners	Earners	Non-earners

Male

Female

7. How long have you been living at this place?

1. Less than 5 years
2. 5-10 years
3. More than 10 years
4. Since birth

8. Where from did you migrate to this place ?

- | | | |
|---------------|--------|--------|
| a. Rural area | 1. No. | 2. Yes |
| b. Urban area | 2. No | 2. Yes |

NOTE : Please mention the name of district and state from where you migrated.

9. (a) Do you think you might move out from this place within the next few years?

- | | | |
|--------|--------|--------------|
| 1. No. | 2. Yes | 3. Uncertain |
|--------|--------|--------------|

(b) If yes, where do you propose to move?

- | | |
|------------------------|---------------------------|
| 1. Inside Bhopal City | 2. Inside Bhopal District |
| 3. Inside M.P. | 4. Outside M.P. |
| 5. Outside the country | |

10. Why do you propose to move out from the city?

11. What was your occupation before migrating to this place?
(Also mention the year in which you migrated)

Occupation _____

Year _____

12. Do you possess the following assets :

- | | | | |
|---------------------|--------|--------|-------------|
| a. Bicycle | 1. No | 2. Yes | Value (Rs.) |
| b. Thela | 1. No | 2. Yes | |
| c. Sewing machine | 1. No | 2. Yes | |
| d. Cycle rickshaw | 1. No | 2. Yes | |
| e. Auto rickshaw | 1. No. | 2. Yes | |
| f. Radio/transistor | 1. No | 2. Yes | |

- g. Electric iron 1. No 2. Yes
 h. Almirah 1. No 2. Yes
 i. Watch/clock 1. No 2. Yes
 j. Stove/gas 1. No 2. Yes
 k. Chair etc. 1. No 2. Yes
 l. Other (specify) 1. No 2. Yes

Scooter

13. (a) Do your children go to any school?

1. No. 2. Yes

(b) If yes, how far is the school located?

_____ (in km.)

14. (a) Do you avail of medical facilities?

1. No. 2. Yes

(b) If yes, how far is the dispensary/hospital located?

_____ (in km.)

15. (a) Have you availed yourself of any medical facility provided by BHEL?

1. No 2. Yes

(b) If yes, state the nature of the facility, frequency of its provision etc.

8 8

16. Where do you avail of the following other facilities?

Sl. No.	Facility	Within your slum area	Outside your slum area (state distance from your slum) in km.
---------	----------	-----------------------	---

1. Drinking water
2. Electricity
3. Bus
4. Post and Telegraph
5. Finance
6. Market

17. (a) Are you a self-employed producer of any good?

- 1. No
- 2. Yes

(b) If yes, state the type of the product?

18. (a) Do you or any other member of your family work in BHEL?

- 1. No
- 2. Yes

(b) If yes, name the type of job and number of family members associated with it.

1. _____

2. _____

3. _____

19. (a) Do you have any activity in mind which can raise your income?

- 1. No
- 2. Yes

(b) If yes, state the type of activity?

20. Do you think BHEL and its ancillary industries would be helpful in promoting the proposed activity?

- 1. No
- 2. Yes

21. (a) Are you or any of your family member trying to secure job in BHEL or its ancillary industries?

- 1. No
- 2. Yes

(b) If yes, state the nature of that job?

APPENDIX - A

QUESTIONNAIRE

The Impact of Industrialization in Bhopal

QUESTIONNAIRE FOR VILLAGE SURVEY

1. Name of Village : _____
2. Name of Tehsil : _____
3. Population : _____
4. No. of Households : _____
5. Total number of SC/ST : _____
6. No. of households depending on agriculture : _____
7. No. of Households in other occupations :
 - i) _____
 - ii) _____
 - iii) _____
8. a) No. of workers employed in BHEL : _____
- b) Type of job : _____
- c) Nature of job :
 - i) Temporary
 - ii) Permanent
- d) Wages paid (in Rs.) : _____
9. Distance of the village from Bhopal city (in km.) : _____
10. Distance of the village from BHEL Bhopal (In km.) : _____

11. a) Do children go to any school from your village? : Yes/No
- b) If yes, state how many children go to that school : _____
12. a) If no, to question 11(a) where do they go to avail of education facility : _____
- b) How far is that school? : _____
13. a) Do villagers avail of medical facilities from any hospital/clinic?
- b) If yes, what are the conditions in which the medial facility is given by i) _____ ii) _____
14. a) If no to question 13(a), where do they go to avail of medical facility? : _____
- b) How far is that place located? : _____
15. Do you sell the following items:-
- | | | <u>No. of households selling</u> |
|-----------------------|------------|----------------------------------|
| a) Milk/Milk products | Yes/No | _____ |
| b) Eggs/Chicken | Yes Yes/No | _____ |
| c) Vegetables | Yes/No | _____ |
| d) Wood | Yes/No | _____ |
| e) Stones | Yes/No | _____ |
| f) Any other(specify) | Yes/No | _____ |

16. To whom do you
sell the above
products in general?

- a) Directly consumed in the
village : Yes/No
- b) To the consumer in Bhopal:
City : Yes/No
- c) To the traders in the
main market of Bhopal
City : Yes/No
- d) To the traders in weekly
market in the Bhopal
city : Yes/No

17. How do you think your village has :
benefitted from the BHEL unit?

QUESTIONNAIREThe Impact of Industrialization in BhopalSurvey of Industrial Units

1. IDENTIFICATION OF ESTABLISHMENT

- (a) Name of Establishment : _____
- (b) Location and Address : _____
- (c) Year of Establishment : _____
- (d) Registered/Unregistered: _____
(with whom registered)
- (e) Nature of Activity (ISIC* CODE) _____

2. INFORMATION REGARDING OWNER

- (a) Name of the Owner(s) _____
- (b) Caste _____ (c) Religion _____
- (d) State of origin : Rural/Urban
- | State | District | Tehsil |
|-------|----------|--------|
| _____ | _____ | _____ |
- (e) Present establishment
Inherited/self acquired
- (f) Type of Ownership
Proprietary/Partnership/Cooperative/Others
Please specify) _____
- (g) The structure in which activities are located :
Owned/Hired/Leased

(h) Other capital assets Owned by the Owner :

(i) Agricultural Land	Area in acres	Value in Rs.
	_____	_____

(ii) Industry etc. (other than the one in question)	Type of Industry	Capital size in Rs.
	_____	_____

3. OPERATION PERIOD OF ESTABLISHMENT

Perennial/Seasonal

If seasonal give

(i) Normal season in months _____

(ii) Months of operation during the year 1981-82 _____

4. INFORMATION REGARDING EDUCATION OF THE OWNER

(a) Literate Yes/No
If yes, education upto _____

(b) Any Technical Education _____

(c) Any experience before :
starting the establishment _____

5. EMPLOYMENT STRUCTURE
(a)

Persons employed on the date of survey	Family Members			Hired		
	Male	Female	Child	Male	Female	Child
	No.	Wage rate	No.	Wage rate	No.	Wage rate

SKILLED

(i) Regular

(ii) Casual

UNSKILLED

(i) Regular

(ii) Casual

(b) Is the prevailing Wage Rate high/low

If high give reason _____

(c) How do you get labour

Whether through any agency/general

If from agency, specify the name and location _____

(d) Do you give opportunity to your workers for acquiring skills etc. through

(i) Formal Training in the Unit Yes/No

If yes, what type

(Please specify) _____

(ii) Sending them out where? _____

6. INFORMATION REGARDING RAW MATERIAL AND FINISHED GOODS

- (a) Whether supply of raw material comes through organised agency Yes/No

If no, how do you get raw material

(please specify) _____

- (b) Is the supply of raw material satisfactory? Yes/No

If no, reason(s)

(i) _____

(ii) _____

(iii) _____

- (c) Do you sell your product(s) through organised marketing agency? Yes/No

If yes, specify the name etc. _____

If no, then how and to whom do you sell your products(s) _____

- (d) Why have you located your activity in the present area? Is it due to satisfactory availability of :

If No, give reason

(i) Place (shed etc.) Yes/No _____

(ii) Raw Materials Yes/No _____

(iii) Electricity Yes/No _____

(iv) Water Supply Yes/No _____

(v) Labour Yes/No _____

(vi) Market (demand of goods) Yes/No _____

(vii) Any other _____
(Please specify)

7. Do you have any problem about	Reason
(i) Labour unrest	Yes/No _____
(ii) Power breakdown	Yes/No _____
(iii) Sewerage/drainage	Yes/No _____
(iv) Health facilities	Yes/No _____
(v) Water shortage	Yes/No _____
(vi) Environmental Pollution	Yes/No _____
(vii) Roads	Yes/No _____
(viii) Transport, etc.	Yes/No _____

8. INVENTORY OF WORKING CAPITAL DURING THE YEAR, 1982-83

	Opening Balance (Rs.)	Closing Balance (Rs.)	Change in Balance (Rs.)
1. Materials, fuels, stores of other things			
2. Semi-finished goods			
3. Products and bi-products			

9. DETAILS OF CAPITAL ASSETS (FIXED)

Items	Net opening balance (Rs.)	Change due to		Net closing balance (Rs.)	Rent paid (Rs.)
		Purchase or construction	Depreciation etc.		
1. Land					
2. Building					
3. Plant & Machinery					
4. Transport equipments					
5. Tools and other fixed assets					
6. Assets under construction and installation					
Total					

10. INPUTS USED

S.No.	Item	Quantity	Value in (Rs.)	Name of place of purchase
-------	------	----------	----------------	---------------------------

(a) Basic Items

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

(b) Chemicals and Auxiliaries

- 1.
- 2.
- 3.
- 4.
- 5.

(c) Fuel and Lubricant

1. Coal, Cokes, Coal gas
2. Diesel Oil
3. Lubricating Oils
4. Electricity
5. Water
6. Others

(d) Packing Materials

- 1.
- 2.

11. EXPENDITURE ON

- (i) Consumable Stores _____
- (ii) Transportation _____
- (iii) Value of work done by others _____
- (iv) Taxes and Excise duties _____
- (v) Advertising publicity (yearly) _____
- (vi) Stationery and Printing etc. _____
- (vii) Repairs and maintenance _____
- (viii) Others _____

12. OUTPUT

Products (main)	Quantity (kg.)	Value in (Rs.)	Price per unit
1.			
2.			
3.			
4.			
5.			
<u>By-products</u>			
1.			
2.			
3.			
4.			
5.			
TOTAL			

BIBLIOGRAPHY

1. Ames, Michael M. "Modernization and Social Structure: Family, Caste and Class in Jamshedpur", Economic and Political Weekly, 4(28, 29 and 30), 1969.
2. Aron, Raymond. Eighteen lectures on Industrial Sociology (London: Weidenfield and Nicolson, 1961).
3. BALCO, Lok Udyog, December, 1979.
4. Beil, Daniel. The coming of Post Industrial Sociology (London: Heinemann, 1976).
5. Buchanan, D.H. The Development of Capitalist Enterprise in India (New York: Mac Millan & Co, 1934).
6. Burns, Tom. "The Sociology of Industry", and Welford et. al (eds) Society, Problems and Methods of Study (London: Routledge and Kegan Paul, 1963).
7. Burns, Tom. Industrial Man (Penguin Books, 1976).
8. Dasai, A.R. Social Background of Indian Nationalism (Bombay: Popular Prakashan, 1976)
9. Epstein, T.S. Economic Development and Social Change in South India (Manchester: Manchester University Press, 1962).

contd...

10. Gadgil, D.R. The Industrial Evolution of India in Recent Times (Delhi: Oxford University Press, 1971).
11. Galbraith, J.K. The New Industrial State (Calcutta: Oxford IBH, 1967).
12. Harriss, John "Character of an Urban Economy : Small Scale Production and Labour Markets in Coimbatore", in Economic and Political Weekly, June 5 and 12, 1982.
13. Holstrom, M. South Indian Factory Workers (London: Cambridge University Press, 1976).
14. Hoselitz, B.F. and Moore, W.E. (eds) Industrialization and Society (Mouton: UNESCO, 1970).
15. JOSHI, V.H. Social Implications of Urbanization and Industrialization in a South Gujrat Village. Unpublished, Ph.D. Thesis.
16. Kapadia, K.M. and Pillai, S. Devdas. Industrialization and Rural Society: A study of Atul-Bulsar Region (Bombay: Popular Prakashan, 1972)

contd....

17. Kerr, Clark et. al. 1973. Industrialization and Industrial Man (Penguin Books, 1973)
18. Klass, Morton. From Field to Factory - Community structure and Industrialization in West Bengal (Philadelphia: Institute for the study of Heeman Issues, 1978)
19. Kuchhal, S.C. The Industrial Economy of India (Allahabad: Chaitanya Publishing House, 1970)
20. Kuthilala, S.K. "Impact of Factory production in Traditional Societies : Modernization, some alternative views on India," British Journal of Sociology 22(2), 1971, Pp 149-59.
21. Lambert, R.D. "Labour in India", Economic Development and Cultural change, Vol. 8, 1960, PP 206-13.
22. Lambert, R.D. Workers, Factories and Social Change in India (Princeton, N.J. Princeton University Press, 1963).
23. Malhotra, P.C. Socio-Economic Survey of Bhopal City (Bombay: Asia Publishing House, 1964)

contd....

24. Mishra, B.R. Socio-economic Survey of Jamshedpur city (Patna: Patna University, 1959) Unpublished Ph.D. Thesis.
25. Mohsin, M. Chittareddan - A Study in Urban Sociology (Bombay: Popular Prakashan, 1964)
26. Moore, W.E. Industrialization and Labour (Ithaca: Cornell University Press, 1951)
27. Moore, W. E. The Impact of Industry (New Delhi : Prentice Hall, 1969)
28. Moore, W.E. and Feldman, A.S. (eds) Labour Commitment AND Social Change in Developing Areas (New York : Social Science Research Council, 1960)
29. Mukherjee, Ramakrishna. "Sociologists and Social Change in India Today" (Sociological Bulletin, Vol. XI, March - Sept. 1962)
30. Myrdal, Gunnar. Asian Drama: An Enquiry into the Poverty of Nations (New York: The Twentieth Century Fund).

Contd....

31. Nafziger, E. Wayne. Class, Caste and Entrepreneurship: A Study of Indian Industrialists (Honolulu: The University Press of Hawaii, 1978)
32. Nandy, Ashis and Ovlens, Raymond Lee. The New Vaisyas (New Delhi: Allied Publishers, 1977)
33. Neale, Walter. "Social Effects of Industrialization", Economic Weekly, 1956.
34. Nichoff, A. Factory Workers in India (Milwaukee: Public Museum, Publication in Anthropology, 1959).
35. Panini, M.N. "Networks and Styles : Industrial Entrepreneurs in Faridabad", Contributions to Indian Sociology, II(1) Jan-June, 1977, PP 91-115.
36. Panini, M.N. "Industrialization and Social Stratification in India", workshop on Social Stratification in India, Centre for the study of Social Systems, School of Social Sciences, J.N.U., New Delhi, 1983 (Cyclostyled).
37. Parsons, Tal Cott and Smelson, Neil J. Economy and Society (New York: Free Press of Glencoe, 1956)

contd...

38. Pathak, H.N. "Small Scale Industries in Ludhiana", Economic and Political Weekly, 5(28), 1970 PP 1091-97.
39. Pillai, S. Devdas and Baks Chris (eds) Winners and Losers : Style of Development and Change in an Indian Region (Bombay: Popular Prakashan, 1979).
40. Ramaswamy, E.A. and Ramaswamy, Uma. Industry and Labour. An Introduction (New Delhi: Oxford University Press, 1981)
41. Saberwal, Satish, Mobile Men: Limits to Social Change in Urban Punjab (New Delhi: Vikas, 1976)
42. Satyanarayan, J. etal "Socio-economic Impact of a Public Sector Unit: Case study", Lok Udyog, June, 1971, Pp 5-14.
43. Sengupta, Nirmal etal. Regional Distribution of Economic Benefits arising from a Steel Plant: A case study of Rourkela Steel Plant (Patna A.N. Sinha Institute of Social Studies 1975) Mimeographed.
44. Sharma, Baldev R. "Industrial Worker some Myths and Realities", Economic and Political Weekly, 5(22), 1970 PP. 875-78.

contd...

45. Sharma, Baldev R. The Indian Industrial Worker: Issues in perspective. (New Delhi: Vikas, 1974).
46. Sheth, N.R. "Society and Industrial work in India: A case study" Human Organization, 26(1-2), 1967, PP 77-89.
47. Sheth, N.R. The Social Framework of an Indian Factory (Bombay: Oxford University Press, 1968)
48. Sheth, N.R. "Sociological Study of Industrial Workers", Sociological Bulletin, 25(1) March, 1976, PP 76-90.
49. Sheth, N.R. "Industrial Man of India: Some Observation and Reflections", Economic and Political Weekly, 14(47) Nov. 24, 1979 PP. M-102-14.
50. Sheth, N.R. and Patel, P.J. Industrial Sociology in India (Jaipur: Rawat Publications 1979).
51. Shetty, S.L. "Industrial Growth and Structure: As seen through Annual Survey of India", Economic and Political Weekly, 17(40 & 41), 2 and 9, 1982.
52. Singer, Milton. "The Indian Joint Family in Modern Industry" in Singer, Milton and Cohn, B.S. (eds) Structure and Change in India Society (Chicago: Aldine, 1968).

53. Shirokov G. K. Industrialization of India (Moscow: Progress Publishers, 1973)
54. Singer, Milton. When a Great Tradition Modernizes (New York: Farrar, 1972).
55. Smith, Vincent A. The Oxford History of India (Oxford: The Clarendon Press, 1964).
56. Srinivas, M.N. "The Industrialization and Urbanization of Rural Areas", Sociological Bulletin, 5(2), 1956, pp 79-88.
57. Thorner, D. "Casual Employment of Factory Labour Force: The case of India: 1850-1939", The Economic Weekly, 1957, Annual Number.
58. U.N.E.S.C.O. Social Implications of Industrialization and Urbanisation (Calcutta: UNESCO Research Centre, 1956)
59. Vaid, K.N. The New Worker (Bombay: Asia Publishing House, 1968)
60. Vidyarthi, L.P. Socio-Cultural Implications of Industrialization: A Case Study of Tribal Bihar (New Delhi: Planning Commission, Research Programme Committee, 1970).