URBANIZATION, INDUSTRIALIZATION AND ITS INTERLINKAGES : A CASE STUDY OF JHARKHAND,1971-1991

A Dissertation submitted to the Jawaharlal Nehru University
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for the award of the Degree of
MASTER OF PHILOSOPHY

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CERTIFICATE

This is to certify that this dissertation entitled **"URBANIZATION, INDUSTRIALIZATION AND ITS INTER LINKAGES : A CASE STUDY OF JHARKHAND REGION, 1971-1991"**, submitted by **KAMAL KANT CHAMPIA**, in fulfilment of six credits out of the total requirements for the award of the degree of **MASTER OF PHILOSOPHY**, is a bonafide work to the best of my knowledge and may be placed before the examiners for evaluation.

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DEDICATED

TO

MY FRIENDS

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Kamal Kant Champia

(KAMAL KANT CHAMPIA)

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INTRODUCTION

Urbanization is an essential element in the process of economic growth and social change. More specifically, it is related to the process of transformation of rural traditional economies into modern industrial economies as well as overall transition from traditional to modernity. Besides that he suggested about the rapid population growth and surplus labour which is the case of present day India and calls for fresh thinking about the industrialization urbanization process (Bose 1982, pp. 289).

Besides that Sovani (1960) suggested that urbanization, if broadly defined, is the process whereby people move from rural area of habitation to urban areas, resulting in large concentration of population in cities and towns along with a gradual and continuous change in their economic pursuit, level of social amenities and above all changes in behaviour of the people. The urbanization leads to a highershare of people living in centres of human agglomeration called cities coupled with diversification of the economy and declining relationship among the individuals. The important point to be noted here is that the city growth in all forms is not to be confused with urbanization. Urbanization refers to the proportion of


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50 0 50 100 150
km

population residing in the urban places. Indian census defines that one fourth (1/4) of male workers should be employed in the non-primary activities. Though the debate between urbanization and industrialization is still open, it is our contention that industrialization plays important part in the growth of urbanization. The multiplier and cumulative effects of urban industrial development have been apparent in the many nation that have been touched by these phenomenon ever since the industrial revolution (Mookherjee D 1973 p. 147-87). In a developing countries like India, industrialization has been termed "the most important factor influencing the growth of urbanization, urban centres and general economic development" (Basu 1965). The important role of industrial undertaking in promoting the growth of certain points or regions in India need to be considered. Jharkhand region also required an added attention to analyse industrial urban linkages.

STUDY AREA:

In the present situation, the Jharkand has its own importance, not only in terms of its richness, about the mineral resources, but also for its development and industrialization. Besides that the region having a very unique ethnic composition, which is very much responsible for, awakening of people of the region either politically or for socio-economic reasons.

From the physical point of view, Jharkand region comprises 15 districts. According to the administrative boundaries of 1971 census, Jharkhand region comprises of more than one state. Districts from the state of Bihar being Santhal Paraganas, Ranchi, Dhanbad, Hazaribagh, Palamu and Singhbhum. Similarly Keonjhar, Mayurbhanj, Sambalpur and Sundergarh form part of Orissa. Surguja, Raigarh, Bankura, Purulia and Medinapore form part of West Bengal and Madhya Pradesh. In terms of mineral resources, Jharkhand is the richest region of India. It contributes nearly 40 per cent of the mineral production of the country. About the mineral endowment of Jharkand (Dunn 1943 p. 91) comments: indeed there are few regions in the world of similar area to that of Jharkand region. With such a remarkable variety of valuable resources including deposits of coal, iron, copper chromite, mica, aluminium lime stone, phosphate manganese, kainite etc.

In the wake of the exploitation of mineral wealth, particularly coal, iron, copper, mica, limestone, a number of industrial centres have emerged in this region. The regional economy also encouraged industrialization which has stimulated rapid urban growth. Jharkhand region therefore present a fascinating study of the impact of industrialization on urban growth. In the opinion of Clapham 1936 (p. 53) the best general test of the industrialization of a nation, life under modern condition

in the rate and character of growth of its towns.

Objective

Urbanization is a recent phenomenon, however, it is of far reaching significance and consequences in a developing country. It is generally taken as a symbol of development. The main objectives of this were to be:

(i) Analyse the level of urbanization and urban growth of the region.

(ii) To identify the different size class town population and their growth at the district level.

(iii) To identify the newly emerging towns for 1971-81 and 1981-91 period.

(iv) To analyse the workforce structure of the region and its variation from one census to another.

(v) To analyse the migration pattern (intra-district, inter district and inter state migration) in the region.

(vi) To analyse the stream of migration for region whether it has rural to rural, or rural to urban or urban to urban or urban to rural.

(vii) To monitor and analyse the growth of employment based on the national industrial classification at the two digit level.

(viii) To examine the decadal growth and distribution pattern of occupation in region.

(ix) Bring out the inter-linkages between urbanization and industrialization in the Jharkand region.

DATA BASE:

Districts level data have been used for the state of Bihar, West Bengal, Orissa and Madhya Pradesh. Main source of data for this study have been provided by the Census of India and by central statistical organization. The following are the census volume which have been consulted, namely.

(1) General population table

Census of India, Bihar, West Bengal, Orissa and Madhya Pradesh, 1971, 1981 and 1991.

(2) General Economic Tables

Census of India, Bihar, West Bengal, Orissa and Madhya Pradesh

(3) Migration Tables:

Census of India Bihar, West Bengal, Orissa, Madhya Pradesh, for 1971, 1981 and 1991.

(4) Paper I Provisional Population

Table, Rural Urban Distribution 1981 and 1991.

(5) Provisional population table

Paper II, Workers and Non worker's, Census of India 1981 and 1991.

(6) Statistical Abstract of India

for West Bengal Bihar, Orissa and Madhya Pradesh for 1971, 1981 and 1991.

METHODOLOGY

Since the general way of expressing subjective statement like highly urbanized, rapid growth rate, are of no use in giving insight to the dynamics of phenomenon like urbanization, precision and accuracy demands that the element of objectivity be incorporated in the analysis - hence the need for tables, graphs and maps. These methods are not only needed for a proper analytical framework but to escape from the hazards of subjectivity (Kundu 1983).

However, quantitative techniques applied below to cope with obscurantism and value judgement, the two evils of theoretical analysis in no way supplement the theoretical proposition which forms the base of study. In the analysis of the measurement of the process of urbanization the following quantitative have been used.

(i) DEGREE OF URBANIZATION:

Degree of urbanization or the level of urbanization usually refers to the relative number of people who live in what are defined as urban places. The per cent of

population in urban places, has been most commonly used index for measuring the degree of urbanization.

$$PU = U/P \times 100$$

where; PU = Proportion of population in urban places

U = urban population

P = total population

(ii) TEMPO OF URBANIZATION

The concept of tempo of urbanization refers to the changes in degree of urbanization over a period of time. If the degree of urbanization is measured by the per cent of population living in urban places. The speed of urbanization would be change registered in this index during a period of time.

To measure the tempo of urbanization as are absolute annual change in per cent points, the following formula is adopted

$$T_A = 1/N \ (PU^{t+N} - PU^t)$$

Where

T_A = Tempo of urbanization

N = Number of year passed between two point of time

PU = percent of population at the year t and t + n.

(iii) STREAM OF MIGRATION

Rural to Rural migration: It has been calculated on the basis of according to the place of birth, if the person has born in rural area and enumerated also in rural area. All that migrants has been considered to the rural to rural migration.

Rural to Urban Migration: If the migrant has been found in urban area, but his place of birth is in rural area considered them the rural to urban migrants.

Urban to Urban Migration: Those migrants which have been found their place of birth and enumerated in urban area, called them urban to urban migrants.

Urban to Rural Migration: Migrants born in the urban area and they are enumerated in rural area are considered the urban to rural migrants.

For different purpose of the analysis different methods are used. Taking a data for the agricultural, industrial and infrastructural indicators at the districts level, simple correlation matrix is found to see the degree of relationship among them.

To see the overall spatial structural development, composite index district-wise is constructed for agricultural, industrial and infrastructural indicator for 1971 to 1991. The weightages were given by the method of first principal component analysis.

Lastly, stepwise regression district-wise is applied for 1971, 1981 and 1991 to identify the explanatory variables for urbanization, urban growth. Sex ratio with the agricultural, industrial and infrastructural indicators.

CHOICE OF STUDY AREA:

(i) This region has a separate regional identity from its adjoining areas.

(ii) Recently the region has remained in the news, due to its demand for separate state or union territory.

(iii) In the previous decades, most of the districts have shown very high growth rate of urban population. Attempt has been made to examine the variation in urban population during the three decades.

(iv) This region comes under the well developed industrial belt of India, having a large number of key industries.

(v) According to the report of the National Commission of urbanization, Jharkand has the concentration of national priority cities. It falls under the spatial priority urbanization region (SPURS).*

HYPOTHESIS:

(i) Higher the growth of new towns, higher will be the growth of urban areas.

(ii) Least urbanized districts tend to show a higher urban growth as compare to more urbanized districts.

(iii) Higher the male secondary workforce higher will be the growth of urban population.

(iv) Higher the growth of secondary worker lower will the growth of tertiary workers.

(v) Higher the growth of tertiary worker higher will be the comparative growth of urban population.

(vi) Higher rural to urban migration tend to show for a high urbanized districts of the region.

(vii) Higher the growth of industrial activities higher will be the growth of urban population.

(viii) There exists a positive relationship between urbanization and industrial workers.

(ix) There exist a positive relationship between share of urban population and availability of infrastructural facilities.

The main purpose of the study as pointed out earlier is to examine the impact of urbanization on

industrialization and economic development. To explain this relationship, the dependent and independent variables are selected. In the 1971 and 1981 we have collected similar indicator for both the periods. But for the 1991 period, we have changed some dependent indicators, reasons behind this short availability of some dependent indicators. The dependent variables are collected, on base of agricultural, industrial and infrastructural indicators.

(A) INDICATOR'S OF AGRICULTURAL DEVELOPMENT:

Though over dependence on agricultural and related pursuits indicate backwardness of the economy there is a need to study the relative development of agriculture for measuring the economic condition of the people engaged in cultivation. The level of development in this case can be reflected in agriculture efficiency. Following are the agricultural indicators.

(i) Percent of agricultural workers to total workforce.

(ii) Productivity of 19 crops per thousand (000) hectare.

(iii) Fertilizer used for agriculture works in towns.

(iv) Number of pumpsets having the districts.

Above mentioned agricultural indicator's had been used for 1971 and 1981. While for 1991 the over agricultural

indicators used are as following:

(i) Net shown area.

(ii) Value output of major crops/per hectare.

(iii) Average size of land holding.

INDICATORS OF INDUSTRIAL DEVELOPMENT:

The role of industries in economic development cannot be overemphasized. It is a modern sector of economy on which the development in other sectors depend. Hence the indices formed to measure industrial development are very important. Therefore, we have selected very carefully the industrial indicators such as follows:

(i) Percentage workers engaged in household industries to the total workers in the district.

(ii) Percentage of worker's engaged in other than household industries to the total workers population in the district.

(iii) Percentage of workers engaged in trade and commerce to total workers population in the districts.

(iv) The percentage of workers related manufacturing sector according to national industrial classification.

For the 1991 census two industrial indicator had been eliminated, and three new industrial indicators had been

added, such a

(a) per capita bank credit to industries.

(b) per capita bank deposits by districts

(c) per capita bank credit in the districts.

GENERAL INDICATORS:

In this category we have mixed up the many indicators which generally indicate the economic development. These we termed as infrastructural indicators. Such indicators are related to migration, health, and indicators of transport development. Such indicator's are:

(i) Percentage of rural to urban migration to the total migrants.

(ii) Percentage of urban to urban migration to the total migrants.

(iii) Percentage of male literates to the total male population.

(iv) Number of hospitals and dispensary per thousand population.

(v) The length of metalled road per thousand population.

(vi) Number of vehicles per thousand population.

In the 1991 census some other indicator's had been used as the economic indicators as:

(i) Number of post offices available per lakh population.

(ii) Number of telegraph offices available per lakh population.

(iii) Percentage of male workers to the total male workers.

(iv) Percentage of female workers to the total female workers.

(v) Percentage of male literates to total male population.

(vi) Percentage of female literates to total female population.

LIMITATION OF THE STUDY:

Any analysis which takes account of three or more adjoining states within a region is marked by problems of adjustability, particularly the regional boundaries. Indeed definition of administrative boundaries as adopted by the census or practised by local authorities rarely coincides with natural or geographical limits. The definition of urban centres as also the definition of municipal boundaries are often arbitrary and consequently research finding are liable to be affected.

In the most of the cases urban centre extend much beyond their municipal limit (Shahi U.P. 1989, pp. 10-15). Attempts have been made to circumvent these problems as objectively as possible by drawing upon the work of other scholars who have worked on Jharkand region.

REVIEW OF LITERATURE:

Urbanization, refers to the proportion of population resident in the urban places, particularly the proportion of population engaged in secondary and tertiary sector of the economy.[1] Demographically it is an increase in the proportion of urban population to the total population over a period of time. As long as there is an increase in this proportion, there is urbanization. Usually urbanization takes place in two ways: (a) the expansion of the size of existing urban units and (b) appearances of new urban units (Gibbs 1969). Generally the population added by natural increase or reclassification of urban centres forms but a small segment of the total urban population. Therefore, rural to urban migration is the major cause behind the process of urbanization. Urbanization is a continuous and complex process. It is continuous and complex process, in the sense that it involves acquiring an urban character as distinct from the other which is rural. It is complex because, there is a transformation of workforce, from those dependent on land to those who are skilled, semi-skilled and working in non-agricultural activities.

Then, there is a change from agriculture to other economic pursuits common to urban centres and corresponding

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[1]Hauser, Philip and Schowore, Leo F (Ed.) : The Study of urbanization, John Willey and Sons, New York, (1965), p.89.

change in the behaviourial pattern (Mitchell 1956)[2]. However, the feature of urbanization or its effects vary from economy to economy. It is a complex process and most of the approaches to urbanization invariably stress that this process is related to transformation of society including some drastic social economic and geographic changes (Lewis-1969)[3]. Davis has very rightly remarked that urbanization represents a revolutionary change in the whole pattern of social life. Itself a product of basic economy and technological development, it tends in turn, ones it comes into being to affect every aspect existence (Davis 1955 p. 429). Urbanization as a process generally follows a sigmoid curve and occurs in cycle exhibiting a pattern in which the rate of change is slow at first, then rises sharply as the early stage of urbanization are reached and tapers off gradually when the proportion of urban population reaches near a saturation point.[4]

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[2]Mitchell, J. Clype : "Urbanization, Detribalization and Stablization in Southern Africa : A Problem of Definition and Measurement, Report of International African Institute, London (UNESCO), 1956.

[3]Lewis, Robert A. and Ronald R.H., Urbanization in Russia and USSR : 1897-1966" *Annals of the Association of American Geographers*, Vol 59, No. 4, 1969.

[4]Davis Kingsley, "Urbanization in India's : Past and Future" in Roy Turner (Ed.), *Indias Urban Future*, 1962.

Berry and Mohammad[5] are of the opinion that the above definition is generally appropriate for the developing countries where clustering of associated innovation plays a key role in urbanization. They further remark that urbanization, modernization seems to go hand in hand in India. Urbanization is the diffusion of economic innovation and it is also a process of social change and development. The assumption is that well coordinated development of socio-economic infra structure is essential in order to maintain a high level of urban and economic development.

URBANIZATION AND INDUSTRIALIZATION

Prof. Hozelitz points out "although industrialization and urbanization go usually hand in hand, there is no necessary connection between the two processes. Industries can be and have been established even in the rural districts, and cities have grown up without large industrial plants.[6] Historically, too, the association poised in exact, as Herbarle reminds up "industrialization and urbanization should not be considered as identical processes... cities have been in existence before industrialization and not all cities are highly

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[5]Berry and Mohammad, Afzal, "Spatial Evidence of Urban Induced Modernity in Andhra Pradesh", in Noble A.G. and Dutt, A.K. (eds.), *India's Urbanization and Planning*, Tata McGraw Hill, New Delhi, 1977.

[6]Bert. Hselitz, "The City, the Factor of Economic Growth", *American Economic Review*, 1985, p.167.

industrialized.[7] Simon Kuznets emphasizes that there is no inevitable technical connection between industrialization and urbanization suggesting that it is technically possible to combine the pursuit of agriculture with urbanization and the modern industries with rural living, albeit at a prohibitively high cost.[8] It is fact that "urbanization is treated as the child of industrial revolution. So with the size of industrialization increases, five major factor however stand out as the determinants of urbanization such as (i) agricultural revolution, (ii) industrial revolution, (iii) commercial revolution, (iv) increasing efficiency of transportation, (v) the demographic revolution.[9]

For Davis and Golden (1954 p. 5). Since urbanization refers to a ratio of the urban population to the total population and the degree of urbanization in given country or region can vary independently of the absolute number of the people living in the cities. They say the under developed areas of the world are less urbanized then the developed area. Both the authors have found the degree of urbanization increase. It is noticed that country having

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[7]Roulolf Herberle, Social Consequences of the Industrialization of Southern Cities, *Social Force*, Oct. 1948, p. 29

[8]Simon Kuznets, "Consumption Industrialization and Urbanization", in Hoselitz and More (ed.), *Industrialization and Society*, UNESCO, New York, 1963.

[9]Sundra Raising, "Urban Planning in India", New Delhi, 1979, pp. 97-191.

peasant agrarian stage of economic development are least urbanized. While showing the precise extent of the association between economic development and urbanization, most of the authors suggested that Asia and Africa were mainly agrarian based with least urban shares to the total population. The achievement of high level urbanization any were in the world had to wait for industrial revolution.

In the developed countries, urban industrial growth is circular and cumulative in the initial stage of urban industrialization.[10] Industrialization and urbanization are well integrated in the development. The urban industrial economic growth. Syndrome is being supplemented or bypassed by the urban commercial economic growth. Syndrome through the new agriculture technology and agricultural surpluses.[11] To understand fully the implication of urban industrial relationship, it is necessary to recognise the multiplier effect of the industrial growth on the dependency ratio, transport and trade, on the link with ancillary industries and even with household industries. These, in turn, effect the demand for service, trade and employment. Thus growth of employment is the direct or indirect effect of industrialization and urbanization.

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[10]Pred, A., "Industrialization : Initial Advantages and American Metropolitan Growth, *The Geographical*, p. 55.

[11]Rao, V.L.S. Prakash, "Urbanization in India; Spatial Dimensions", (1983), pp. 15-25.

It has generally been observed that there is a direct correlation between urbanization and industrialization. Industrial development being part of the overall economic development depends upon certain pre-conditions. The fulfilment of pre-conditions in varying degrees determines the pace and pattern of industrial expansion. They are growth in infrastructure. Some are economic while others are non- economic in nature. Some of the pre-conditions of economic growth may be tested in adequate facilities of transport and communication, power, skilled manpower, adequate banking and financial institution etc.

Jakobson and Prakash[12] found a strong correlation which exists between urbanization rate and various indicators of economic development. They suggest that urban development policy must be designed to take into account not only this general relationship but also the apparent temporal correlation between the different stages of economic and technological development and the various levels of urbanization.

It is a well known fact that most of the studies on urbanization have been confined to European and Western countries. Therefore, many of the generalizations about urban phenomenon were actually related to western experiences even though they were treated as a universal

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[12]Leo Jakobson and Ved Prakash, "Urbanization and National Development", Sage Publication, 1971, pp. 25-39.

phenomenon. The experiences of developing countries have not been similar in terms of process and pattern of urbanization to that of the western countries.

India has one of the very large urban populations among the countries of world. It ranked second after the China. The rapid rate of urbanization of any country in modern times is due to rapid rate of industrialization and economic development. In India too, Davis pointed out the more rapid growth of the cities was due to industrialization.[13]

In his pioneering study of urbanization in India, Kingsley Davis, besides indicating the influence of industrialization on the growth of cities also showed that the larger cities had been growing faster than the smaller ones. (Suri 1968) suggested that towns with different economic functions have different degree of productivity for growth and the industrial cities have the highest growth potentiality.

(Davis 1968) suggested about the South and South east Asian countries that there is a process of over urbanization which seems to be strong in densely populated agrarian countries. Davis' concept of over urbanization is later supported by McGee (1967) as 'Pseudo urbanization'

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[13]Kingsley Davis, "Population of India and Pakistan", Princeton, Princton University Press, 1951, p. 16.

and Breese (1969) as 'subsistence urbanization'[14] argued that "the process of urbanization might be more accurately labelled as Pseudo Urbanization, in some third world countries, and suggested that these third world countries' city growth is not to be equated with urbanization. Because its sectoral diversification is not occurring together with the redistribution of population from rural to urban areas. All these discussions raise questions regarding the possibility of the economic growth and inevitability of the urban revolution.

Kundu and Raza[15] have also found a positive correlation between the growth of large cities population and industrial workforce during the sixties. They said that the larger cities have developed due to their industrial base, and such relationship between the urbanization and industrialization has got strengthened with the increase in urban population and the share of non-agriculture sector during the 1971-81.

However, the regional pattern of growth of economy and urban population do not confirm to this generalization. As it is evident in the case of Orissa, Rajasthan, Andhra Pradesh and Madhya Pradesh. While discussing the process of

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[14]McGee, T.G., "The Urbanization Process in The Third World : Exploration in Search of a Theory", London, 1971, p.25.

[15]Raza, Moonis and Kundu Amitabh, Indian Economy : A Regional Dimension, Spectrum Publication, New Delhi, 1982.

urbanization in India. Mitra[16] clearly discards the belief that India is over urbanized and he maintains, if any thing, it is over ruralised. Since our rate of urbanization is one of the lowest in the world.

A section of the geographers even goes to the extent of claiming that the acid test of development lies in shit of population from the rural area to urban areas. The effect of the process of urbanization are not confined to the economic transformation of the society. But there consequences are to be seen in the physical and social transformation of the people. These consequences further act as forces conductive to the economic transformation of the society. Infact urbanization is both a product of and a tool for development (Dutt & Sundaram 1985).

Shahi[17] also found a significant correlation between urbanization and industrialization and said that, undoubtedly, industrialization has a close relation with urbanization. Dubey[18] also found a positive correlation between the urbanization and industrialization. Mill &

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[16]Mitra, A, "Urbanization, City Structure and Urban Land Policy", *Urban India*, Vol. 3, No. 1, p. 26.

[17]Shashi, U.P. "Urbanization in Gujarat : A Geographical Analysis, Institute of Rural Economic Development, Gorakhpur, 1989.

[18]Dubey, R.M., Population Dynamic in India : Urban Development with Reference to Uttar Pradesh, Chugh Publication, Allahabad, 1981.

Becker[19] examined the relation between urbanization and economic development on a world-wide basis and correlate urbanization to national income conditions and other factors. Besides that they showed India's experience to be analogous to the world wide relationship and also showed the correlation between the India's urbanization and economic development.

Literature on the Jharkand urbanization has been scanty. Misra[20] identified the localisation of socio-economic factor in Jamshedpur. Pandey[21] in course of explanation of history of Chottanagpur region also outlined various factors operative on account of industrial growth and their impact on the growth of population in the cities of the regions. He has also discussed the regional distribution of the urban population and explained their variation with the help of industrial parameter. Ram[22] has analysed from a demographic point of view, the nature and pattern of urban growth during 1951-71.

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[19]Mills, E.S. and Becker, C.M., "Studies in India Urban Development", Oxford University Press, 1986.

[20]Misra, B.R., Report on Socio-economic Survey of Jamshedpur City, Patna : Department of Applied Economic and Commerce, Patna Univerity, 1959.

[21]Pandey, P., Impact of Industrialization on Urban Growth : A Case Study of Chotanagpur : Allahabad, Central Book Depot, 1970.

[22]Ram, R.B., "Process of Urbanization in Bihar 1951-71", *Demographic India*, Vol. III, No. 2, December 1974.

Kailash[23] found the economy of region is considerably backward. Only some areas are industrially well developed where the secondary and tertiary activities are predominant. Besides that Kailash suggested that concentration of industries has some pockets where raw materials (mineral) are easily available. Singhbhum, Dhanbad and Ranchi are highly industrialized districts; and Sundergarh, Sambalpur are semi industrialized.

Daspattanayak (1987) found backward districts of Orissa have registered high urban growth in the small towns. On the other hand, the developed ones have greater number of large and medium size towns and these are growing at a significantly higher rate compared to smaller towns. Besides that, he found the pattern of urbanization in the spate of Orissa shows a negative correlation with the pattern of industrialization and economic growth.

Mahto[24] suggested about the Eastern India migration is closely related with the level of economic development, and variation in the levels of economic development is able to explain only between 38.5 and 46.7 per cent variation in the percentage of male migrants in 1971.

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[23]Kailash, "The Jharkhand Region : A Geographical Analysis -1983", Unpublished Dissertation, JNU, New Delhi, 1983.

[24]Mahto, Kailash, "Population Mobility and Economic Development in Eastern India", New Delhi, 1987.

Chapter - II

PATTERN OF URBANIZATION IN JHARKHAND

GENERAL INTRODUCTION:

The most remarkable social phenomenon of the present century is the concentration of population in cities. It not only shows the concentration of population, besides that it tells about their diversification of the activities in terms of agricultural and non-agricultural activities. Besides, cities become the centre of cultural and social change and foci of wealth and power.

The concept of urbanization implies two sets of phenomenon-urban and its opposite rural. A distinction between rural and urban population become essential as these two differ greatly in terms of their economic activities. The urban and rural population often have contrastingly different occupation, socio-economic value system, degree of socio economic awakening and level of socio economic interaction. Geographers use the term urbanization commonly referring to a transformation. Lampard[1] suggested that a distinction should be made between the three aspects of the concept of urbanization

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[1]Lampard, E.E., "Historical Aspects of Urbanization" in P.M. Houser and L.E. Schore, *The Study of Urbanization*, New York, 1965, pp. 514-20.

i.e. behaviourial, structural and demographic aspects of the urbanization process. The behaviourial aspect of urbanization refers to the change in pattern of their behaviours. The structural aspect refers to the change in the structure of the economic activities. The demographic aspect refers to a process of population concentration, change and their redistribution.

Like many advanced countries, attempt at defining urban and classification of population by residence is available in census of India. An urban area is defined in (1981 and 1991) census as follows:

(a) All places with a municipality, corporation, cantonment board or notified town area committee etc.

(b) All other places which satisfy the following criteria.

(i) a minimum population of 5000;

(ii) at least 75 per cent of working population engaged in non-agriculture pursuit and;

(iii) a density of population of atleast 400 persons per square km (1000 persons per square mile).

The Census of 1981 showed a little change of definition from the 1971 census. In 1971 census, workers of urban area had been taken for both male and female but in 1981 only 75 per cent male worker's has been taken by the Indian census.

The growth of urban population is an important feature of urbanization. Bose[2] suggested that urban growth occurs due to

(i) Natural increase in population in urban areas (i.e. Birth minus Death).

(ii) Net migration into urban areas. (i.e. in-migration minus out migration).

(iii) Reclassification balance (i.e. impact of new towns and declassified towns as well as towns upgraded and downgraded from one urban class to another) and

(iv) Impact of annexation of adjoining area into individual cities and towns, extension of municipal boundaries, merger of smaller towns in the city, incorporation of out growth etc.

Of the many measures of studying changes by standard size localities in urban areas, the most common and the important is the degree of urbanization which is defined as the proportion of total population of country who reside in urban unit above a specified minimum size.

Before going for detailed discussion for pattern of urbanization, we would like to put some hypotheses about urbanization in Jharkhand region such as follows:

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[2]Bose, A, "Studies in India's Urbanization: 1901-1971", Tata McGraw Hill, Bombay, 1973.

(A) Higher the growth of new towns higher will be the growth of urban population.

(B) Least urbanized districts tend to show a higher urban growth as compared to more urbanized districts.

(C) In the districts having the class I cities, the growth of urban population will be higher as compared to other districts.

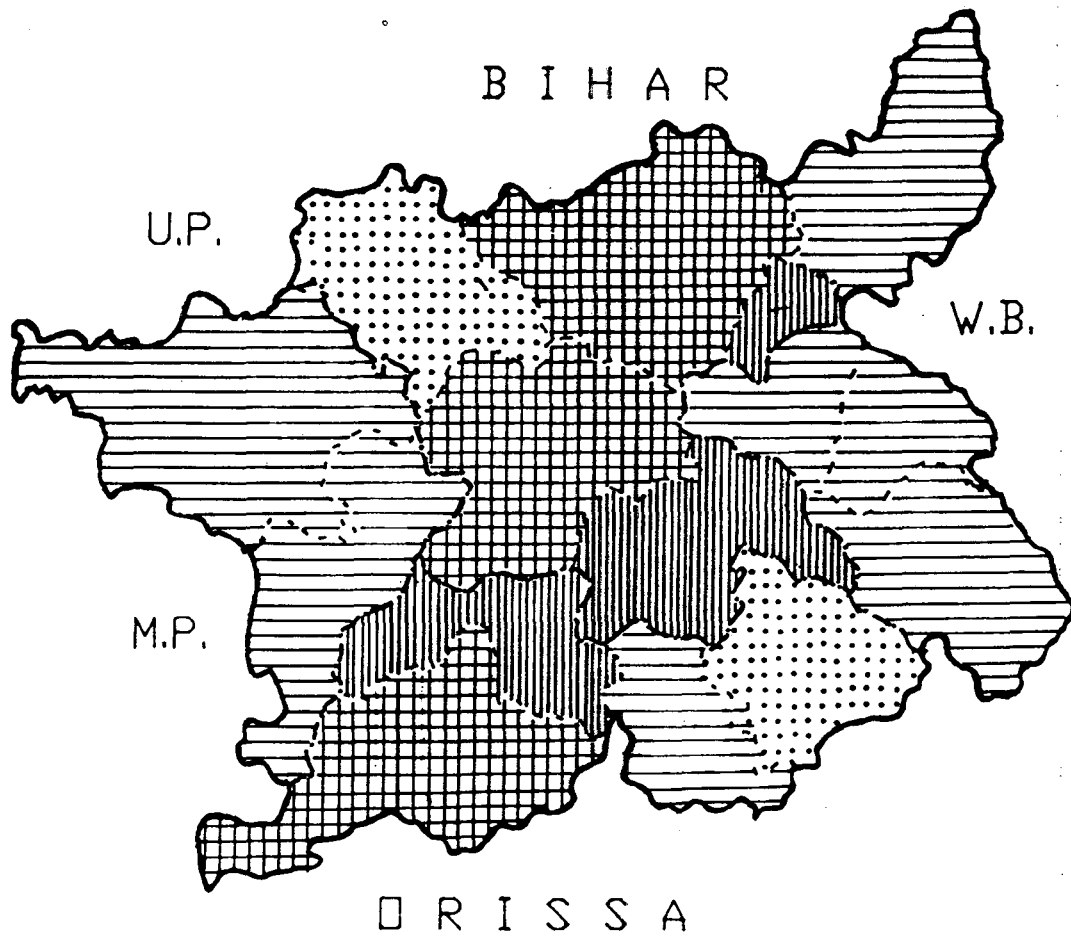
PATTERN OF URBANIZATION IN JHARKHAND (1971-1991)

Jharkhand region is well known for its richness in terms of mineral resources such as coal, iron, mica, uranium etc. All these mining activities are very much helpful for the region, either for the development of industries or urbanizing the people of the region. Major industries here being Iron and steel in Jamshedpur, Bokaro and Rourkela, and heavy electric industry in Ranchi.

The 1991 census results showed that the region has population around 7837615 living in the urban areas, which comes around the 16 per cent of the total population of the region. Besides that, if one goes to the 1981 census, urban population was around 14 per cent of the total population and in the 1971 census it was only 11 per cent. In terms of the proportion of urban for whole region it showed that urban population had increased about 2.5 per cent between 1971 and 1981 and approximately 2.0 per cent during 1981-1991.

JHARKHAND

PERCENTAGE OF URBAN POPULATION, 1971



JHARKHAND

PERCENTAGE OF URBAN POPULATION, 1981

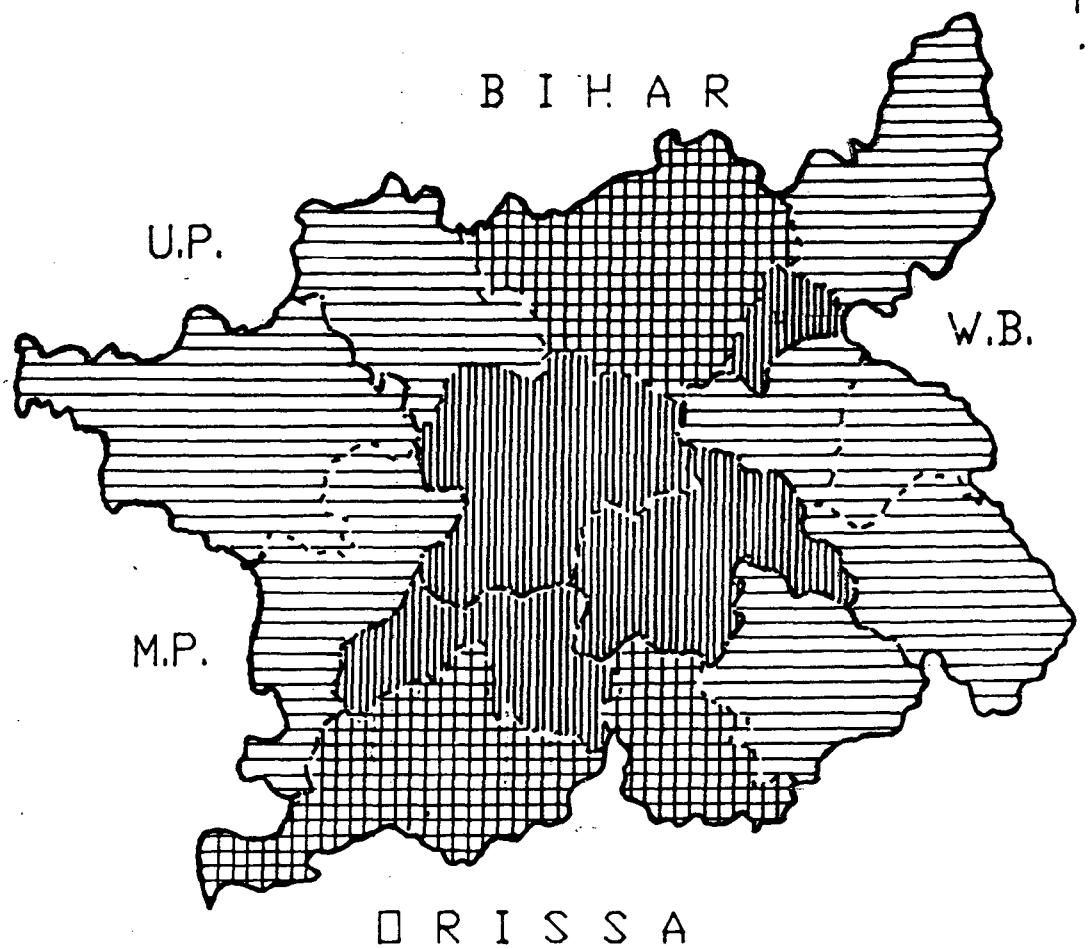


Table 2.1

PERCENT DISTRIBUTION AND DECADAL GROWTH

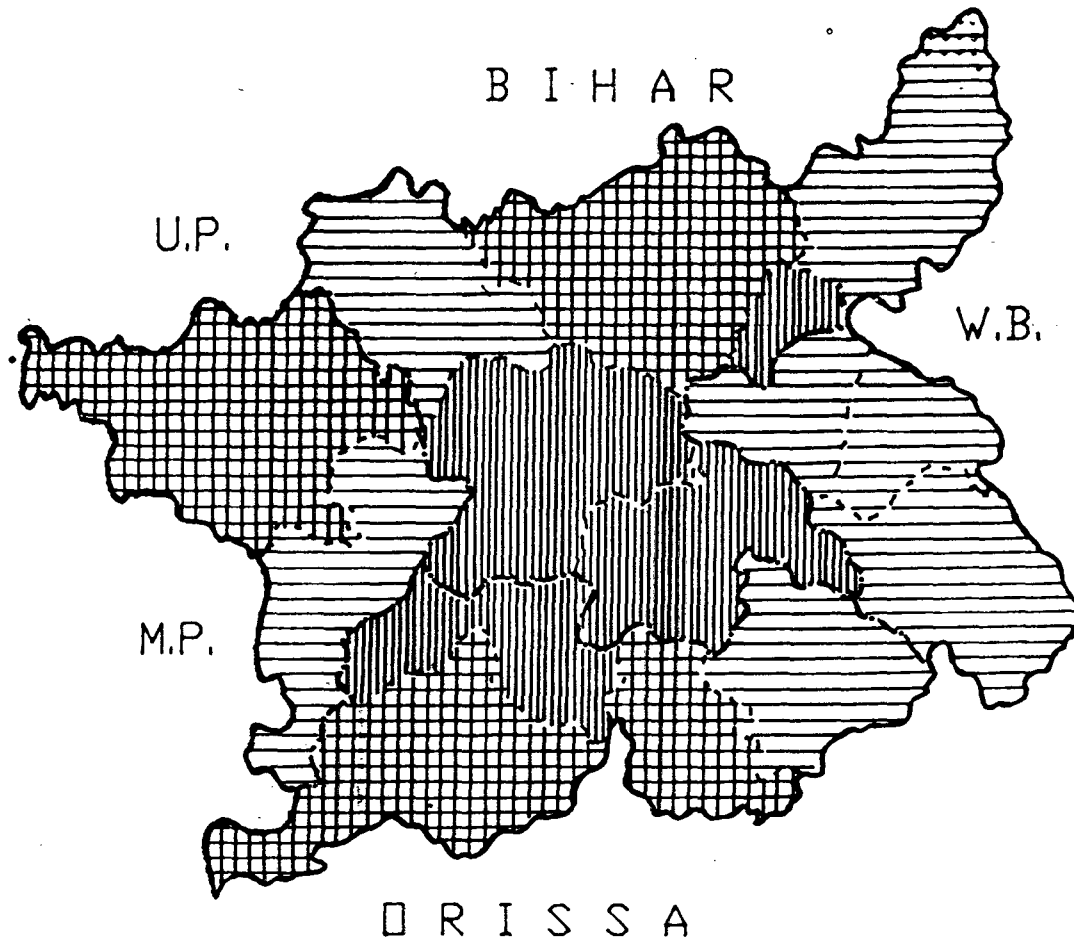
FOR JHARKHAND (1971-1991)

DISTRICTS	1971	% OF URBAN POPULATION		1971-81	1981-91
		1981	1991		
1. Santhal Pargana	5.76	6.88	8.82	39.03	31.32
2. Dhanbad	43.51	50.70	51.30	67.21	30.26
3. Hazari Bagh	12.89	14.65	16.7	47.74	47.13
4. Palamu	4.69	5.64	5.34	53.20	21.04
5. Ranchi	13.67	20.93	22.30	79.36	27.1
6. Singbhum	26.24	32.06	33.42	43.41	24.12
7. Sarguja	6.71	8.69	12.04	59.07	76.67
8. Raigarh	5.94	8.39	9.59	59.62	17.93
9. Sambalpur	12.02	15.49	17.18	59.24	30.71
10. Sundergarh	23.25	30.60	33.46	70.25	28.19
11. Keonjhar	7.05	11.34	12.67	87.45	31.95
12. Mayurbhanj	2.79	5.72	6.19	126.56	27.95
13. Bankura	7.47	7.63	8.31	19.40	28.29
14. Midnapur	7.63	8.49	10.00	36.62	45.82
15. Purulia	8.26	9.00	9.48	26.09	26.10
	12.45	16.33	18.2	57.62	34.5

Source: Census of India 1971, 1981 & 1991, General Population Table - Bihar, West Bengal, Orissa & Madhya Pradesh

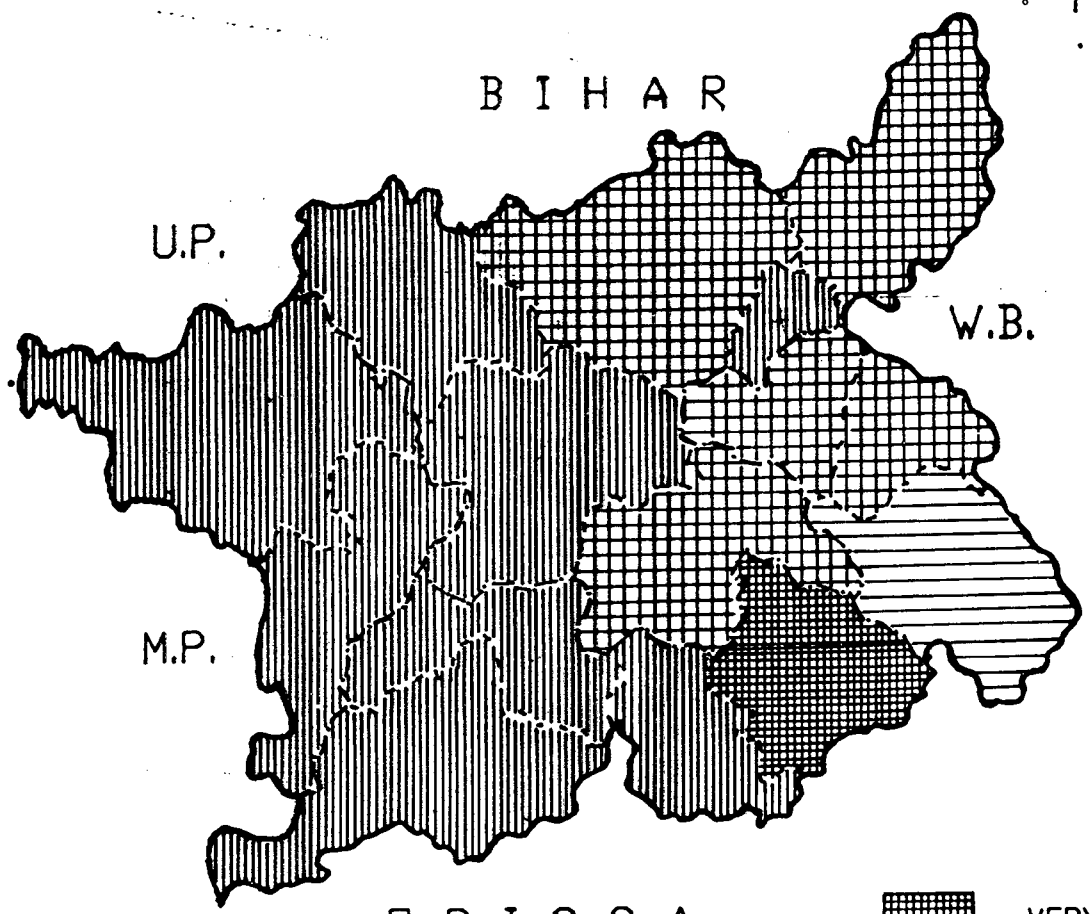
JHARKHAND

PERCENTAGE OF URBAN POPULATION, 1991



JHARKHAND

GROWTH RATE OF URBAN POPULATION, 1971-81



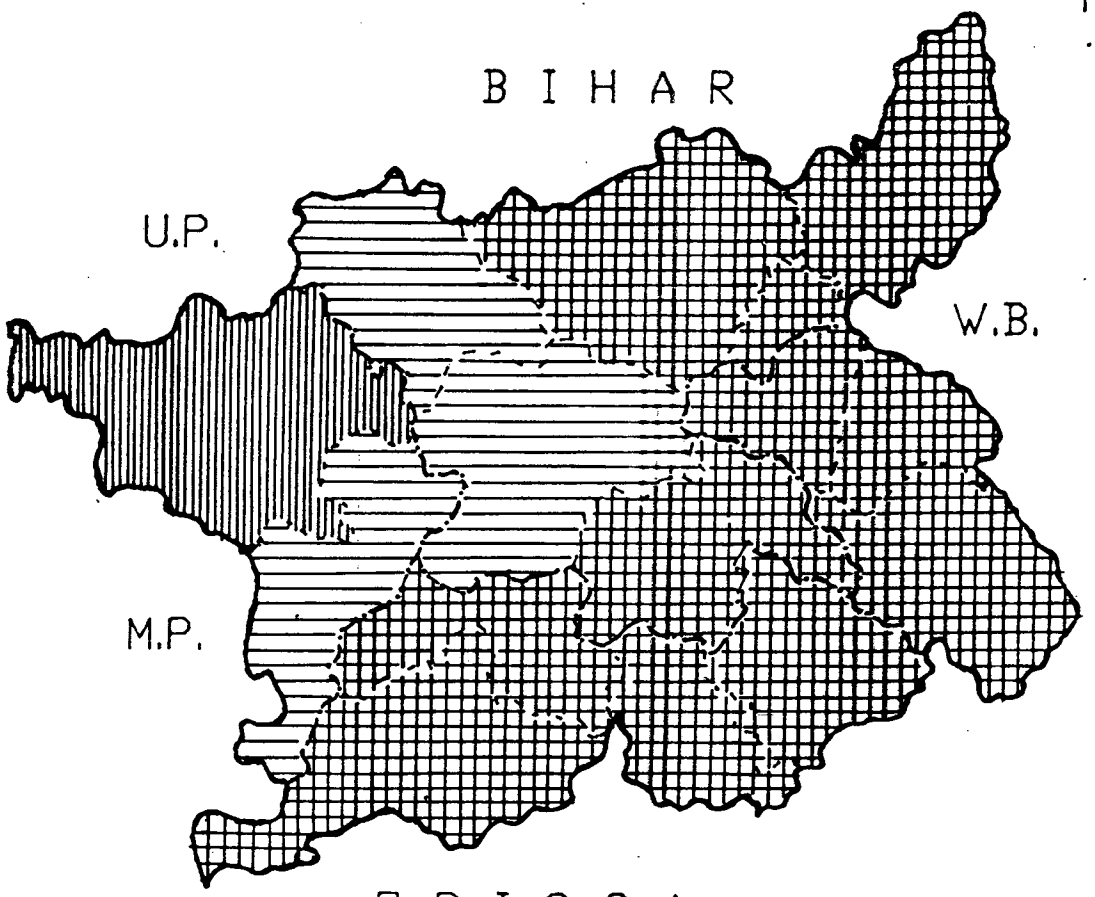
At the regional level overall growth of urban population had experienced higher growth for the 1971-81 decade, as compared to the 1981-91 decade, it had 57.6 per cent during the 1971-81, and it becomes 34.5 per cent in 1981-91. The rate of urban growth declined significantly during 1981-91. It was due to a decline in magnitude of rural to urban migration (Kundu, A. 1992).

Besides that we would like to see the district wise urban proportion for 1971-1991. Tables related to proportion of urban population by district revealed that Dhanbad was the most urbanized district of the Jharkand region which shows 51.5 per cent of the people residing in urban centres. Dhanbad was followed by Singhbhum, where 33 per cent of the population lived in urban area during 1981-91. Both the districts were ranked as the most urbanized districts of Jharkhand region. The decades for 1971-81 and 1981-91. Other districts which were relatively urbanized included Sundergarh 33 per cent, Ranchi 22 per cent, Hazaribagh 18.07 per cent and Sambalpur 17.18 per cent. Above mentioned all these districts having the higher share of urban population to the total population as compared to the Jharkand region's average which is around 17.5 per cent.

At the other end of the scale, were the districts Palamu 5.34 per cent, Mayurbhanj 6.19 per cent and Bankura 8.31 per cent, having the low shares of population living

JHARKHAND

GROWTH RATE OF URBAN POPULATION, 1981-91



in urban areas as compared to the region's average. And remaining districts have the medium share for urban population to the total, such as follows, Keonjhar 12.67 per cent, Surguja 12.04 per cent, Midnapore 10.00 per cent, Purulia 8.98 per cent and in Santhal Pargana 8.82 per cent during 1981-91 period.

DISTRICT'S WISE GROWTH OF URBAN POPULATION IN JHARKAND REGION (1971-1991)

There are variation in the rate of urbanization between the districts in Jharkand region. The table 2.1 gives the per cent increase in urban population in the various districts during 1971-81 and 1981-91. Mayurbhanj district had the highest rate of urban population growth during 1971-81. 126.56 per cent. This was followed by Keonjhar which had 87.45 per cent during 1971-81 decade. (Kundu, 1987) suggested that backward districts have shown the highest growth rate during the 1971-81, thus its primarily due to the emergence of the districts and taluk headquarters.

In the next category, we could keep those districts whose growth rate has been higher than for the region as a whole. Districts which fall under this category were Dhanbad 67.21 per cent, Sundargarh 70 per cent, Ranchi 79.36 per cent, Sambalpur 59.24 per cent, Surguja 59.07 per cent and in Raigarh 59.62 per cent.

Table 2.2

DISTRIBUTION OF % OF POPULATION IN SIZE CLASS TOWN'S (1971)

	I	II	III	IV + V + VI
1. Santhal par.	-	-	69.19	30.80
2. Dhanbad	84.82	-	9.96	5.22
3. Hazaribagh	-	32.86	52.11	15.02
4. Ranchi	72.77	-	-	27.23
5. Palamu	-	-	45.87	54.12
6. Singhbhum	71.29	-	10.99	17.70
7. Samblepur	47.38	-	35.81	16.8
8. Sundergarh	71.90	-	20.83	-
9. Keonjhar	-	-	36.14	63.85
10. Mayurbhanj	-	71.90	-	28.1
11. Surguja	-	-	63.22	36.77
12. Raigarh	-	-	70.12	29.87
13. Midnapore	38.38	16.97	18.42	26.21
14. Bankura	-	41.78	-	58.2
15. Purulia	-	47.32	22.80	29.87
Total	44.82	8.85	23.46	22.82

Source: Census of India 1971, 1981 & 1991, General Population tables, Bihar, West Bengal, Orissa & Madhya Pradesh

Main reason for the growth of urban population in these districts during 1971-81 decade was that some class I towns had grown vary rapidly due to the rural urban migration (Mitra A.,1987). On going through the above mentioned districts for example Dhanbad, Ranchi, Sundergarh and Samblepur, had attained class I status. If we see the growth of class I cities, these have been rather rapid during the decade 1971-81. Then one can say that all these class I cities have attributed to the high growth rate of urban population in the districts.

District-wise pattern is discernible in urban growth during 1981-91. The highest per cent increase in urban population took place in the districts of Surguja 76.67 per cent and followed by Hazaribagh 59.45 per cent. Where as Jharkand region's urban growth was 35.5 per cent during 1981-91. Here it is worth while to mention that the growth of urban population in the districts of Surguja and Hazaribagh was significant during this decade. Here an examination of dynamics of urban growth as the emergence of New towns throws some more light on the growth of urban population during 1981-91. It was found that both the districts are showing the minimum per cent of urban population, which have grown during 1981-91.

Table 2.3

% DISTRIBUTION OF POPULATION IN SIZE CLASS TOWNS (1981)

	I	II	III	IV+V+VI
1. Santhal par.	-	23.09	49.40	27.49
2. Dhanbad	87.92	5.11	2.06	4.90
3. Hazaribagh	17.57	53.76	18.90	9.76
4. Ranchi	78.19	-	10.29	11.10
5. Palamu	-	48.05	19.90	32.04
6. Singhbhum	73.02	-	15.73	11.24
7. Samblepur	45.95	30.78	10.00	13.27
8. Sundergarh	78.74	-	21.25	-
9. Keonjhar	-	-	88.59	11.40
10. Mayurbhanj	-	58.54	-	41.45
11. Surguja	-	37.19	27.04	35.76
12. Raigarh	-	54.72	-	45.27
13. Midnapore	40.93	15.04	29.45	14.56
14. Bankura	-	44.15	22.11	33.73
15. Purulia	-	52.38	26.20	21.40
Total	50.10	17.70	17.69	13.53

Source: Census of India 1971, 1981 & 1991, General Population Table, Bihar, West Bengal, Orissa and Madhya Pradesh

And also shown the high shares for the emergence of new towns. Therefore, one can conclude that emergence of new towns in these districts was responsible for high growth rate of urban population in the two districts of the region during 1981-91. The growth rate of urban population was higher than the region's average in three districts for 1981-91. The remaining districts have shown a low growth rate of urban population in comparison to the region's average. The lowest growth was recorded in the districts of Raigarh (17.93) followed by Palamu 21.03 per cent.

A comparison of the growth rate of urban population between the 1971-81 and 1981-91, revealed that the tempo of urbanization has slowed down in 1981-91 as compared to 1971-81. This is true for Jharkand region and for India as a whole. Major exceptions in the region is districts of Bankura, Surguja and Midnapore where the urban population had increased during 1971-81.

GROWTH OF URBAN POPULATION BY SIZE CLASS TOWNS: 1971-91

It will be worth while to analyse the distribution of population by size-class towns in order to identify the trend of urbanization. This is because the proportion of urban population to total population is considered to be a crude indicator of urbanization (Sovani 1966). When we go through the urban population separately, in terms of size class towns and their rate of urban growth, it becomes

Table 2.4

SIZE CLASS GROWTH OF TOWNS 1971-81 IN PERCENT

	I	II	III	IV+V+VI
1. Santhal par.	-	-	29.92	35.55
2. Dhanbad	73.34	-	35.53	46.46
3. Hazaribagh	-	46.22	61.01	- 11.95
4. Ranchi	95.88	-	-	24.23
5. Palamu	-	-	60.48	34.57
6. Singhbhum	46.87	-	27.66	21.16
7. Samblepur	54.34	-	81.44	- 2.23
8. Sundergarh	86.27	-	26.12	37.43
9. Keonjhar	-	-	35.7	83.35
10. Mayurbhanj	-	-	84.48	38.1
11. Surguja	-	-	68.97	44.06
12. Raigarh	-	-	49.36	-
13. Midnapore	45.68	20.99	29.98	38.73
14. Purulia	-	27.48	-	17.5
15. Bankura	-	19.94	24.5	15.39
	67.11	31.29	47.41	28.26

Source: Census of India 1971 and 1991, General Population Table's, Bihar, West Bengal, Orissa and Madhya Pradesh

Table 2.5

SIZE CLASS GROWTH OF TOWNS (1981-91)

	I	II	III	IV+V+VI
1. Santhal par.	-	45.65	21.10	12.6
2. Dhanbad	37.83	- 21.87	.005	8.07
3. Hazaribagh	40.39	18.36	31.07	26.85
4. Ranchi	22.74	-	30.69	52.91
5. Palamu	-	8.59	28.93	15.65
6. Singhbhum	24.56	-	21.21	- 0.003
7. Samblepur	18.9	23.77	44.69	25.30
8. Sundergarh	24.07	-	19.18	-
9. Keonjhar	-	-	367.08	19.5
10. Mayurbhanj	-	31.10	-	99.20
11. Surguja	-	35.31	38.96	36.68
12. Raigarh	-	35.98	-	10.27
13. Midnapore	-	44.85	80.34	39.17
14. Bankura	-	25.83	9.21	27.52
15. Purulia	-	21.1	18.19	21.69
Total	-	23.40	61.17	22.00

Source: Census of India 1971, 1981 & 1991, General Population Table, Bihar, Orissa, West Bengal and Madhya Pradesh

quite clear. The population of class I towns have been increasing at a much faster rate than that of other classes.

Table 2.3 provided an overview of the uneven distribution of urban population as well as variation by size class towns of the Jharkand region during 1971-1991. The predominance of class 1 towns in the urban scenario since 1971 is quite apparent. They had 44.82 per cent of the total urban population. In 1981 per cent of class I towns population increased significantly from 44.82 to 50.6 per cent. It showed very little changes in 1991 census 51.4 per cent for the class I cities. However it added three more new class I towns in 1991 census. Jharkand region as a whole did not show much changes. This is mainly because region not only added the class I towns. But also added the other class towns. As a result, its proportion remained almost same. Jharkand region had only seven and eight class one towns in 1971 and 1981, respectively it jumped to 11 class I towns in 1991. If we look at the growth rate of urban population of class I towns, Ranchi (95 per cent) and Sundergarh (86 per cent) districts had shown the highest growth rate during the 1971-81. If one looks at industrial towns growth of urban population Bokaro steel city had recorded the highest growth 113.4 per cent. Other districts like Singbhum, Sambalpur and Midnapore had recorded low growth of class I cities as compared to the region's growth

rate (67.11 per cent) of class I population. In the decade for 1981-91 the growth rate of class I population had slowed down. It was 67.11 per cent in 1971-81 and is reduced to 36 per cent during 1981-91. Here all the districts also reflected low growth rate as compared to the previous decade. Highest growth rate of class I towns was reflected in the districts of Hazaribagh and Dhanbad, 40.39 per cent and 37.38 per cent respectively. The lowest growth rate has been recorded in the Sambalpur district (18.9 per cent).

So far as class II towns of the study area were concerned, there has been considerable increase in their number as well as in the percentage of urban population in the class II towns. The number of towns in these category had sharply increased from 5 to 15 and 18 for the period 1971, 1981 and 1991 respectively. Percent increased from 8.85 to 17.70 per cent for all other class towns during the 1971-81. Although the number of towns in the class II category had increased, however, their proportion of urban population in comparison to other size class towns had decreased from 17.5 to 15.8 per cent. Proportion urban population in the class II towns had decreased due to the upgradation of class II towns to the class I category. The growth rate of class II towns had also decreased from 31.29 per cent to 23.40 per cent for 1971-81 and 1981-91. The districts wise pattern also showed a decrease in the growth

rate of urban population in class II towns. Dhanbad had shown the negative growth rate (- 21.81 per cent) during the 1981-91. Hazaribagh had only 18.36 per cent as compared to the 1971-81 decade (46.22 per cent). The highest growth rate has been observed in the Santhal Paragana (45.65 per cent) followed by Midnapore (44.85 per cent).

The class III towns also increased their number of towns during 1971 to 1991. It had only 27 towns during the 1971, now it increased to 41 towns. If we look at the decadal variation in terms of growth rate. It has been observed that this is the only size class town, which had shown an increased during 1981-91. If one looks at the district level variation, it is seen that districts like Keonjhar and Midnapore have been responsible for high growth rate and Mayurbhanj had shown an exceptionally high growth rate of around 367.08 per cent during the 1981-91. This was followed by Midnapore 80.34 per cent during the 1981-91 period. Remaining all the districts had shown very low growth rate of urban population in the class III towns as compared to above mentioned districts.

The remaining class IV, V and VIth sized class towns have to be clubbed together to form a category of small towns. These smaller towns showed that the absolute number of these towns had increased from 72 to 101 during the period 1971 to 1991. But their variation in terms of per cent increase had remained very low during the 1971-91. It

had added a number of new towns in this category, 24 new towns had been added during the 1971-81 and 28 new towns added during 1981-91. For the new emerging towns we have done more detailed analysis. If we examine the decadal growth rate of small town it is evident that growth rate had decreased during 1981-91 (22.20 per cent) as compared to the 1971-81 period (28.26 per cent). Maximum growth rate of the small towns had been noticed in the Mayurbhanj (99.20 per cent) and Ranchi (52.91 per cent) district. Remaining districts in Jharkand region had a low growth rate during 1981-91.

EMERGENCE OF NEW TOWNS (1971-91)

As Mitra suggested that emergence of new towns played a dominant role in terms of growth of urban population. It also indicated that, where as the new towns showed the transformation of economic activities from agriculture to non-agriculture sector or toward the secondary and tertiary activities. And of attracting people from the surrounding areas. Emergence of new towns was very much important for decade 1981-1991. As is evident, during the period pace of urbanization has slowed down as compared to the 1971-81 period. Here the question arises why its slowed down Kundu A. argues that the rural industrialization must have taken place, that is why city-ward migration slowed down. The tempo of urbanization also declined. However the emergence

Table 2.6

EMERGING NEW TOWNS FOR 1981 AND 1991 IN THE JHARKHAND REGION

	No. of towns		Population of the towns	
	1981	1991	1981	1991
1. Santhal par.	1	-	5073	-
2. Dhanbad	4	5	24496	32878
3. Hazaribagh	3	7	29172	51793
4. Ranchi	1	-	20782	-
5. Palamu	1	1	4755	6635
6. Singhbhum	5	4	30637	26911
7. Surguja	1	3	5539	38966
8. Raigarh	2	1	16366	7040
9. Samblepur	-	-	-	-
10. Sundergarh	-	3	-	22682
11. Keonjhar	2	1	14360	5731
12. Mayurbhanj	2	1	22019	-
13. Midnapur	1	1	894	7294
14. Bankura	1	1	5309	5783
15. Purulia	1			9548
Total	24	28	179402	215216

GR = 20.10 per cent

Source: Census of India 1971, 1981 & 1991 provisional population total: Rural-urban distribution, paper-2.

of new town is very important for knowing tempo and pattern of urbanization.

The region had witnessed the growth of a number of new towns, which emerged during 1971-1991. In period 1971-81, 24 new towns emerged for the region, with the population of 179402. Maximum number of towns appeared for the districts of Singhbhum (5) followed by Dhanbad (4), Hazaribagh (3) and Mayurbhanj. Besides that, one should identify the urban population which had been added due to the emergence of the new towns in the region. In Singbhum district, maximum urban population for the new towns had appeared, due to the maximum number of towns emerged in the district. This was followed by Hazaribagh (29172), Dhanbad (24496) and Mayurbhanj (22019) districts. Most of the towns which appeared belong to class V in terms of number and population.

Although during the 1971-81 decade, more new towns emerged in the region as compared to the previous decade. There were only 24 new towns which had emerged. But during the 1981-91, number of new towns that emerged increased to 28 and population also increased than in the previous decade. It was 179402 in 1971-81 and 215216 during 1981-1991 decade. This requires a more detailed analyses during 1981-91. Maximum number of new towns emerged in the district of Hazaribagh. There were only 3 (three) new towns during 1971-81 and 7 (seven) new towns during 1981-91 were

included with the population 51793. Out of the 7 towns, 6 (six) towns belonged to the class Vth category of towns. Kodarma is the only town which belongs to class IV category, having a population of 12,655. This town was downgraded during the 1981, but it again appeared in the 1991 census with the population of 12655. It is due to the unstable economic base.

Hazaribagh is followed by district of Dhanbad. In terms of new towns five new towns were added in this period. When one looks at the population of newly emerged towns, Surguja comes to the 2nd place. Of course, it added only 3 new towns, but all these new towns belonged to class IV category of towns. Such as Charcho (13400), Visharampur (11313) and Kongupani (14253). Therefore its having the more population compared to Dhanbad, inspite of having less number new towns. Next comes the Singhbhum district which included 4 new towns with the population of 26911. The districts like Santhal Pargana, Ranchi, Samblepur and Mayurbhanj had not added any new towns during the period 1981-91.

Here it is very difficult to say that, what were the reasons behind the emergence of such new towns. For the decade 1971-81, according to Kundu A., we can say that taluk headquarters had emerged and they had grown fastly. For the 1981-91 once again taking the case from Kundu (1993). He argued that pace of urbanization slowed down due

to the rural industrialization. Here, we can argue that due to rural industrialization small centre's had grown. Therefore, many new towns had also emerged in the period 1981-1991.

CONCLUSION

According to 1991 census Jharkhand region possesses 7837615 i.e., seventy eight lakh thirty seven thousand six hundred and fifteen persons urban population which constitutes approximately 16 per cent population of the region. If we focused attention in the census year of 1971 and 1981, it has been seen that urban population has been gradually increasing as it was 14 per cent in 1981 and 11.5 per cent in 1971. Hence, the rising trend is as follows i.e., 2.5 per cent from 1971 to 1981 and 2 per cent from 1981 to 1991.

Above mentioned paragraph shows the over all growth of urban population in the area under study. While the individual growth or districtwise urban growth shows altogether different trend. As in 1971-81 whole Jharkhand region experienced around 57.26 per cent growth. Mayurbhanj and Keonjhar witnessed very high growth rate in the entire region. Around nine districts depicted more than the region's average growth rate. In support of this it is better to quote Prof. Amitabh Kundu who is of the opinion that backward districts grow fast due to the emergence of

district and taluk headquarters. Furthermore, high growth can be seen in the districts which consist of class I cities.

The study of 1981-91 census reveals that urban growth rate has declined from 57.6 to 34.5 per cent. Basically high growth rate has been shown by maximum number of new towns which have emerged in this decade. Very high urban growth rate has been witnessed by Surguja and Hazaribagh i.e. 76 and 54 per cent.

So far as the growth of size class towns in 1971-91 are concerned, classes of towns are unevenly distributed. Growth rate is high in class I cities. In 1971 growth rate in terms of percentage was 44 per cent which is followed by 50.6 percent in 1981.

Number of class II towns were 5 in 1971 but it became 18 in 1991. We see that number of towns have increased, however, share of urban population has decreased in 1991.

In 1971 there were only 27 class III towns which reached upto 41 in numbers in 1991. Mayurbhanj shows a record growth of class III towns that is 367 per cent.

Classes IV, V and VI towns have been combined to designate the small towns. These were 72 in 1971 and became 101 in 1991 in which 24 new towns were added. In Mayurbhanj growth rate is 99.2 per cent which is the highest in the region in case of small towns.

In 1971-81 24 new towns emerged in Jharkhand region with the population of one lakh seventy nine thousand four hundred and two. Again in 1981-91 28 new towns emerged in which maximum number of towns are in Hazaribagh i.e. 7. Three class IV towns emerged in Surguja in 1971-81, while in other districts emergence of new towns belong to class V and class VI category.

Chapter III

WORKFORCE STRUCTURE IN JHARKHAND

(1971-1991)

The most widely spread characteristic of economic development is the change in structure of activities. This consists of a reduction in the relative importance of agriculture and an increase in that of non-agricultural activities. Basically, people move from agriculture to non-agricultural sector as the economic development takes place. Besides that in the urban areas, one can find that there are entirely different type of activities as compared to rural areas.

The economic development implies a change in the occupational structure of the working force toward the non-agricultural activities.[1]

Colin Clark[2] has indicated that the gradual shift in active population from agriculture to industry and from industry to services in general characterizes any economic progress. While urbanization involves a redistribution of population which implies that it pushes the migrants from

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[1]Philip M. Hauser, "Urbanization in Latin America", UNESCO, 1961, pp.36-37.

[2]Colin Clark, "The Condition of Economic Progress", London, Macmillan and Co. Ltd., 1951.

rural to urban areas.[3] But this migration doesn't mean only the movement of people from country side to towns. It is accompanied by the shift in the occupation of people. Specifically urbanization implies the transfer of workers from agriculture to manufacturing and the services and distributive occupation. Thus, the consequences of urbanization in general is the occupational diversification, which is favourable to the economic development.[4]

The development of secondary industries, the growth of tertiary, or residentiary industry almost always implies the concentration of several servicing activities in urban area. However, it should be noted that preponderance of tertiary industries in urban areas of several countries of Asia does not represent the evolution of these economies from a secondary to a tertiary based, identified as progressive in the long term.

REVIEW OF LITERATURE:

Colin Clark (1951) indicated that the gradual shift of active population from agriculture to industry to service in general is characteristic of any economic progress. According to Pettly (see Clark 1957) when economic development is taking place there is a tendency for the

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[3]United Nation, "The Determinants and Consequences of Population Trends", New York, 1953.

[4]Aggrawal, S., "Indian Population Problem", Tata McGraw Hill, Bombay, 1977.

greater proportion of labour force to be employed in secondary and at a latter stage, in tertiary occupation.

Jean Fourasties[5] discussed the (occupational) migration of the (economically) active population and suggested that the current era of industrialization and urbanization is a "transitory period" in the history of mankind during which society transforms from primary (agriculture based civilization) to "tertiary" (service occupation based civilization) Fourasties defines each sector according to the degree of technological progress and out put per unit of labours. He suggested that the three sectors also represent a distinct differentiation in the location of activities assigned to the sector.

CONCEPT OF WORKERS:

Information on employment has been collected in all the Indian censuses beginning from 1881. Each census, however, has used a different definition of "workers" and this has made the task of inter-censal comparison of data difficult. Broadly speaking, in the 1951 census, the classification of worker's and non-worker's was based on "dependency approach in which persons were classified as earners, earning-dependents and non-earning dependents on the basis of their gainful occupation. This approach,

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[5]Jean Fourasties, "Le Grando Espoir du xx Siecle", Edotion Depnation, Paris, 1963.

however, was changed during the 1961, 1971 and 1981 census.[6] In all the census dual approach was adopted.

In the 1981 census, the whole population was divided into three category viz., main workers, marginal workers and non-workers. The main worker was defined as a person whose main activity was participation in any economically productive work by his physical or mental activities and who worked for 183 days or more in a year (census of India 1981). Work not only involved actual work but effective supervision and duration of work. A marginal workers defined as a person whose main activity was participation in any economically productive work by his physical or mental activities for less than 183 days. A non-worker defined as a person who had not done any work at any time. The reference period was the one year preceding the date of enumeration. Certain type of work such as agriculture, household industries like gur making etc. one carried on either throughout the year or only during certain season or part of the year depending on local circumstances.

In the 1981 census, a distinction was made between the main workers and marginal workers. Besides that the 1981 census made first attempt to divide the population into two categories of workers and non-workers. The workers were those who had worked any time at all during the last year and non-workers were those who had not worked at all.

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[6]Census of India 1981, Series I, Paper 3, Provisional Population Table, Workers and their Distribution.

Further those who worked were divided into two groups of main workers and marginal workers. The working force in India is computed as percentage of workers to total population which can further be refined as sex specific work force. And in the 1991 census, they continued the concept of definition as used in 1981 census.

DISTRIBUTION OF SECONDARY WORKERS (1971-1991)

Table related to male working force engaged in secondary sector during the 1971 revealed that maximum percentage of male workers in secondary activities had been noticed in the district of Singhbhum (49.7 per cent) followed by Sundergarh (33.5 per cent) and Ranchi (31.7 per cent). While least share of secondary workers had been noticed in the districts of Surguja (10.61 per cent), followed by Hazaribagh (13.6 per cent), Palamu (15.4 per cent) and Mayurbhanj (15.8 per cent). Almost similar trend has been observed in the districts of the study area for 1981. Similarly, the Singhbhum district had the highest share of secondary workers, which was 53.27 per cent followed by Sundergarh 48.7 per cent, Ranchi 31.24 per cent, Bankura 31.11 per cent and Dhanbad 29.8 per cent. While minimum share of secondary workers had been noticed once again in the district of Surguja 10.87 per cent, followed by Hazaribagh 15 per cent, and Purulia 22.37 per cent. In both the decades, 1971 and 1981, the share of male

Table 3.1 : Distribution of urban male work force structure for Jharkand (1981 and 1991)

Name of Districts	Primary workers (in %) (1981)	Primary workers (in %) (1991)	Secondary workers (in %) (1981)	Secondary workers (in %) (1991)	Tertiary workers (in %) (1981)	Tertiary workers (in %) (1991)	Workers in mining activities in %) (1981)	Workers in mining activities in %) (1991)
1. Santhal Pragana	17.7	18.24	22.1	15.26	60.2	65.8	0.33	3.5
2. Dhanbad	36.0	33.04	29.8	24.2	34.2	42.76	32.77	27.3
3. Hazaribagh	38.3	29.35	15.7	18.1	45.5	52.2	29.3	22.3
4. Palamu	19.2	20.8	20.5	13.3	60.3	65.9	0.22	0.59
5. Ranchi	15.9	15.6	31.4	10.4	52.9	74.0	1.4	1.7
6. Singhbhum	5.5	9.13	53.27	43.27	41.09	47.65	6.6	3.6
7. Sambalpur	12.8	13.0	26.45	23.26	50.71	53.7	6.7	6.5
8. Sundergarh	7.1	9.5	48.7	42.5	44.24	48.0	1.6	2.5
9. Keonjhar	34.9	33.3	23.22	19.8	41.85	46.9	13.9	15.4
10. Mayurbhanj	16.5	21.0	22.1	13.9	60.5	65.1	0.33	0.002
11. Surguja	49.1	48.3	10.78	9.8	40.3	41.9	37.8	39.4
12. Raigarh	22.0	18.49	23.3	22.48	54.7	59.9	0.61	0.25
13. Midnapore	17.62	18.8	26.04	18.98	56.17	62.31	0.02	0.05
14. Bankura	18.11	4.3	31.11	25.10	57.07	60.65	0.19	0.21
15. Purulia	11.01	12.1	21.37	22.75	67.62	65.18	0.31	0.37

secondary worker's can be seen in those districts, which had the high share of urban population such as Singhbhum, Ranchi and Sundergarh districts of the study area. Therefore, we can make the relation between secondary workers and share of urban population. It is seen that, high share of secondary worker tend to show in those districts which having the high share of urban population.

Besides, one would like to examine the other aspect, in terms of decadal variations of per cent changes of secondary workforce during 1971 and 1981 decade. In this particular decade all the districts of study area have shown the per cent increase in male secondary working force. The highest per cent change has been observed in the Sundergarh district, which has shown a 15 per cent increase during 1971-81, had only 33.5 per cent during the 1971 census and it became 48.5 per cent during 1981 census. If one looks at the table it suggested that same districts also had very high growth of urban population. It may be suggested that high growth of urban population is invariably linked to high secondary workforce. As for other districts of the study area regarding the male secondary workers, show that high growth of male working force was noticed in Midnapore district, which had increased their share of male secondary workforce from 16.2 to 26.04 per cent. Besides, Mayurbhanj and Dhanbad have shown 7 per cent increase of male secondary workers from

the previous decade. Santhal Paragana and Keonjhar also increased their share around 5 per cent during the same period. If we look at the table related to urban growth and secondary workers growth, it may be suggested that secondary workers growth was higher in those districts which had experienced the high urban growth, accept for the Midnapore district. In spite of that, if one goes to the overall picture about the growth of secondary worker's it shows three type of patterns,

(a) showing the high growth of secondary workers.

(b) In this category we can keep those district which had very negligible change or it remained almost same.

(c) In this category we kept those districts which has declined their share as compared to 1971 census such as Raigarh district.

The table related to male secondary workforce for 1991 reveals that the district like Sundergarh, Singhbhum have shown the highest concentration of male secondary workforce 43.22 per cent and 42.5 per cent respectively. Although their share of urban population was lower than the Dhanbad. Dhanbad had highest share of urban population, while share of male secondary workforce was only 24.2 per cent during 1981-91 period. From above discussion, one could say about Singhbhum and Sundergarh that secondary sector still dominating the urban workforce structure. Besides that, in the case of Dhanbad district, of course industrialisation

influences the growth and distribution of urban population, but in the case of Dhanbad it had the highest share of urban population in Jharkhand region. But share of secondary workers was lower than other most urbanized districts of study and it would be due to the mining activities which were found to be very high in Dhanbad district, it comes around 27.3 per cent during 1991. Therefore one can suggest that mining activities also played dominant role for Dhanbad district, which may not be included in secondary workforce. Other districts of the study area can be divided into two categories:

A) The districts having share of male working force more than 20 per cent. Districts which fall under this category being Dhanbad, Sambalpur, Raigarh, Bankura and Purulia.

(B) The districts having share of male secondary workforce less than 20 per cent. Such districts being Santhal paragana, Hazaribagh, Surguja, Midnapore, Keonjhar, Mayurbhanj and Palamu during 1991 census.

The table related to share of male secondary workers during the 1981 and 1991 suggested that almost all the districts of study area had declined their share as compared to 1981 census. Maximum decline in the share of male secondary workers had been noticed in the districts of Ranchi and Singhbhum, the respective values being 20 and 10 per cent. Besides that the remaining most of the districts also

showed declining pattern of their share of secondary worker. But it was lower than above mentioned (Ranchi and Singhbhum) district. Such declining pattern may suggest that there must be other sectors that remained much more attractive than secondary sector. Only one district showed increase of share of secondary workers i.e. Purulia, which had only 21.87 per cent in 1981 but now it increased upto 22.75 per cent.

DISTRIBUTION OF TERTIARY WORKERS IN JHARKHAND (1971-1991)

Tertiary sector basically constitutes the trade and commerce, communication and other services. When we talk about the process of urbanization, one should examine the tertiary activities, to know about the process of urbanization, how it is taking place whether it is going through proper sequence or haphazard. Scholars describe that, in the process of urbanization activities shift from primary to secondary and secondary to tertiary. If these shift directly from primary to tertiary under such circumstances termed it PSEUDO - URBANIZATION.

The table related to male working force engaged in tertiary activities for 1971-81 and 1991 shows the higher share of tertiary sector workforce in urban centres. The stage is also because of abundant scope of tertiary activity Khan (1986) suggested that, in the small towns (trade and commerce), such businessmen are found in

sufficient number. The shop-keepers of all types belong to this category. A wide ranging activities face into them. It is, therefore, interesting to note that tertiary occupation has been described as "socio economic safety value".

Table related to urban workforce in the tertiary sector showed a high share for Jharkhand region during 1971. Districts which had the high share in the tertiary sector in comparison to secondary activities, were Dhanbad 32.7 per cent which is followed by Hazaribagh 38 per cent and Singhbhum 36.7 per cent. Highest share of workforce in the tertiary sector was found in Mayurbhanj and other district while during the 1981 census Purulia 67 per cent Mayurbhanj and Santhal Paragana showed 60 per cent of their workers in the tertiary sector. During 1991 census the share of tertiary workers has increased in the urban areas. During 1971, above 60 per cent share for tertiary workers shares had been shown in more than 7 (seven) districts of the study area. But when we go to 1981 census found that share of tertiary workers above the 60 per cent remained in the four (4) district, as compared to 1971 census.

As far as the per cent distribution are concerned in the share of tertiary workforce during 1971-81 general pattern had emerged that share of tertiary activities has declined as compared to the 1971 census during the 1981 census. Although districts like Dhanbad, Bankura and Purulia had increased the share. But remaining districts

Table 3.2 : Growth of male secondary workers for Jharkand (1971-81 and 1981-91)

Name of Districts	Growth of male secondary workers (in %) (1971-81)	Growth of male secondary workers (in %) (1981-91)	Growth of urban male workers (in %) (1971-81)	Growth of urban male workers (in %) (1981-91)
1. Santhal Pragana	82.21	-11.77	62.13	-11.70
2. Palamu	86.11	-13.87	86.57	-21.18
3. Ranchi	52.41	-44.72	70.25	-60.30
4. Dhanbad	72.70	-0.40	67.35	-0.17
5. Hazaribagh	89.48	-0.09	19.46	22.95
6. Singhbhum	34.58	-0.52	26.26	6.25
7. Surguja	33.32	3.11	67.88	105.6
8. Raigarh	34.84	23.70	65.39	44.75
9. Sambalpur	41.41	4.3	66.96	10.05
10. Sundergarh	89.79	-2.1	123.65	5.72
11. Keonjhar	91.62	5.01	108.66	9.12
12. Mayurbhanj	42.06	8.94	186.20	-10.6
13. Midnapore	100.6	53.82	116.5	-11.08
14. Purulia	34.34	30.82	23.11	36.89
15. Bankura	58.89	24.73	31.56	15.97

Source : Census of India, 1971, 1981, 1991
General Economic Tables
Bihar, W.Bengal, Orissa and Madhya Pradesh

had a decline in their share during 1981 census. The highest per cent decline had recorded in the district of Keonjhar 15 per cent which is followed by Sundergarh 10 per cent Mayurbhanj 7 (seven) per cent and Midnapore 6 per cent. Therefore, one can argue that the tertiary sector showed a declining trend during 1971-81. On the other hand, we examined in previous chapter where as the share of secondary activities that had increased in the same period. the urban growth was also high. In the light of above mentioned point one could suggest that secondary activities or industrial activities are interlinked with the urban growth.

Major changes have been noticed for male urban workforce in tertiary activities during 1981-91. As mentioned above, most of the districts have shown a decline in the share of male tertiary worker's while in the 1981-91 period most of the districts have increased their share. Some of the districts have shown dramatical increase in the share of male urban tertiary workers, during 1991 census. The very surprising result given by the Ranchi district, which had shifted their working force around 21 per cent in the favour of tertiary activities. It had only 52.9 per cent during 1981 census and it reached upto 74 per cent during 1991 census. During the same period, if we look at the Ranchi's secondary workforce and changes, if could be seen the share of secondary workforce has lost

Table 3.3 : Growth of tertiary workers for Jharkand (1971-81 and 1981-91)

Name of Districts	Growth of male tertiary workers (in %) (1971-81)	Growth of male tertiary workers (in %) (1981-91)	Growth of urban male workers (in %) (1971-81)	Growth of urban male workers (in %) (1981-91)
1. Santhal Pragana	45.15	35.97	24.44	39.97
2. Palamu	57.38	45.70	62.16	25.64
3. Ranchi	44.75	66.49	60.93	77.50
4. Dhanbad	41.93	40.77	43.81	44.30
5. Hazaribagh	70.37	51.22	65.94	57.93
6. Singhbhum	62.60	16.86	32.06	51.88
7. Surguja	48.36	65.50	44.85	71.24
8. Raigarh	32.81	52.27	47.86	45.03
9. Sambalpur	34.55	40.36	39.85	32.55
10. Sundergarh	26.36	31.94	114.14	31.11
11. Keonjhar	31.53	38.68	28.28	43.07
12. Mayurbhanj	41.58	35.30	176.73	37.56
13. Midnapore	100.6	77.65	116.5	69.16
14. Bankura	58.89	66.0	31.56	62.45
15. Purulia	34.34	125.25	23.11	253.79

Source : Census of India, 1971, 1981, 1991
General Economic Tables
Bihar, W.Bengal, Orissa and Madhya Pradesh

Table 3.6 : Distribution and growth of urban population and male secondary workers for Jharkand (1971-81)

Name of Districts	Urban male secondary workers (in %) (1981)	Percent-age of urban popula-tion (1981)	Growth rate (in %) (1971-81)	Growth rate of urban male secondary workers (in %) (1971-81)
1. Santhal Pragana	22.1	6.88	39.03	62.13
2. Dhanbad	29.8	50.70	67.21	67.35
3. Hazaribagh	15.2	14.57	47.5	19.46
4. Palamu	20.5	5.64	53.20	86.57
5. Ranchi	31.24	20.93	79.36	70.25
6. Singhbhum	53.27	32.06	43.41	26.25
7. Surguja	10.78	8.69	59.07	67.88
8. Raigarh	23.3	8.39	59.62	65.39
9. Sambalpur	26.45	15.49	59.24	66.96
10. Sundergarh	48.7	30.60	70.25	123.65
11. Keonjhar	23.22	11.34	87.45	108.66
12. Mayurbhanj	22.1	5.72	126.56	186.20
13. Bankura	31.11	7.63	19.40	31.56
14. Midnapore	26.04	8.49	36.62	116.5
15. Purulia	21.37	9.00	26.09	23.11

Source : Census of India, 1971, 1981, 1991
General Economic Tables
Bihar, W.Bengal, Orissa and Madhya Pradesh

Table 3.4 : Distribution and growth of urban population and male tertiary workers for Jharkand (1971-81)

Name of Districts	Urban male tertiary workers (in %) (1981)	Percent-age of urban popula-tion (1981)	Growth rate (in %) (1971-81)	Growth rate of urban male tertiary workers (in %) (1971-81)
1. Santhal Pragana	60.2	6.88	39.03	82.21
2. Dhanbad	34.2	50.70	67.21	72.70
3. Hazaribagh	47.8	15.1	59.45	89.48
4. Palamu	60.3	5.64	53.20	86.11
5. Ranchi	52.9	20.93	79.86	52.41
6. Singhbhum	41.09	32.06	43.41	34.58
7. Surguja	40.3	8.69	59.07	33.32
8. Raigarh	54.7	8.39	59.62	34.84
9. Sambalpur	50.71	15.49	59.24	41.41
10. Sundergarh	44.24	30.00	70.25	89.79
11. Keonjhar	41.85	11.34	87.45	91.62
12. Mayurbhanj	60.5	5.72	126.56	42.06
13. Bankura	57.07	7.63	19.40	58.89
14. Midnapore	56.17	8.49	36.62	100.6
15. Purulia	67.72	9.00	26.09	34.34

Source : Census of India, 1971, 1981, 1991
General Economic Tables
Bihar, W.Bengal, Orissa and Madhya Pradesh

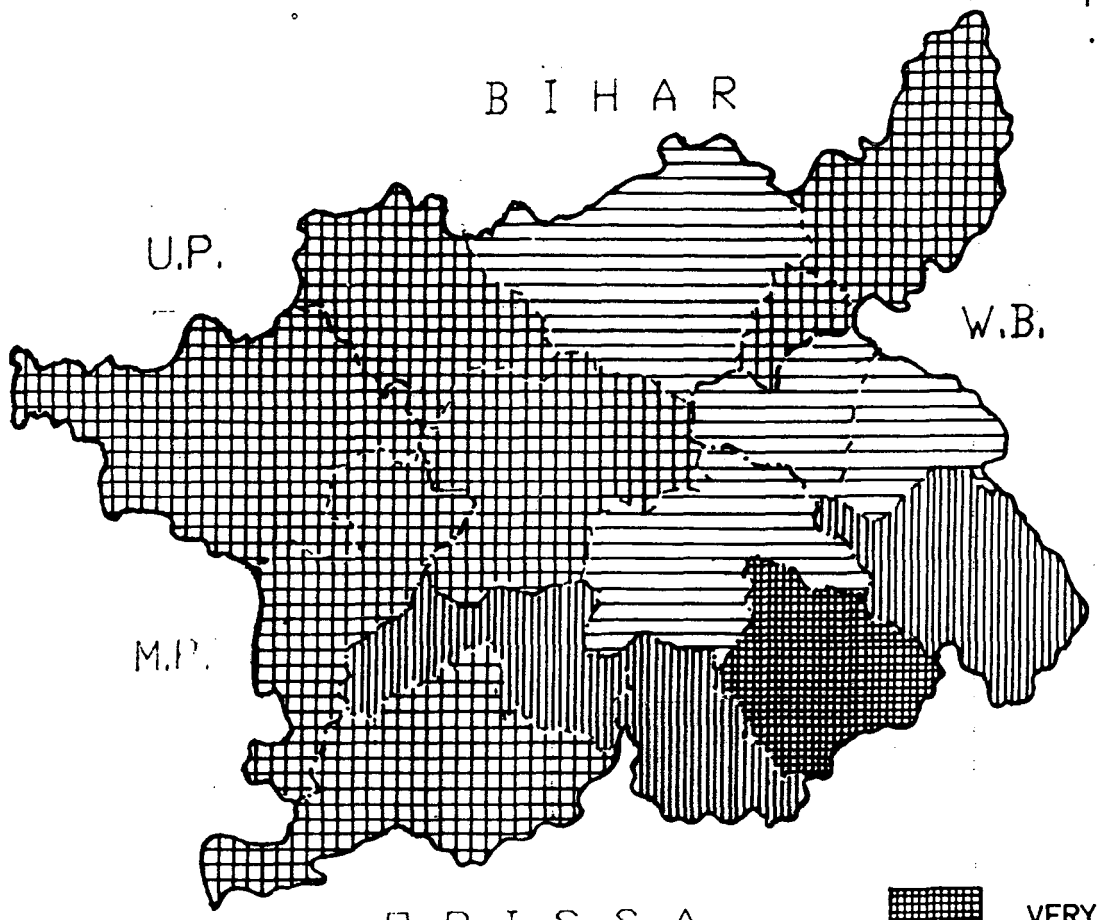
approximately 21 per cent. All these evidences suggests there has been shifting of urban workforce from secondary to tertiary activities. Such pattern was also observed in many of the districts of study area during the 1981-91. The districts which increased the shares were Dhanbad and Midnapore 8 per cent, in Singhbhum and Palamu 6 per cent and Keonjhar 5 per cent. The pattern which emerged during the 1981-91 for tertiary and secondary activities shows both are just opposite to each other. Secondary sector share had declined, at the same time tertiary sectors gained the share of male workforce. Thus during the 1981-91, secondary sector lost the importance and become weak. This could have happened only in the event of low growth of industrial activities or excessive mechanization, where by there was less demand for manpower. Thus most of the districts of study area, have lost the share of secondary workers. On the other hand tertiary activities gained more workers.

GROWTH OF SECONDARY WORKERS (1971-1981)

Jharkhand can be divided into four categories according to per cent variation for secondary workers during 1971-81. The highest variation had been observed in Midnapore districts which comes around 100.6 per cent for male secondary workers. Our next category is the medium-high. Under this category we can keep those districts which

JHARKHAND

GROWTH OF MALE SECONDARY WORKERS, 1971-81



have more than 70 per cent growth but less than 100 per cent. Under this category the districts are Keonjhar 91.62 per cent, Sundergarh 89.72 per cent, Hazaribagh 89.98 per cent, Palamu 86.1 per cent, Santhal Paragana 82.2 per cent and Dhanbad 72.2 per cent. Such high growth of secondary workforce was noticed in those districts which also had the high urban growth. While the low growth in male secondary workers had been observed in districts like Surguja 33.32 per cent, Singhbhum 34.58 per cent, Purulia 34.34 per cent and Raigarh 34.84 per cent. The low share of male secondary workers growth had been in those districts which had low urban growth during 1971-81. Besides if we put a light on urban male secondary worker we found that region can be divided into three categories:

(a) High urban male secondary growth

(b) Medium urban male secondary growth

(c) Low urban male secondary growth.

In high male urban secondary workers growth can be defined which had above 100 per growth. District which comes under this category are Mayurbhanj 186 per cent, Sundergarh 123 per cent, Midnapore 116 per cent and Keonjhar 108 per cent. here exĉept Midnapore other three districts had shown high growth for both urban area and for the urban secondary workers.

Medium growth of urban male secondary workers had been noticed in Palamu 86.57 per cent, Ranchi 70.25 per cent,

Table 3.5 : **Distribution and growth of urban population and male tertiary workers for Jharkand (1981-91)**

Name of Districts	Urban male tertiary workers (in %) (1991)	Percent-age of urban popula-tion (1991)	Growth rate (in %) (1981-91)	Growth rate of urban male tertiary workers (in %) (1981-91)
1. Santhal Pragana	65.8	8.82	31.32	35.97
2. Dhanbad	42.76	51.30	30.26	46.77
3. Hazaribagh	52.4	16.95	48.66	51.22
4. Palamu	65.9	5.34	21.04	45.70
5. Ranchi	74.0	22.30	27.1	66.49
6. Singhbhum	47.65	33.42	24.12	46.86
7. Surguja	41.9	12.04	76.67	65.50
8. Raigarh	59.9	9.59	17.93	52.27
9. Sambalpur	53.7	17.18	30.71	40.36
10. Sundergarh	48.0	33.46	28.19	31.94
11. Keonjhar	46.9	12.67	31.95	38.68
12. Mayurbhanj	65.1	6.19	27.95	35.30
13. Bankura	60.65	8.31	28.29	77.55
14. Midnapore	62.31	10.00	45.82	66.0
15. Purulia	65.18	9.48	26.10	125.25

Source : Census of India, 1971, 1981, 1991
General Economic Tables
Bihar, W.Bengal, Orissa and Madhya Pradesh

Dhanbad 67.35 per cent, Surguja 67.8 per cent and Sambalpur 66.96 per cent.

The lowest growth for male urban secondary worker during 1971-81 had been observed in Hazaribagh 19.46 per cent, Purulia 23.11 per cent, Singhbhum 26 per cent and Bankura 31 per cent. Low growth of urban male secondary workers had been noticed in those districts which had the low urban growth also during 1971-81.

MALE SECONDARY WORKERS (1981-91)

The table related to the male secondary workforce for urban area revealed that Ranchi had the highest negative growth which was approximately -60.30 per cent. Another four experienced negative growths, these districts were Palamu, Santhal Paragana, Mayurbhanj and Dhanbad, -21.18 per cent, -11.70 per cent, -10.67 per cent and -10.17 per cent respectively. On the other hand district Surguja had positive high growth of urban male secondary workforce during the same period 105.6 per cent. Although Surguja's male secondary workforce had low growth 33.84 per cent during the same period. Such high growth might have been shown due to the fact that the district had the very low base during 1971-81. Other districts of the study area, which showed a positive growth of male secondary workers in the urban area were Raigarh 44.75 per cent, Purulia 36.89 per cent, Hazaribagh 15.9 per cent and Midnapore 11.08 per cent.

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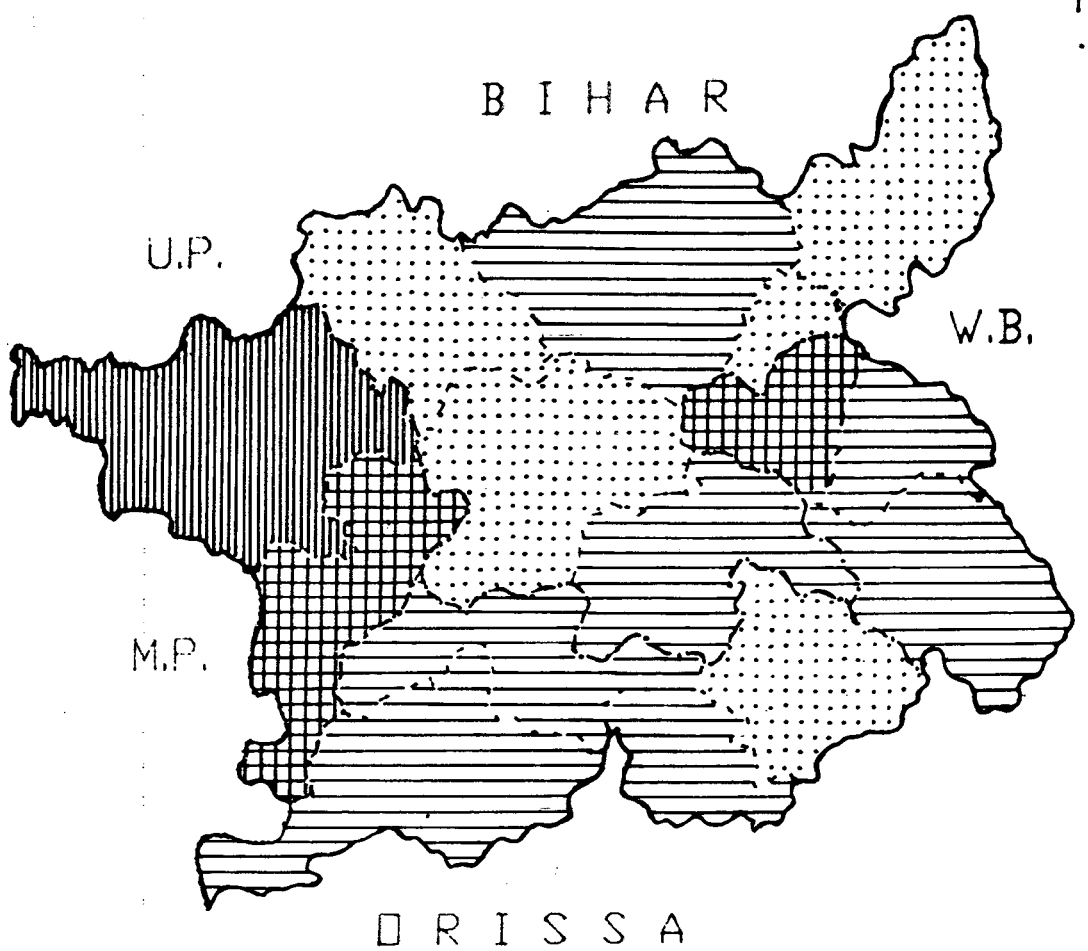
GROWTH OF MALE SECONDARY WORKERS, 1981-91

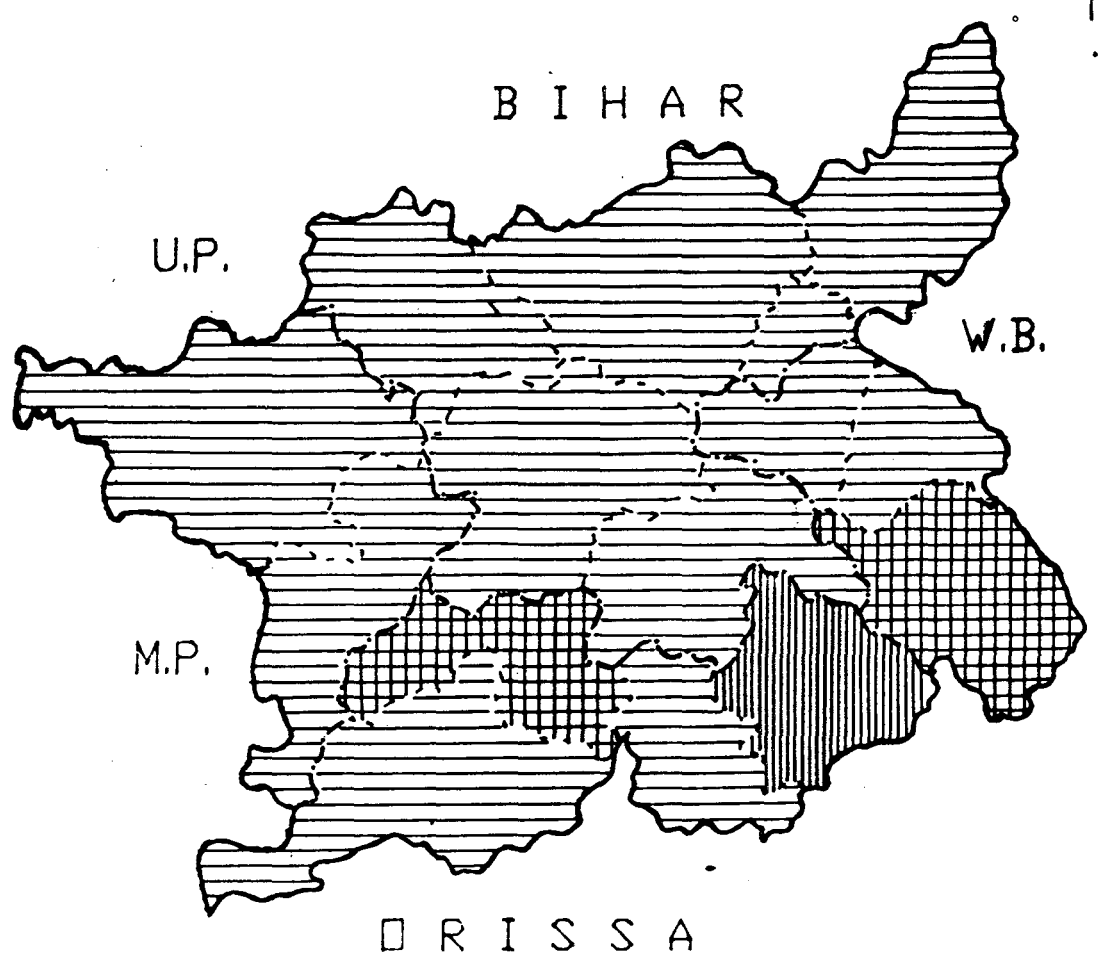


Taking all these factors into account, we would like to give a brief sketch on 1971-81 and 1981-91 growth for male secondary workers and urban male secondary workers. Economic development usually implies a redistribution of labour force in favour of non agriculture occupation and away from agriculture. Study area shown very surprising result between the two particular periods 1971-81 and 1981-91. During the 1971-81, on an average all the districts of the study area have shown the high growth of secondary workers, while during the 1981-91 is given the opposite result, not only shown the low growth but it shown the negative growth, even some of them had very high negative growth. Besides that if we look at the urban growth and male secondary workforce growth during 1971-81 and 1981-91, a picture has emerged that secondary or industrial workers are closely interlinked with the urban growth. Here basically, we are making point that during the 1971-81 rate of urban growth remained very high at the same time secondary workers also grow very rapidly. But when we step toward the period 1981-91, it was observed that urban growth was slowed down. Similarly at the same time secondary workforce growth not only slowed down, even it showed a negative growth during 1981-91.

During the 1981-91, interesting thing was noted that districts which had a negative growth most of them belonged to the state of Bihar. Of the six districts showing

JHARKHAND

GROWTH OF MALE TERTIARY WORKERS, 1971-81



negative growth rate five of them belonged to the Bihar and the other belonged to Orissa. Basically, we are trying to say that process of urbanization is not only governed by migration and changes in the workforce structure, to some extent, government policy also governs the process of urbanization. Government, basically, gives the infrastructure for investment in such a way that industrialization takes place and it gives momentum to the urbanization.

URBAN MALE TERTIARY GROWTH (1971-81)

As far as male working force is concerned, for urban male tertiary growth during 1971-81, table revealed that region can be divided into three categories:

(a) High growth of urban male tertiary workers

(b) Medium growth of urban male tertiary workers

(c) Low growth of urban male tertiary workers

In the category of high growth we kept those districts which had above 100 per cent growth for male tertiary workers. Districts are as follows: Mayurbhanj 176.73 per cent, Midnapore 116.5 per cent and Sundergarh 114.4 per cent. The high growth of male tertiary workers had been observed in those districts which also had the high urban growth such as Mayurbhanj and Sundergarh. Besides that all these districts also experienced the high male secondary workforce growth during the same time.

Table 3.3 : Growth of tertiary workers for Jharkand (1971-81 and 1981-91)

Name of Districts	Growth of male tertiary workers (in %) (1971-81)	Growth of male tertiary workers (in %) (1981-91)	Growth of urban male workers (in %) (1971-81)	Growth of urban male workers (in %) (1981-91)
1. Santhal Pragana	45.15	35.97	24.44	39.97
2. Palamu	57.38	45.70	62.16	25.64
3. Ranchi	44.75	66.49	60.93	77.50
4. Dhanbad	41.93	40.77	43.81	44.30
5. Hazaribagh	70.37	51.22	65.94	57.93
6. Singhbhum	62.60	16.86	32.06	51.88
7. Surguja	48.36	65.50	44.85	71.24
8. Raigarh	32.81	52.27	47.86	45.03
9. Sambalpur	34.55	40.36	39.85	32.55
10. Sundergarh	26.36	31.94	114.14	31.11
11. Keonjhar	31.53	38.68	28.28	43.07
12. Mayurbhanj	41.58	35.30	176.73	37.56
13. Midnapore	100.6	77.65	116.5	69.16
14. Bankura	58.89	66.0	31.56	62.45
15. Purulia	34.34	125.25	23.11	253.79

Source : Census of India, 1971, 1981, 1991
General Economic Tables
Bihar, W.Bengal, Orissa and Madhya Pradesh

While the medium growth of male tertiary working could be seen in districts like Hazaribagh 65 per cent, Palamu 62 per cent and Ranchi 60 per cent. And the low growth for urban male tertiary workers had been noticed in the districts like Raigarh 47.8 per cent, Surguja 44.8 per cent, Dhanbad 43.8 per cent, Bankura 31.56 per cent, Santhal Pargana 24.44 per cent and lowest growth of male tertiary workers had been recorded in Purulia district 23.11 per cent.

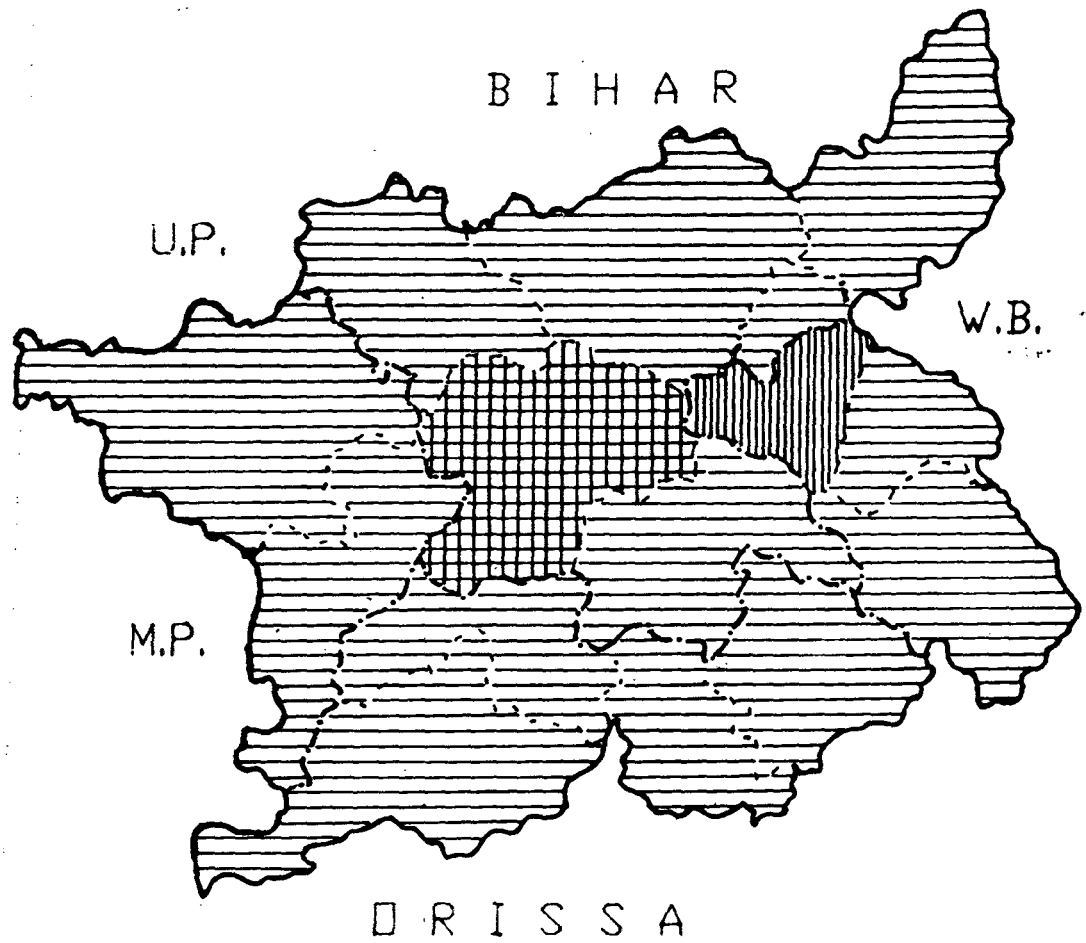
In the case of urban male tertiary workers most interesting thing is observed that some of the districts had shown the high urban tertiary workers with the high urban growth and also found the high secondary workers growth, districts are Mayurbhanj and Sundergarh. Besides that some of the districts had shown low growth for both the sectors, secondary and tertiary, and also showed the low urban growth of population during the 1971-81. Therefore, one can suggest that urban growth are invariably related to the secondary and tertiary workforce.

GROWTH OF URBAN MALE TERTIARY WORKERS (1981-91)

The table related to urban male tertiary workforce during 1981-91 revealed that, Midnapore district of the study area has shown extremely high growth during 1981-91, which was 253.79 per cent. Such high growth rate is due to the very low base it has in previous decade, and it had

JHARKHAND

GROWTH OF MALE TERTIARY WORKERS, 1981-91



tripled during 1981-91. Therefore it has shown very high growth rate for urban male tertiary workers. Besides that, high growth had been observed in the districts like Ranchi 77.50 per cent, Surguja 71.24 per cent, Midnapore 69.2 per cent and Bankura 62.45 per cent. Earlier we mentioned that Ranchi had shown the negative growth for secondary workers besides that district also gained the tertiary workers around 15 per cent. Thus it had shown high growth for tertiary workers. While the case of Surguja district which had the highest growth of urban population during the same period, thus it may have reflected in terms of tertiary workforce growth during 1981-91. On the other hand, medium growth for urban male tertiary growth can be recorded in the districts of Hazaribagh 57 per cent, Singhbhum 51.8 per cent, Raigarh 43.07 per cent and Dhanbad 44.3 per cent. Here except the Raigarh district other districts had shown negative growth for male secondary workers during the same period. All these factor had reflected in terms of positive and high growth for same districts during the same period. While the low growth had been observed in the districts of Mayurbhanj 37.56 per cent, Santhal Paragana 39.9 per cent, Sambalpur 32.55 per cent and the lowest growth for male urban tertiary growth can be seen in Palamu 25.64 during 1981-91.

MINING ACTIVITIES IN JHARKHAND REGION (1981-91)

Jharkhand region is well known for its mineral resources. With the help of these mineral resources, lots of mining centre's have emerged in the region. Such activities not only seen in the rural and small centres even it can be seen in the big urban centres like Dhanbad. Besides that it influences the occupational structure in the urban area in the case of Jharkhand region. Therefore, it is necessary to analyse the mining activities.

Table related to urban male workers in mining activities revealed that, during 1981, high shares for mining activities can be observed in the districts like Surguja 37.8 per cent, Dhanbad 32.77 per cent and Hazaribagh 28.9 per cent. While the medium shares for mining activities could be seen in the districts of Keonjhar 13.9 per cent, Sambalpur 6.7 per cent, Singhbhum 6.6 per cent and Sundergarh 1.6 per cent. Besides that lowest share for male urban working force for mining activities had been noticed in the districts like Midnapur 0.02 per cent, Bankura 0.19 per cent and Palamu 0.22 per cent.

If one looks at 1991 census for urban male workforce in mining activities. It had given almost similar picture as we noticed earlier. Of course, some of the districts had increased share for mining activities in urban area during 1991. In the 1991 census high shares for mining could be

seen in the districts as Surguja 39.4 per cent, Dhanbad 27 per cent, Hazaribagh 25.2 per cent and Keonjhar 15.4 per cent, while the medium shares can be seen in sambalpur 6.5 per cent, Singhbhum 3.6 per cent and Santhal Paragana 3.5 per cent. Besides that low share for urban male working for mining activities has been observed in the districts of Mayurbhanj .002 per cent, Midnapur .05 per cent, Bankura .21 per cent and Purulia .37 per cent.

The shares for mining activities in the urban centre's during 1981 and 1991, give some important facts about the region. The most remarkable thing is that, the district like Dhanbad, which had maximum share for urban population during 1981 and 1991 had also shown the high share of mining activities in the urban area during 1981-91. Therefore, we may suggest that, in the case of Dhanbad, mining activities also helped for such high share for urban population. Besides that, Raigarh showed the highest share for mining activities for urban area, for both the period 1981 and 1991. Therefore, one can suggest that there could be the possibility that mining centres have emerged as a urban area.

The shares for male urban workforce during 1971 and 1981 have shown little bit different picture, some of the districts had decreased the share and some had gained the share of mining activities. Major changes had been noticed in the districts of Dhanbad and Hazaribagh had respectively

32.77 per cent and 29.1 per cent during 1981. But in 1991 both had declined the share 8 per cent in Hazaribagh and 5 per cent in Dhanbad district. Besides that such declining pattern also observed in other districts also but their share decline are comparatively low as compared to Dhanbad and Hazaribag. On the other hand, major growth for share of mining activities during 1991 are: the Santhal Paragana increased share from 0.33 to 3.5 per cent, Surguja from 37.8 to 39.4 per cent and finally Keonjhar had increased from 13.9 to 15.4 per cent during same period. In the other districts of study area have shown comparatively little changes of shares between the 1981 and 1991 decade.

DISTRIBUTION OF WORKERS ACCORDING TO NATIONAL INDUSTRIAL CLASSIFICATION 1981:

Since there is a large variety of occupations in the world and the number of occupations varies from country to country. Indian census classified the following nine fold industrial classification

(i) Agriculture forestry and fishing

(ii) Mining and Quarrying

(iii) Manufacturing industries

(iv) Electricity, gas, water and sanitary services

(v) Construction

(vi) Commerce

(vii) Transport, storage and communication

(viii) Services and

(ix) Not classified elsewhere

All these categories are the broad divisions, these division again subdivided into major and minor group, in other words it is called the 2 digit and 3 digit level classification, our analysis is based on 2 digit level; we analysed only non-primary sector, 2 and 3 division has been clubbed and made it the secondary workers. Secondary workers basically includes the workers who are employed in manufacturing process either it may be agro-based, textile, forest based metal based, mineral based and machine based industries. The Jharkhand region shows that the highest participation in these industries could be seen in the districts like Singhbhum 47.21 per cent and Sundergarh 45 per cent. On the other hand medium participation rate had been observed in the district as Bankura 29.88 per cent, Ranchi 28.22 per cent, Dhanbad 26.9 per cent and Sambalpur 23.6 per cent. While the low shares for these industries can be observed in the districts like Santhal Paragana 19.9 per cent, Keonjhar 19.5 per cent Purulia 18 per cent, Midnapur 15.6 per cent and lowest participation had been observed in Hazaribagh district 12.9 per cent.

Besides that, district wise participation in different industries shows that some districts have high participation for one industry and low for another industry as Bankura had high participation for agro based industries

(6.48 per cent) and for textile industries 9.93 per cent and Sambalpur had high share for agro based 4.5 per cent and textile 4.4 per cent and for forest based industries 6.81 per cent. On the other hand metal based industries have shown the very high participation among the males, it can be seen in the district like Sundergarh 27.5 per cent, Singhbhum 24.7 per cent and Dhanbad 14 per cent. While machine based industries had been noticed in Ranchi 13.2 per cent.

On the other hand people engaged in electricity, gas, water and sanitary services showed the very low share for region as a whole and even for the district level. But in the case electricity sector had the high participation rate, Hazaribagh and Purulia district respectively 5.2 per cent and 4.48 per cent. The construction activities have shown the very slight variation as participation rate among the districts of the Jharkhand region during 1981 period. The lowest share had been observed in Purulia 2.6 per cent and Sundergarh had maximum 4.98 per cent. Another category called the commercial activities, which basically constitutes the trade services, wholesale trade and retail trade. But in terms of participation rate trade services and retail trade had shown the high per cent for region as a whole. About the districts with distribution showed high as for both the Palamu, Santhal Paragana, Bankura, Mayurbhanj and for Ranchi district.

So far as transport storage and communication activities are concerned, maximum participation rate had been noticed in transport activities, it could be seen in the district of Purulia 25.5 per cent, Midnapore 17 per cent, Santhal Paragana 12 per cent and Palamu 11 per cent. While the workers related to financial services show the maximum participation in banking sector as compared to insurance and real estate business. In the banking sector, comparatively high participation rates are found in Mayurbhanj, Palamu, Ranchi, Bankura, Sambalpur and Midnapur districts. The final classification of workers is related to the services. This basically, consists of the private consumption services, personal services and collective consumption services, among these broad categories collective consumption services have shown high participation rate as compared to other services. It can be observed in the district as Mayurbhanj, Bankura, Sambalpur, Ranchi and Santhal Paragana districts during the 1981 period.

GROWTH OF NON-PRIMARY WORKERS (1971-81) IN JHARKHAND REGION

The combined growth related to people engaged in industries has shown the high growth for Mayurbhanj 11.28 per cent, Sundergarh 8.16 per cent, Palamu 7.29 per cent and Keonjhar 7.0 per cent, while the medium can be seen in the district of Ranchi 5.42 per cent, Dhanbad 5.24 per

cent, Santhal Paragana 5.07 per cent and Sambalpur 4.87 per cent while the low growth had been observed in Purulia 1.37 per cent and Singhbhum 2.17 per cent. If we look at the growth of separate industries by districts during 1971-81 we find that agro-based industries showed high growth for Keonjhar (14.02 per cent), Mayurbhanj (10.7 per cent), Palamu (7.9 per cent), Sundergarh (7.5 per cent) and Sambalpur *7.89 per cent). And high growth for textile industries was in Sambalpur, Sundergarh, Keonjhar and Mayurbhanj. Besides that metal based and mineral based industries had high growth during 1971-81 could be sen in the districts of Midnapur, Palamu, Mayurbhanj and Santhal Paragana. The highest growth had been observed in machine based industries for the districts of Sundergarh (53 per cent), Palumu (27 per cent, Sambalpur 26 per cent, Mayurbhanj 26 per cent and Keonjhar 24 per cent).

The activities related to the electricity, gas and water supply showed the mixed trend, some of the districts had negative growth and some of these had positive growth. A very high growth had been observed for workers related to water supply, in the districts as Palamu (45 per cent), Santhal Paragana (33 per cent) and Ranchi and Hazaribagh had 19 per cent growth, while the low growth had observed for gas and steam workers and for the electrical work in Purulia, Ranchi and Mayurbhanj showed high growth during 1971-81. Besides the workers related to construction

activities showed, almost all the districts had comparatively high growth, such districts were Sundergarh, Keonjhar, Mayurbhanj, Palamu and Midnapur while Dhanbad had shown negative growth for construction worker during 1971-81.

Trade activities can be divided into two broad categories wholesale and retail trade. If we look at the workers related to whole sale trade, it showed very high negative growth for Keonjhar (-25 per cent) and other three (3) districts also show the negative growth, while the high growth had been noticed in Sundergarh, Mayurbhanj and Santhal Paragana district during 1971-81. Besides that retail trade showed comparatively high growth for districts of Keonjhar (19 per cent), Mayurbhanj (11 per cent) while the lowest growth had been observed in Purulia 1.68 per cent during 1971-81 period.

The growth rate of activities related to the social economic overhead services have shown both type of changes negative and positive growth during 1971-81. It also showed the different result for males and females. Among the males all the districts had shown positive but female side shown the negative growth during 1971-81. The high growth rate for males have been observed in the district of Raigarh 8.76 per cent, Palamu 8.85 per cent, Hazaribagh 6.79 per cent and Mayurbhanj 6.63 per cent. While female growth had shown negative growth for most of the districts, but some

districts had very high growth for districts as Palamu 20 per cent and Mayurbhanj 18.59 per cent. Besides that if we look at the break up of socio-economic overhead services (transport, storage and communication). Transport had the maximum percentages of socio-economic overhead services, therefore, emphasis is going to transport sector. The growth of transport activities in the region showed a high in Palamu 9.13 per cent and 20.57 per cent, Mayurbhanj 5.96 per cent and 11.6 per cent and Sundergarh 3.44 and 3.26 per cent for male and female growth rate during 1971-81.

Financial services constitute banking, insurance and real estate and business & financial services indicates that it had the low share of workers and also experienced the low growth and some had shown negative growths. Higher growth for male workers in financial activities showed high in the district of Mayurbhanj 7.57 per cent, Ranchi 5.17 per cent, Purulia 5.67 per cent and Keonjhar 4.89 per cent. Besides negative growth also observed for these sector in few districts during 1971-81. The highest negative growth had been found in the districts of Sundergarh - 7.9 per cent which is followed by Sambalpur -2.65 per cent and Singhbhum -0.93 per cent. Among the financial services banking and insurance activities, banking showed the comparatively high growth for male during 1971-81. The high growth for male workers in the bank in the districts of Palamu 12.4 per cent, Midnapur 12 per cent, Ranchi and

Purulia had 9.79 per cent. While the medium growth had been observed for districts as Santhal Paragana 8.92 per cent, Bankura 8.80 per cent and lowest growth for males had been observed in Singhbhum 3.93 per cent and Dhanbad 4.28 per cent. While the insurance sector had the high growth for males could be seen in Keonjhar 23.11 per cent Sambalpur and Sunguja 14 per cent and Dhanbad 10 per cent.

The last category of national industrial classification termed as collective consumption services. Basically it constitutes that public administration and defence services, sanitary, education and research, medical and health, community, recreational and cultural and private consumption services. The growth of consumption services had been shown higher for female workers as compared to the male. For the males it, could be seen high in Dhanbad, Mayurbhanj, Hajaribagh and Sambalpur, which had shown above 5 per cent to 9 per cent growth. But in case of females most of the districts had shown above 8 per cent growth and highest growth had been observed in Purulia 14 per cent and Dhanbad 12.2 per cent. For the workers related to sanitation Dhanbad had 18.3 per cent for males and Singhbhum had the highest for females growth 33.2 per cent. Besides that, workers related to education also had shown high for the females as compared to the male growth during 1971-81, Medicine and health workers showed comparatively low growth though Santhal Paragana male growth had showed

very high negative growth, -18.71 per cent, while high growth of females had been observed in Dhanbad 10.74 per cent.

OCCUPATIONAL COMPOSITION

The study of economic composition of population remains incomplete without its references to the occupational composition of a population. The occupation of an individual refers to his prude profession type of work. The occupational base of a society is the product of a number of infinitely related factors. Besides that diversification process gets further impetus from industrialization because it generate a variety of traditional jobs. Advancement in science and technology introduced on element of specialization in the occupational composition by creating highly specialised types of jobs. All these developments together breed a new urban culture which is more service oriented. According to Indian census following are the occupational classifications.

1. Professional technical and related workers
2. Administrative executive and managerial workers
3. Clerical and related worker
4. Sales workers
5. Services
6. Farmers, fisherman, hunters loggers and related workers.

7. Production and related workers, transport equipment operators and colours.

Professional, Technical and Related Workers

Keonjhar, Mayurbhanj, Santhal Pargana, Sambalpur, Sundergarh and Ranchi showed higher proportion of male workers in professional, technical and related jobs in 1971. While Dhanbad, Singhbhum, Purulia, Surguja are the towns with lower shares in 1971. Keonjhar showed a lowering of share in 1981, alongwith Sundergarh and Hazaribagh. Hazaribagh, Dhanbad, Singhbhum, Samablpur showed low shares for males in 1981 while Santhal Pargana, Ranchi, Palamu and Mayurbhanj maintained high shares. Female workers formed significant proportions in these jobs in Santhal Pargana, Ranchi, Palamu and midnapore in 1971 and 1981. Growth rates of female workers are very high as compared with males for the decade.

Administrate, Executive and Managerial Workers

Surguja and Raigarh of Madhya Pradesh had the highest shares of these workers for males in 1971. By the next decade in 1981, a greater equatability in shares of these workers was visible due to their increase in the towns of Bihar and Orissa like Hazribagh, Dhanbad, Palamu, Sambalpur and Keonjhar. Midnapore and Bankura also had higher share of male workers in 1981. However, Mayurbhanj with 7.35 percent workers topped the list. Participation among females in these jobs is very low only Ranchi showed a

significant share among them in 1981 (5.9 percent). Due to very low shares in 1971, even a small increase shows a high decadal growth rate for these workers. This shows that these tribal territories of Jharkhand are opening up to developmental activities.

Clerical and Related Workers

Sambalpur, Sundergarh, Keonjhar and Mayurbahanj in Orissa had a share of 6 to 9.3 percent male workers in clerical and related jobs in 1971. All these showed a rise in share with values ranging between 10 and 17 percent in 1981. Highest share has noticed in the districts of Mayurbhanj, Midnapore 17 percent and Ranchi 16 percent and lowest percentage has been found in Hazaribagh 98 percent. While for the females, high share had been observed in Singiya and Permuter (7 percent) and lowest had been observed in Keonjhar 0.77 percent. The growth of clerical and related workers showed that Samablpur and Sundergarh had the very high growth 106 and 154 percent respectively. While in the case of female, district have shown very high such as primary 1113.33 percent Hazaribagh 263 percent Surgiya 555 percent, such high growth are shown due to the low base during 1971.

The table related to sales worker shows that high share for sales workers had been observed for Sauthal paragauer (22 percent) Bankura (91) Purulia (19%) and Ranchi (17%) while the low share had been observed for

district like Keonjhar and Hazaribagh 5 percent during 1971. In the 1981 census almost similar pattern has found. But some of the districts had tremendously increased the share of sales workers during 1971 to 1981, such district are Sundergarh Keonjhar and Mayurbhanj. and growth of sales workers also found very high in same distich, as Sundergarh Mayurbhanj and Keoinghar had growth 199% 126% and 100% respectively.

On the other hand the distribution of service workers had been found high for the district of Santhal Paragana 14% Ranchi Palamu and Raigharh had 11% and lowest share had focused for Dhanbad 7.58% distribution of sales worker. The share of services among females, some of the district had shown very high (Purulia 54% Ranchi 37% Midnapore 39% and Baukura 34%) and some of these shown the low shares. These are as follows Keonjhar 4.7 percent Sambalpur 5.8 percent Surguja 5.3 and Sundergarh 7.5 percent. The high growth of service workers during 1971-81 has been found in the district of Dhanbad, Ranchi 68.8 percent Sundergarh 59 percent while the lowest growth of male service activities been found in district of Singhbhum 18 percent.

The distribution of Farmers fisherman Hunter loggers and related workers had the very high percent in the district of Mayurbhanj 26.55 percent Keonjhar 14 percent and Sundergarh 10 percent which. For the females highest shares had found in Mayurbag 14 percent and Sundergarh

13.26 percent during 171. At the 1981 census the district decreased the shares as compared to 1971 census. Such declining pattern can be seen in those districts which had the high share of Farmers, Fishermen Humters and Loggers. White the growth puffers suggested that source of district had grown very rapidly district are 93 percent Dhandbad 84 percent while the district like Mayurbagh, Sambalpur Keonjar and Sundergarh had shown the negative growths -98% - 80.99 percent -86. percent and -51 percent respectively.

The distribution of production and related workers transport equipment operator and labour's have showed above 50 percent shares for the Dhanbad 64 percent Sengbhum 57% and other district which had above 50 percent sharer are the Hazaribagh. Surgey'a, Samablpur and Sundergarh. Besides that the lowest shares had been observed in the district as Palamu 30.6%. Sambalpore 34% and Mayurbagh 38% such low shares are observed for least urbanized district. While the growth of these workers during 1971-81 showed high for Ranchi 72 percent Palamu 72% and Raigarh 58 percent.

CONCLUSION

Economic development is accompanied by a change in the activity structure of the working population. We saw above that activity of a developing society changes from a predominantly primary and agricultural to one characterised

by employment in industries or the secondary sector. Finally the occupational structure becomes one having most of the workers in highly skilled services sector.

We also reviewed some of the works of the scholars who have talked about the relationship between economic development and occupational shift. We also analysed the concepts of workers and nonworkers as followed in the census of India.

In the Jharkhand region, we saw that a higher share of tertiary sector workers was found in the urban centres in 1971, as compared to the secondary sector workers. Mayurbhanj, Purulia, Dhanbad, Hazaribagh showed a higher proportion of tertiary workers. The trends between 1971 and 1981 show that high urban growth and increase in secondary sector activities were related to each other. Midnapore shows the highest growth in secondary workers. In Surguja, Singhbhum, Purulia and Raigarh low growth in secondary sector is also paralleled by low urban growths therein between 1971 and 1981.

The relationship between growth of secondary sector and urban growth is also generally corroborated by the observation that high male secondary workers proportion were present side by side with high growth for urban areas and for urban secondary workers (between 1971-81) The only exception was Midnapore. Similarly, low growth in secondary workers in Hazaribagh, Purulia, Singhbhum and

Bankura was observed. These centres also showed low urban growth during the period.

The urban male secondary workers showed negative growths in Ranchi, Palamu, Santhal Pargana, Mayurbhanj and Dhanbad in the period 1981 -1991. While the positive growths were noticed in Surguja, Raigarh, Purulia, Hazaribagh and Midnapore. Thus we see that between 1971-81 rate of urban growth slowed down during the next decade and the male secondary workers too show slow growth or even negative growth (1981-91) Five out of six negatively growing districts are of Bihar, the remaining of Orissa.

Mining activity employed a high share of workforce in Surguja, Dhanbad and Hazaribagh in 1981. A medium level was found in Keonjhar, Sambalpur, and Singhbhum. Similar patterns continued in 1991 in Jharkhand districts with high share of mining activity in urban areas (1981 and 1991).

National Industrial classification data of 1981 shows that Singhbhum and Sundargarh (47 and 45%) had the highest proportion of industrial workers. Bankura, Ranchi, Dhanbad and Sambalpur showed industrial workers at medium levels (between 23-30 percent of workforce) These were followed by Santhal Pargana, Keonjhar, Purulia and Midnapore. Hazaribagh had the lowest level of industrial workers.

The patterns of industrial employment show variation over space and time. Ranchi contains the highest proportions of workers in machine based industries. Metal

based industrial workers form the highest shares in Sundergarh, Singhbhum and Dhanbad. Workers in trade and commerce dominate in Palamu, Santhal Pargana, Bankura, Mayurbhanj and Ranchi. Transport communication and storage activities employ a high share of workers in Purulia, Midnapore and Santhal Pargana. Banking employment is comparatively important in Mayurbhanj, Palamu and Ranchi.

Agro industrial workers showed the highest growth in Keonjhar, Mayurbhanj and Palamu between 1971 and 1981. Textile workers grew fastly in Sambalpur, Sundargarh, Palamu, Sambalpur and Mayurbhanj. Workers in watersupply and electricity showed mixed growth trends, the highest being Palamu and Santhal Pargana. Construction workers have shown a generally high growth in most of the districts. Wholesale workers' share declined heavily in keonjhar and three other districts, while high growths were seen in Sundergarh, Mayurbhanj and Santhal Pargana. Higher growths of retail workers were observed in Keonjhar and Mayurbhanj (19 and 11 per cent respectively).

Females show higher growth rates in the fields of education, medicine and health over Jharkhand region as compared to male workers.

Chapter IV

PATTERN OF MIGRATION IN JHARKHAND REGION

Migration is an important process that has contributed significantly to the process of urbanization, population redistribution, economic development, cultural diffusion and social integration (J.P. Singh, 1980).

It is an essential component of economic development, social change and political organisation (Jackson, J.A. 1969).

Specially in the developing countries the importance of migration can not be underestimated. It is a major factor in economic development and manpower planning. It has major implication for organisation, slums and social changes. It has notable feedback effect on the place of origin as the migrants maintain different degrees of contact (Rao, M.S.A 1981). In view of the immense importance of migration, we find enormous growth of literature over time.

One aspect of the movement of the people that has attracted attention of early demographers is the volume, direction and distance of migration. (George, K Zipf) has for instance held that the number of people going from one

city to another should be a function of distance separating them, since the effort required to cover greater distance would, presumably, increase as the distance". Stouffer (1960) has suggested that the number of persons going over a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities. Besides that Arnold M. Rose has tried to relate distance of migration to the sociological variable of socio-economic status and hypothesized that higher status person seeking the better jobs or opportunities must move a greater distance to find them, on the average, than do persons whose skill or aspiration direct them to look for less desirable opportunities. In the Indian context, those hypothesis are put to test by G.S. Gosal (1961), J.P. Desai (1969) and R.E. Burkhwedi (1978).

Another aspect of migration that has attracted the attention of other researchers in the field is the selectivity of migration. D.S. Thomas "person in their late twenties and early thirties are more migratory than other groups". Sociological studies of migration referred to the motivational aspect of the movement. The famous "Push and Pull" theory explains the migratory movement of men in terms of socio-economic imbalance between the places. Germani (1964) suggested that migration is considered to be the outcome of the interplay and balance of expulsive

forces and of attractive forces in place of origin and destination respectively. The forces of accumulated push and pull factor can be so overwhelming that it neglects to make clear why some migrate and some do not (Petersen W. 1961). The use of Leo's (1966) conceptual framework, which incorporates push and pull factors at both the place of origin and the place of destination would overcome this limitation.

Yet another study places primary emphasis on the economic motivations for migration. Michael P. Todaro (1971) has developed a model which explains the relationship between migration, expected income differentials, and urban employment.

In the Indian context, motivation aspect of movement is explored by G. Bhargava (1971), J.P. Barnwal (1971), Ashish Bose (1978) have stressed the role of push factor in migration and others like Tapan Piplai and Nilay Majumdar (1969) have stressed the importance of pull factors.

Muttagi (1989) suggested that, basically, migration takes place due to the major social problems like regional imbalances, demand for industrial dispersal, social conflicts and social tension. On the other hand, (Premi 1988) voluntary migration due to economic reasons could be intra district, inter district or inter state, depending on the availability of job opportunities in various regions of same state or in other states. Probably the migration

distance and intervening opportunities operate in determining their migration pattern (Lee 1966)

TOTAL MIGRANTS CLASSIFIED BY DISTANCE COVERED (1971)

On the basis of distance covered, the total internal migrants have been classified into three categories - intra districts, inter districts and interstate migrations. Intra districts migrants are those who have migrated within a district. Inter districts migrants are those who have migrated from one to another district but within the state of enumeration. While interstate migrants are those who have migrated from one state to other.

INTRA DISTRICT MIGRANTS: (1971)

On an average, intra district migrants constitute the largest share of the total migrants, the highest concentration of intra district migration was noticed in the Midnapur 83.61 per cent, Palamu 82.28 per cent followed by Mayurbhanj 81.93 per cent and Santhal Pargana 80.18 per cent. Besides that, districts which showed a higher share than 80 per cent was Bankura 80.44 per cent. On the other hand, 7 districts of the study area had shown a share of more than 70 per cent of inter district migration during the 1971 while the lowest share for inter districts migrants has been shown by the Dhanbad 31.38 per cent, followed by Sundergarh 51.04 per cent and Singhbhum 56.65

per cent. In the case of inter district migrants, most remarkable thing is that the district which has the highest percentage of urban population showed the lowest share of inter district migrants.

INTER DISTRICTS MIGRATION (1971):

So far as the regional patterns of migrants by inter district are concerned, Dhanbad showed the highest percentage of inter district migrants during the 1971. Besides that, if we look at the table, one can easily point out those districts which have the highest percentage of urban population. In the light of this statement one can say that such districts have the highest pull power, thus it could be able to attract the people from other districts region or state. Besides that Sundergarh had 22.2 per cent, Keonjhore 18.8 per cent, Hazaribagh 18.6 per cent and Singhbhum 15.37 per cent share of inter district migration during the 1971. While other districts are the study area had shown a low share as compared to the above mentioned districts. Such districts an Santhal Pargana, Palamu, Ranchi, Bankura, Sambalpur and Raigarh.

Table 4.1

TOTAL MIGRANTS CLASSIFIED BY DISTANCE

COVERED - JHARKHAND-1971

Name of the district	Share of migrants to total population	% of intra district to total migrants	% of inter district to total migrants	% of inter state to total migrants
1. Santhal par.	27.17	80.18	12.33	7.24
2. Palamu	28.26	82.28	13.56	3.98
3. Hazaribagh	30.01	73.53	18.76	5.99
4. Ranchi	28.89	75.27	14.06	9.62
5. Dhanbad	44.26	31.38	40.00	26.32
6. Singhbhum	30.50	56.65	15.37	25.19
7. Bankura	25.02	80.44	14.24	5.01
8. Midnapore	26.31	83.61	6.89	6.39
9. Purulia	24.87	74.75	9.95	13.12
10. Sambalpur	36.48	71.54	17.50	10.19
11. Sundergarh	39.03	51.04	22.20	25.46
12. Keonjhar	32.11	69.86	18.83	11.00
13. Mayurbhanj	29.44	81.93	9.09	8.28
14. Surguja	26.4	73.05	14.04	12.9
15. Raigarh	31.2	71.93	15.53	11.07

Source: Census of India - 1971. Migration table for Bihar, West Bengal, Orissa and Madhya Pradesh

INTER STATE MIGRATION FOR TOTAL 1971:

So far as interstate or long distance migration is concerned scholars are of the opinion that such migration is economically more reasonable and generally more skilled. Table 4.1 related to long distance migration shows the four districts of the study had more than 20 per cent share of interstate migration during the 1971 census. Such districts were Dhanbad 26.32 per cent, Singhbhum 25.19 per cent, Sundergarh 25.40 per cent and Bankura 21.01 per cent. Again this reflects that those districts which had the high share of urban population also had the high percentage of long distance migration. Besides, lowest percentage of long distance migration has been found in the districts like Palamu 3.98 per cent, Midnapur 6.39 per cent. Such low share of long distance migration can be found in those districts which are considered as the backward districts of the region.

MALE MIGRANTS BY DISTANCE COVERED 1971

As we know, migration can play dominant role for economic development as well as for urban growth. In developing countries it has great importance. Male migration is highly motivated from the economic opportunities point of view. Male can migrate to the higher distances.

Table 4.2

MALE MIGRANTS CLASSIFIED BY DISTANCE COVERED - 1971

	Intra district migration to total migrants %	Inter district migration to total migrants %	Inter state migration to total migrants %
1. Santhal Par.	69.33	18.9	11.55
2. Palamu	73.92	20.41	5.65
3. Hazaribagh	46.97	37.76	15.25
4. Ranchi	52.97	30.68	17.03
5. Dhanbad	15.35	53.69	30.95
6. Singhbhum	35.39	28.77	35.82
7. Sambalpur	66.54	20.03	13.49
8. Sundergarh	40.35	27.09	32.55
9. Keonjhar	68.42	18.72	12.85
10. Mayurbhanj	79.31	10.45	10.22
11. Bankura	76.16	18.48	5.35
12. Midnapore	78.10	9.10	12.79
13. Purulia	66.23	14.00	19.76
14. Sarguja	62.83	17.49	19.67
15. Raigarh	67.09	16.94	15.95

Source: Census of India. Migration table for Bihar, West Bengal, Orissa, Madhya Pradesh.

The table 4.2 on the male migration according to the distance covered during 1971 suggested that the share of intra district migration has been found high in the districts like Mayurbhanj 79.31 per cent, Midnapur 78 per cent, Bankura 76 per cent and in Palamu 73.92 per cent. All these districts can be categorized in high intra districts migration. In the next category, we have kept those districts having more than 55 per cent of shares for the intra districts migration for males. These districts were Santhal-Pargana 69.33 per cent, Keonjhar 68.42 per cent, Sambalpur 66.5 per cent, Purulia 66.2 per cent and 62.83 per cent in Surguja district. While below 55 per cent share of male intra district migration can be seen in the districts like Dhanbad 15.35 per cent, Singhbhum 35.39 per cent, Sundergarh 40.34 per cent Hazaribagh 46.9 per cent and 52.27 per cent in Ranchi district. Most of the districts which show the low share of male intra district migration have high share of urban population in comparison to the other districts of the study area during 1971.

MIGRANTS CLASSIFIED BY DISTANCE COVERED 1981

INTRA DISTRICT MIGRATION: Intra district migration is also known as the short distance migration. Such type of migration very much predominant among the females usually takes place due to the marriage. The study area has six districts having more than 70 per cent share of intra

district migrants in 1981. Districts having more than 70 per cent migrants were Midnapur 86.1 per cent, Bankura 80.6 per cent, Palamu 78.1 per cent, Raigarh 72.75 per cent, Surguja 70.1 per cent and Ranchi 70.5 per cent.

On the other hand, medium share for intra district migration has been observed in Keonjhar 67.6 per cent, Sambalpur, 64.7 per cent, Hazaribagh 61.9 per cent and Purulia 59.9 per cent. Low share for such migration can be seen in the districts of Dhanbad 26.14 per cent, Sundergarh 44.4 per cent and Singhbhum 55.8 per cent in 1981. Comparatively low share of intra districts migration can be observed in those district which are having the high share of urban population. On the other hand we can say that the well urbanised districts have the low share for intra district migration in comparison to low urbanised district.

INTER DISTRICT MIGRATION (1981): Inter district migration is considered medium distance migration. It is generally believed that such migration takes place due to economic reasons. Study area shows very little differences among the districts in terms of having shares for intra district migration. Except for Jharkhand, which had 50.25 per cent share of the inter district migration, Hazaribagh had 31.41 per cent followed by Sundergarh 25.5 per cent and Sambalpur 25.58 per cent. Minimum interdistrict migration was shown by Midnapur 8.3 per cent, Mayurbhanj 11.50 per cent during 1981.

INTERSTATE MIGRATION 1981: It is also known as long distance migration. Such long distance migrants can be found in the district of Sundergarh 30.18 percent, Singhbhum 24.4 per cent, Dhanbad 23.39 per cent and Purulia 21.5 per cent. Main causes of long distance migration could be purely economic. High interstate migration has been observed only in those districts which had the high share of urban population. These districts were able to provide opportunities to migrants coming from long distance. Above 10 per cent of inter-state migration's area had been observed in the districts of Surguja 14 per cent, Sambalpur 12.7 per cent, Raigarh 11.3 percent, Keonjhar 10.6 per cent, Mayurbhanj 10.2 per cent while the lowest interstate migration can be seen in the districts namely Bankura 1.27 per cent followed by Palamu 3.10 per cent, Midnapur 5.53 per cent and Hazaribagh 6.6 per cent during 1981.

Table 4.3

TOTAL MIGRANTS CLASSIFIED BY DISTANCE

COVERED FOR JHARKHAND - 1981

	Intra Districts %	Inter District %	Inter State %
1. Santhal Par.	78.1	14.66	7.20
2. Dhanbad	26.14	50.25	23.59
3. Hazaribagh	61.93	31.41	6.65
4. Palamu	80.95	15.14	3.10
5. Ranchi	70.49	20.83	8.67
6. Singhbhum	55.86	20.10	24.04
7. Sambalpur	64.72	22.58	12.69
8. Sundergarh	44.44	25.55	30.18
9. Keonjhar	67.65	21.66	10.68
10. Mayurbhanj	78.15	11.58	10.26
11. Midnapore	86.08	8.37	5.53
12. Purulia	59.89	18.56	21.54
13. Bankura	80.64	18.11	1.23
14. Surguja	70.82	15.12	14.05
15. Raigarh	72.75	15.94	11.29

Source: Census of India, 1981, Migration table for Bihar, West Bengal, Orissa and Madhya Pradesh.

Table 4.4

MALE MIGRANTS CLASSIFIED BY DISTANCE COVERED 1981 FOR JHARKHAND

	Intra Districts	Inter Districts	Inter State
1. Santhal parg.	75.05	16.42	8.51
2. Dhanbad	9.87	63.98	26.13
3. Hazaribagh	37.85	43.28	18.86
4. Palamu	68.80	26.76	5.21
5. Ranchi	38.1	48.84	15.05
6. Singhbhum	36.63	33.54	29.54
7. Sambalpur	52.05	29.75	18.18
8. Sundergarh	30.74	32.97	36.29
9. Keonjhar	55.03	26.89	18.07
10. Mayurbhanj	73.50	15.65	10.84
11. Midnapore	76.11	11.16	11.69
12. Bankura	72.71	22.51	4.77
13. Purulia	59.57	18.89	21.54
14. Surguja	58.24	19.51	22.18
15. Raigarh	66.19	17.53	16.26

Source: Census of India, 1981. Migration Table - Bihar, West Bengal, Orissa & Madhya Pradesh

INTRA DISTRICT MIGRATION FOR MALES (1981): Only four districts had more than 70 per cent share of male migrants in Jharkhand region. They were Santhal Pargana 75.1 per cent, Mayurbhanj 73.5 per cent, Midnapur 76.1 per cent and Bankura 72.7 per cent while low shares for male migration can be seen in the districts like Dhanbad 9.8 per cent, Sundergarh 30.7 per cent, Singhbhum 36.6 per cent, Hazaribagh 37.8 per cent and Ranchi 38.1 per cent. Low shares of intra-district migration have been found only in those districts which are the most urbanised districts of the region.

INTER DISTRICT MIGRATION FOR MALES (1981): Male interdistrict migration was high for those districts which had high percentage of urban population or high urban growth during 1971-81. These districts were Dhanbad 63.98 per cent, Ranchi 48 per cent, Hazaribagh 43 per cent, Singhbhum 33 per cent, Sundergarh 33 per cent and in Sambalpur 29 per cent. Besides low interdistrict migration was evident for those districts which had low share of urban population or low growth of urban population during the same period. These districts were Midnapur 11.16 per cent, Mayurbhanj 15.65 per cent, Santhal Pargana 16.4 per cent, Raigarh 17.53 per cent and Purulia 18 per cent.

INTER STATE MIGRATION FOR MALES (1981): High interstate male migration can be seen only in those districts which were industrially developed and having a high share of

urban population. Districts such as Sundergarh 36.29 per cent, Singhbhum 30 per cent and Dhanbad 26.13 per cent. Low shares of male migration can be perceived in the districts of Bankura 4.7 per cent, Palamu 5.2 per cent, Santhal Pargana 8.5 per cent, Mayurbhanj 10.8 per cent and Midnapur 11.69 per cent.

INTER DISTRICTS MIGRATION FOR MALES (1971) : Inter districts migration is also known as the medium distance migration. Such migration can be seen high in those districts which has the high percentage of urban population during 1971. Medium distance migration can be found high in districts like Dhanbad 53.69 per cent, Hazaribagh 37.7 per cent, Ranchi 30.6 per cent, Singhbhum 28.7 per cent and Sundergarh 27.09 per cent. Besides that, low inter district migration has been noticed in Palamu 20.4 per cent, Sambalpur 20.0 per cent, Santhal Pargana 18.9 per cent, Keonjhar 18.7 per cent, Bakura 18.4 per cent and Surguja 17.49 per cent, while the lowest share has been observed in Midnapur 9 per cent and in Mayurbhanj 10 per cent. Here, interesting thing is that male migrants according to inter district migration have increased their share as compared to the total inter district migration. Under such circumstances we could say inter district migration is more prominent in the case of male migration.

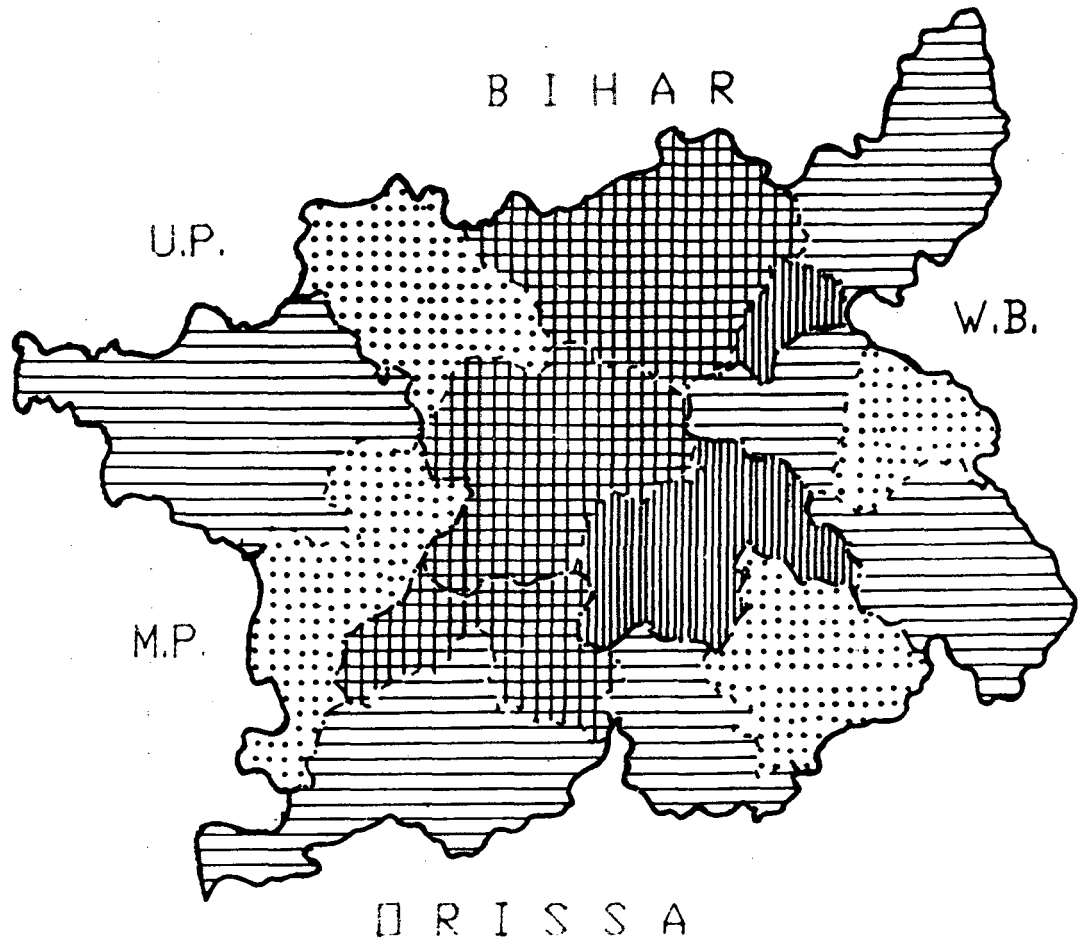
INTER STATE MIGRATION FOR MALES 1971 : Inter state migration is also called as long distance migration. The

long distance migration usually highly motivated for economic reasons and generally been observed that high skilled people move out for such long distances. The maximum share of interstate migration are for the districts of Singhbhum 35.0 per cent Sundergarh 32.55 per cent and Dhanbad 30.95 per cent during 1971. All these districts have the high share of urban population and on the other hands one can argue that such districts could be able to pull the people beyond their own state. While the share of inter state migration can be found in the districts like Purulia 19.7 per cent, Surguja 19.6 per cent, Ranchi 17 per cent, Hazaribagh 15.2 per cent and Sambalpur 13 per cent. Besides that low share of inter state migration had been noticed in the districts of Bankura 5.3 per cent, Palamu 5.6 per cent Mayurbhanj 10.5 per cent and Santhal Pargana 11.55 per cent during 1971 period.

RURAL TO RURAL MIGRATION (1971) : Generally, such a migration originates from crowded area of low agricultural productivity and it is directed towards area sparsely populated and experiencing large scale developmental activities. It is a step toward more balanced population - resource relationship. The motive behind the movement is again economic. The study area shows that most of the districts had very high shares for rural to rural migration, except the three districts. Remaining all have shown above 70 per cent shares for rural to rural

JHARKHAND

SHARE OF RURAL TO URBAN MIGRATION, 1971



migration. Maximum shares have been observed in Mayurbhanj, Palamu and Santhal Pargana 93.79 per cent, 91.11 per cent and 90.55 per cent respectively.

TOTAL MIGRATION BY DIRECTION OF MOVEMENT 1971

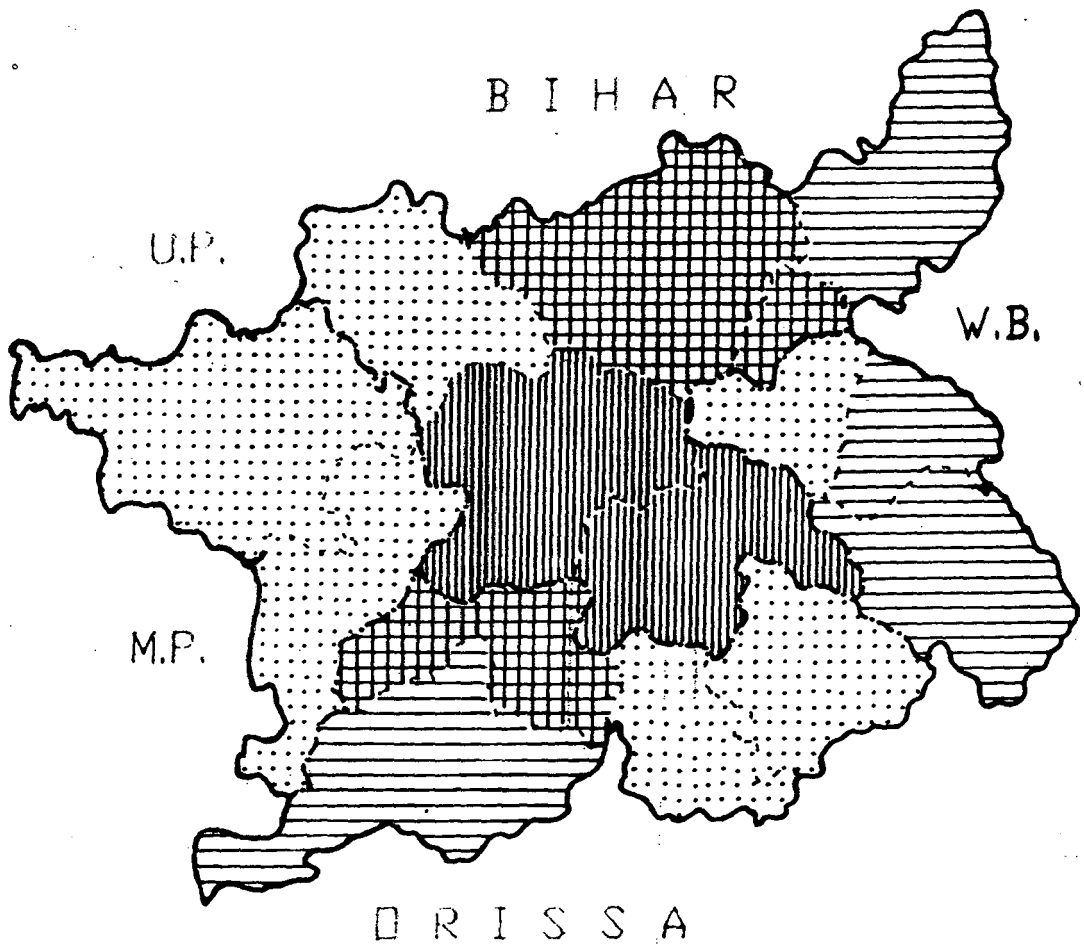
RURAL TO URBAN MIGRATION 1971: For total rural to urban migration that carried the rural folk to the growing urban centres is more pronounced in the less developed countries. It is caused by both push and pull factors. In the developing countries which have high rural densities and where rapid industrial development is taking place, both push of rural area and pull the urban areas generate migratory tendencies among the people. In rural area appalling poverty, unbearable unemployment, low and uncertain wages, uneconomic land holding and poor facilities for education and health, recreation and other services work as push factors.

The study area showed that a high rural to urban migration was noticed in only those districts which were industrially well developed and had a high share of urban population. High rural to urban migration can be seen in districts like Dhanbad 43.69 per cent, Sundergarh 31.07 per cent and Singhbhum 26.68 per cent. Whereas low rural to urban migration was noticed in those districts which were backward namely Mayurbhanj, Palamu and in Santhal Pargana.

URBAN TO URBAN MIGRATION (1971): Inter urban migration that

JHARKHAND

SHARE OF URBAN TO URBAN MIGRATION, 1971



takes place between one urban centre to the other is more common in the highly urbanised countries of the world though it also takes place in less developed countries in smaller magnitude. The inter urban migration is governed largely by economic factors, the people move from one urban centre to another with a view to improving their employment prospects. Such migration is also known as "STEP MIGRATION".

As we know such migration can be found to be very low in the developing countries, study area also showed very low share for such migration. Whatever maximum has been observed are mainly in those districts which have the big cities. Such districts are Dhanbad, Singhbhum, Sundergarh and Ranchi. Besides, all other districts of study area have shown very low migration which comes below 5 per cent urban to urban migration. The lowest share for urban to urban migration has been observed in backward districts as Mayurbhanj, Keonjhar and Palamu.

URBAN TO RURAL MIGRATION (1971): Urban to rural migration is relatively less common as compared to the other type of migrations discussed above. Such a movement takes place at an advanced stage of urbanisation as it is generated by over congestion. In the case of India many of the retired personnel tend to settle in their native villages where they still have their landed property.

Thus urban to rural migration is relatively less common for the region of backwardness. During the 1971 urban to rural migration has seemed to be highest 4.2 per cent in Bankura. Remaining district's share of urban to rural migration varied from 1 to 4 per cent share of total migration.

RURAL TO RURAL MIGRATION MALES (1971) : Rural to rural migration has the very high share to the other stream of migration during 1971. The region has the four (4) districts whose share is above 80 per cent. Such districts are Mayurbhanj 86.79 per cent, Palamu 82.14 per cent, Raigarh, Bankura and in Surguja districts. Generally such rural to rural migration takes place from low agricultural productivity to high productive area, and also due to some construction works in the other parts of the districts.

On the otherhand, relatively low rural to rural migration can be seen in those districts which are industrially well-developed and has a high share of urban population. Districts which fall under this category were Dhanbad, Singhbhum, Sundergarh and Ranchi during 1971.

RURAL TO URBAN MIGRATION MALES (1971): Rural to urban migration basically helps urban growth. In developing countries it is the most important factor for growth of urban population which may be due to the wage differences and good facilities for education, health, recreation and other services. These function as pull factors, attracting

migrants to cities. High rural to urban migration was noticed in districts namely, Dhanbad, Singhbhum, Sundergarh and Hazaribagh. All these districts have very high urban share and high urban growth as compared to the other districts of the study area during 1971. Therefore, we can say these districts remained more generative, thereby attracting people from the rural areas. Besides that, districts which have the low share of urban population, experienced low rural to urban migration such districts were Bankura, Mayurbhanj and Raigarh.

URBAN TO URBAN MIGRATION FOR MALES (1971): For males urban to urban migration does not affect the total size of urban population. Urban to urban migration, however, can have very significant role in determining the pattern of population redistribution among urban areas since during periods of investment for industrial development in the metropolitan cities they have attracted migrants not only from rural areas, but from other smaller and medium sized towns as well.

During the 1971, urban to urban migration has relatively low share as compared to other streams of migrants. There were five districts which had, more than 10 per cent share for urban to urban migration. These were Singhbhum, Ranchi, Dhanbad, Sundergarh and Hazaribagh. All of them were industrially developed and having the class I cities. However, we say that it had attracted migrants from

Table 4.5

JHARKHAND : TOTAL MIGRANTS BY DIRECTION OF MOVEMENT 1971

Names of the Districts	% of Rural to Rural Migrants	% of Rural to Urban Migrants	% of Urban to Urban Migrants	% of Urban to Rural Migrants
1. Santhal Pargana	90.55	5.16	2.54	1.81
2. Palamu	91.11	4.16	1.83	2.80
3. Hazaribagh	78.79	13.33	4.83	2.90
4. Ranchi	76.66	12.33	6.89	4.07
5. Dhanbad	40.36	43.69	12.42	2.90
6. Singhbhum	59.92	26.68	11.28	1.38
7. Bankura	89.33	8.83	2.09	4.22
8. Purulia	85.92	6.87	4.40	2.41
9. Midnapore	88.07	4.39	3.03	2.79
10. Sambalpur	80.62	12.83	3.82	2.20
11. Sundergarh	58.25	31.07	9.31	3.62
12. Keonjhar	85.19	9.36	1.64	3.76
13. Mayurbhanj	93.79	4.01	0.72	1.33
14. Surguja	86.84	7.9	2.6	2.6
15. Raigarh	91.80	5.8	2.15	2.36

Source: Census of India. Migration Tables for Bihar, West Bengal, Orissa and Madhya Pradesh

Table 4.6

Male migrants classified by direction of movement - 1971

Name of District	R-R	R-U	U-U	U-R
1. Santhal Par.	76.00	14.67	6.00	2.67
2. Palamu	82.14	9.52	3.57	5.95
3. Hazaribagh	50.26	33.85	10.77	4.62
4. Ranchi	49.42	29.07	15.12	5.23
5. Dhanbad	24.41	58.19	14.38	2.01
6. Singhbhum	28.57	49.55	18.75	2.23
7. Bankura	80.81	6.06	3.03	8.08
8. Midnapore	77.64	10.27	6.34	4.53
9. Purulia	73.91	11.96	7.61	4.35
10. Sambalpur	73.71	17.79	5.18	2.79
11. Sundergarh	48.62	35.91	11.60	3.87
12. Keonjhar	73.47	15.31	3.06	8.16
13. Mayurbhanj	86.79	8.49	0.94	1.89
14. Surguja	80.62	12.06	3.7	3.58
15. Raigarh	83.2	9.6	3.52	3.62

Source: Census of India. Migration Tables for Bihar, West Bengal, Orissa and Madhya Pradesh

small and medium towns. Other districts of the study area have shown very low share, below 10 per cent. Lowest shares for urban to urban migration was recorded in Mayurbhanj 0.94 per cent followed by Raigarh 3.52 per cent during the 1971 period.

URBAN TO RURAL MIGRATION MALES (1971): Among the major districts male urban to rural migration was comparatively high in Bankura, Keonjhar, Palamu, Ranchi, Hazaribagh and Midnapur. While it was low to very low in Mayurbhanj, Dhanbad, Singhbhum, Santhal Pargana and Sambalpur.

In contrast, high urban to rural migration, specially males is likely to occur when white -collar jobs are created in rural areas as a consequence of economic development specially rural development (PREMI 1987).

RURAL TO RURAL MIGRATION (1981): The pattern of rural to rural migration has been found to be the highest in the districts like Santhal Paragana 99 per cent, Hazaribagh 93 per cent, Palamu 89 per cent, Mayurbhanj 88 per cent, Midnapore 87 per cent, Bankura 87 per cent and Raigarh 87 per cent. Here, most interesting thing has been observed that only least urbanized districts have shown high shares for rural to rural migration. On the other hand, low shares have been observed for rural to rural migrants in the districts like Dhanbad 33 per cent, Singhbhum 52.50 per cent; and Sundergarh 52.11 per cent. Rural to rural migration was found to be very high for total as compared

to male migrants. Therefore, we can say that females' rural to rural migration contributed very significantly PREMI M.K. (1989) suggested that "as one would expect, marriage was the most important reason for migration and accounted for 9.5 of the life time migrants. Besides PREMI (1987) suggested that in the rural to rural migration stream, marriage accounted for 86 per cent of the migrants, among the females. Such rural to rural migration very much predominant among the females. On the other hand, male rural to rural migration (BOSE A 1987) suggested that as a result of development plans and the extension of irrigation facilities, there has been some migration from rural to rural areas on account of the new employment opportunities.

RURAL TO URBAN MIGRATION (1981) : Geographers considered rural to urban migration as the main dynamic for urban growth. During the 1981 two important facts have been observed about the rural to urban migration, and for rural to rural migration. Firstly, the districts which had the high shares for rural to rural migration show the low shares for rural to urban migration. We can cite the example of Santhal Paragana district which had 99 per cent rural to rural migration, having only 0.007 per cent for rural to urban migration. On the other hand, most urbanized district like Dhanbad experienced a high per centage of rural to urban migration which comes around 50.02 per cent which is followed by Sundergarh 34.32 per cent, Singhbhum

31.6 per cent, Ranchi 19.3 per cent and in Keonjhar 10 per cent. In other words, we can say that all these districts would be able to pull or attract more people from the different districts of the regions. Therefore its shown such high shares for rural to urban migration during 1981. While half of the districts of the study area showed the below 10 per cent shares for the rural to urban migration during 1981.

URBAN TO URBAN MIGRATION (1981): Basically, urban to urban migration is considered the "step wise" migration from small towns to big towns or to metropolises. Reasons would be economic, and it may be for higher education or quality education. Urban to urban migration had very low shares as compared to the other streams of migration. The study area showed very low shares for urban to urban migration. For the districts Santhal Paragana 0.0003 per cent, Hazaribagh 1.4 per cent, Mayurbhanj 1.6 per cent, Palamu 2.2 per cent, Bankura 2.4 per cent and in Raigarh 2.56 per cent. On the other hand, slightly high shares for urban to urban migration can be seen in the districts like Purulia 4.98 per cent, Surguja 3.58 per cent and in Sambalpur 5.06 per cent. Districts like Dhanbad 14.25 per cent, Singhbhum 13.36 per cent, Sundergarh 10.87 per cent had experienced comparatively high urban to urban migration as compared to the above mentioned districts. Here we can say that districts having class I towns experiencing high urban

growth, had shown high urban to urban migration in the study area during 1981.

Table 4.7

TOTAL MIGRANTS CLASSIFIED BY DIRECTION OF MOVEMENT FOR JHARKHAND-1981

	% of Rural to Rural Migration	% of Rural to Urban Migration	% of Urban to Urban Migration	% of Urban to Rural Migration
1. Santhal Par.	99.07	0.007	0.001	0.003
2. Dhanbad	33.40	50.02	14.25	2.13
3. Hazaribagh	93.22	4.35	1.4	1.01
4. Palamu	89.24	5.26	2.22	3.27
5. Ranchi	68.23	19.36	9.47	2.91
6. Singhbhum	52.50	31.60	13.36	2.52
7. Sambalpur	76.84	15.01	5.06	3.06
8. Sundergarh	52.11	34.32	10.87	2.02
9. Keonjhar	78.94	15.37	3.13	2.5
10. Mayurbhanj	88.08	7.78	1.60	2.5
11. Midnapur	87.99	6.08	3.00	2.9
12. Bankura	87.69	5.66	2.44	4.19
13. Purulia	85.36	5.04	4.98	3.69
14. Surguja	82.98	10.42	3.58	3.01
15. Raigarh	85.80	8.56	2.56	2.77

Source: Census of India 1981. Migration tables for Bihar, West Bengal, Orissa and Madhya Pradesh

Table 4.8

MALE MIGRANTS CLASSIFIED BY DIRECTION OF MOVEMENT FOR JHARKHAND - 1981

	R-R	R-U	U-U	U-R
1. Santhal Par.	70.45	17.58	7.27	4.68
2. Dhanbad	18.86	64.45	15.10	1.57
3. Hazaribagh	47.53	34.55	11.82	6.1
4. Palamu	75.22	13.59	5.16	6.01
5. Ranchi	31.09	43.89	20.41	4.59
6. Singhbhum	25.37	52.50	19.20	2.9
7. Sambalpur	64.82	23.76	7.74	3.66
8. Sundergarh	36.08	47.36	13.65	2.88
9. Keonjhar	62.27	28.64	5.63	3.42
10. Mayurbhanj	77.48	15.55	3.17	3.77
11. Midnapur	73.20	14.71	7.72	4.34
12. Bankura	74.13	12.69	5.46	7.70
13. Purulia	66.86	15.02	12.90	5.2
14. Surguja	73.49	16.97	5.4	4.12
15. Raigarh	73.26	17.89	4.35	4.47

Source: Census of India. Migration Tables for Bihar, West Bengal, Orissa and Madhya Pradesh

URBAN TO RURAL MIGRATION (1981) : Urban to rural migration was very low compared to the other streams of migration. Maximum share of urban to rural migration was seen in Bankura 3.69 per cent, Purulia 3.69 per cent and in Sambalpur 3.06 per cent. While the remaining districts of the study area had very low shares for urban to rural migration. On the other hand lowest share for urban to rural migration was observed in Santhal Paragana 0.003 per cent and in Hazaribagh 1.01 per cent during 1981.

RURAL TO RURAL MIGRATION FOR MALES 1981:

Rural to rural migration was pre-dominant in the region. Most of the districts of study area showed that the share of male rural to rural migration was very high, except for districts like Dhanbad 18.86 per cent, Singhbhum 25.87 per cent, Sundergarh 36 per cent, Ranchi 31.1 per cent and in Hazaribagh 47.53 per cent. Other districts showed low share for rural to rural migration. These districts also had a high share of urban population. Therefore, we can say that highly urbanized districts had low share of rural to rural migration. While least urbanized districts had shown the maximum shares for rural to rural migration, such districts were Mayurbhanj 77.48 per cent, Palamu 75 per cent, Bankura 74 per cent, Surguja 73 per cent and Raigarh 73.26 per cent, Surguja 73 per cent and Raigarh 73.26 per cent. About the male migration for rural to rural area PREMI (1989) argued that high male

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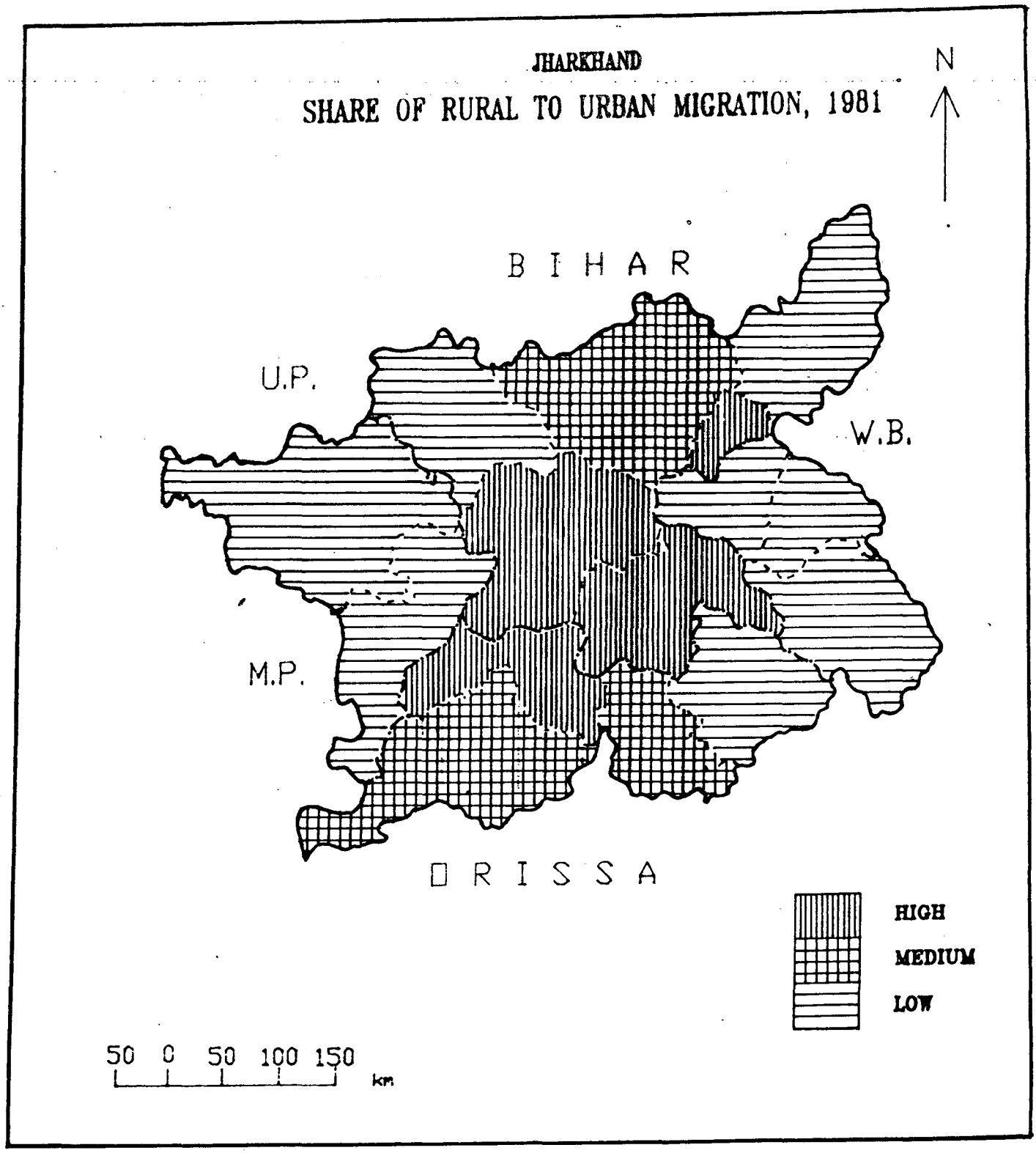
SHARE OF RURAL TO URBAN MIGRATION, 1981



rural to rural migration, seem to be due to, these migration from area of low agricultural productivity within the districts to areas of higher agricultural productivity with better wages or to areas which have construction and other similar projects.

RURAL TO URBAN MIGRATION FOR MALES (1981) : In the case of rural to urban migration, just opposite phenomenon has been observed as compared to rural to rural migration. Maximum shares were shown in least urbanized districts for rural to rural migration. But on the other hand least urbanized districts had low share of rural to urban migration. In the study area, maximum share for rural to urban migration was shown by the districts of Dhanbad 64.45 per cent, Singhbhum 52.5 per cent, Sundergarh 47.36 per cent and in Ranchi 39 per cent. Geographers considered that the male migration from rural to urban area are surely for economic reasons. It may be due to wage differences, but ultimately helps the urban growth. Thus, maximum share of rural to urban migration for males has been observed in highly urbanized districts of the region during 1981. Low share of the rural to urban migration had been noticed in the backward districts of the study area namely Bankura 12.7 per cent, Palamu 13.6 per cent, Mayurbhanj 15.5 per cent and in the Santhal Paragana 17.58 per cent.

URBAN TO URBAN MIGRATION FOR MALES 1981: The urban to urban migration of males seemed to be largely due to educational

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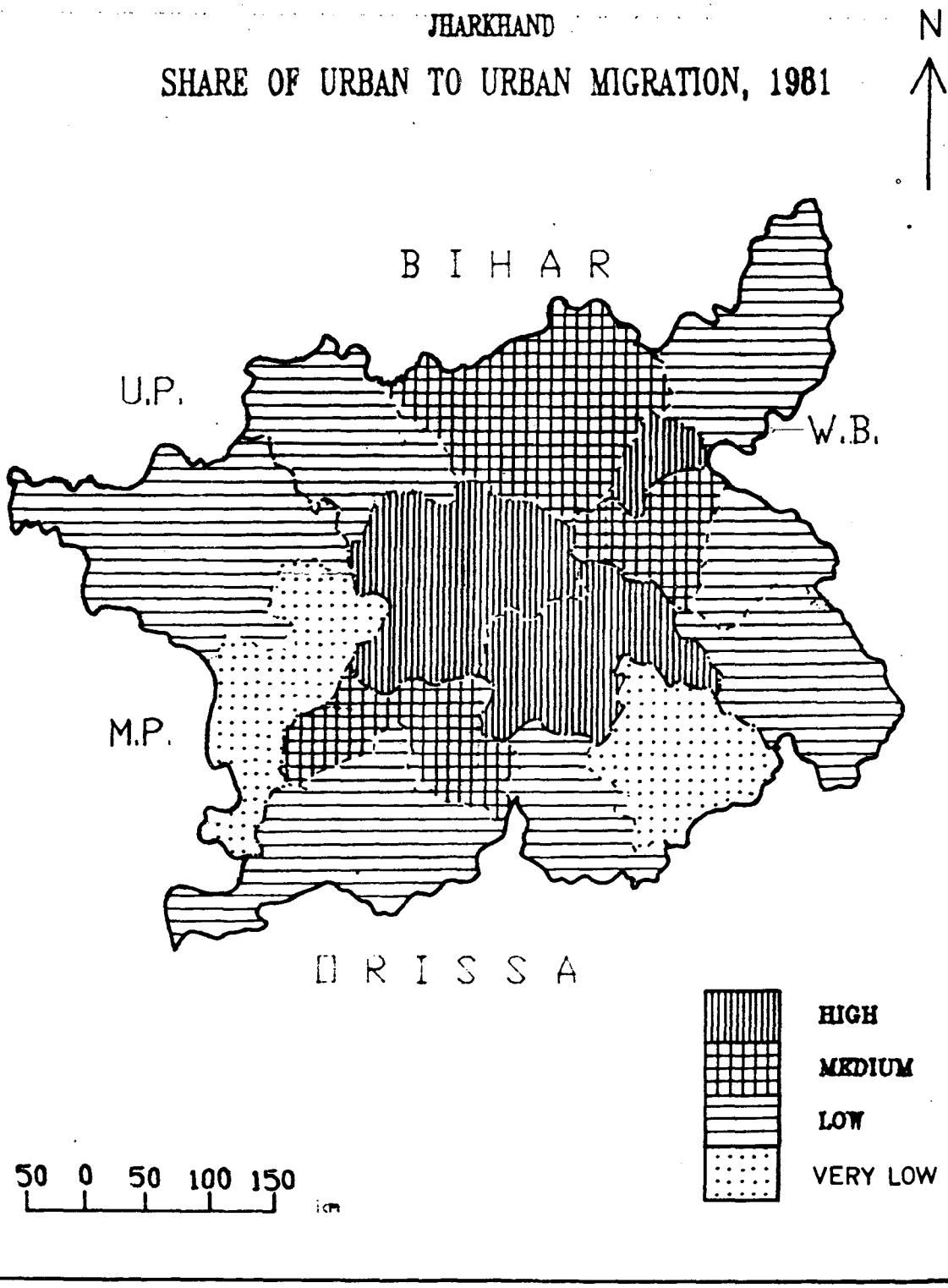
SHARE OF URBAN TO URBAN MIGRATION, 1981



and economic reasons and likely to take place either from small town to big cities and metropolises or among the cities themselves. This has sometimes been called "urban turnover". The study area has five districts which are having shares above 10 per cent for urban to urban migration. Highest share had been shown by Ranchi 20.41 per cent, Singhbhum 19.02 per cent, Dhanbad 15.1 per cent, Sundergarh 13.6 per cent and Purulia 12.9 per cent. PREMI, M.K. (1989) argued that urban to urban migration is likely to take place, generally, from region of low economic opportunities and also due to educational reasons. Besides that only those districts had shown high share of urban to urban migration, which had the class I cities. On the other hand, low urban to urban migration had been observed in the districts of Mayurbhanj 3.17 per cent, Raigarh 4.35 per cent, Palamu 5.16 per cent and in Surguja 5.4 per cent during 1981 period.

URBAN TO RURAL MIGRATION FOR MALES 1981: Urban to rural migration had remained low as compared to the other streams of migration. In study area maximum share of urban to rural migration could be seen in Bankura 7.70 per cent, Hazaribagh 6.1 per cent, Palamu 6.01 per cent and Purulia 5.2 per cent. Low shares have been observed in Dhanbad 2.9 per cent, Singhbhum 2.88 per cent and Sundergarh 2.88 per cent.

CONCLUSION

The present chapter has dealt with the migration pattern in Jharkhand region where we find the following trend which shows variation in trend from 1971 to 1981.

So far as the pattern of migration in Jharkhand region (1971) is concerned, where there is low percentage of urban population intra district immigration is high over there. On the contrary, inter district migration is high in such districts of the region where urban population is high. However, low percentage of urban population in some districts shows comparatively high share of migration. Inter state migration is comparatively high in the well urbanised districts while it is low or very low in the least urbanised district. Here, two important patterns emerged that where there is the least urbanisation trends there is less urban migration. On the contrary, districts having better urbanisation gives sound share of urban migration. It is so because migration is determined by certain prevailing opportunities in the urban centres. Availability as well as unavailability of such opportunities have obviously displayed their crucial role for the inter district, intra district and interstate migration.

In 1981 share of migrants in intra district level have declined almost in every district of the Jharkhand region. Here, shares of migrants in case of inter district

migration have increased almost in every district of this region. As Dhanbad in showing 10 per cent rise in its urban share of migration from the previous census year i.e., 1971, which is followed by Hazaribagh where share of urban migration is around 9 per cent higher from the previous census year. Again inter state migration is showing rising trends in few districts in which Purulia is leading where there is 9 per cent increase in its urban share of population in 1981, while three districts are showing slight decreasing trends in comparison to the census year 1971.

Thus, we have seen that share of migrants in case of intra district level is declining while inter district is depicting rising trends. However, share of inter state migrants are showing rising trends in some districts and declining trends in few of them.

Rural to Rural Migration (1971): There is high share of migrants in the least urbanised and low in the highly urbanised districts.

Rural to Urban Migration (1971): Rural to urban migration is high in the most urbanised districts and it is low in the least urbanised districts. Here, availability and unavailability of opportunities display predominant role. For example, such trend can be seen in Dhanbad and Hazaribagh.

Urban to Urban Migration (1971): In the Jharkhand region, area having class I cities shows high share of urban to urban migration.

Urban to Rural Migration (1971): Least urban to rural migration occurred.

Rural to Rural (1981): Similar pattern is prevailing in this census year whatsoever was occurring in 1971.

Rural to Urban (1981): Almost every district has increased their share in this category of migration except Hazaribagh where it has slightly declined from 1971.

Urban to Urban (1981): There is a general rise in the urban to urban migration in every district of this region.

Urban to Rural (1981): Similar to 1971, very little urban to rural migration took place.

CHAPTER V

AN ANALYSIS OF EFFECT OF INDUSTRIAL AGRICULTURAL AND GENERAL INDICATORS ON URBANIZATION (1971-81 & 91)

In this chapter an attempt is being made to study the relationship among the important variables using correlation analysis. Secondly to determine the influence of some independent variables on the dependent variables of urbanization. The results of the correlation analylsis are presented below.

CORRELATION ANALYSIS

In order to understand the relationship among variables the zero-order correlation coefficients are calculated. The matrix which represent the zero order correlation coefficient are given in the table 5.I.

From the zero order correlation matrix the following relationship can be established.

The table 5.1 shows that percentage of urban population has a very high statistical significance at 0.001 level and negative correlation with proportion of agricultural workers to the total workers having a value of -.82. It may be suggested that if the percentage of urban

Zero Correlation matrix between independent and dependent variable for Jharkand 1971.

	. X1	X2	X3	Y1	Y2	Y3	Y4	Y5	Y6	Y8	Y9
X1	1.0000										
X2	.405	1.0000									
X3	-.863**	-.398	1.0000								
Y1	-.820**	-.487	.814**	1.0000							
Y2	-.213	-.275	.048	.105	1.0000						
Y3	-.111	-.119	.108	.092	.488	1.0000					
Y4	-.206	-.176	.169	.157	.653*	.935**	1.0000				
Y5	.280	.073	-.177	-.346	-.072	-.119	-.174	1.0000			
Y6	-.309	-.149	.406	.199	.152	.610*	.659*	-.310	1.0000		
Y8	.848**	.235	-.571	-.721	-.149	-.104	-.154	.367	-.206	1.0000	
Y9	.859**	.392	-.852**	-.840**	-.138	.036	-.027	.234	-.204	.718*	1.0000
Y10	.234	-.499	-.007	-.083	-.216	.072	.090	.194	-.171	.489	.219
Y11	.936**	.548	-.787**	-.885**	-.267	-.165	-.239	.337	-.254	.880**	.881*
Y12	.424	.005	-.184	-.276	-.122	-.264	-.154	.099	-.035	.427	.317
Y13	.459	-.016	-.388	-.390	-.174	.412	.458	-.126	.263	.530	.673*
Y14	.358	.239	-.217	-.515	-.216	.497	.477	.291	.513	.516	.406
Y15	.086	.071	-.059	-.023	.227	-.141	-.090	-.037	-.127	-.033	.034
Y16	-.159	-.144	.132	.014	-.039	-.140	-.231	-.105	.208	-.263	-.382

	Y10	Y11	Y12	Y13	Y14	Y15	Y16
Y10	1.0000						
Y11	.106	1.0000					
Y12	.260	.436	1.0000				
Y13	.385	.455	.1999	1.0000			
Y14	.016	.465	.007	.548	1.000		
Y15	.305	-.008	.015	-.095	-.149	1.0000	
Y16	-.269	-.213	-.117	-.578	-.049	.189	1.0000

** Number of cases 15 1-tailed significance

* .01 ** .001

X1 = Percentage of urban population,

X2 = Growth rate of urban population,

X3 = Sex ratio

Y1 = Agricultural labourer to toal worker

Y2 = Crop productivity of 19 crops per 1000 hect.

Y3 = Gross irrigated area per 1000 hect.

Y4 = Fertilizer in tonnes

Y5 = Number of pumpsets.

Y6 = Workers in household industries

Y8 = Workers other than household industries

Y9 = Trade and commerce

Y10 = Manufacturing workers

Y11 = Share of rural to urban migration

Y12 = Share of urban to rural migration

Y13 = Male literacy

Y14 = Length of metalled roads

population is higher, percentage of agricultural workers will be lower. It may be due to the percentage of agricultural workers generally high in semi arid rural area.

Proportion of industrial workers in the household industry shows a very high positive and (.84*) correlation with the level of urbanisation and is significant at 0.001 level. Therefore we can say that industrialization and urbanization are very highly correlated phenomenon or in other words one can say that wherever industrialization is higher urbanization is higher in our study area of Jharkand. In other words the level of urbanization and proportion of industrial workers are highly correlated inspite of the lower levels of urbanization and industrialization.

The level of urbanization is also high and positively correlated with workers employed in trading and commercial activities and is statistically significant at 0.001 level.

The correlation between level of urbanization and share of rural to urban migrants is .93. Therefore one can suggest that urbanization is very highly correlated with the share of rural to urban migration it is quite natural that a higher component of migrants form rural area will raise the urban population in towns and cities.

The table also shows that there exists a high and positive correlation between sex ratio (is taken as one of

Table 5.3 : Zero correlaiton matrix between dependent and independent variables Jharkand 1981

	X1	X2	X3	Y1	Y2	Y3	Y4	Y5	Y6	Y8	Y9
X1	1.0000										
X2	.080	1.0000									
X3	-.823**	.109	1.0000								
Y1	-.930**	-.038	.905**	1.0000							
Y2	-.165	-.206	.116	.169	1.0000						
Y3	-.222	-.357	.133	.127	.628*	1.0000					
Y4	-.270	-.383	.115	.126	.809**	.895**	1.0000				
Y5	-.195	-.211	.038	.322	.149	.224	-.196	1.0000			
Y6	-.333	.063	.378	.268	.476	.729*	.612*	-.363	1.0000		
Y7	.916**	-.060	-.745**	-.866**	-.193	-.171	-.152	-.249	-.262	1.0000	
Y9	.300	-.380	-.064	-.260	.161	.238	.280	-.224	.085	.525	1.0000
Y10	.180	-.019	.063	-.065	.177	.530	.394	-.186	.501	.129	.213
Y11	.963**	.218	-.760**	-.878**	-.240	-.269	-.257	-.283	-.347	.891**	.205
Y12	.919**	.074	-.681*	-.776**	-.178	-.257	-.199	-.237	-.340	.891**	.383
Y13	.434	-.224	-.426	-.532	.198	.526	.453	-.524	.285	.521	.494
Y14	-.088	.352	.227	.017	-.134	.064	-.005	-.380	.090	-.123	-.029
Y15	-.478	-.325	.145	.394	.144	-.003	-.023	.642*	.099	-.359	-.205
Y16	.712*	.163	-.871**	-.795**	-.156	-.221	-.247	.019	-.294	.501	-.298

	Y10	Y11	Y12	Y13	Y14	Y15	Y16
Y10	1.0000						
Y11	.143	1.0000					
Y12	.144	.933**	1.0000				
Y13	.278	.422	.455	1.0000			
Y14	.176	.024	-.125	.128	1.0000		
Y15	-.242	-.566	-.556	-.362	-.194	1.0000	
Y16	-.066	.656*	.487	.225	-.152	-.112	1.0000

the indicators of urbanization) and percentage of agricultural labour's having a value 0.81 which is statistically significant at 0.001 level. Basically the higher percentage of agricultural workers indicates the rural area. Therefore we may suggests if the percentage of agricultural workers decreases, the sex ratio will also decrease.

Trade and commerce shows high and negative correlation with sex ratio its value is -.85 which is statistically significant at 0.001 level. There also exists a negative and high correlation between the sex ratio and rural to urban migration. This seems primarily due to selective, migration of males from rural to urban area thus resulting in the lower sex ratio in urban areas. It varies inversely with the proportion of agricultural workers.

A high, positive correlation is shown in the Table 5.2 for the level of urbanization and industrial workers employed in other than household industry. A high level of urban population is shown to co-exist with higher number of workers in the industries 'other than household'.

The share of rural to urban migration also shows a high and positive correlation with the level of urban population. Its value is .96 which is significant at 0.001, i.e. it is proportionately related to rural urban migration to a great extent.

The share of urban to urban migration in the study area is also showing a positive and high correlation with percent urban population. Its value is .92 and is also significant 0.001 level. This migration from one town to another or town to city also contributes naturally, whereas the urban population will high urban to urban migration will also be high.

The correlation of hospitals and dispensaries with urban population level also has a positive value at 95 percent significance level. It tends to be closely related to percent urban population. In the urban area generally remains the higher number of hospital and dispensaries.

Though the percent growth of urban population does not show very high positive or negative correlations with other variables, yet it does show moderate relationships with some of them. Such correlation is to be found between percentage of agricultural workers and growth of urban population. If the percentage of agricultural workers is higher, then percent growth of urban population tends to be lower. While a moderately positive correlation exists between growth of urban population and share of rural to urban migrants. Thus, with the growth of urban population, the rural-to-urban migrants tend to increase to an extent.

The analysis based on 1981 census data, was also repeated with the same indicators for 1971 data and a correlations matrix was generated among them. Table 5.2

shows that there exists a statistically significant (at 0.001 level) negative correlation between the level of urbanization and percentage of agricultural workers for Jharkhand region in 1981. Their correlation value is -.93.

Besides that, we found that sex ratio has very high positive correlation with share of agricultural workers (.90) significant at 0.001 level. It suggests that both are directly related to each other where share of agricultural workers decreases the sex ratio will also decrease.

Sex ratios have shown a very high and negative correlation (.74) with other than household industrial workers significant at 0.01 level. It may suggest that both are inversely correlated with each other. Increasing number of industrial workers will, thus, indicate decreasing pattern of sex ratios because of male specific migration of workers in the city from the rural areas decreasing the sex ratio. This is also confirmed by rural to urban migration which on the contrary have a positive and significant correlation with sex ratio. Greater migration of male-dominated labour depresses the sex ratio.

A negatively correlated-but not moderate relationship occurs between urban to urban migration and sex ratio. High and negative correlation is to be observed between the number of hospitals and dispensaries and the prevailing sex ratio.

Although many variables are showing significant and high, positive or negative, correlation values with level of urbanization and sex ratio, they don't show such relationship with growth rates of urban population. Only a low level of relationship is show by them. Fertilizers use, for e.g., exhibits some relation with growth of urban population. This value is .38 and in a negative direction.

For the year 1991, we have taken up some other indicates which were not taken for 1971 or 1981 census years. This is due to non-availability of data on the previous indicators.

During 1991 it is also found that there exists a significant and inverse correlation between level of urbanization and percentage of agricultural labourers. There exists a significant and positive correlation between industrial workers and level of urbanization as in 1971 and 1981. An increase in industrial workers is followed by an increase in urbanization level.

Level of urbanization and per capita bank credit to industries show a very high and positive correlation. The industries tend to concentrate in urban areas due to various agglomeration economies. The availability of infrastructure and bank credit to industries is thus, observed to be higher in urban areas. So these two variables show a high and positive correlation.

Table 5.3 : Zero correlaiton matrix between dependent and independent variables Jharkand 1991

	X1	X2	X3	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8
X1	1.0000										
X2	-.157	1.0000									
X3	-.711*	.110	1.0000								
Y1	-.797**	.278	.725*	1.0000							
Y2	-.429	-.068	.368	.134	1.0000						
Y3	-.301	-.153	.017	-.063	.803**	1.0000					
Y4	.013	-.151	.433	.420	-.191	-.538	1.0000				
Y5	.277	-.242	.025	-.163	-.010	.069	.005	1.0000			
Y6	.750**	-.200	-.718*	-.749**	-.057	.085	-.227	-.154	1.0000		
Y7	.893**	-.331	-.468	-.663*	-.347	-.237	.114	.626*	.538	1.0000	
Y8	.127	-.133	.058	-.011	.097	.311	.020	.437	-.007	.324	1.0000
Y9	.766**	-.305	-.254	-.529	-.349	-.290	.323	.347	.487	.855**	.367
Y10	-.161	.040	.408	.392	.103	-.148	.507	-.070	-.156	-.179	-.212
Y11	.442	-.132	-.739**	-.569	.147	.412	-.357	-.076	.537	.201	.036
Y12	-.446	.289	.768**	.567	.375	-.033	.377	.006	-.343	-.289	-.123
Y13	-.461	.152	.779**	.557	.147	-.307	.603*	.016	-.598*	-.306	-.149
Y14	.446	-.256	-.273	-.571	.509	.5484	-.268	.261	.577	.464	.196
Y15	.378	-.127	-.183	-.439	.535	.542	-.201	.242	.520	.470	.211

Table 5.3 : Zero correlaiton matrix between dependent and independent variables Jharkand 1981

	Y9	Y10	Y11	Y12	Y13	Y14	Y15
Y9	1.0000						
Y10	-.201	1.0000					
Y11	.052	-.113	1.0000				
Y12	-.233	.474	-.674*	1.0000			
Y13	-.194	.467	-.653*	.768**	1.0000		
Y14	.403	-.069	.527	-.135	-.433	1.0000	
Y15	.383	-.078	.417	-.047	-.406	.949**	1.0000

A positive, high correlation is showed by level of urbanization and per capita bank deposit. It is quite obvious in the urban areas because higher turnover in industries and services, supposedly, increases level of incomes and savings.

Percent of agricultural labourers shows a negative but not high, correlation with sex ratio in 1991 in Jharkhand region. This is due to the reasons we sought out above.

A negative but moderate correlation exists between industrial workers and sex ratio. The male selectivity of rural migrants to the urban areas was thought to be the explanation behind this.

Availability of telegraph offices has a high negative correlation with sex ratio. This is due to the presence of services and secondary activites in the urban areas which employ a number of rural male migrants.

A direct and positive relationship occurs between percent of female workers ratio. The work - participation of females is higher in rural areas and agricultural activities.

Though growth rate of urban population does not show high and negative relationship with per capita band credit and per capita bank deposit, it shows very low and negative (-.30 approx.) correlation with them.

CONCLUSION

In this chapter we have found out the correlation amongst urban indicators and other related variables. Industrial and economic development indicators the correlation between the urbanization and other indicators showed that industrial indicators such as worker engaged in other than household industries have shown significant positive correlation with the urbanization. Other indicators of industrial development such as workers engaged in manufacturing sector and workers related to trade and commerce, shown the significant positive correlation with the urban indicators. Therefore we can conclude that the process of urbanization is highly correlated with the urbanisation in the Jharkand region during 1971-91.

Some general indicators, which are basically related with economic development, have also shown positive and significant correlation with urbanization. Indicators such as rural to urban migration, urban to urban migration and number of hospital and dispensary show positive and significant association with urbanisation. From this we can conclude that distress condition of rural areas lead people to migrate to urban areas, helps in the urbanization process. High income opportunities in some particular town also attracts people form some other towns. On the other hand indicators of social infrastructure like hospitals are

consequence of urbanisation means that urbanization lead to increased availability of infrastructure facilities. But the agriculture development indicators showed negative and significant correlation with urbanization means that with increasing agricultural productivity people stop migrating to urban areas in Jharkahand region.

Results have shown that industrial and economic development indicators had most influence on the urbanization processes. Therefore we can conclude that economic development and industrialization lead to urbanization and they are interlinked.

CHAPTER - VI

CONCLUSION

As per 1991 census, Jharkhand region has 7,837,615 urban population which constitutes 16 percent of the total population of the region. The proportion of urban was 11.5 percent in 1971 and 14.0 percent in 1981. On the whole, Jharkhand region witnessed a 57.26 percent urban growth during 1971-81, while during the decade of 1981-91 it declined steeply to 34.5 percent. Mayurbhanj and Keonjhar witnessed to 34.5 percent. Mayurbhanj and Keonjhar witnessed very high growth rates.

In general, class I cities and backward districts have shown fast growth. The latter because of the emergence of new districts and taluk headquarters. Urban growth rates having declined between 1981-91, as compared to the previous decade, the growth rates of the newly emerged towns have kept up a high level.

The class I cities show a growth rate of 50 percent in 1981 as compared to 44 percent in 1971. Though the number of class II towns shows a tremendous increase, their share of urban population decreased in 1991. Class III towns also grew in number in the class IV, V and VI towns also registered a little increase over the twenty-year period, i.e. 1971 to 1991.

The fact that the urban growth rate has been primarily affected by the high growth rate of new towns proves our hypothesis number one, which stated : "higher the growth of new towns higher will be the growth of urban areas". The second hypothesis was related to the comparative growth in differentially urbanised districts : "least urbanized districts tend to show a higher urban grow as compared to more urbanized districts". The hypothesis is substantiated by the fast growth of backward districts due to developmental activities occurring there. These have resulted in emergence of new towns and administrative centres in those districts between 1981-91. Due to low initial urban population, such districts are the fastest growing ones which enhances their urban growths. Surguja and Hazaribagh exemplify this. Growth rates are, mostly high only in the class I cities of the more urbanized districts.

Economic development tends to bring about a change in the occupational structure of the working population. This change supposedly occurs from a predominantly agricultural (primary) to predominantly industrial (secondary), and then to services (tertiary) sector characterized by highly specialized services.

In the Jharkhand region, as per 1971 census the share of tertiary sector workers was higher in comparison to the secondary sector workers in the urban centres. During the

next decade 1971-81 an increase in secondary sector activities took place alongwith a decline in the tertiary activities. The census of 1991 once again shows a greater growth of service (tertiary) sector. This proves the hypothesis os higher the growth of secondary workers lower will be the growth of tertiary workers.

High urban growth and increase in secondary sector activities were related to each other in Jharkhand region. Between 1971 and 1981, for e.g., high growth of secondary workers in districts like Midnapore occurred along with a high urban growth. In other districts like Surguja, Singhbhum, Purulia and Raigarh there was a low growth of secondary sector workers and the urban of male secondary workers and urban growth in 1971-81 was not equally clear. However, the relationship was not equally clear. However the relationship was generally observed, despite some exceptions like Midnapore. Thus our hypothesis number three that "higher the male secondary workforce higher will be the growth of urban population", is not conclusively proved.

Our hypothesis number five was based on the relationship between growth of tertiary workers and comparative growth of the urban population. It stated "higher the growth of tertiary workers higher will be the comparative growth of urban population". This hypothesis was proved for the decade 1981-91 only. During this

period, there was a tremendous growth of new towns paralleled by a growth of the tertiary sector workers. The tertiary sector growth during this period was even higher than the growth of secondary workers. However, during the period 1971-81, the urban population growth did not respond to the low growth of the tertiary workers.

In Jharkhand region, it was found in 1971 that intra-district migration is higher in the districts with low percentage of urban population. Inter-district migration was higher for districts with high proportion of urban population. Inter-state migration was found higher in the well-urbanized districts. There were exceptions too, which showed higher share of migrants even in low urbanized districts. Migration was observed to be higher in more urbanized districts and vice-versa. This is because migration is dependent on the availability of job opportunities in industries and elsewhere.

In 1981, intra-district migration showed decline in most of the districts of Jharkhand, while inter-district migration showed a rising trend. The proportion of inter-state migration rose in some of the districts while a few of them showed a decline in their proportion.

Rural to rural migration, both in 1971 and 1981, was high in the least urbanized districts and low in highly urbanized one. Rural to urban migration was directed by availability or non availability of opportunities. This

migration increased in 1981, except the district of Hazaribagh. Urban to urban migration was high in districts with class I cities in 1971. In 1981, there was a general rise in this migration too. Very little urban to rural migration takes place in Jharkhand.

Our hypothesis on "higher rural to urban migration tends to show for a highly urbanized district of the region" has been substantiated because this pattern occurs in both the years 1971 and 1981. This higher share in the migration is due to the availability of opportunities in such districts. This leads us to the hypothesis number seven "higher the growth of industrial activities higher will be the growth of urban population". That growth of urban population is higher where industrial activities are growing becomes clear from the example of Dhanbad. On the other hand, Hazaribagh presents a study in contrast.

The hypothesis number eight postulated "a positive relationship between urbanization and industrial workers". We found that a positive significant correlation existed between urbanization and workers engaged in other than household industries during 1971-91 in Jharkhand. Thus this hypothesis came out true for the region in question.

Finally, our hypothesis on the proportion urban and availability of infrastructural facilities has also been found to be true for the region. The hypothesis number nine was as follows : "there exists a positive relationship

between share of urban population and availability of infrastructure facilities". A positive and significant correlation existed between urbanization in Jharkhand and number of hospitals and dispensaries in the urban centres of Jharkhand. It shows that for our study area too, the availability of facilities and amenities in the towns and cities exercises a pull effect on the migrants, which enhances the level of urbanization in the different districts.

The presence of industries, infrastructural development and growth of new administrative and other towns have encouraged urbanization in Jharkhand region. Presence of vast mineral resources has enhanced industrialization there. The study shows a close linkage between industrialization and urbanization in Jharkhand for the two decades (1971-91) under taken for study.

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APPENDICES

NATIONAL INDUSTRIAL CLASSIFICATION (NIC)– 1970

This classification groups the industries into :

10	Divisions (0 to 9 & 'X')
66	Major Groups
385	Minor Groups

The Divisions, Major Groups and Minor Groups with their code numbers are listed below :

IVISIONS

(One digit level of classification)

0	—	Agriculture, Hunting, Forestry and Fishing
1	—	Mining and Quarrying
2&3	—	Manufacturing and Repair
4	—	Electricity, Gas and Water
5	—	Construction
6	—	Wholesale and Retail Trade and Restaurants and Hotels
7	—	Transport, Storage and Communications
8	—	Financing, Insurance, Real Estate and Business Services
9	—	Community, Social and Personal Services
X	—	Activities not Adequately Defined

MAJOR GROUPS

(Two digit level of classification)

ajor Group

ision 0—Agriculture, Hunting, Forestry and Fishing

00	—	Agricultural Production
01	—	Plantation
02	—	Livestock Production
03	—	Agricultural Services
04	—	Hunting, Trapping and Game Propagation
05	—	Forestry and Logging
06	—	Fishing

ision 1 —Mining and Quarrying

10	—	Coal Mining
11	—	Crude Petroleum and Natural Gas
12	—	Metal Ore Mining
19	—	Other Mining

Major Group		Description
Division 2 & 3—Manufacturing and Repair		
20-21	—	Manufacture of Food Products
22	—	Manufacture of Beverages, Tobacco and Tobacco Products
23	—	Manufacture of Cotton Textiles
24	—	Manufacture of Wool, Silk and Synthetic Fibre Textiles
25	—	Manufacture of Jute, Hemp and Mesta Textiles
26	—	Manufacture of Textile Products, (including Wearing Apparel other than Footwear)
27	—	Manufacture of Wood and Wood Products, Furniture and Fixtures
28	—	Manufacture of Paper and Products and Printing, Publishing and Allied Industries
29	—	Manufacture of Leather and Leather and Fur Products except (repair)
30	—	Manufacture of Rubber, Plastic, Petroleum and Coal Products
31	—	Manufacture of Chemicals and Chemical Products (except Products of Petroleum and Coal)
32	—	Manufacture of Non-Metallic Mineral Products
33	—	Basic Metal and Alloys Industries
34	—	Manufacture of Metal Products and Parts, except Machinery and Transport Equipment
35	—	Manufacture of Machinery, Machine Tools and Parts except Electrical Machinery
36	—	Manufacture of Electrical Machinery, Apparatus, Appliances and Supplies and parts
37	—	Manufacture of Transport Equipment and Parts
38	—	Other Manufacturing industries
39	—	Repair
Division 4—Electricity, Gas and Water		
40	—	Electricity
41	—	Gas and Steam
42	—	Water Works and Supply
Division 5—Construction		
50	—	Construction
51	—	Activities Allied to Construction
Division 6—Wholesale and Retail Trade and Restaurants and Hotels		
60	—	Wholesale Trade in Food, Textiles, Live Animals, Beverages and Intoxicants
61	—	Wholesale Trade in Fuel, Light, Chemicals, Perfumery, Ceramics and Glass
62	—	Wholesale Trade in Wood, Papers, Other Fabrics, Hide and Skin and Inedible Oils
63	—	Wholesale Trade in All types of Machinery, Equipment, includingTransport and Electrical Equipment
64	—	Wholesale Trade in Miscellaneous Manufacturing

Major Group		Description
65	—	Retail Trade in Food and Food Articles, Beverages, Tobacco and Intoxicants
66	—	Retail Trade in Textiles
67	—	Retail Trade in Fuel and other Household Utilities and Durables
68	—	Retail Trade in Others
69	—	Restaurants and Hotels

Division 7—Transport, Storage and Communications

70	—	Land Transport
71	—	Water Transport
72	—	Air Transport
73	—	Services incidental to Transport
74	—	Storage and Warehousing
75	—	Communications

Division 8—Financing, Insurance, Real Estate and Business Services

80	—	Banking and Similar Type of Financial Institutions
81	—	Providents and Insurance
82	—	Real Estate and Business Services
83	—	Legal Services

Division 9—Community, Social and Personal Services

90	—	Public Administration and Defence Services
91	—	Sanitary Services
92	—	Education, Scientific and Research Services
93	—	Medical and Health Services
94	—	Community Services
95	—	Recreational and Cultural Services
96	—	Personal Services
98	—	International and Other Extra Territorial Bodies Services
99	—	Services not elsewhere classified

Division X—Activities not Adequately Defined

X0	—	Persons without any Affiliation to any particular industry (including fresh entrants to labour force)
X1	—	Activites not Adequately Defined (other than that in X0)

NATIONAL CLASSIFICATION OF OCCUPATIONS—1968

DIVISIONS AND GROUPS

Division/Groups		Description
Division	0-1	**Professional, Technical and Related Workers**
Groups	00	Physical Scientists
	01	Physical Science Technicians
	02	Architects, Engineers, Technologists and Surveyors
	03	Engineering Technicians
	04	Aircraft and Ships Officers
	05	Life Scientists
	06	Life Science Technicians
	07	Physicians and Surgeons (including Dental and Veterinary Surgeons)
	08	Nursing and other Medical and Health Technicians
	09	Scientific, Medical and Technical Persons, Other
	10	Mathematicians, Statisticians and Related Workers
	11	Economists and Related Workers
	12	Accountants, Auditors and Related Workers
	13	Social Scientists and Related Workers
	14	Jurists
	15	Teachers
	16	Poets, Authors, Journalists and Related Workers
	17	Sculptors, Painters, Photographers and Related Creative Artists
	18	Composers and Performing Artists
	19	Professional Workers, *n.e.c.*
Division	2	**Administrative, Executive and Managerial Workers**
Groups	20	Elected and Legislative Officials
	21	Administrative and Executive Officials Government and Local Bodies
	22	Working Proprietors Directors and Managers, wholesale and Retail Trade
	23	Directors and Managers, Financial Institutions
	24	Working Proprietors, Directors and Managers Mining, Construction, Manufacturing and Related Concerns
	25	Working Proprietors, Directors, Managers and Related Executives, Transport, Storage and Communication
	26	Working Proprietors, Directors and Managers, Other Services
	29	Administrative, Executive and Managerial Workers, *n.e.c.*

n.e.c.—not elsewhere classified.

Division/Groups		Description
Division	**3**	**Clerical and Related Workers**
Groups	30	Clerical and Other Supervisors
	31	Village Officials
	32	Stenographers, Typists and Card and Tape Punching Operators
	33	Book-keepers, Cashiers and Related Workers
	34	Computing Machine Operators
	35	Clerical and Related Workers, *n.e.c.*
	36	Transport and Communication Supervisors
	37	Transport Conductors and Guards
	38	Mail Distributors and Related Workers
	39	Telephone and Telegraph Operators
Division	**4**	**Sales Workers**
Groups	40	Merchants and Shopkeepers, Wholesale and Retail Trade
	41	Manufacturers, Agents
	42	Technical Salesmen and Commercial Travellers
	43	Salesmen, Shop Assistants and Related Workers
	44	Insurance, Real Estate, Securities and Business Service Salesmen and Auctioneers
	45	Money Lenders and Pawn Brokers
	49	Sales Workers *n.e.c,*
Division	**5**	**Service Workers**
Groups	50	Hotel and Restaurant Keepers
	51	House Keepers, Matron and Stewards (Domestics and Institutional)
	52	Cooks, Waiters, Bartenders and Related Workers (Domestic and Institutional)
	53	Maids and Other House Keeping Service Workers, *n.e.c.*
	54	Building Caretakers, Sweepers Cleaners and Related Workers
	55	Launderers Dry-cleaners and Pressers
	56	Hair Dressers, Barbers, Beauticians and Related Workers
	57	Protective Service Workers
	59	Service Workers, *n.e.c.*
Division	**6**	**Farmers, Fishermen, Hunters, Loggers and Related Workers**
Groups	60	Farm Plantation, Dairy and Other Managers and Supervisors
	61	Cultivators
	62	Farmers Other than Cultivators
	63	Agricultural Labourers
	64	Plantation Labourers and Related Workers
	65	Other Farm Workers
	66	Forestry Workers
	67	Hunters and Related Workers
	68	Fishermen and Related Workers

Division/Groups		Description
Divn.	**7-8-9**	**Production and Related Workers, Transport Equipment Operators and Labourers**
Groups	71	Miners, Quarrymen, Well Drillers and Related Workers
	72	Metal Processors
	73	Wood Preparation Workers and Paper makers
	74	Chemical Processors and Related Workers
	75	Spinners, Weavers, Knitters, Dyers and Related Workers
	76	Tanners, Fellmongers and Pelt Dressers
	77	Food and Beverage Processors
	78	Tobacco Preparers and Tobacco Product Makers
	79	Tailors, Dress Makers, Sewers, Upholsterers and Related Workers
	80	Shoe makers and Leather Goods Makers
	81	Carpenters, Cabinet and Related Wood Workers
	82	Stone Cutter and Carvers
	83	Blacksmiths, Tool Makers and Machine Tool Operators
	84	Machinery Fitters, Machine Assembler (except Makers Precision Instrument Electrical)
	85	Electrical Fitters and Related Electrical and Electronic Workers
	86	Broadcasting Station and Sound Equipment Operators and Cinema Projectionists
	87	Plumbers, Welders, Sheet Metal and Structural Metal Preparer and Erectors
	88	Jewellery and Precious Metal Workers and Metal Engravers (Except Printing)
	89	Glass Formers, Pottic and Related Workers
	90	Rubber and Plastic Product Makers
	91	Paper and Paper Board Product Makers
	92	Printing and Related Workers
	93	Painters
	94	Production and Related Workers, *n.e.c.*
	95	Bricklayers and Other Constructions Workers
	96	Stationary Engines and Related Equipment Operators, Oilers and Greasers
	97	Material Handling and Related Equipment Operators, Loaders and Unloaders
	98	Transport Equipment Operators
	99	Labourers) *n.e.c.*
Division	**X**	**Workers Not Classified By Occupations**
Groups	X0	New Workers Seeking Employment
	X1	Workers Reporting Occupations Unidentifiable or Inadequately Described
	X9	Workers Not Reporting any Occupations

Districts	MINERAL BASED INDUSTRY				MACHINE BASED INDUSTRY				TEXTILES INDUSTRIES			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	1.60	1.29	9.42	-6.91	0.72	0.46	-15.79	10.24	1.69	1.03	5.42	1.87
2. Bankura	0.68	0.99	1.19	17.69	0.35	0.00	-4.10	0.00	9.53	19.91	3.22	29.39
3. Purulia	2.56	9.86	16.11	-2.41	0.36	0.00	-6.18	0.00	3.50	1.57	-0.05	23.11
4. Sambalpur	1.20	1.60	9.30	11.47	0.89	0.00	26.49	0.00	4.45	3.70	8.29	-5.98
5. Sundergarh	7.09	9.38	8.51	12.67	1.01	0.14	53.86	0.00	1.87	1.18	10.94	30.29
6. Keonjhar	0.59	0.16	12.62	-8.76	0.27	0.00	24.57	0.00	1.72	1.28	9.55	22.80
7. Mayurbhanj	1.21	1.87	10.92	23.62	0.22	0.00	26.39	0.00	2.72	0.62	10.92	17.46
8. Santhal Pragana	2.41	2.88	8.42	15.34	2.08	0.30	8.16	0.00	2.36	2.91	0.62	7.70
9. Palamu	2.39	3.06	8.18	20.02	0.45	0.00	27.66	0.00	2.69	0.84	2.97	5.52
10. Hazaribagh	3.61	2.66	5.24	4.40	0.22	0.06	8.27	0.00	1.41	0.69	3.90	13.02
11. Ranchi	2.18	2.96	11.24	7.73	13.22	2.90	3.45	4.41	2.41	2.26	3.97	13.32
12. Dhanbad	4.64	3.37	1.18	-0.77	0.51	0.14	3.70	0.00	1.23	0.42	5.88	-2.21
13. Singhbhum	1.43	3.41	-0.07	-1.31	11.51	2.83	0.47	0.58	1.75	1.20	4.06	10.03
14. Surguja	1.50	3.21	10.25	7.37	2.51	0.81	4.14	0.05	0.93	0.21	2.31	1.85
15. Raigarh	2.58	2.81	5.35	2.58	1.57	0.52	3.48	0.23	0.85	0.57	1.85	1.15

Districts	OTHER INDUSTIRES				FOREST BASED INDUSTRIES				METAL BASED INDUSTRIES			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	1.14	0.33	5.53	15.49	2.78	1.69	7.65	14.93	0.90	0.27	9.05	20.02
2. Bankura	2.62	2.74	5.40	9.10	3.92	0.58	0.93	2.26	2.48	0.50	2.28	2.66
3. Purulia	0.73	0.52	0.47	0.00	1.94	0.38	-0.13	4.52	1.64	0.66	2.38	7.18
4. Sambalpur	0.45	0.30	0.60	15.97	6.81	3.12	0.21	3.74	1.83	0.32	6.20	3.21
5. Sundergarh	0.43	0.13	15.61	12.33	1.62	0.68	8.52	6.05	27.50	7.49	6.51	13.18
6. Keonjhar	0.25	0.00	-0.80	0.00	1.98	1.14	4.76	-1.09	9.67	6.85	5.02	6.68
7. Mayurbhanj	0.00	0.00	0.00	0.00	3.22	5.27	9.89	15.31	0.70	0.07	8.82	0.00
8. Santhal Pragana	1.11	0.92	8.37	0.00	2.82	2.88	6.27	15.34	1.58	0.16	8.06	0.00
9. Palamu	0.46	0.00	-4.81	0.00	2.52	1.68	7.68	0.00	0.61	1.09	10.84	0.00
10. Hazaribagh	0.44	0.05	6.60	0.00	1.14	0.74	5.00	-3.00	0.77	0.36	-3.22	21.82
11. Ranchi	0.56	0.18	8.27	0.00	2.59	1.44	6.34	18.47	2.19	1.55	8.11	33.21
12. Dhanbad	0.47	0.03	13.84	0.00	0.96	0.50	3.38	-6.65	14.45	3.43	12.71	14.93
13. Singhbhum	0.48	0.07	4.17	4.14	2.14	1.83	5.76	6.00	24.72	6.95	2.20	-4.6
14. Surguja	1.93	0.85	0.93	0.05	2.25	1.89	0.92	1.33	5.83	3.29	8.27	1.23
15. Raigarh	2.15	1.2	0.53	0.21	3.66	1.25	1.15	0.73	3.29	1.53	5.35	0.51

Districts	ELECTRICITY				GAS AND STEAM				WATER WORKS AND SUPPY			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	1.01	0.24	3.81	18.80	0.01	0.00	4.14	0.00	0.07	0.00	0.11	0.00
2. Bankura	0.48	0.19	13.84	0.00	0.00	0.00	0.00	0.00	0.04	0.00	7.18	0.00
3. Purulia	4.48	1.41	27.71	0.00	0.00	0.00	0.00	0.00	0.08	0.16	1.84	0.00
4. Sambalpur	1.33	0.10	-0.44	0.00	0.02	0.00	0.00	0.00	0.57	0.07	14.12	0.00
5. Sundergarh	1.19	0.14	6.21	0.00	0.02	0.09	16.98	0.00	0.20	0.09	-6.13	0.00
6. Keonjhar	0.79	0.00	-3.14	0.00	0.00	0.00	0.00	0.00	0.13	0.00	-5.59	0.00
7. Mayurbhanj	2.01	0.00	12.43	0.00	0.00	0.00	0.00	0.00	0.30	0.00	4.52	0.00
8. Santhal Pragana	0.75	0.28	-0.98	0.00	0.00	0.00	0.00	0.00	0.30	0.00	33.51	0.00
9. Palamu	0.77	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	45.73	0.00
10. Hazaribagh	5.20	1.75	4.47	-10.71	0.01	0.00	7.18	0.00	0.26	0.00	19.47	0.00
11. Ranchi	1.29	0.34	15.79	0.00	0.05	0.00	-0.29	0.00	0.70	0.00	19.26	0.00
12. Dhanbad	1.70	0.57	2.66	-1.00	0.00	0.00	-12.94	0.00	0.10	0.00	1.52	0.00
13. Singhbhum	0.70	0.05	8.16	7.88	0.03	0.00	-11.80	0.00	0.25	0.02	18.54	0.00
14. Surguja	0.80	0.20	3.85	0.00	0.01	0.00	1.32	0.00	0.23	0.01	8.12	0.01
15. Raigarh	0.92	0.12	1.32	0.00	0.00	0.00	0.58	0.00	0.15	0.00	5.89	0.00

Districts	STORGE				COMMUNICATION				SERVICE RELATED TO PRODUCTION			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	0.08	0.05	-11.34	0.00	0.71	0.16	1.88	-3.23	32.96	10.17	2.82	1.59
2. Bankura	0.03	0.00	-5.80	0.00	0.57	0.19	-5.21	7.18	32.11	5.69	2.79	-3.40
3. Purulia	0.06	0.00	-1.81	0.00	0.55	0.00	4.33	0.00	44.98	14.94	2.79	0.83
4. Sambalpur	0.16	0.03	-0.58	0.00	0.90	0.03	3.56	0.00	24.71	10.71	2.93	4.17
5. Sundergarh	0.03	0.00	1.50	0.00	0.57	0.00	2.19	0.00	21.92	8.98	3.61	3.18
6. Keonjhar	0.03	0.00	7.18	0.00	0.66	0.00	2.36	0.00	22.02	16.93	4.62	-0.82
7. Mayurbhanj	0.10	0.00	16.49	0.00	0.90	0.12	10.13	0.00	26.80	3.21	9.33	10.86
8. Santhal Pragana	0.02	0.00	-9.55	0.00	1.03	0.00	5.73	0.00	34.65	7.54	2.73	0.47
9. Palamu	0.06	0.00	4.88	0.00	0.62	0.00	5.15	0.00	36.29	14.12	6.27	13.59
10. Hazaribagh	0.03	0.00	7.96	0.00	0.43	0.40	3.70	0.00	23.26	19.81	5.62	15.53
11. Ranchi	0.07	0.00	13.87	0.00	1.10	0.44	6.84	3.93	26.90	6.62	5.57	6.07
12. Dhanbad	0.01	0.00	0.96	0.00	0.38	0.20	2.47	0.00	19.72	3.96	2.45	-5.05
13. Singhbhum	0.03	0.00	3.71	0.00	0.48	0.27	3.51	0.00	23.84	10.77	3.35	2.96
14. Surguja	0.04	0.00	1.66	0.00	0.86	0.51	6.72	0.00	35.17	12.35	2.53	1.23
15. Raigarh	0.07	0.00	10.00	0.00	0.62	0.90	5.07	0.60	28.82	8.34	3.13	0.92

Districts	BANKING				INSURANCE				REAL ESTATE AND BUSINES SERVICE			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	1.06	0.17	12.15	6.63	0.14	0.16	5.45	0.00	0.30	0.08	-6.35	6.05
2. Bankura	1.38	0.27	8.80	10.84	0.14	0.00	0.87	0.00	0.37	0.00	-6.14	0.00
3. Purulia	1.05	0.00	9.79	0.00	0.08	0.33	-2.84	0.00	0.53	0.00	1.89	0.00
4. Sambalpur	1.25	0.17	7.74	9.60	0.16	0.07	14.28	0.00	0.18	0.03	-18.93	-19.73
5. Sundergarh	0.52	0.28	5.26	0.00	0.12	0.00	14.02	0.00	0.31	0.00	-16.30	0.00
6. Keonjhar	0.69	0.00	6.33	0.00	0.12	0.18	23.11	0.00	1.67	6.31	3.81	18.70
7. Mayurbhanj	1.70	0.12	9.46	0.00	0.12	0.00	6.44	0.00	0.59	0.00	3.73	0.00
8. Santhal Pragana	1.03	0.46	8.92	0.00	0.12	0.00	-1.47	0.00	0.12	0.00	-7.71	0.00
9. Palamu	1.27	0.00	12.40	0.00	0.13	0.25	2.50	0.00	0.17	0.25	-10.68	0.00
10. Hazaribagh	0.64	0.06	5.69	0.00	0.10	0.06	5.03	0.00	0.09	0.00	-12.10	0.00
11. Ranchi	1.14	0.62	9.79	12.48	0.14	0.14	5.57	0.00	0.13	0.04	-8.43	-4.98
12. Dhanbad	0.46	0.12	4.28	15.43	0.25	0.17	10.06	4.48	0.07	0.00	-9.49	0.00
13. Singhbhum	0.73	0.24	3.93	17.46	0.17	0.15	-0.75	0.33	0.10	0.00	-13.13	0.00
14. Surguja	1.08	0.57	6.79	13.14	0.05	0.01	-0.31	0.00	0.87	0.00	-10.11	0.00
15. Raigarh	0.98	0.36	7.3	10.26	0.02	0.07	0.67	0.00	0.41	0.00	6.7	0.00

Districts	HOTEL AND RESTAURENT SERVICE				SOC-ECONOMIC OVERHEAD SERVICES				TRANSPORT			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	1.72	0.96	4.43	15.97	18.42	5.87	-0.36	-0.78	17.63	5.66	-0.35	-0.80
2. Bankura	2.01	0.39	4.46	14.87	11.71	1.92	2.70	-7.02	11.11	1.73	3.41	-7.78
3. Purulia	1.91	0.16	11.89	0.00	26.45	10.12	3.30	1.62	25.83	10.12	3.30	1.82
4. Sambalpur	2.43	0.87	5.32	2.28	10.00	2.23	1.98	-2.58	8.94	2.17	1.89	-2.77
5. Sundergarh	2.56	0.89	3.18	4.85	10.43	4.24	3.36	3.26	9.83	4.24	3.44	3.26
6. Keonjhar	2.08	0.53	3.89	4.81	9.15	6.84	1.76	-7.89	8.64	6.84	1.73	-7.84
7. Mayurbhanj	2.22	0.87	3.69	0.00	5.78	0.27	6.63	18.59	4.78	0.15	5.96	11.61
8. Santhal Pragana	2.68	1.11	2.53	16.98	13.06	1.29	2.09	-2.35	12.01	1.29	1.88	-2.35
9. Palamu	2.25	0.69	10.50	0.00	12.00	8.44	8.85	20.27	11.31	8.44	9.13	20.27
10. Hazaribagh	1.89	0.26	9.29	2.26	8.69	1.22	6.79	-3.62	8.23	0.82	6.98	-7.15
11. Ranchi	1.87	1.05	7.03	12.53	9.95	1.87	6.17	0.82	8.78	1.43	6.04	0.46
12. Dhanbad	1.42	0.37	3.85	6.87	8.84	1.67	2.02	-9.68	8.45	1.47	2.01	-10.84
13. Singhbhum	2.01	0.68	3.45	7.18	10.47	4.24	3.01	0.16	9.96	3.98	2.99	-0.49
14. Surguja	1.97	0.52	2.83	1.52	8.72	3.52	5.56	-2.53	7.95	3.01	4.63	2.56
15. Raigarh	2.03	0.38	3.28	1.78	12.46	6.94	8.76	3.05	11.72	6.3	3.56	-0.55

Districts	TRADE SERVICES				WHOLESALE TRADE				RETAIL TRADE			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	12.26	3.62	10.58	5.56	0.80	0.17	-0.65	2.39	11.46	3.45	12.11	5.74
2. Bankura	18.03	3.49	2.73	-1.00	0.96	0.10	6.51	-6.70	17.07	3.40	2.56	-0.77
3. Purulia	16.34	4.49	1.92	-0.7	1.16	0.00	5.80	0.00	15.18	4.49	1.68	-0.70
4. Sambalpur	12.16	8.21	4.92	7.98	0.66	0.07	2.60	8.20	11.95	8.14	5.06	7.97
5. Sundergarh	10.33	4.41	6.26	7.72	0.55	1.07	16.62	23.91	9.78	3.34	5.91	5.41
6. Keonjhar	10.14	3.61	8.34	7.84	0.16	0.08	- 25.03	- 24.02	9.98	3.52	19.89	23.95
7. Mayurbhanj	17.52	2.81	11.44	15.83	0.43	0.30	10.96	0.00	17.09	2.51	11.45	14.53
8. Santhal Pragana	19.26	5.79	3.05	0.41	1.06	0.00	7.90	0.00	18.20	5.79	2.83	0.62
9. Palamu	21.05	5.18	5.88	7.08	1.03	0.00	-4.06	0.00	20.22	5.18	6.20	7.08
10. Hazaribagh	13.07	18.47	5.81	21.17	0.50	0.00	-5.60	0.00	12.52	18.47	6.18	21.87
11. Ranchi	14.68	3.86	5.15	7.91	0.07	0.04	2.23	1.84	13.91	3.83	5.24	7.98
12. Dhanbad	9.89	1.98	2.78	0.75	0.62	0.17	0.56	0.00	9.27	1.81	2.97	-0.12
13. Singhbhum	12.07	6.11	4.12	5.49	0.70	0.25	4.65	1.26	11.37	5.86	4.08	5.72
14. Surguja	11.08	5.21	9.21	0.89	0.80	0.01	-4.78	2.26	14.3	1.86	6.89	0.72
15. Raigarh	13.24	7.08	2.73	5.31	0.97	0.02	-10.2	4.36	12.43	3.47	4.78	10.72

Districts	BANKING				INSURANCE				REAL ESTATE AND BUSINES SERVICE			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	1.06	0.17	12.15	6.63	0.14	0.16	5.45	0.00	0.30	0.08	-6.35	6.05
2. Bankura	1.38	0.27	8.80	10.84	0.14	0.00	0.87	0.00	0.37	0.00	-6.14	0.00
3. Purulia	1.05	0.00	9.79	0.00	0.08	0.33	-2.84	0.00	0.53	0.00	1.89	0.00
4. Sambalpur	1.25	0.17	7.74	9.60	0.16	0.07	14.28	0.00	0.18	0.03	-18.93	-19.73
5. Sundergarh	0.52	0.28	5.26	0.00	0.12	0.00	14.02	0.00	0.31	0.00	-16.30	0.00
6. Keonjhar	0.69	0.00	6.33	0.00	0.12	0.18	23.11	0.00	1.67	6.31	3.81	18.70
7. Mayurbhanj	1.70	0.12	9.46	0.00	0.12	0.00	6.44	0.00	0.59	0.00	3.73	0.00
8. Santhal Pragana	1.03	0.46	8.92	0.00	0.12	0.00	-1.47	0.00	0.12	0.00	-7.71	0.00
9. Palamu	1.27	0.00	12.40	0.00	0.13	0.25	2.50	0.00	0.17	0.25	-10.68	0.00
10. Hazaribagh	0.64	0.06	5.69	0.00	0.10	0.06	5.03	0.00	0.09	0.00	-12.10	0.00
11. Ranchi	1.14	0.62	9.79	12.48	0.14	0.14	5.57	0.00	0.13	0.04	-8.43	-4.98
12. Dhanbad	0.46	0.12	4.28	15.43	0.25	0.17	10.06	4.48	0.07	0.00	-9.49	0.00
13. Singhbhum	0.73	0.24	3.93	17.46	0.17	0.15	-0.75	0.33	0.10	0.00	-13.13	0.00
14. Surguja	1.08	0.57	6.79	13.14	0.05	0.01	-0.31	0.00	0.87	0.00	-10.11	0.00
15. Raigarh	0.98	0.36	7.3	10.26	0.02	0.07	0.67	0.00	0.41	0.00	6.7	0.00

Districts	PUBLIC SERVICES				MEDICINE AND HEALTH				EDUCATION			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	8.55	7.05	4.30	4.90	1.86	10.29	3.14	8.94	4.68	17.32	3.16	4.55
2. Bankura	10.46	4.37	2.79	2.49	2.91	9.28	6.25	6.65	3.71	8.85	0.03	4.96
3. Purulia	5.48	2.92	-3.36	8.33	1.82	12.15	3.47	28.60	3.27	12.77	2.20	10.79
4. Sambalpur	10.24	3.88	6.65	18.54	1.33	2.56	2.14	3.99	4.25	7.44	6.20	9.33
5. Sundergarh	6.94	4.32	-1.13	5.77	1.16	3.71	3.72	-0.27	2.82	10.93	2.74	9.41
6. Keonjhar	5.70	1.78	2.57	5.88	1.50	2.78	4.25	2.20	3.95	6.85	7.61	10.31
7. Mayurbhanj	13.76	2.79	7.88	22.27	2.04	4.35	5.43	4.75	4.85	14.06	7.43	12.43
8. Santhal Pragana	6.54	2.31	1.43	17.46	0.17	4.94	-18.71	7.90	3.71	23.23	3.10	9.54
9. Palamu	9.26	6.61	3.60	20.95	1.45	2.71	0.91	3.24	4.07	14.02	4.81	5.02
10. Hazaribagh	8.31	2.83	9.93	21.48	0.82	4.56	-1.49	3.20	1.85	12.75	2.04	10.87
11. Ranchi	10.10	4.44	5.15	19.23	2.05	7.38	3.11	3.41	3.25	17.16	3.65	6.33
12. Dhanbad	3.78	0.75	12.65	7.74	1.14	6.92	7.66	10.74	2.12	12.29	5.33	11.72
13. Singhbhum	3.49	0.97	4.20	0.78	1.08	10.03	2.63	9.21	2.45	13.72	1.11	6.74
14. Surguja	5.9	2.0	-0.31	6.87	0.73	6.9	4.51	13.81	3.6	10.2	3.6	8.3
15. Raigarh	9.3	2.7	0.45	11.6	1.46	7.01	-6.3	9.78	2.46	19.7	4.20	7.55

Districts	PERSONAL SERVICES				COLLECTIVE CONSUMPTION SERVICE				COMMUNITY SERVICES			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	14.87	24.96	12.39	8.40	17.58	36.55	3.65	5.98	0.45	0.60	2.61	0.00
2. Bankura	5.78	22.69	-2.36	6.14	20.48	23.76	2.91	5.41	0.74	0.58	5.31	0.00
3. Purulia	7.16	15.08	2.97	-6.82	13.90	32.56	0.49	14.13	0.70	1.24	7.54	0.00
4. Sambalpur	7.77	16.66	2.52	4.95	19.09	15.44	5.33	8.98	0.26	0.17	-4.37	0.00
5. Sundergarh	9.44	28.58	4.02	4.04	14.39	20.58	0.74	5.27	0.40	0.33	4.28	1.09
6. Keonjhar	8.40	17.10	1.20	1.83	14.19	12.65	3.99	6.15	0.64	0.28	3.05	1.26
7. Mayurbhanj	10.38	21.92	6.67	11.34	23.55	22.49	6.46	10.27	0.66	0.42	0.26	5.45
8. Santhal Pragana	6.80	19.04	2.08	2.90	18.13	37.93	1.46	7.54	3.79	0.88	2.26	4.28
9. Palamu	6.61	8.24	1.40	-2.67	18.62	27.99	4.13	8.15	0.27	1.23	-1.61	0.00
10. Hazaribagh	6.26	15.20	4.71	10.29	14.15	25.35	7.28	9.37	0.50	1.78	9.75	27.92
11. Ranchi	7.80	23.98	4.43	8.26	19.06	34.57	5.01	3.09	0.33	0.14	2.15	-8.35
12. Dhanbad	4.45	11.71	3.03	4.66	9.77	27.96	8.31	12.15	0.17	0.17	-1.07	7.18
13. Singhbhum	5.71	15.60	0.11	2.15	10.62	33.29	3.79	9.79	0.24	0.15	0.56	7.53
14. Surguja	6.78	10.2	2.91	3.5	15.77	18.63	1.46	6.21	0.36	0.02	0.75	3.5
15. Raigarh	8.42	16.02	1.53	5.29	23.81	20.25	3.51	8.15	0.57	0.83	7.22	1.90

Districts	RECREATION AND CULTURAL SERVICES				SANITATION				UTILITY SECTOR			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	0.27	0.16	2.54	6.05	0.05	0.17	-13.28	-5.93	1.09	0.24	3.53	18.80
2. Bankura	0.55	0.19	4.74	0.00	0.10	0.10	7.18	-6.70	0.53	0.19	13.02	0.00
3. Purulia	0.35	0.49	2.14	0.00	0.38	2.82	0.42	5.57	4.56	1.60	25.97	0.00
4. Sambalpur	0.38	0.32	8.85	12.33	0.19	0.19	-10.12	9.37	1.92	0.17	2.29	0.00
5. Sundergarh	0.25	0.18	0.71	-4.54	0.26	0.23	-0.44	-6.87	1.41	0.32	3.14	22.48
6. Keonjhar	0.16	0.08	0.00	0.00	0.15	0.35	-3.97	-3.50	0.93	0.00	-3.54	0.00
7. Mayurbhanj	0.40	0.00	7.64	0.00	0.12	0.00	-11.95	0.00	2.31	0.00	10.97	0.00
8. Santhal Pragana	0.28	0.16	1.84	3.42	0.96	5.31	5.78	0.00	1.05	0.28	2.24	0.00
9. Palamu	0.47	0.44	13.02	0.00	0.85	2.27	1.03	6.29	1.62	0.00	9.33	0.00
10. Hazaribagh	0.17	0.17	3.63	13.02	0.59	2.99	10.53	6.02	5.47	1.84	4.85	-10.26
11. Ranchi	0.83	0.96	11.99	32.28	0.62	3.50	7.25	9.28	2.04	0.24	15.91	0.00
12. Dhanbad	0.14	0.11	4.28	2.98	1.00	7.36	18.30	16.35	1.80	0.57	2.12	-1.00
13. Singhbhum	0.19	0.02	1.62	0.00	1.17	7.71	21.45	33.22	0.97	0.08	7.82	-4.36
14. Surguja	0.08	0.02	1.85	0.92	0.32	0.08	1.5	0.00	1.37	0.63	1.56	0.00
15. Raigarh	0.12	0.05	1.31	0.93	0.85	0.92	2.3	0.00	1.52	0.05	2.25	0.02

Districts	SERVICE LINKED TO CONSUMPTION				PRIVATE CONSUMPTION SERVICES				LEGAL SERVICES			
	Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)		Participation rate (in %)		Growth rate (in %)	
	M	F	M	F	M	F	M	F	M	F	M	F
1. Medinipur	33.21	61.77	6.79	6.91	15.63	25.23	12.17	8.44	0.77	0.27	8.54	11.98
2. Bankura	26.73	46.45	1.45	5.76	6.25	22.69	-2.16	6.14	0.48	0.00	0.78	0.00
3. Purulia	21.59	46.73	1.21	1.96	7.68	15.07	2.68	-6.82	0.53	0.00	-0.57	0.00
4. Sambalpur	27.31	32.10	4.39	6.66	8.22	16.66	2.51	4.91	0.51	0.00	2.36	0.00
5. Sundergarh	24.05	49.16	1.94	4.54	9.66	28.58	4.10	4.06	0.23	0.05	8.47	0.00
6. Keonjhar	22.83	29.75	2.81	3.43	8.64	17.10	1.14	1.83	0.24	0.00	-0.60	0.00
7. Mayurbhanj	35.03	44.41	6.37	10.68	11.48	21.92	6.19	11.12	1.10	0.00	2.55	0.00
8. Santhal Pragana	26.00	56.97	1.70	5.72	7.87	19.04	2.27	2.90	1.07	0.00	3.57	0.00
9. Palamu	26.71	36.23	3.39	4.58	8.09	8.24	1.87	-2.27	1.48	0.00	4.35	0.00
10. Hazaribagh	21.08	40.55	6.36	9.71	6.93	15.20	4.71	10.29	0.67	0.00	4.70	0.00
11. Ranchi	27.71	58.65	4.90	7.57	8.65	24.09	4.66	8.31	0.85	0.11	7.04	0.00
12. Dhanbad	14.44	39.70	6.30	9.29	4.66	11.74	3.10	4.64	0.21	0.03	4.73	0.00
13. Singhbhum	16.62	48.91	2.36	6.65	5.99	15.63	0.28	2.17	0.28	0.02	4.44	0.00
14. Surguja	17.8	32.3	3.47	5.72	5.28	8.59	2.23	1.85	0.15	0.05	3.61	0.00
15. Raigarh	20.34	41.6	5.21	6.02	8.03	10.87	4.3	1.23	0.23	0.08	2.5	0.00

DISTRIBUTION AND GROWTH OF PROFESSIONAL TECHNICAL AND RELATED WORKERS (1971-81) FOR JHARKAND

	1971		1981		G.R	
	M	F	M	F	M	F
1. S. Paragawa	12.0	21.8	13.1	34.05	46.41	160.43
2. Dhanbad	4.9	7.34	6.72	19.92	88.22	216.80
3. Hazaribagh	6.13	10.7	3.34	15.4	16.09	87.6
4. Ranchi	11.7	35.0	11.56	28.32	67.95	-45.74
5. Palamu	9.4	31.2	11.26	24.2	104.13	65.19
6. Singhbhum	6.5	14.9	6.4	27.1	25.55	142.8
7. Surguja	7.3	16.0	7.9	31.13	63.69	150.0
8. Raigarh	7.8	8.67	8.5	13.5	65.3	73.26
9. Sambalpur	11.87	2.16	7.5	11.7	33.19	168.20
10. Sundergarh	11.66	0.66	6.47	15.9	30.08	176.9
11. Keonjhar	13.3	4.7	8.0	10.5	-58.12	69.47
12. Mayurbhanj	12.45	6.8	13.45	29.5	-64.4	1.14
13. Medinipur	8.4	30.35	9.26	32.9	55.69	95.98
14. Bankura	8.9	19.79	9.66	18.9	32.08	85.58
15. Purulia	7.2	7.9	7.76	20.8	38.38	348.5

SOURCE : Census of India, 1971, 1981
General Economic Tables
Bihar, W.Bengal, Orissa, M.P.

DISTRIBUTION AND GROWTH OF CLERICAL AND RELATED WORKERS FOR JHARKAND (1971-81) IN PERCENTAGES

Name of the Districts	1971		1981		G.R	
	M	F	M	F	M	F
1. S. Paragawa	11.57	0.4	12.06	3.6	43.22	1210.0
2. Dhanbad	9.9	1.56	10.48	3.01	46.08	124.68
3. Hazaribagh	10.57	0.83	9.8	1.56	46.41	263.63
4. Ranchi	16.2	4.03	16.22	6.9	70.48	301.8
5. Palamu	17.8	0.7	15.06	1.07	44.16	200.0
6. Singhbhum	10.97	5.06	12.7	5.8	48.22	54.66
7. Surguja	11.46	1.4	10.89	7.3	43.07	556.6
8. Raigarh	13.79	1.5	13.07	2.5	44.90	137.5
9. Sambalpur	6.79	0.3	12.9	1.1	106.76	85.29
10. Sundergarh	9.35	1.34	10.1	4.3	154.04	277.09
11. Keonjhar	7.0	0.18	10.95	0.77	8.10	100.0
12. Mayurbhanj	6.06	0.9	17.2	4.2	-6.26	9.67
13. Medinipur	19.0	6.44	17.2	10.25	28.7	186.17
14. Bankura	13.5	2.08	11.5	2.89	8.68	170.00
15. Purulia	13.8	0.6	15.0	7.32	40.11	113.33

SOURCE : Census of India, 1971, 1981
General Economic Tables
Bihar, W.Bengal, Orissa, M.P.

DISTRIBUTION AND GROWTH OF SERVICE WORKERS FOR JHARKAND (1971-81) IN PERCENTAGES

Name of the Districts	1971		1981		Growth Rate	
	M	F	M	F	M	F
1. S. Paragawa	14.0	15.15	11.65	31.29	12.24	24.35
2. Dhanbad	7.58	13.59	9.12	19.75	66.88	69.74
3. Hazaribagh	8.9	15.15	8.15	19.08	41.13	66.96
4. Ranchi	11.14	37.36	10.98	28.76	68.8	79.88
5. Palamu	11.1	32.0	10.35	25.6	59.42	70.33
6. Singhbhum	10.3	28.84	9.6	25.89	18.84	10.71
7. Surguja	8.98	5.3	7.49	23.26	25.54	14.91
8. Raigarh	11.6	26.36	9.4	26.2	23.22	10.95
9. Sambalpur	7.65	5.8	10.28	19.2	39.87	63.41
10. Sundergarh	7.39	7.5	11.76	20.60	59.21	218.60
11. Keonjhar	8.5	4.7	10.8	17.37	62.73	71.64
12. Mayurbhanj	9.7	10.18	11.5	36.6	61.07	-15.36
13. Medinipur	10.5	39.6	8.9	32.6	57.08	14.50
14. Bankura	7.8	34.5	7.8	29.30	28.15	64.97
15. Purulia	10.29	54.95	9.7	29.95	23.13	50.06

Source : Census of India, 1971 and 1981
General Economic Tables
Bihar, Bengal, Orissa, Madhya Pradesh

DISTRIBUTION AND GROWTH OF SALES WORKERS FOR JHARKAND (1971-81) IN PERCENTAGES

Name of the Districts	1971		1981		G.R	
	M	F	M	F	M	F
1. S. Paragawa	22.8	11.3	22.7	7.2	34.48	6.63
2. Dhanbad	10.52	2.2	10.26	2.62	35.17	34.11
3. Hazaribagh	12.9	3.89	13.9	3.8	66.33	30.23
4. Ranchi	17.5	4.2	16.60	4.46	61.9	143.6
5. Palamu	25.58	6.58	29.8	14.7	66.01	367.45
6. Singhbhum	10.7	5.2	12.6	6.6	49.88	71.55
7. Surguja	10.32	5.3	1.26	8.0	83.72	93.69
8. Raigarh	12.3	16.04	14.9	18.36	85.05	27.76
9. Sambalpur	6.48	4.6	14.4	10.9	136.05	18.27
10. Sundergarh	4.19	2.8	10.67	3.46	199.1	43.06
11. Keonjhar	5.19	1.45	12.26	4.38	100.0	40.0
12. Mayurbhanj	5.4	3.06	18.72	3.5	126.6	-72.4
13. Medinipur	14.9	4.5	14.2	4.5	35.78	83.12
14. Bankura	19.6	8.7	19.3	3.9	25.43	-11.48
15. Purulia	19.4	7.06	16.75	5.7	11.42	-6.57

SOURCE : Census of India, 1971, 1981
General Economic Tables
Bihar, W.Bengal, Orissa, M.P.

DISTRIBUTION AND GROWTH OF FARMERS, FISHERMAN, HUNTER, LOGGER'S AND RELATED WORKERS, JHARKAND (1971-81) IN PERCENTAGES

Name of the Districts	1971		1981		Growth Rate	
	M	F	M	F	M	F
1. S. Paragawa	3.15	1.07	2.15	1.6	26.70	247.05
2. Dhanbad	0.93	0.12	1.24	0.26	84.12	136.84
3. Hazaribagh	1.4	-	1.3	-	40.17	500
4. Ranchi	1.9	0.5	2.1	0.56	77.84	148.57
5. Palamu	2.1	-	3.23	1.00	93.15	-
6. Singhbhum	0.98	1.08	1.0	1.1	54.06	37.24
7. Surguja	1.3	1.14	1.4	0.7	60.46	-36.66
8. Raigarh	3.1	4.06	2.66	1.7	31.43	51.85
9. Sambalpur	9.68	9.39	1.7	0.5	-80.99	-96.97
10. Sundergarh	10.75	13.26	2.22	1.4	-51.3	-87.44
11. Keonjhar	14.9	4.3	2.8	5.9	-86.71	-34.47
12. Mayurbhanj	26.55	14.06	1.7	-	-97.8	-
13. Medinipur	.94	0.36	1.3	1.8	98.62	357.89
14. Bankura	1.4	-	0.99	3.34	-13.10	387.5
15. Purulia	7.18	0.46	2.5	0.6	53.01	60.0

SOURCE : Census of India, 1971, 1981
General Economic Tables
Bihar, W.Bengal, Orissa, M.P.

DISTRIBUTION AND GROWTH OF PRODUCTION AND RELATED WORKERS, TRANSPORT EQUIPMENT OPERATOR AND LABOURS JHARKAND (1971-81) IN PERCENTAGES

Name of the Districts	1971		1981		Growth Rate	
	M	F	M	F	M	F
1. S. Paragawa	34.5	44.37	34.3	20.2	34.13	44.6
2. Dhanbad	64.1	74.75	58.67	52.85	27.00	-17.46
3. Hazaribagh	56.58	69.32	52.6	48.46	14.3	-7.14
4. Ranchi	37.7	18.25	37.99	17.48	72.18	123.8
5. Palamu	30.6	27.8	30.0	31.10	72.09	137.36
6. Singhbhum	57.5	44.29	54.1	30.95	20.01	-6.38
7. Surguja	55.5	46.35	53.66	25.72	39.77	-28.57
8. Raigarh	43.7	41.70	45.2	34.46	58.08	-8.12
9. Sambalpur	55.35	74.4	47.26	55.0	-9.77	-63.39
10. Sundergarh	52.7	66.6	54.53	52.6	43.35	-8.2
11. Keonjhar	49.87	86.32	50.2	59.67	-30.37	-67.67
12. Mayurbhanj	38.35	64.89	28.46	22.6	-75.5	-91.79
13. Medinipur	41.81	16.43	41.29	15.4	40.37	70.33
14. Bankura	44.4	33.19	46.28	41.72	32.68	141.76
15. Purulia	43.02	27.4	42.6	23.7	28.49	10.0

SOURCE : Census of India, 1971, 1981
General Economic Tables
Bihar, W.Bengal, Orissa, M.P.

List of Indicators 1971

Name of the districts	% of urban population X1	Growth rate of urban population X2	Sex ratio X3	% of agricultural labour Y1	Productivity of 19 crops (1000) hec. Y2	Gross irrigated area (1000 hec) Y3	Fertilizer in tonnes Y4	No. of pumpsets Y5	Workers in household industries Y6
1. S.Paragana	5.76	28.45	960	66.67	523	57	2849	1246	3.03
2. Dhanbad	43.51	120.44	786	41.62	339	18	439	834	1.91
3. Palamu	12.89	25.5	964	88.64	258	71	508	1403	1.86
4. Hazaribagh	4.69	93.03	980	75.84	457	32	706	760	2.08
5. Ranchi	13.67	76.06	976	79.87	549	26	2484	841	2.90
6. Singhbhum	26.24	47.18	946	68.79	277	21	706	247	2.47
7. Surguja	6.71	102.45	965	86.44	370	12	1674	1008	2.26
8. Raigarh	5.94	26.74	1009	86.70	389	13	2886	490	3.87
9. Sambalpur	12.02	83.72	980	75.57	587	283	13428	399	6.08
10. Sundergarh	23.25	76.53	944	59.95	224	11	448	3269	2.73
11. Keonjhar	7.05	110.82	981	75.29	215	9	355	111	2.75
12. Mayurbanj	2.79	40.58	989	83.58	366	4	746	59	4.72
13. Midinipur	7.63	24.48	944	80.41	958	110	7851	1041	2.30
14. Bankura	7.47	26.54	961	81.36	404	118	6495	171	3.75
15. Purulia	8.26	23.14	965	86.44	286	23	1379	34	3.55

Source 1 : Census of India 1971
2 : Statistical abstract of Bihar, M.P., W.Bengal, Orissa.
3 : Bhalla and Tyagi, Pattern of agricultural development district level analysis

List of Indicators 1971

Name of the districts	% of workers other than HH industry	% of workers in trade & commerce	Manf. workers (NIC)	Rural to rual migration (%)	Urban to urban migration	Male literacy	Length of metalled road (1000) population	No. of vehicles (1000 population)	No. of hospital and dispensaries (1000 population)
	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16
1. S.Paragana	1.55	2.3	32.44	5.16	2.54	24.64	2932	2421	56.8
2. Dhanbad	9.32	6.98	16.60	23.69	12.42	41.37	4237	2101	34.8
3. Hazaribagh	1.28	2.03	26.50	4.16	1.83	24.44	1466	1466	45.0
4. Palamu	1.93	2.80	16.61	13.33	4.83	26.00	2737	828	37.7
5. Ranchi	4.13	2.83	38.94	12.33	6.89	37.2	2978	285	36.0
6. Singhbhum	11.89	3.35	45.88	26.58	11.29	19.68	3634	183	36.0
7. Surguja	0.66	1.57	7.85	7.9	2.6	30.83	1526	617	30.7
8. Raigarh	1.29	1.92	24.68	5.8	2.15	40.52	1927	634	36.0
9. Sambalpur	3.75	3.04	18.5	12.83	3.83	36.73	6870	263	36.0
10. Sundergarh	10.68	4.45	31.5	31.07	9.31	32.12	6136	101	22.9
11. Keonjhar	1.44	2.25	9.45	9.36	1.64	27.93	2991	317	29.8
12. Mayurbanj	0.69	1.32	5.96	4.01	0.72	38.07	4168	942	62.8
13. Midinipur	2.93	2.4	2.96	4.39	3.02	35.31	4085	983	23.7
14. Bankura	2.51	4.13	34.67	8.83	2.09	45.62	2776	459	14.0
15. Purulia	2.94	2.7	28.00	6.87	4.40	35.10	2168	781	25.0

List of Indicators 1981

Name of the districts	% of urban population X1	Growth rate of urban population X2	Sex ratio X3	% of agricultural labour Y1	Productivity of 19 crops (1000) hec. Y2	Gross irrigated area (1000 hec) Y3	Fertilizer in tonnes Y4	No. of pumpsets Y5	Workers in household industries Y6
1. S.Paragana	6.88	39.03	958	80.48	544	57	3818	4419	3.78
2. Dhanbad	50.70	67.21	815	25.83	331	29	1626	987	1.92
3. Hazaribagh	14.5	47.70	964	68.77	397	40	3324	1977	2.25
4. Palamu	5.64	53.20	958	85.06	197	57	1508	3871	1.74
5. Ranchi	20.93	79.36	966	75.70	580	41	4950	2964	2.82
6. Singhbhum	32.09	43.41	944	62.58	357	21	1407	1052	2.67
7. Surguja	8.69	59.07	964	84.80	440	14	1848	2673	1.59
8. Raigarh	8.39	59.62	1006	85.81	419	24	556	1608	3.40
9. Sambalpur	15.49	59.24	973	73.08	581	247	19037	750	5.67
10. Sundergarh	30.60	70.25	933	55.75	251	29	2842	312	2.47
11. Keonjhar	11.34	87.45	984	73.14	265	30	1124	63	2.53
12. Mayurbanj	5.72	126.26	990	80.15	380	59	1803	11	5.32
13. Midinipur	8.49	36.62	952	74.23	945	241	29403	1041	4.39
14. Bankura	7.63	19.40	965	75.72	394	217	11959	171	4.68
15. Purulia	8.25	39.88	957	75.19	250	31	5896	34	3.18

List of Indicators 1991

Name of the districts	% of urban population X1	Growth rate of urban population X2	Sex ratio X3	% of agricultural labour Y1	Net sown area Y2	Value output of major crops (1000 hec) Y3	Average size of land holding Y4	Workers in household industries Y5	Workers in other than HH industries Y6
1. S.Paragana	8.82	31.32	931	81.5	37.78	2861	1.84	2.36	3.89
2. Dhanbad	51.30	29.80	833	29.4	21.70	2213	1.01	1.7	15.03
3. Hazaribagh	16.75	46.76	937	67.71	15.93	2688	1.15	2.46	2.00
4. Ranchi	20.13	27.1	962	71.54	35.43	1793	2.89	1.32	2.17
5. Palamu	5.34	21.03	931	83.55	17.71	2058	1.54	2.02	1.36
6. Singhbhum	34.37	24.47	936	59.27	27.56	2268	1.74	18.37	2.21
7. Surguja	12.04	76.67	955	83.36	26.95	1171	2.51	0.90	1.2
8. Raigarh	9.59	36.51	998	90.01	41.21	2128	2.69	2.7	1.96
9. Sambalpur	17.18	30.71	967	72.03	37.79	3096	1.82	5.82	4.19
10. Sundergarh	33.46	28.19	938	56.69	31.15	2247	1.90	2.27	12.81
11. Keonjhar	12.67	31.95	967	72.20	38.15	2085	1.39	2.23	2.8
12. Mayurbanj	6.19	27.95	982	62.59	41.73	2753	1.35	4.09	1.24
13. Midinipur	10.00	45.82	944	67.52	64.33	5557	0.77	4.84	5.15
14. Bankura	8.31	28.29	948	74.46	58.47	5524	1.13	3.43	4.91
15. Purulia	9.48	26.10	946	59.75	51.30	4059	1.01	2.20	4.18

List of Indicators 1981

Name of the districts	Per capita bank credit to industry	Per capita bank deposit	Per capita bank credit	Post office per lakh population	Telegraph per lakh population	% of Male workers to total male workers	% of female worker to total female workers	% of male literates to toal population	% of female literates to total feamle population
	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15
1. S.Paragana	84	836	334	11.32	0.72	51.99	27.1	37.89	14.61
2. Dhanbad	493	276	716	17.24	1.83	44.37	7.83	59.28	32.03
3. Hazaribagh	154	2219	634	11.32	0.72	46.93	19.35	42.46	15.70
4. Palamu	243	1765	869	9.30	0.76	49.86	35.05	48.80	26.52
5. Ranchi	51	711	265	6.46	0.3	48.11	21.75	35.20	12.5
6. Singhbhum	655	3029	897	12.49	0.49	50.42	28.16	52.61	28.1
7. Surguja	36	957	231	8.20	0.06	56.70	37.56	33.53	13.98
8. Raigarh	80	607	325	11.85	0.38	58.88	43.25	46.00	21.77
9. Sambalpur	204	1057	682	21.47	0.07	58.36	33.06	54.38	28.21
10. Sundergarh	449	2289	1094	21.16	0.19	53.34	24.63	54.90	33.19
11. Keonjhar	149	619	468	29.77	0.07	52.76	25.08	48.42	25.1
12. Mayurbanj	83	660	366	36.19	0.05	54.32	36.89	42.01	19.5
13. Midinipur	100	925	371	16.38	1.14	51.77	17.55	67.35	47.35
14. Bankura	89	3838	300	16.83	0.96	51.83	20.13	54.44	30.8
15. Purulia	75	861	299	19.24	0.85	51.64	36.05	50.85	19.79

URBANIZATION, INDUSTRIALIZATION AND ITS INTERLINKAGES : A CASE STUDY OF JHARKHAND,1971-1991

ABSTRACT

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ABSTRACT

Urbanisation refers to the proportion of population resident in the urban places, particularly the proportion of the population engaged in secondary and tertiary sector of the economy. Besides that, one can say that urbanisation is an essential element in the process of economic growth and social change. More specifically it is related to the process of transformation of rural traditional economies into modern industrial economies as well as overall transition from traditional to modernity.

In the present situation, the Jharkhand region has its own importance, not only in terms of its richness about the mineral resources, but also for its development and industrialization. Besides that, the region has a very unique ethnic composition, which is very much responsible for the awakening of the people of the region either politically or socio-economically.

Main objectives of this study are : (a) to analyse the patterns and growth of urban population and towns in Jharkhand region (1971-91) (b) to examine the distribution and growth patterns of urban workforce structure according to National Industrial classification, national occupational classification and Nine industrial classification of workers as provided in the census (c) to analyse the migration patterns in Jharkhand region. (d) and finally, the emphasis has been given to study the inter-linkages between urbanisation and industrialisation in Jharkhand region.

The findings and conclusions of the study are provided below.

As per 1991 census, Jharkhand region has 7,837,615 urban population which constitutes 16 percent of the total population of the region. The proportion of urban was 11.5 percent in 1971 and 14.0 percent in 1981. On the whole, Jharkhand region witnessed a 57.26 percent urban growth during 1971-81, while during the decade of 1981-91 it declined steeply to 34.5 percent. Mayurbhanj and Keonjhar witnessed to 34.5 percent. Mayurbhanj and Keonjhar witnessed very high growth rates.

In general, class I cities and backward districts have shown fast growth. The latter because of the emergence of new districts and taluk headquarters. Urban growth rates having declined between 1981-91, as compared to the previous decade, the growth rates of the newly emerged towns have kept up a high level.

The class I cities show a growth rate of 50 percent in 1981 as compared to 44 percent in 1971. Though the number of class II towns shows a tremendous increase, their share of urban population decreased in 1991. Class III towns also grew in number in the class IV, V and VI towns also registered a little increase over the twenty-year period, i.e. 1971 to 1991.

The fact that the urban growth rate has been primarily affected by the high growth rate of new towns proves our hypothesis number one, which stated : "higher the growth of new towns higher will be the growth of urban areas". The second hypothesis was related to the comparative growth in differentially urbanised districts : "least urbanized districts tend to show a higher urban grow as compared to more urbanized districts". The hypothesis is substantiated by the fast growth of backward districts due to developmental activities occurring there. These have resulted in emergence of new towns and administrative centres in those districts between 1981-91. Due to low initial urban population, such districts are the fastest growing ones which enhances their urban growths. Surguja and Hazaribagh exemplify this. Growth rates are, mostly high only in the class I cities of the more urbanized districts.

Economic development tends to bring about a change in the occupational structure of the working population. This change supposedly occurs from a predominantly agricultural (primary) to predominantly industrial (secondary), and then to services (tertiary) sector characterized by highly specialized services.

In the Jharkhand region, as per 1971 census the share of tertiary sector workers was higher in comparison to the secondary sector workers in the urban centres. During the

next decade 1971-81 an increase in secondary sector activities took place alongwith a decline in the tertiary activities. The census of 1991 once again shows a greater growth of service (tertiary) sector. This proves the hypothesis os higher the growth of secondary workers lower will be the growth of tertiary workers.

High urban growth and increase in secondary sector activities were related to each other in Jharkhand region. Between 1971 and 1981, for e.g., high growth of secondary workers in districts like Midnapore occurred along with a high urban growth. In other districts like Surguja, Singhbhum, Purulia and Raigarh there was a low growth of secondary sector workers and the urban of male secondary workers and urban growth in 1971-81 was not equally clear. However, the relationship was not equally clear. However the relationship was generally observed, despite some exceptions like Midnapore. Thus our hypothesis number three that "higher the male secondary workforce higher will be the growth of urban population", is not conclusively proved.

Our hypothesis number five was based on the relationship between growth of tertiary workers and comparative growth of the urban population. It stated "higher the growth of tertiary workers higher will be the comparative growth of urban population". This hypothesis was proved for the decade 1981-91 only. During this

period, there was a tremendous growth of new towns paralleled by a growth of the tertiary sector workers. The tertiary sector growth during this period was even higher than the growth of secondary workers. However, during the period 1971-81, the urban population growth did not respond to the low growth of the tertiary workers.

In Jharkhand region, it was found in 1971 that intra-district migration is higher in the districts with low percentage of urban population. Inter-district migration was higher for districts with high proportion of urban population. Inter-state migration was found higher in the well-urbanized districts. There were exceptions too, which showed higher share of migrants even in low urbanized districts. Migration was observed to be higher in more urbanized districts and vice-versa. This is because migration is dependent on the availability of job opportunities in industries and elsewhere.

In 1981, intra-district migration showed decline in most of the districts of Jharkhand, while inter-district migration showed a rising trend. The proportion of inter-state migration rose in some of the districts while a few of them showed a decline in their proportion.

Rural to rural migration, both in 1971 and 1981, was high in the least urbanized districts and low in highly urbanized one. Rural to urban migration was directed by availability or non availability of opportunities. This

migration increased in 1981, except the district of Hazaribagh. Urban to urban migration was high in districts with class I cities in 1971. In 1981, there was a general rise in this migration too. Very little urban to rural migration takes place in Jharkhand.

Our hypothesis on "higher rural to urban migration tends to show for a highly urbanized district of the region" has been substantiated because this pattern occurs in both the years 1971 and 1981. This higher share in the migration is due to the availability of opportunities in such districts. This leads us to the hypothesis number seven "higher the growth of industrial activities higher will be the growth of urban population". That growth of urban population is higher where industrial activities are growing becomes clear from the example of Dhanbad. On the other hand, Hazaribagh presents a study in contrast.

The hypothesis number eight postulated "a positive relationship between urbanization and industrial workers". We found that a positive significant correlation existed between urbanization and workers engaged in other than household industries during 1971-91 in Jharkhand. Thus this hypothesis came out true for the region in question.

Finally, our hypothesis on the proportion urban and availability of infrastructural facilities has also been found to be true for the region. The hypothesis number nine was as follows : "there exists a positive relationship

between share of urban population and availability of infrastructure facilities". A positive and significant correlation existed between urbanization in Jharkhand and number of hospitals and dispensaries in the urban centres of Jharkhand. It shows that for our study area too, the availability of facilities and amenities in the towns and cities exercises a pull effect on the migrants, which enhances the level of urbanization in the different districts.

The presence of industries, infrastructural development and growth of new administrative and other towns have encouraged urbanization in Jharkhand region. Presence of vast mineral resources has enhanced industrialization there. The study shows a close linkage between industrialization and urbanization in Jharkhand for the two decades (1971-91) under taken for study.